

JKyeeya®  
精科液压

中国制造  
MADE IN CHINA

D2018



精科液压  
强大的工业液压动力之源

Jingke hydraulic  
powerful source of industrial hydraulic power.

智能液压系统与螺栓紧固拆装全球供应商

平原精科液压技术有限公司  
Pingyuan Jingke Hydraulic Technology Co.,Ltd.

**JKYeYa**®

精科液压

# 企业介绍 COMPANY »» PROFILE



山东平原精科液压技术有限公司成立于 2005 年, 公司注册资金 1000 万元, 位于鲁西北重要交通枢纽地带, 毗邻京沪高铁, 交通十分便利。公司现有办公场地 20000 多平方米, 员工 150 余人。公司秉承“精益求精、铸造品质典范, 科技先行、争创行业先锋”的企业理念, 凭借近 20 年的研究、设计、制造经验, 为国内外提供高品质的超高压液压产品, 在超高压液压领域备受客户推崇, 深得客户信赖。

我们凭借雄厚的技术研发实力开发出一系列标准产品。液压扳手泵站、全自动化扳手泵、液压扳手、液压拉伸器、车载液压拉马等预紧 / 拆卸工具; PLC 同步顶升系统、三维调整系统、步履式顶推液压系统等。高质量的产品和一流的解决方案, 一直为全球各公司解决各类螺栓的紧固和拆卸, 工程平移、定位等。产品被广泛应用到绍兴滨海大桥、北京地铁、港珠澳大桥、天津大港油田、以及国内风电行业安装和运维等; 同时产品出口到挪威、伊朗、沙特等国家。精科液压产品在一些领域可完全取代国外同类产品, 尤其在 PLC 同步顶升和风电安装行业, 产品在国内 170 多个风场使用, 经受现场长时间的考验, 赢得客户的高度评价。

精科液压拥有专业的研发团队、先进的生产和检测设备, 高素质的技术工作人员以及严格的 ISO9001 质量管理体系, 同时拥有多项专利、欧盟 CE 认证等。公司不断创新研发, 科学精细管理, 保证了产品质量持续改进。为了保证精科液压产品的可靠性和减少产品的故障率, 我们通过把控设计 - 生产 - 实验 - 运输每个中间环节并对新研发产品做大量的实验来验证产品的各项性能, 最终确保产品的品质。

品质赢得未来、服务创造价值, 技术的不断创新和严格的科学管理是企业生存的基础, 卓越的品质和一流的服务是我们永恒的追求。

Pingyuan Jingke hydraulic technology co. LTD ub, in northwestern Shandong, and is adjacent to Beijing-Shanghai High-speed Line, which is considerably convenient in transportation. JKyeeya possesses the productive plant more than 20,000 m<sup>2</sup>, and around 150 employees on board. The experiential research, development, design and manufacture enable Jkyeya providing the high-quality super-pressure hydraulic products for domestic and international customers, and thus, we have earned a great reputation and deep trust in hydraulic industry.

JKyeeya also possesses the advanced numerical control processing technology, and has highly qualified a technology elite team, and also, strictly implements QMS of ISO 9001 and 2000 audit, meanwhile, own multiple patents and CE audit. Our manufacturing disciplines are 'one can always get better', being the quality model, technology is first and endeavoring to be industrial pioneer, which urge us to innovate continuously, also optimize our scientific management progressively. We ensure our products satisfy customers' requirement. The better product quality will always be the first pursuit of our aims. Rely on the highly strong technology research strength; JKyeeya has invented a series of standardized products: hydraulic bolts install & remove system, PLC sync jack-up system, and high quality transferring and location system and so on. We have been rendering; various hydraulic bolts install & remove, engineer transferring and location service etc, applying the high quality products and the state-of-the-art solution worldwide.

JKyeeya's products and technology extensively applied on: Shaoxing Binhai Bridge, Beijing Subway, Zhugangao Bridge, Tianjing Dagang Oilfield, and the installment□utilization and maintenance in wind power industry; is also exported to: Norway, Iran, Saudi Arabia, Vietnam etc. Our product is able to fully replace all like product; especially in PLC sync jack-up and wind power installment industry. It's been utilized in multiple wind power stations in China, endured long-term utilization and earned well comments and approval.

Quality is future. Service is valuable. Progressive technology innovation and scrupulous scientific management is the foundation of enterprise survival. Excellent products quality and satisfied service is and will always be our pursuit.



# 精益求精

Improving Production

# 科技先行

Technology Innovation



## 先进的加工设备

Advanced processing equipment

严谨的设计理念

Rigorous design concept

精密的加工设备

Precision machining equipment

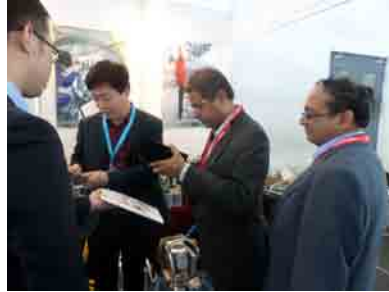
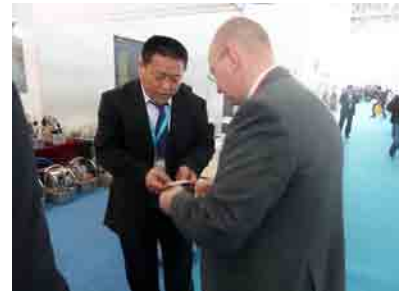
先进的生产工艺

Advanced production technology

## 批量化生产，充足的库存

Mass production, adequate inventory





合作  
Cooperation



欧盟 CE 认证、ISO9001- 2008 认证、专利证书  
EU CE certification, ISO9001- 2008 certification, patent certificate



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## MXTD 系列 – 驱动扭矩扳手

MXTD series-drive torque wrench



- \* 航空铝钛合金材料、一体式设计保证了其广泛的适用性。  
Aviation aluminum titanium alloy and integrated design ensure its wide applicability.
- \* 最大工作压力为 70MPa, 采用先进的精密棘轮驱动, 输出扭矩重复精度高达  $\pm 3\%$ 。  
The maximum working pressure is 70MPa, with advanced precision ratchet drive, the output torque repeatability is as high as  $\pm 3\%$ .
- \*  $360^\circ \times 180^\circ$  可旋转油管接头, 使用范围广。  
 $360^\circ \times 180^\circ$  rotatable oil pipe joint, wide range of use.
- \* 扳机式锁扣可将  $360^\circ$  微调式反力臂放在任何支点上。  
The trigger button can place the  $360^\circ$  fine-tuning reaction arm on any pivot.
- \* 直推式驱动轴设计, 能够快速切换拧紧和拆卸状态。  
The design of the direct drive shaft can quickly switch the tightening and disassembling state.
- \* 锁扣式驱动轴可根据客户要求定做。  
Lock drive shaft can be customized according to customer requirements.
- \* 扭矩从 185 到 150000Nm 共 12 个型号, 规格最全, 螺栓覆盖最广的产品。  
The torque from 185 to 150000Nm has 12 models, the most complete specifications, and the most widely covered products.

MTDX 系列是精科公司着力投放国际市场的一款专业级别的液压扭矩扳手。铝钛合金的航空材料制造, 重量轻、强度高; MXTD 系列扭矩扳手规格齐全, 从 185-70315N 共 11 个标准型号, 并且最大扭矩可延伸至 150000Nm; 螺栓涵盖范围广, 体现出精科公司多年从事螺栓紧固服务的扎实基础与专业精神。

The MTDX series is a professional hydraulic torque wrench designed by Jingke company to launch into the international market. Aluminum titanium alloy aviation material manufacture, light weight, high strength; MXTD series torque wrench covers from 185-70315N altogether 11 standard models, and the maximum torque can be extended to 150,000 Nm; Bolts cover a wide range, reflecting Jingke company for many years engaged in bolt fastening service solid foundation and professional spirit.

精科品牌拥有完整的系统配套供应能力, 并通过欧盟认证。

The JINGKE brand has a complete system supporting capability and is certified by the European Union.

细节描述



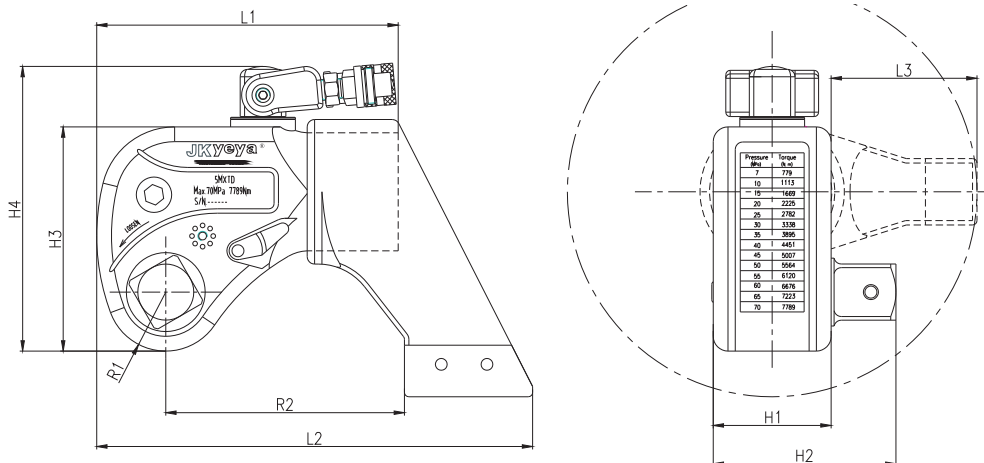


## MXTD 系列 – 驱动扭矩扳手

MXTD series-drive torque wrench

### 外型尺寸

Outer size



### MXTD 系列液压扭矩扳手选型表

Type selection table of MXTD series hydraulic torque wrench

型号 Model	1MXTD	3MXTD	5MXTD	8MXTD	10MXTD	15MXTD	20MXTD	25MXTD	35MXTD	45MXTD	50MXTE	95MXTD
扭矩 (Nm) Torque	185 1852	436 4364	779 7789	1072 10715	1553 15528	2050 20501	2617 26171	3493 34928	4963 49627	5912 59123	7032 70315	14085 140848
重量 (Kg) Weight	2.7	4.8	8.8	12	14.5	19	25	37.5	44	63	89	155
L1	138	168	207	226	250	281	304	331	390	412	418	520
L2	194	244	296	326	366	402	442	483	558	570	596	758
L3	63	79	99	110	120	132	146	158	177	188	195	246
H1	50	70	80	90	100	112	120	138	150	163	166	210
H2	73	99	124	133	143	165	183	202	219	229	236	307
H3	96	125	152	170	186	208	226	250	282	288	300	415
H4	140	165	193	211	227	249	267	291	323	332	366	473
R1	26	34	40	46	50	56	60	66	77	80	82	115
R2	107	132	162	178	199	218	240	260	298	303	325	400
方驱 Square Drive	3/4'	1'	1-1/2'	1-1/2'	1-1/2'	2'	2-1/2'	2-1/2'	2-1/2'	2-1/2'	3'	4'

#### 特别注意:

Particular attention

产品的选取依据螺栓锁紧及拆卸扭矩值而定, 扭矩值会因螺栓直径、材质、工况及设备制造厂要求而有所不同

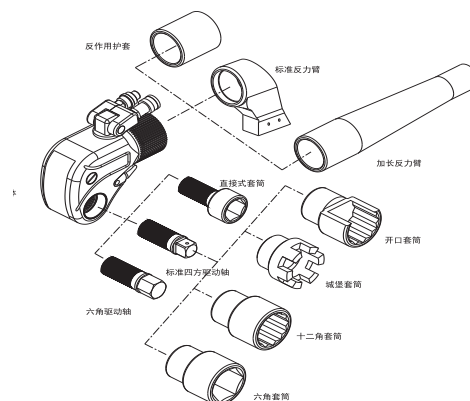
The selection of products depends on bolt tightening and disassemble torque values, which vary according to bolt diameter, material, operating conditions and equipment manufacturer requirements.

表中参数的变更, 恕不另行通知。

The parameters of the table are subject to any change without notice.

可根据需要订制特殊规格的驱动轴及反作用力臂。

Special specifications of driving shaft and reaction arm can be customized according to need.



## KLCD 系列 – 中空扭矩扳手

KLCD Series-hollow torque wrench

- \* 航空铝钛合金材料，一体成型机身高强度、高韧性。  
Aviation aluminum titanium alloy, integrated molding body, high strength, high toughness.
- \* 精准的止回掣子结构，克服螺栓扭转回弹导致工具逆转现象。  
Precise check button structure to overcome tool reverse phenomenon caused by bolt torsion springback.
- \* 360° x 180° 可旋转油管接头，无使用空间限制，一体式加长设计，力臂更长，更轻便。  
360° x 180° rotatable tubing joint, no space restriction, one-piece lengthening design, more longer force arm, more portable.
- \* 工作头与反力支点同轴，完善的受力结构设计，提高使用寿命。  
The working head and the reaction fulcrum are coaxial, and the perfect force structure design improves the service life.
- \* 扭矩恒定输出，扭矩重复精度 ±3%。  
Torque constant output, torque repeatability accuracy ±3%.
- \* 可以更换的多种工作头，反力臂也可根据现场空间定制。  
A variety of working heads can be replaced, and the reaction arm can also be customized according to the site space.

油管旋转接头 360° X 270°，操作自由·无空间使用限制。

Hose liberty joint, allow 360° X 270° movement, free operation, no restrictions on space use.

止退棘爪设计，克服扳手棘轮逆转，提高工作效率及扭矩精度。

The check pawl is designed to overcome the ratchet wheel reversing of the wrench, improve work efficiency and torque accuracy.

一体式加长设计，支撑力臂更长，可靠性更高。

The integral lengthening design has longer supporting force arm and higher reliability.

中空设计，扳手直接作用于螺母，扭矩更准，使用更便捷。

Hollow design, wrench directly acting on nuts, more accurate torque, more convenient to use.

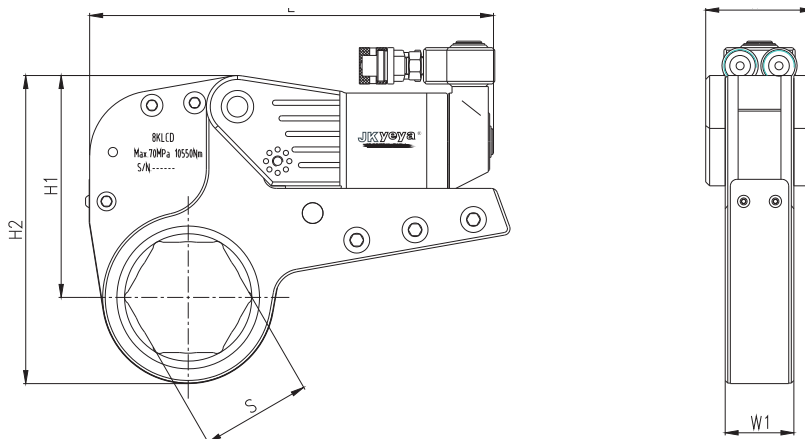


## KLCD 系列 - 中空扭矩扳手

KLCD Series-hollow torque wrench

### 外型尺寸

Outer size



### KLCD 系列液压扭矩扳手选型表

Type selection table of KLCD series hydraulic torque wrench

型号 Model	2KLCD	3KLCD	4KLCD	8KLCD	14KLCD	18KLCD	20KLCD	30KLCD	40KLCD	45KLCD	60KLCD
扭矩 Torque Nm	237 2370	345 3446	546 5458	1055 10550	1848 18484	2481 24814	2909 29089	4231 42311	5209 52088	6057 60566	8415 84150
螺母范围 Nuts Range S	36-55	36-60	46-80	70-105	80-115	85-120	90-130	95-145	120-145	130-155	135-180
动力头重量 Weight of Power Head Kg	0.8	0.8	1.9	4.2	6.8	8.1	10.5	12.7	15.2	16.3	23
工作头重量 Weight of Working Head Kg	1.5	1.7	3.6	7.6	12.2	19.3	22.3	32.3	47.5	58.7	75
L	192	218	266	324	382	404	427	479	479	486	514
H1	105	118	139	171	205	229	240	268	285	311	336
H2	147	156	167	198	231	255	265	289	302	352	375
W1	32	32	42	53	64	68	70	85	98	108	117
W2	50	50	66	83	99	105	110	132	148	160	177

选择变径套筒，见第 11 页。

Select diameter sleeve, see page 11.

特别注意：

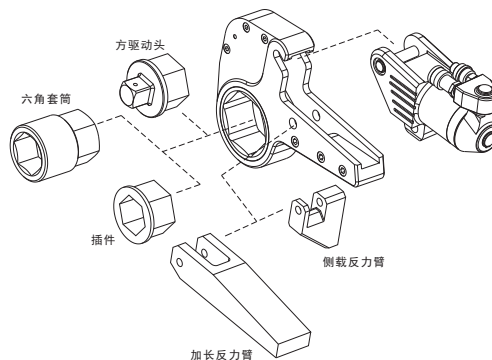
Particular attention

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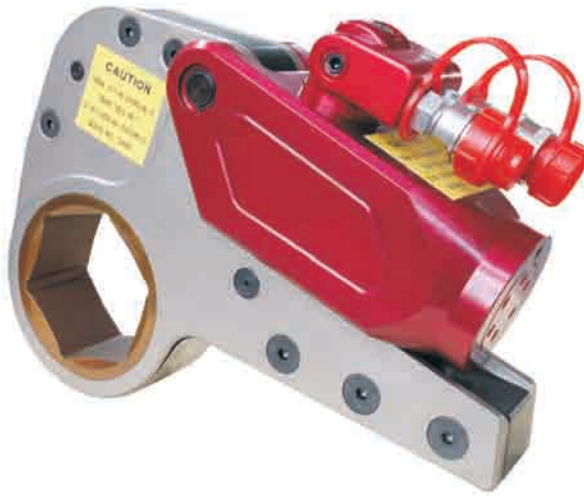
工况及设备制造厂要求而有所不同  
The selection of products depends on bolt locking and disassembly torque values, which vary according to bolt diameter, material, operating conditions and equipment manufacturer requirements.

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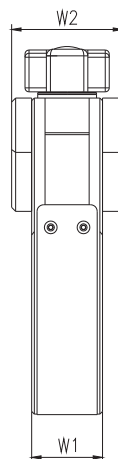
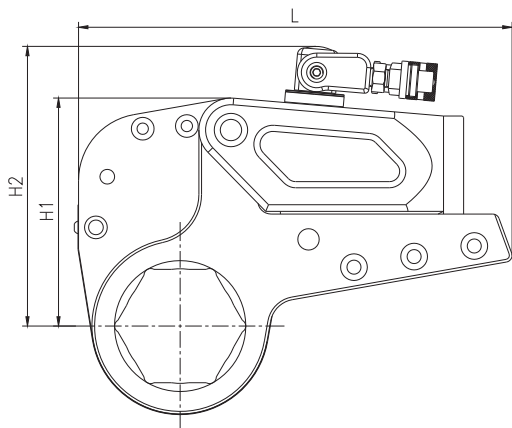
The parameters of the table are subject to any change without notice.



## XLCD 系列 – 中空扭矩扳手 XLCD Series-hollow torque wrench



- \* 航空铝钛合金材料、一体成型机，强度高、高韧性。  
Aviation aluminum titanium alloy, integrated molding body, high strength, high toughness.
- \* 精准的止回掣子结构，克服螺栓扭转回弹导致工具逆转现象。  
Precise check button structure to overcome tool reverse phenomenon caused by bolt torsion springback.
- \* 360° x180° 可旋转油管接头，无使用空间限制，一体式加长设计，力臂更长，更轻便。  
360° x180° rotatable tubing joint, no space restriction, one-piece lengthening design, longer force arm, more portable.
- \* 工作头与反力支点同轴，完善的受力结构设计，提高使用寿命。  
The working head and the reaction fulcrum are coaxial, and the perfect force structure design improves the service life.
- \* 扭矩恒定输出，扭矩重复精度 ±3%。  
Torque constant output, torque repeatability accuracy ±3%
- \* 可以更换的多种工作头，反力臂也可根据现场空间定制。  
A variety of working heads can be replaced, and the reaction arm can also be customized according to the site space.



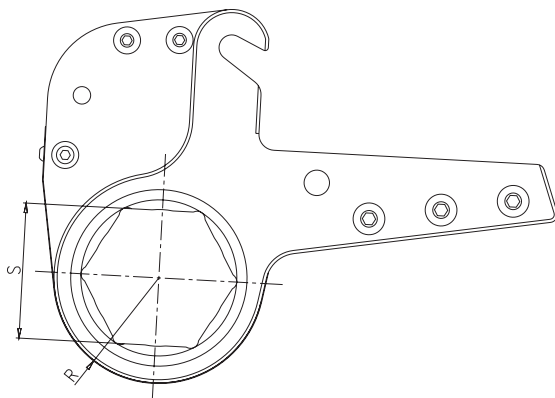
### XLCD 系列液压扭矩扳手选型表

Type selection table of XLCD series hydraulic torque wrench

型号 Model	2XLCD	4XLCD	8XLCD	14XLCD	18XLCD	20XLCD	30XLCD	40XLCD	45XLCD	60XLCD
扭矩 Nm	237 2370	546 5458	1055 10550	1848 18484	2481 24814	2909 29089	4231 42311	5209 52088	6057 60566	8415 84150
螺母范围 Nuts Range S	36-55	46-80	70-105	80-115	85-120	90-130	95-145	120-145	130-155	135-180
动力头重量 Weight of Power Head Kg	0.8	1.9	4.2	6.8	8.1	10.5	12.7	15.2	16.3	23
工作头重量 Weight of Working Head Kg	1.7	3.6	7.6	12.2	19.3	22.3	32.3	47.5	58.7	75
L	161	266	324	382	404	427	479	479	486	514
H1	102	139	171	205	229	240	268	285	311	336
H2	184	167	198	231	255	265	289	302	352	375
W1	32	42	53	64	68	70	85	98	108	117
W2	50	66	83	99	105	110	132	148	160	177

## KLCD/XLCD- 型工作头系列选型表

Type selection table of KLCD/XLCD type working head series



KLCD 工作头也适用于 XLCD 工作头  
KLCD working head is also suitable for XLCD working head.

每个型号的 KLCD 中空扭矩扳动手动力头都有一整套的工作头与之对应，涵盖该型号的动力头所能提供所有尺寸的螺栓。在选择工作头时，注意螺栓与障碍物的距离要大于工作头的操作半径。同时也要注意螺栓与螺栓之间是否有足够空间，下表中操作半径 R 能帮助您选择到合适的工作头。

Each type of KLCD hollow torque wrench power head has a set of working heads corresponding to it, covering the type of power head can provide all the size of bolts. When selecting the working head, pay attention to the distance between bolts and obstacles, make it more than the operating radius of the working head. Also pay attention to whether there is enough space between bolts and bolts. The operation radius R in the table below can help you choose the right working head.

扳手型号 Wrench model	工作头型号 Working head type				扳手型号 Wrench model	工作头型号 Working head type			
	工作头型号 Working head type	螺栓 Bolt M	螺母对边 The edge of the nut S	操作半径 Operating radius R		工作头型号 Working head type	螺栓 Bolt M	螺母对边 The edge of the nut S	操作半径 Operating radius R
3KLCD	2KLCD-36	M24	S=36	R=31	18KLCD	18KLCD-85	M56	S=85	R=73
	2KLCD-41	M27	S=41	R=34		18KLCD-90	M60	S=90	R=75
	2KLCD-46	M30	S=46	R=37		18KLCD-95	M64	S=95	R=77
	2KLCD-50	M33	S=50	R=40		18KLCD-100	M68	S=100	R=77
	2KLCD-55	M36	S=55	R=43		18KLCD-105	M72	S=105	R=83
	2KLCD-60	M39	S=60	R=46		18KLCD-110	M76	S=110	R=83
4KLCD	4KLCD-46	M30	S=46	R=42	20KLCD	18KLCD-115	M80	S=115	R=88
	4KLCD-50	M33	S=50	R=44		18KLCD-120	M85	S=120	R=93
	4KLCD-55	M36	S=55	R=46		20KLCD-90	M60	S=90	R=77
	4KLCD-60	M39	S=60	R=50		20KLCD-95	M64	S=95	R=80
	4KLCD-65	M42	S=65	R=53		20KLCD-100	M68	S=100	R=80
	4KLCD-70	M45	S=70	R=56		20KLCD-105	M72	S=105	R=85
8KLCD	4KLCD-75	M48	S=75	R=59	20KLCD-110	M76	S=110	R=85	
	4KLCD-80	M52	S=80	R=62	20KLCD-115	M80	S=115	R=90	
	8KLCD-70	M45	S=70	R=58	20KLCD-120	M85	S=120	R=95	
	8KLCD-75	M48	S=75	R=60	20KLCD-130	M90	S=130	R=102	
	8KLCD-80	M52	S=80	R=63	30KLCD	30KLCD-95	M64	S=95	R=83
	8KLCD-85	M56	S=85	R=65		30KLCD-100	M68	S=100	R=83
8KLCD-90	M60	S=90	R=68	30KLCD-105		M72	S=105	R=89	
8KLCD-95	M64	S=95	R=71	30KLCD-110		M76	S=110	R=89	
8KLCD-100	M68	S=100	R=75	30KLCD-115		M80	S=115	R=94	
8KLCD-105	M72	S=105	R=78	30KLCD-120		M85	S=120	R=98	
14KLCD	14KLCD-80	M52	S=80	R=67	30KLCD-130	M90	S=130	R=104	
	14KLCD-85	M56	S=85	R=69	30KLCD-145	M100	S=145	R=114	
	14KLCD-90	M60	S=90	R=72	30KLCD-150	M105	S=150	R=116	
	14KLCD-95	M64	S=95	R=76	30KLCD-155	M110	S=155	R=116	
	14KLCD-100	M68	S=100	R=78	30KLCD-165	M115	S=165	R=128	
	14KLCD-105	M72	S=105	R=81					
	14KLCD-110	M76	S=110	R=85					
	14KLCD-115	M80	S=115	R=87					

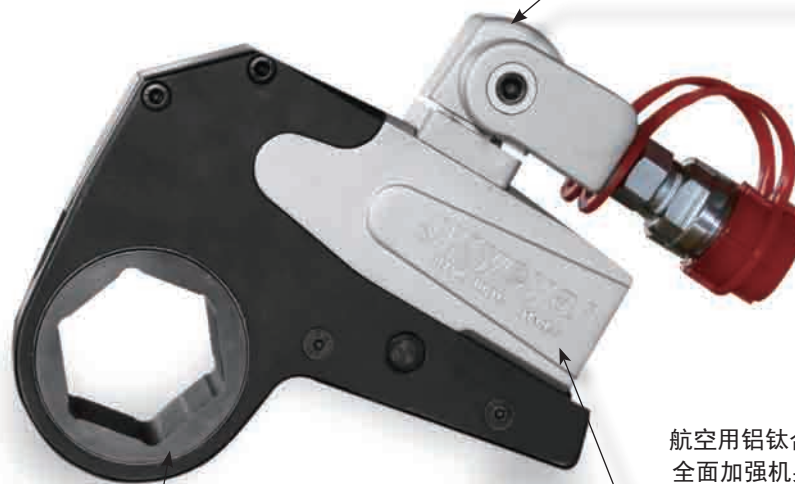
注：我们可以根据客户要求定制特殊工作头  
Note: we can customize the special working head according to customer's requirements.

## WHCD 系列—中空型扭矩扳手

WHCD Series-hollow torque wrench

扁平式油缸设计，适用多种工况，360°x180° 油管接头，最接近无油管设计。

Flat cylinder design, applicable to a variety of conditions, 360° x 180° tubing joint, closest to the tubing design.



航空用铝钛合金材料，一体成型机身，全面加强机身高强度、高韧性。

Aeronautical aluminum titanium alloy material is integrated into the fuselage to enhance the strength and toughness of the machine.

更好的头部空间，适狭小空间使用。

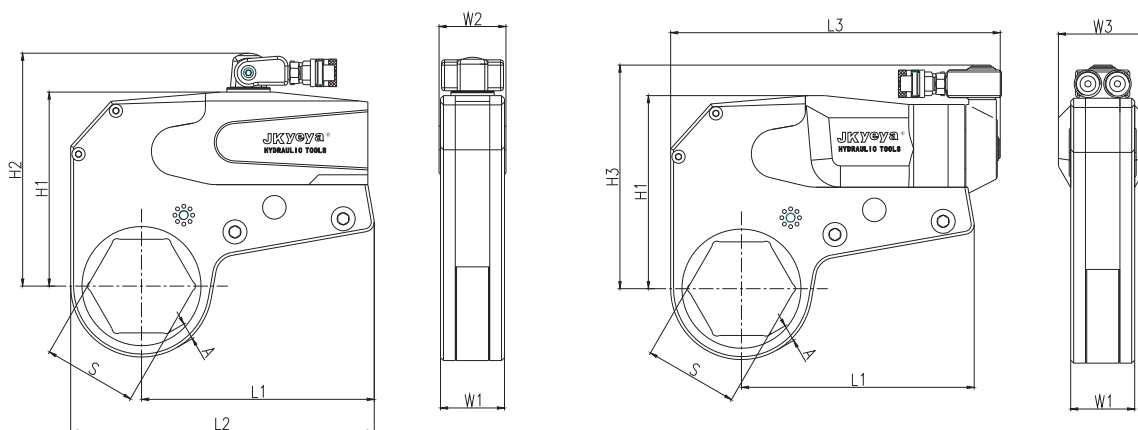
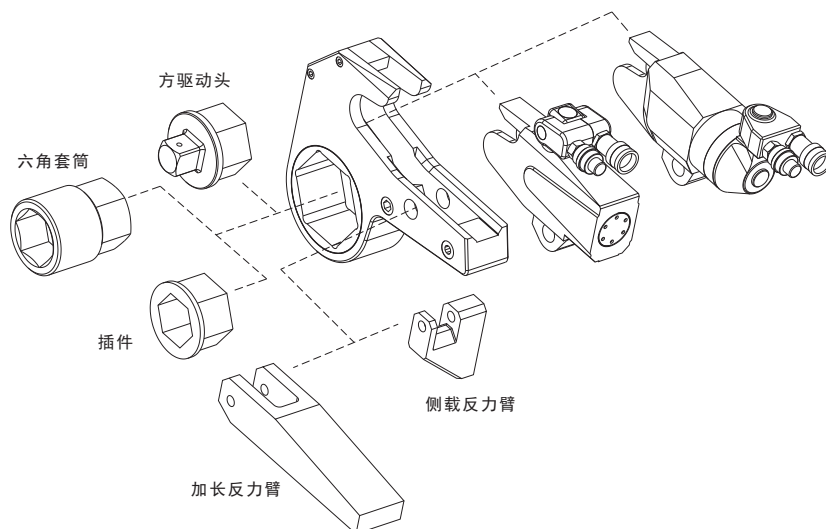
Better head space, suitable for small space use.

- ✦ 传承十几年的技术与制造工艺。  
More than ten years of technology and manufacturing technology.
- ✦ 全流线外形，融合当代工业设计新潮，刚柔兼顾。  
The whole streamline shape is integrated with the new trend of modern industrial design.
- ✦ 最大工作压力70MPa。  
The maximum working pressure is 70MPa.
- ✦ 从 255-140000Nm 共 10 个型号，螺栓覆盖面最广的产品。  
From 255 to 75221Nm, there are 10 models with the most extensive coverage of bolts.
- ✦ 该中空型液压扳手，最大扭矩可延至 140000Nm。  
The maximum torque of the hollow hydraulic spanner can be extended to 140000Nm.
- ✦ 扭矩恒定输出，重复精度  $\pm 3\%$ 。  
Constant torque output, repeatability accuracy  $\pm 3\%$ .
- ✦ 重量更轻。  
Lighter weight.
- ✦ 可以更换的多种工作头选择。  
Multiple head selections can be replaced.
- ✦ 可根据工况定制扳手，生产周期短。  
The wrench can be customized according to the working conditions, and the production cycle is short.



## WHCD 系列—中空型扭矩扳手

WHCD Series-hollow torque wrench



### WHCD 系列液压扭矩扳手选型表

Type selection table of WHCD series hydraulic torque wrench

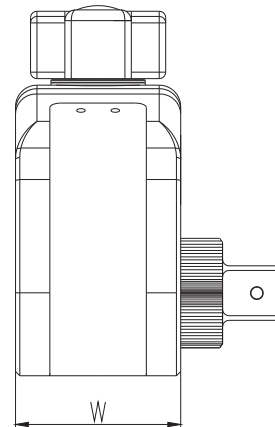
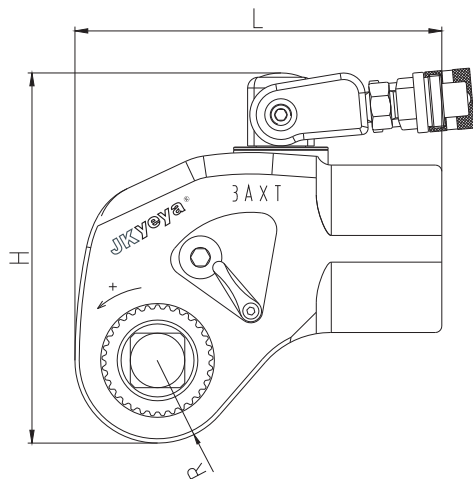
型号 Model	1WHCD	3WHCD	4WHCD	6WHCD	8WHCD	15WHCD	25WHCD	35WHCD	50WHCD	95WHCD
扭矩 Torque (Nm)	233 2326	345 3446	540 5399	769 7691	1212 12116	1992 19919	3363 33629	5385 53851	7522 75221	13946 139463
螺母范围 Nuts Range (S)	36-60	41-60	46-80	55-85	70-105	80-115	90-130	120-145	130-180	155-190
重量 Weight (Kg)	2.1	3.7	4.5	7.5	8.9	17.3	25.2	35.5	47.8	204
L1	120.5	144	156	179	207	237	273	338	382	492
L2	156	185	202	232	270	309	361	447	517	665
L3	191	223	232	256	291	335	383	456	539	670
H1	100	113	119	145	168	197	230	280	320	400
H2	144.5	156	161	187	210	237	272	345	383	458
H3	142	148	152	179	200	227	255	294	400	425
W1	34	36	42	45	53	64	70	84	94	160
W2	36	38	46	49	57	68	79	92	102	168
W3	50	55	60	65	75	90	100	118	140	180
A	8.3	9.5	11.7	12.8	14.2	18.2	21.3	24.8	30.5	61.7

## ATX 系列—前置式驱动液压扳手

ATX series - front drive hydraulic wrench



- \* 超高强度合金制造，一体成型机身，外形小巧。  
It is made of super high strength alloy and has a body shape.
- \* 改变传统后置式反力臂，纵向尺寸小，更适用于狭小空间。  
Changing the traditional rear reaction arm, with smaller longitudinal dimensions, is more suitable for narrow space.
- \* 反作用力臂与方驱同轴，无偏载反力臂与机身可 360° 微调，适用工况能力更强。  
The reaction arm is coaxial with the square drive, and the reaction arm and the fuselage can be fine-tuned at 360 degrees without bias load, so it is more suitable for working conditions.
- \* 精确的止回扳机，克服螺栓扭转回弹，迅速提升螺栓紧固速度。  
Precise check trigger to overcome bolt torsion springback and quickly increase bolt fastening speed.
- \* 油管旋转接头 360°X180° 操作自由，无空间限制。  
Tubing rotary joint 360° X180° free operation, no space restriction.
- \* 反力臂可根据工况定制，生产周期短。  
The counter arm can be customized according to the working conditions and the production cycle is short.
- \* 也可升级为后置式反力臂。  
It can also be upgraded to a rear reaction arm.



### ATX 系列液压扭矩扳手选型表

Type selection table of ATX series hydraulic torque wrench

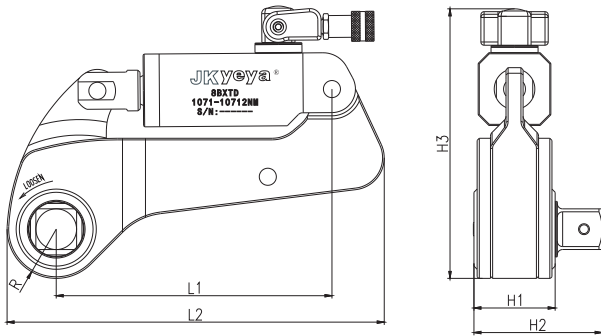
型号 Model	1AXT	3AXT	5AXT	8AXT	10AXT	15AXT
扭矩 Torque (Nm)	179 1788	406 4062	733 7325	1003 10033	1513 15133	1904 19041
精度 Precision	±3%	±3%	±3%	±3%	±3%	±3%
重量 Weight (Kg)	2.4	5.1	8.4	10.3	14.6	17.8
最大拉伸力 Maximum Tensile Force (KN)	400	787	1029	1441	1588	2034
R	29.5	38.5	47.5	54.5	62.5	64.5
L	133	171	210	238	266	296
H	135	172	205	232	253	255
W	57	77	88	100	111	120
方驱 Square Drive	3/4'	1'	1-1/2'	1-1/2'	1-1/2'	2'



## BXTD 系列—驱动式液压扭矩扳手

BXTD series - driving hydraulic torque wrench

- ✧ 全流线外形，融合当代工业设计新潮，铝钛合金与合金钢的完美结合。  
The full streamline shape combines modern industrial design with the perfect combination of aluminum titanium alloy and alloy steel.
- ✧ 铝钛合金油缸，强度高、韧性好。  
The aluminum titanium alloy cylinder has high strength and high toughness.
- ✧ 最大工作压力 70MPa。  
Maximum working pressure 70MPa
- ✧ 精密细小棘轮设计，无止回结构，不会因螺栓扭转而卡死。  
The precision small ratchet design has no stop structure and will not be stuck due to bolt twisting.
- ✧ 油管旋转接头 360°X180°，无空间限制，操作自由。  
Tubing rotary joint 360° X180° no space restriction, free operation.
- ✧ 传动部件少，机构简单，易保养，维护成本低廉。  
The transmission parts are few, the mechanism is simple, the maintenance is easy, and the maintenance cost is low.
- ✧ 紧凑的一体式反作用力臂设计，扳手偏载小，更加耐用。  
The compact integrated counterforce arm is designed with less load and longer durability.
- ✧ 从 485-280000Nm 共 13 个型号，是市面上同类产品型号最全，螺栓覆盖面最广的产品。  
From 485 to 280000Nm, There are 13 models which is the most complete type of similar products on the market, bolt cover the widest range of products.
- ✧ 尤其是水轮机转子等大扭矩预紧螺栓最合适的选择。  
Especially the most suitable choice for large torque pretightening bolts, such as turbine rotors.
- ✧ 扭矩恒定输出，重复精度 ±3%。  
Constant torque output, repeatability accuracy ±3%.
- ✧ 可以更换多种驱动轴，可根据现场空间，定制加长反作用力臂。  
A variety of driving shafts can be replaced, and the lengthening reaction force arm can be customized according to the field space.



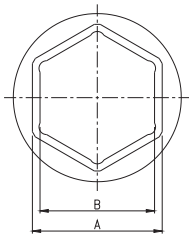
### BXTD 系列液压扭矩扳手选型表

Type selection table of BXTD series hydraulic torque wrench

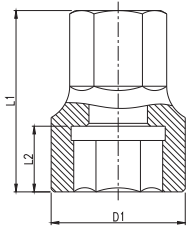
型号 Model	3BXTD	8BXTD	10BXTD	15BXTD	20BXTD	25BXTD	45BXTD	60BXTD	85BXTD	120BXTD
扭矩 Torque (Nm)	485 4847	1071 10712	1512 15121	2013 20130	2909 29089	3679 36795	6058 60582	8440 84403	12017 120176	15936 159355
重量 Weight (Kg)	6.2	12.7	18.5	25	31.5	40.4	56	68	115	163
L1	210	258	279	318	340	350	380	422	452	510
L2	381	353	385	435	452	472	525	573	660	770
H1	55	76	81	88	95	103	112	135	175	235
H2	84	120	124	140.5	160	168	182	217	280	352
H3	200	255	278	292	313	335	386	403	450	520
R	35	46	50	56	63	70	80	85	110	125
方驱 Square Drive	1'	1-1/2'	1-1/2'	2'	2-1/2'	2-1/2'	2-1/2'	3'	3-1/2'	4'

## 中空型扳手专用变径套筒

Various Diameter Sockets Designed For Hollow Wrench



套筒 -K 型  
Socket -K type



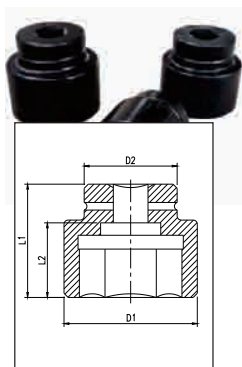
套筒 -LBK 型  
Socket -LBK type



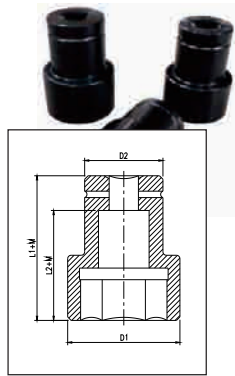
- \* 高强度铬钼合金钢制造  
Manufacture of high strength Cr Mo alloy steel
- \* 采用标准热处理工艺，安全可靠，经久耐用。  
The standard heat treatment process is safe, reliable and durable.
- \* KLCD 系列变径套同样适用于 XLCD/DLCD/WHCD 系列扳手。  
KLCD series adjustable sockets are also suitable for XLCD/DLCD/WHCD series wrenches.
- \* 标准为公制套筒尺寸，可定制英制变径套或各种非标变径套。  
The standard is metric socket size, and can be made into English diameter adjustable sockets or various non-standard

扳手型号 Wrench model	工作头型号 Working head type	适用对边 Right side	变径套规格型号 Specification and type of variable sleeve							
			型号	A/B	型号 Model	A/B	型号 Model	A/B	型号 Model	A/B
3KLCD	2KLCD-36	S=36	2K3630	36/30	2K3627	36/27	2K3624	36/24		
	2KLCD-41	S=41	2K4136	41/36	2K4134	41/34	2K4130	41/30	2K4127	41/27
	2KLCD-46	S=46	2K4641	46/41	2K4636	46/36	2K4634	46/34	2K4630	46/30
	2KLCD-50	S=50	2K5046	50/46	2K5041	50/41	2K5036	50/36	2K5034	50/34
	2KLCD-55	S=55	2K5550	55/50	2K5546	55/46	2K5541	55/41	2K5536	55/36
4KLCD	2KLCD-60	S=60	2K6055	60/55	2K6055	60/50	2K6055	60/46	2K6055	60/41
	4KLCD-46	S=46	4K4641	46/41	4K4636	46/36	4K4634	46/34		
	4KLCD-50	S=50	4K5041	50/41	4K5036	50/36	4K5034	50/34		
	4KLCD-55	S=55	4K5546	55/46	4K5541	55/41	4K5536	55/36	4K5534	55/34
	4KLCD-60	S=60	4K6050	60/50	4K6046	60/46	4K6041	60/41	4K6036	60/36
	4KLCD-65	S=65	4K6555	65/55	4K6550	65/50	4K6546	65/46	4K6541	65/41
	4KLCD-70	S=70	4K7060	70/60	4K7055	70/55	4K7050	70/50	4K7046	70/46
	4KLCD-75	S=75	4K7565	75/65	4K7560	75/60	4K7555	75/55	4K7550	75/50
8KLCD	4KLCD-80	S=80	4K8070	80/70	4K8065	80/65	4K8060	80/60	4K8055	80/55
	8KLCD-70	S=70	8K7060	70/60	8K7055	70/55	8K7050	70/50		
	8KLCD-75	S=75	8K7565	75/65	8K7560	75/60	8K7555	75/55	8K7550	75/50
	8KLCD-80	S=80	8K8070	80/70	8K8065	80/65	8K8060	80/60	8K8055	80/55
	8KLCD-85	S=85	8K8575	85/75	8K8570	85/70	8K8565	85/65	8K8560	85/60
	8KLCD-90	S=90	8K9080	90/80	8K9075	90/75	8K9070	90/70	8K9065	90/65
	8KLCD-95	S=95	8K9585	95/85	8K9580	95/80	8K9575	95/75	8K9570	95/70
14KLCD	8KLCD-100	S=100	8K10090	100/90	8K10085	100/85	8K10080	100/80	8K10075	100/75
	8KLCD-105	S=105	8K10595	105/95	8K10590	105/90	8K10585	105/85	8K10580	105/80
	14KLCD-80	S=80	14K8070	80/70	14K8065	80/65	14K8060	80/60		
	14KLCD-85	S=85	14K8575	85/75	14K8570	85/70	14K8565	85/65	14K8560	85/60
	14KLCD-90	S=90	14K9080	90/80	14K9075	90/75	14K9070	90/70	14K9065	90/65
	14KLCD-95	S=95	14K9585	95/85	14K9580	95/80	14K9575	95/75	14K9570	95/70
	14KLCD-100	S=100	14K10090	100/90	14K10085	100/85	14K10080	100/80	14K10075	100/75
18KLCD	14KLCD-105	S=105	14K10595	105/95	14K10590	105/90	14K10585	105/85	14K10580	105/80
	14KLCD-110	S=110	14K110100	110/100	14K11095	110/95	14K11090	110/90	14K11085	110/85
	14KLCD-115	S=115	14K115105	115/105	14K115100	115/100	14K11595	115/95	14K11590	115/90
	18KLCD-85	S=85	18K8575	85/75	18K8570	85/70	18K8565	85/65		
	18KLCD-90	S=90	18K9080	90/80	18K9075	90/75	18K9070	90/70	18K9065	90/65
	18KLCD-95	S=95	18K9585	95/85	18K9580	95/80	18K9575	95/75	18K9570	95/70
	18KLCD-100	S=100	18K10090	100/90	18K10085	100/85	18K10080	100/80	18K10075	100/75
20KLCD	18KLCD-105	S=105	18K10595	105/95	18K10590	105/90	18K10585	105/85	18K10580	105/80
	18KLCD-110	S=110	18K110100	110/100	18K11095	110/95	18K11090	110/90	18K11085	110/85
	18KLCD-115	S=115	18K115105	115/105	18K115100	115/100	18K11595	115/95	18K11590	115/90
	18KLCD-120	S=120	18K120110	120/110	18K120105	120/105	18K120100	120/100	18K12095	120/95
	KLCD30-90	S=90	30K9080	90/80	30K9075	90/75	30K9070	90/70		
	KLCD30-95	S=95	30K9585	95/85	30K9580	95/80	30K9575	95/75	30K9570	95/70
	KLCD30-100	S=100	30K10090	100/90	30K10085	100/85	30K10080	100/80	30K10075	100/75
30KLCD	KLCD30-105	S=105	30K10595	105/95	30K10590	105/90	30K10585	105/85	30K10580	105/80
	KLCD30-110	S=110	30K110100	110/100	30K11095	110/95	30K11090	110/90	30K11085	110/85
	KLCD30-115	S=115	30K115105	115/105	30K115100	115/100	30K11595	115/95	30K11590	115/90
	KLCD30-120	S=120	30K120110	120/110	30K120105	120/105	30K120100	120/100	30K120105	120/105
	KLCD30-130	S=130	30K130120	130/120	30K30115	130/115	30K130110	130/110	30K130105	130/105
	KLCD40-95	S=95	40K9585	95/85	40K9580	95/80	40K9575	95/75		
	KLCD40-100	S=100	40K10090	100/90	40K10085	100/85	40K10080	100/80	40K10075	100/75
30KLCD	KLCD40-105	S=105	40K10595	105/95	40K10590	105/90	40K10585	105/85	40K10580	105/80
	KLCD40-110	S=110	40K110100	110/100	40K11095	110/95	40K11090	110/90	40K11085	110/85
	KLCD40-115	S=115	40K115105	115/105	40K115100	115/100	40K11595	115/95	40K11590	115/90
	KLCD40-120	S=120	40K120110	120/110	40K120105	120/105	40K120100	120/100	40K12095	120/95
	KLCD40-130	S=130	40K130120	130/120	40K130115	130/115	40K130110	130/110	40K130105	130/105
	KLCD40-145	S=145	40K145135	145/135	40K145130	145/130	40K145120	145/120	40K145115	145/115
	KLCD40-150	S=150	40K150135	150/135	40K150130	150/130	40K150120	150/120	40K150115	150/115
KLCD40-155	S=155	40K155145	155/145	40K155135	155/135	40K155130	155/130	40K155120	155/120	

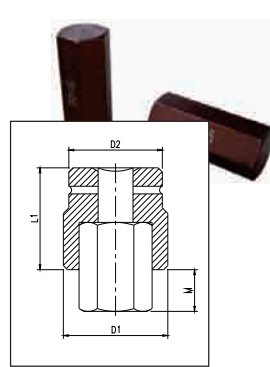
## 驱动型液压扳手套筒 Driving Hydraulic Wrench Sockets



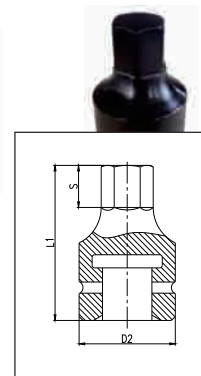
单帽套筒 -D  
Single cap socket -D



双帽套筒 -D  
Double cap socket -D



外六角套筒 -LFB  
Double cap socket -D



外六角套筒 -F  
Outer six corner socket -F

- \* 高强度铬钼合金钢制造。  
Manufacture of high strength Cr Mo alloy steel.
- \* 采用标准热处理工艺，安全可靠·经久耐用。  
The standard heat treatment process is safe, reliable and durable.
- \* 标准为公制套筒尺寸，可定制英制套筒或各种非标套筒。  
The socket is standard metric size, and can be made into British or various non-standard size.
- \* 重载套筒标准 DIN3121/3129。  
Heavy socket standard DIN3121 / 3129

螺栓规格 Bolt specification		3/4" (19×19)				1" (25.4×25.4)				1-1/2" (38×38)				2" (51×51)				2-1/2" (64×64)			
直径 M diameter	对边 S Opposite side	D1	D2	L1	L2	D1	D2	L1	L2	D1	D2	L1	L2	D1	D2	L1	L2	D1	D2	L1	L2
M16	24	42	42	50	27																
M20	30	48	44	54	31																
M22	34	52	44	54	31	52	52	58	30												
M24	36	54	44	57	34	55	55	61	33	74	74	76	34								
M27	41	60	44	60	37	63	55	64	36	74	74	79	37								
M30	46	66	44	68	45	70	58	68	40	74	74	82	40								
M33	50	71	44	70	47	75	64	71	43	81	81	85	43								
M36	55					81	66	76	48	87	87	90	48	100	100	97	48	115	115	118	54
M39	60					87	66	79	51	87	87	93	51	103	103	100	51	115	115	118	54
M42	65					92	68	82	54	97	87	96	54	105	105	104	54	120	120	118	54
M45	70					97	75	85	57	102	87	99	57	112	112	107	57	120	120	121	57
M48	75					102	75	91	63	112	87	105	63	119	119	113	63	128	128	127	63
M52	80					108	75	95	67	118	95	109	67	123	123	117	67	130	130	131	67
M56	85					116	78	99	71	123	95	114	72	127	127	122	72	132	132	136	72
M60	90									128	98	118	76	132	115	126	76	139	139	140	76
M64	95									133	98	124	82	138	115	132	82	145	145	145	82
M68	100									139	102	128	86	138	115	136	86	153	142	150	86
M72	105									145	102	132	90	148	115	140	90	160	142	154	90
M76	110									150	105	136	94	154	120	146	96	166	142	160	96
M80	115									155	110	150	105	159	120	150	100	173	142	164	100
M85	120													165	125	155	105	180	142	169	105
M90	130													177	125	160	110	190	160	174	110
M95	135													182	130	165	115	195	160	179	115
M100	145													194	135	175	125	210	160	189	125
M105	150																	215	170	200	130
M110	155																	223	170	210	135
M115	165																	230	170	220	140
M120	175																	240	170	235	155

## 液压扭矩扳手的选择

### Selection of hydraulic torque wrench

#### 一、扭矩的确认

##### 1. Confirmation of torque

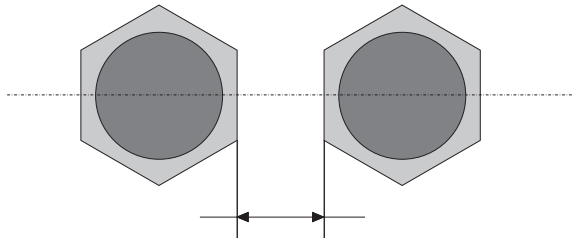
参考图纸要求找出螺栓的扭矩值为多少，对螺栓所需扭矩不清楚，请参照“螺栓及螺母最大扭矩推荐值”查找相应的扭矩值。  
Reference paper requires to find out the value of bolt torque, if bolt torque is not clear, please refer to the "bolt and nut maximum torque recommended value" to find the corresponding torque value.

#### 二、空间的考虑

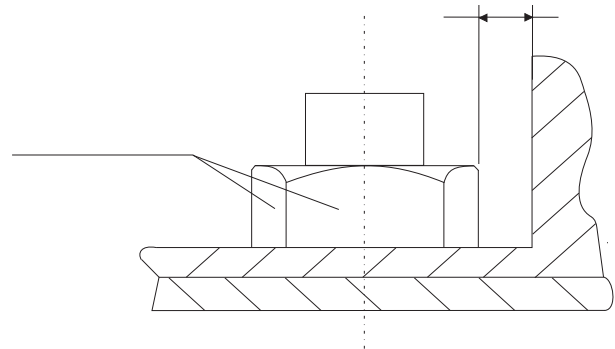
##### 2. space considerations

由于使用现场按住位置的限制，注意选择扳手使用空间的位置。如图  
Due to the restriction on the position of the field, choose the location of the wrench's space. As a picture.

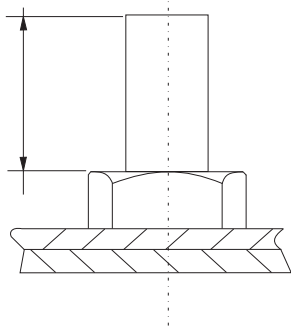
1、螺栓间距小  
Small bolt spacing.



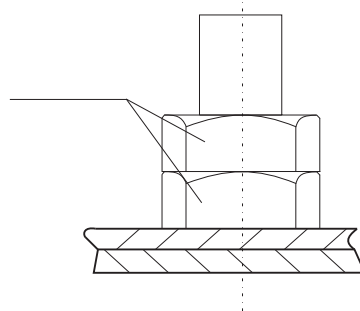
2、螺栓（螺母）与设备板壁太过于接近  
The bolt (nut) is too close to the equipment wall.



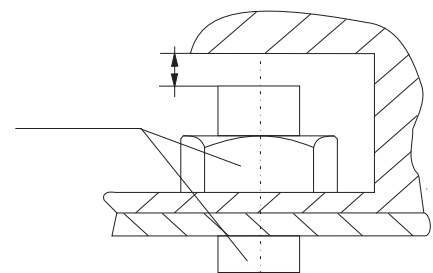
3、螺栓太长  
The bolt is too long



4、螺栓有双螺母  
Bolts have double nuts.



5、高度空间矮小  
Short height space



以上的情况，驱动型无法工作时就需要选中空液压扳手，他独特之处在于可将扳手分为两部分：工作头部分和动力头部分，同型号动力头不变，工作头在该型号范围内，可通过更换工作头来实现拆装大小不同规格的螺栓。另外，也可以在一个规格中加装变径改变其六角对边大小来实现拆装不同规格的螺栓。

In the above case, when the driving type can not work, it needs to select the hollow hydraulic wrench. Its unique feature is that the wrench can be divided into two parts: the working head and the power head, the same type of power head is unchanged, the working head in this type of range, can be replaced by the working head to achieve the disassembly of bolts of different sizes: It can also be installed in a specification to change the hexagonal diagonal size to achieve the disassembly of bolts of different specifications.

螺栓及螺母最大扭矩推荐值  
Recommended values of maximum torque for bolts

强度等级 Strength grade		4.8		6.8		8.8		10.9		12.9	
最小破断强度 Minimum breaking strength		400 MPa		600 MPa		800 MPa		1000 MPa		1200 MPa	
材质 Texture of material		一般构造用钢 General structural steels		机械构造用钢 Mechanically constructed steel		铬钼合金钢 chrome molybdenum steel		镍铬钼合金钢 Nickel chromium molybdenum alloy steel		镍铬钼合金钢 Nickel chromium molybdenum alloy steel	
螺栓 Bolt	螺母对边 The edge of the nut	扭矩值 Torque value		扭矩值 Torque value		扭矩值 Torque value		扭矩值 Torque value		扭矩值 Torque value	
		KGM	NM	KGM	NM	KGM	NM	KGM	NM	KGM	NM
16	24	9	87	13	131	18	174	25	245	30	294
18	27	13	128	20	192	26	256	37	360	44	432
20	30	17	170	26	256	35	341	49	479	59	575
22	34	24	232	36	348	47	465	69	653	80	784
24	36	30	294	45	442	60	589	84	828	101	994
27	41	44	432	66	647	88	863	124	1214	149	1457
30	46	60	585	89	877	119	1171	168	1646	201	1975
33	50	81	796	122	1195	162	1593	228	2240	274	2688
36	55	104	1023	157	1535	209	2046	294	2878	352	3453
39	60	135	1324	203	1986	270	2649	380	3725	456	4469
42	65	167	1638	251	2457	334	3277	470	4608	564	5529
45	70	209	2045	313	3068	417	4090	587	5752	704	6903
48	75	251	2461	376	3691	502	4921	706	6921	847	8305
52	80	325	3181	487	4771	649	6362	913	8946	1095	10736
56	85	404	3956	605	5934	807	7912	1135	11127	1362	13352
60	90	504	4932	755	7398	1006	9864	1415	13871	1698	16645
64	95	608	5960	912	8940	1216	11920	1710	16762	2052	20115
68	100	738	7230	1107	10845	1475	14460	2075	20335	2450	24401
72	105	885	8669	1327	13003	1769	17337	2488	24381	2985	29257
76	110	1050	10287	1574	15430	2099	20573	2952	28931		34717
80	115	1234	12094	1851	18141	2468	24188	3471	34014		40815
85	120	1493	14636	2240	21953	2987	29271		41163		49395
90	130	1787	17510	2680	26266	3573	35021		49248		59098
100	145	2484	24341	3726	36512		48683		68460		82152
110	155	3342	32751		49126		65501		92111		110533
120	175	4378	42902		64354		85805		120663		144795
125	180		48683		73024		97366		136920		164304



上表中螺栓预紧扭矩数据仅作参考使用  
The data of bolt pretightening torque in the above table are for reference only.



螺栓预紧扭矩值首先应依据机械设备设计所需扭矩为准  
The pre tightening torque of bolts should be based on the torque required for mechanical equipment design.

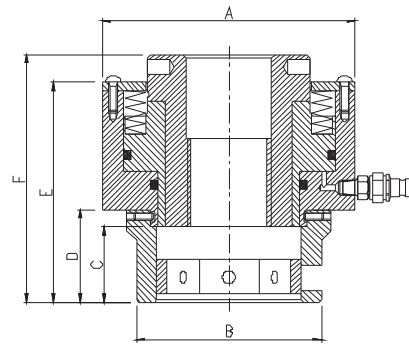
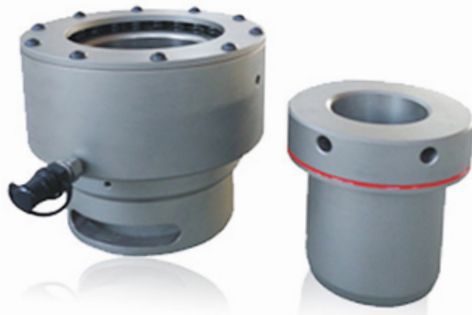
注：表中数值为螺栓达到屈服极限的 60% 时所测定，建议锁紧扭矩值为，表中数据  $\times(70-80)\%$ 。  
Note: The value in the table is 60% of the yield limit of the bolt. It is suggested that the value of locking torque should be: the data in the table  $\times(70-80)\%$ .

例如：M52、8.8 级螺栓，则锁紧扭矩为： $6362 \times (70 - 80) \% = 4453 - 5090 \text{ Nm}$ 。  
For example, M52, 8.8 bolts, locking torque is  $6362 \times 70-80 \% = 4453-5090 \text{ Nm}$ .

选择扳手前应确认一个原则，即拆松螺母的扭矩是锁紧扭矩的 1.5 - 2.5 倍。  
A principle should be confirmed before choosing spanner, that is, the torque of loosening nut is 1.5-2.5 times of locking torque.

## TSD 系列 - 单级液压螺栓拉伸器

TSD series - single stage hydraulic bolt tensioner



\* 最高使用压力：150MPa  
Maximum service pressure: 150MPa

\* 自动回程机构设计  
Design of automatic return mechanism

\* 超行程红色警戒指示线，确保操作者安全。  
Ultra red warning line to ensure operator safety.

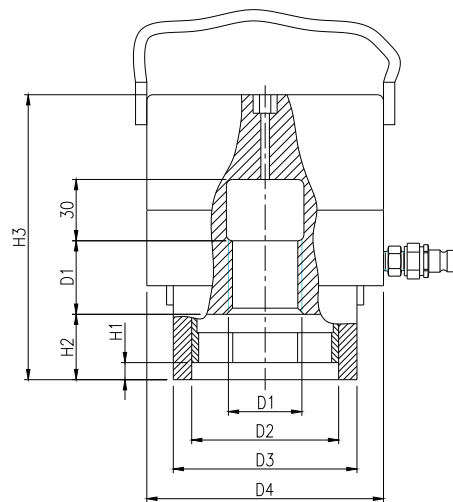
\* 不同规格的螺栓可以使用同一台拉伸器预紧或拆松，但必须更换拉伸头和拨套。

The bolts of different specifications can be pre loaded or loosened by the same tensioner, but the drawing heads and the sockets must be replaced.

型号 Model	适合螺栓 Fit Bolt	最大负载 Maximum Load (KN)	尺寸 size (mm)						行程 Stroke (mm)	重量 Weight (Kg)
			A	B	C	D	E	F		
TSD0	M20	307	109	55	23	25	111	128	8	5
	M22			60	25	27	113	130		
	M24			66	27	29	115	132		
TSD1	M24	486	109	74	27	29	120	138	8	7
	M27			77	30	32	123	141		
	M30			80	33	35	126	144		
	M33			85	36	38	129	147		
TSD2	M36	814	132	90	39	41	132	150	8	10
	M33			90	36	44	135	150		
	M36			96	39	47	138	153		
	M39			98	42	50	141	156		
TSD3	M42	989	150	105	45	53	144	159	10	15
	M39			110	42	42	136	150		
	M42			113	45	45	140	155		
	M45			114	50	50	144	161		
TSD4	M48	1413	174	118	52	52	146	163	10	20
	M52			132	55	56	154	174		
TSD5	M56	1649	198	135	59	60	161	179	12	25
	M56			135	59	60	161	179		
	M60			143	64	64	165	183		
	M64			150	68	68	169	187		
TSD6	M68	2131	222	158	72	72	173	191	12	35
	M72			165	76	76	184	207		
	M76			170	80	80	188	211		
TSD7	M76	2544	252	170	80	80	194	221	12	50
	M80			175	85	85	197	224		
	M85			190	90	88	199	226		
	M90			205	95	95	209	236		
TSD8	M95	3101	282	215	100	100	214	243	12	65
	M100			235	105	105	219	248		
TSD9	M105	3793	318	240	110	110	224	254	12	85
	M110			248	115	118	234	264		
	M115			260	120	120	234	264		
TSD10	M115	4936	360	260	120	120	261	297	12	110
	M120			270	125	125	266	302		
	M125			286	140	130	271	307		

## ESD 系列 - 单级液压螺栓拉伸器

ESD series - single stage hydraulic bolt tensioner



- \* 主要用于 10.9 级高强度螺栓。  
It is mainly used for 10.9 grade high strength bolts.
- \* 自动快速回程机构设计，大大减轻劳动强度。  
The design of automatic quick return mechanism greatly reduces labor intensity.

- \* 超行程红色警戒指示线，三级安全保护，确保操作者安全。  
Super stroke red warning line, three level safety protection to ensure operator safety.

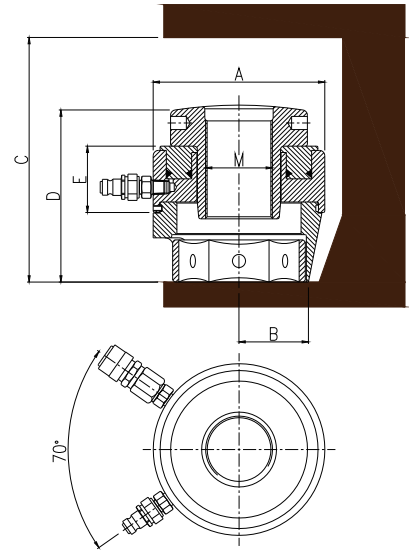
型号 Model	螺纹 D1 Thread D1	螺母对边 Nut to the Side	拉伸力 Tensile Force	D2	D3	D4	H1	H2	H3
	mm	S	KN	mm	mm	mm	mm	mm	mm
ESD 20	M 20×2.5	30	200	42	52	65	6	19	94
ESD 24	M 24×3	36	290	49	60	78	8	22	102
ESD 27	M 27×3	41	380	55	67	86	10	25	108
ESD 30	M 30×3.5	46	460	61	74	97	12	27	106
ESD 33	M 33×3.5	50	570	66	81	107	14	29	114
ESD 36	M 36×4	55	670	71	90	117	16	32	118
ESD 39	M 39×4	60	800	77	96	127	18	34	125
ESD 42	M 42×4.5	65	920	83	102	137	20	37	134
ESD 45	M 45×4.5	70	1080	89	110	148	22	39	135
ESD 48	M 48×5	75	1220	94	116	158	24	42	140
ESD 52	M 52×5	80	1450	102	128	169	28	46	151
ESD 56	M 56×5.5	85	1680	106	135	179	31	49	158
ESD 60	M 60×5.5	90	2010	114	142	199	34	52	167
ESD 64	M 64×6	95	2210	120	151	211	37	55	172
ESD 68	M 68×6	100	2600	124	155	228	40	58	180
ESD 72	M 72×6	105	2880	130	168	238	44	62	186
ESD 76	M 76×6	110	3320	139	180	259	48	66	197
ESD 80	M 80×6	115	3610	142	188	267	50	68	202
ESD 90	M 90×6	130	4650	160	210	300	58	77	220
ESD 100	M 100×6	145	5830	178	237	340	66	85	240

注：上表所示螺栓拉伸器是为拆装高强度 10.9 级螺栓，并根据伸长极限 0.2 的 90% 设计的；若需要更高的拉伸力，则使用表中螺栓拉伸头同样螺纹尺寸邻近的下一个较大的油缸（例如对 M42 来说，用 ESD45 来代替 ESD42）。或进行特殊设计。以上单级拉伸器是本公司产品中很少一部分，90% 以上的拉伸器根据工况都需要专门特殊设计，我们有多年成熟的设计和现场使用经验，为你定做最适合工况的产品；详情请与本公司联系。

Note: The bolt tensioner shown in the above table is for disassembling high-strength 10.9 bolts and designed according to 90% of the elongation limit of 0.2; if higher tensile force is required, the same bolt tensioning head in the table is used. The next larger cylinder adjacent to the thread size (for example, ESD45 instead of ESD42 for M42), or specially designed. The above single-stage tensioner is a small part of the company's products. More than 90% of the tensioners need special design according to the working conditions. We have many years of mature design and field experience, and we can customize the most suitable products for any working conditions. please contact us for details.

## HLD 系列 - 单级液压螺栓拉伸器

HLD series - single stage hydraulic bolt tensioner



- \* 使用最大压力: 150MPa  
Use a maximum pressure of 150 MPa.
- \* 结构紧凑, 维护简单。  
Compact and easy to maintain.
- \* 体积小、重量轻。  
Small size and light weight.
- \* 更换拉杆方便  
Easy to replace the tie rod
- \* 通用于石化行业工况  
Commonly used in petrochemical industry conditions

型号 Model	螺栓直径 Bolt Diameter		最大载荷 Maximum Load	油压面积 Oil Pressure Area	重量 Weight	A	B	C	D	E	F
	Inch	mm									
HLD1		16	226	1506	3.5	73	24	110	74	45	49
	3/4	18	226	1506	3.5	73	24	110	74	45	49
		20	226	1506	3.5	73.5	27	110	74	45	49.5
	7/8	22	226	1506	3	73.5	27	115	74	45	53
	1	24	226	1506	3	73.5	30	125	78	45	58.5
	1 1/8	27	226	1506	3	73.5	32	130	78	45	63.5
HLD2		30	455	3031	5	102	30	150	90	54	69
	1 1/4	33	455	3031	5	102	34	150	90	54	72
	1 3/8	36	455	3031	5	102	36	160	95	54	78
	1 1/2	39	455	3031	5	102	38	170	100	54	80
HLD3	1 1/2	39	803	5357	9	133	42	175	95	56	83.5
	1 5/8	42	803	5357	9	133	42	185	100	56	92.5
	1 3/4	45	803	5357	9	133	44	195	103	56	98
	1 7/8	48	803	5357	9	133	46	205	107	56	101
	2	52	803	5357	9	133	48	210	112	56	106
HLD4	1 7/8	48	1288	8591	15	163	50	205	105	58	108
	2	52	1288	8591	15	163	52	215	108	58	108
	2 1/4	56	1288	8591	15	163	54	235	117	58	118.5
		60	1288	8591	15	163	54	238	120	58	127
	2 1/2	64	1288	8591	15	163	58	254	129	58	130.5
HLD5	2 1/2	64	1978	13188	25	193	64	254	125	60	130.5
		68	1978	13188	25	193	72	258	130	60	138
	2 3/4	72	1978	13188	25	193	72	258	130	60	143
	3	76	1978	13188	25	193	74	258	141	60	153



## 风电专用系列 - 螺栓超张拉 HLD series - single stage hydraulic bolt tensioner



**风电专用**  
Special for wind power

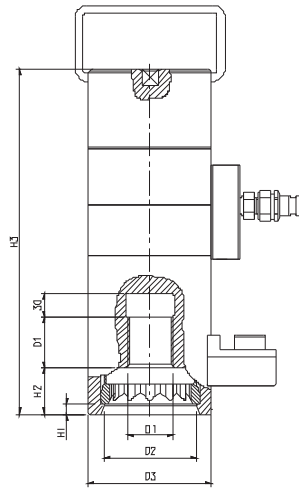
- \* 精科液压风电专用拉伸器，是本公司主力投放风电市场的液压拉伸器，具有轻便、快捷、高效、准确等优点。  
Precision Hydraulic Wind Power Special Tensioner is the main hydraulic tensioner which be put into the wind power market by the our company. It is portable, fast, efficient and accurate.
- \* 该系列拉伸器适用于各种机型的螺丝工况，例如、金风、上海电气、东方电气、重庆海装、远景能源、维斯塔斯、歌美飒等风机；针对不同型号风机、不同位置螺栓，精科都有针对性的拉伸器与之匹配。
- \* The series of tensioners are suitable for various types of screw working conditions, such as Goldwind, Shanghai Electric, Dongfang Electric, Chongqing Seaborne, Envision, Vistas, Siemens Gamesa and other wind turbines; for different types of wind turbines

型号 Model	螺栓规格 Bolt Specification M	螺母对边 The Edge of The Nut S	拉伸力 Tensile Force KN	油缸面积 Oil Cylinder Area mm <sup>2</sup>	行程 Stroke mm	油缸外径 Outer Diameter of Oil Cylinder mm	本高 Height mm	最大压力 Maximum Pressure MPa
MSD30. 2. 74	30×3. 5	46	520	3855	8	74	218	135
MSD36. 2. 87	36×4	55	724	4827	10	87	263	150
MSD36. 2. 75	36×4	55	452	3016	8	75	201	150
MSD36. 3. 75	36×4	55	678	4524	8	75	255	150
MSD36C. 2. 96	36×4	55	670	4963	10	96	213	135
MSD36JG. 2. 82	36×4	55	667	4943	10	82	405	135
MSD39. 2. 94	39×4	60	870	5802	10	94	257	150
MSD42. 2. 108	42×4. 5	65	1058	7057	10	108	292	150
MSD42. 3. 100	42×4. 5	65	1190	8817	10	100	338	135
MSD48. 2. 122	48×5	75	1478	9858	12	122	324	150
MSD48. 2. 131	48×5	75	1539	10261	12	131	338	150
MSD56. 2. 138	56×5. 5	85	1734	12847	12	138	372	135
MSD56L. 2. 141	56×5. 5	85	1547	11459	10	141	285	135
MSD64. 2. 150	64×6	95	2011	14901	15	150	421	135
MSD64L2. 151	64×6	95	1839	12265	10	151	321	150



## MSD 系列 - 多级液压螺栓拉伸器

MSD Series - Multi-stage Hydraulic Bolt Tensioner



### 可选附件:

Optional accessories:

安全保护罩。

Safety protection cover.

带弹簧的旋转落幕套。

Rotating curtain with spring.

可选表面镀镍涂层。

Optional surface nickel plated coating.

分配器接头。

Distributor connector.

螺杆伸长测量杆。

Screw extension measuring rod.

- \* 主要用于 10.9 级高强螺栓。  
It is mainly used for 10.9 grade high-strength bolts.
- \* 最高使用压力: 150MPa。  
Maximum service pressure: 150MPa
- \* 自动快速回程机构设计, 大大减轻劳动强度。  
The design of automatic quick return mechanism greatly reduces labor intensity.

- \* 超行程红色警戒指示线, 三级安全保护, 确保操作者安全  
Ultra red red warning line, three level safety protection to ensure operator safety.

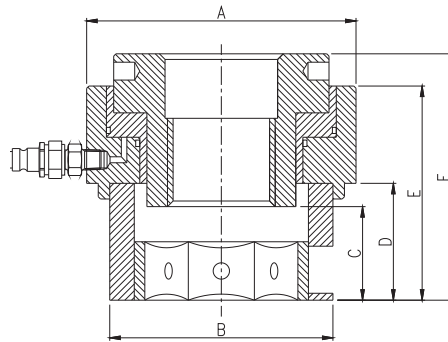
型号 Model	螺纹 Thread D1	螺母对边 The Edge Of The Nut S	拉伸力 Tensile Force KN	D2 mm	D3 mm	H1 mm	H2 mm	H3 mm
MSD 20	M 20×2.5	30	200	44	59	6	19	182
MSD 24	M 24×3	36	290	51	65	8	24	188
MSD 27	M 27×3	41	380	56	73	10	25	192
MSD 30	M 30×3.5	46	460	62	79	12	27	198
MSD 33	M 33×3.5	50	570	67	84	14	29	240
MSD 36	M 36×4	55	670	72	90	16	32	248
MSD 39	M 39×4	60	800	78	98	18	34	253
MSD 42	M 42×4.5	65	920	84	107	20	37	256
MSD 45	M 45×4.5	70	1080	90	112	22	39	260
MSD 48	M 48×5	75	1220	95	123	24	42	268
MSD 52	M 52×5	80	1450	103	129	28	46	288
MSD 56	M 56×5.5	85	1680	107	136	31	49	328
MSD 60	M 60×5.5	90	2010	115	146	34	52	330
MSD 64	M 64×6	95	2210	121	155	37	55	346
MSD 68	M 68×6	100	2600	127	164	40	58	358
MSD 72	M 72×6	105	2880	131	177	44	62	378
MSD 76	M 76×6	110	3320	137	183	46	66	385
MSD 80	M 80×6	115	3610	143	203	50	68	414
MSD 90	M 90×6	130	4650	161	232	58	77	446
MSD 100	M 100×6	145	5830	179	252	66	85	487

注: 上表所示螺栓拉伸器是为拆装高强度 10.9 级螺栓, 并根据伸长极限 0.2 的 90% 设计的; 若需要更高的拉伸力, 则使用表中螺栓拉伸头同样螺纹尺寸邻近的下一个较大的油缸 (例如对 M42 来说, 用 MSD45 来代替 MSD42) 或进行特殊设计。以上单级拉伸器是本公司产品中很少一部分, 90% 以上的拉伸器根据工况都需要专门特殊设计, 我们有多年成熟的设计和现场使用经验, 为你定做最适合工况的产品; 详情请与本公司联系。

Note: The bolt tensioner shown above is designed to disassemble and assemble high-strength 10.9 bolts according to 90% of the elongation limit of 0.2; if higher tensile force is required, the next larger cylinder with the same thread size of the bolt tensioner head in the table (for example, for M42, MSD45 is used instead of MSD42) or special design is used. The above single-stage tensioner is a very small part of our products, more than 90% of the tensioner according to the working conditions need special design, we have many years of mature design and field experience to customized for you.

# DLD 系列 - 简易型螺栓拉伸器

DLD series - simple bolt tensioner

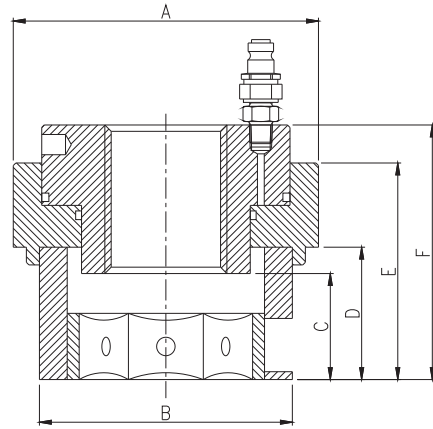


- \* 最高使用压力 150MPa。  
The highest operating pressure is 150MPa.
- \* 超行程红色警戒指示线。  
Over travel red warning line.
- \* 机械式复位。  
Mechanical reduction.
- \* 可更换的拉伸头。  
Replaceable drawing head.
- \* 磨光表面处理（发黑处理）。  
Polishing surface treatment (blackening).

型号 Model	适用螺栓 Applicable Bolt	最大负载 Maximum Load KN	尺寸 Size mm						行程 Stroke mm	重量 Weight Kg
			A	B	C	D	E	F		
DLD0	M 20	338	85	55	23	25	74	86	8	3.5
	M 22			59	25	27	76	88		
	M 24			66	27	29	78	90		
DLD1	M 24	486	109	66	27	29	90	105	8	5.5
	M 27			72	30	32	93	108		
	M 30			78	33	35	96	111		
	M 33			85	36	38	99	114		
	M 36			90	39	41	102	117		
DLD2	M 33	814	132	85	36	44	111	127	8	8
	M 36			94	39	47	116	130		
	M 39			98	42	50	119	133		
	M 42			105	45	53	122	136		
DLD3	M 39	989	150	98	41	51	122	135	10	12
	M 42			105	44	54	125	138		
	M 45			110	47	57	128	141		
	M 48			125	50	60	131	144		
DLD4	M 52	1413	174	132	53	56	132	145	10	17
	M 56			135	59	60	136	149		
DLD5	M 56	1649	198	135	59	60	138	154	12	21
	M 60			144	63	65	143	159		
	M 64			150	67	69	147	163		
	M 68			158	71	74	152	168		
DLD6	M 72	2131	222	165	75	77	167	185	12	26
	M 76			170	79	81	175	193		
DLD7	M 76	2544	252	170	79	81	167	197	12	32
	M 80			175	83	85	172	201		
	M 85			185	88	90	176	206		
	M 90			205	93	95	181	211		
DLD8	M 95	3101	282	215	98	100	189	224	12	38
	M 100			235	103	105	194	229		
DLD9	M 105	3793	318	240	108	110	203	238	12	52
	M 110			250	113	115	208	243		
	M 115			260	118	120	213	248		
DLD10	M 115	4936	360	260	120	120	261	297	15	87
	M 120			270	125	125	266	302		
	M 125			285	140	130	271	307		

## PLD 系列 - 紧凑型螺栓拉伸器

PLD series - compact bolt tensioner



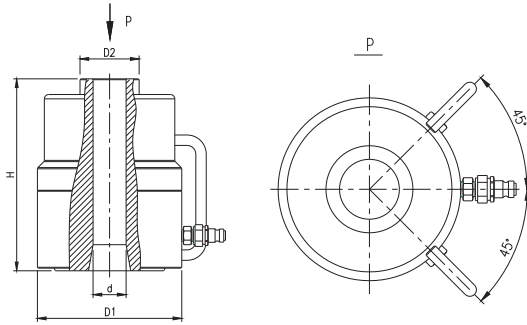
- \* 最大使用压力 150MPa。  
The maximum operating pressure is 150MPa.
- \* 机械式复位。  
Mechanical reduction.
- \* 红色行程指示线。  
Red travel indicator.

- \* 磨光表面处理（发黑处理）。  
Polishing surface treatment (blackening).
- \* 配减少，结构简单，维护成本低廉。  
The structure is simple, and the maintenance cost is low.

型号 Model	适用螺栓 Applicable Bolt	最大负荷 Maximum Load KN	尺寸 (mm)						行程 Stroke mm	重量 Weight Kg
			A	B	C	D	E	F		
PLD20	M20	212	66	55	23	25	71	80	10	1.5
PLD22	M22	279	72	59	25	27	75	86		1.7
PLD24	M24	327	78	66	27	29	77	88		2.1
PLD27	M27	388	84	72	30	31	83	93		2.5
PLD30	M30	454	90	73	33	34	86	96		3
PLD33	M33	612	102	86	36	37	91	103		4
PLD36	M36	768	114	89	43	40	98	109	12	5
PLD39	M39	821	120	98	42	43	101	112		5.5
PLD42	M42	874	126	105	45	46	104	116		6.5
PLD45	M45	957	132	110	48	49	112	124		7.5
PLD48	M48	1119	114	125	51	52	116	129		9.5
PLD52	M52	1328	156	130	55	56	120	134		11
PLD56	M56	1393	162	135	59	60	129	145		13
PLD60	M60	1457	168	144	64	64	136	154		15
PLD64	M64	1696	180	155	67	68	140	157		17
PLD68	M68	1837	192	170	72	72	144	162		19.5
PLD72	M72	2226	204	165	76	76	148	166	22.5	
PLD76	M76	2518	216	172	80	80	156	174	25.5	
PLD80	M80	2827	228	183	81	85	157	175	28.5	
PLD85	M85	3254	246	188	90	90	166	189	35	
PLD90	M90	3604	258	208	95	95	175	198	15	42
PLD95	M95	3973	270	220	100	100	190	218		52
PLD100	M100	4476	288	238	105	105	195	223		60

## ZLD 系列 - 桥梁专用拉伸器

ZLD series - special tensioner for bridge

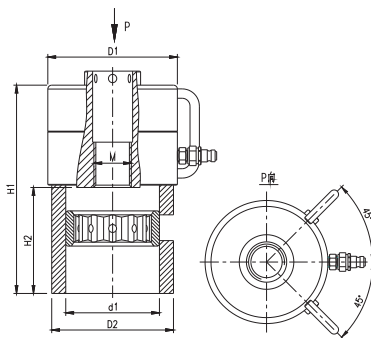


- \* 自动快速回程机构设计。  
Automatic quick return mechanism design.
- \* 磨光表面处理（发黑处理）。  
Polishing surface treatment (blackening).
- \* 超行程红色警戒指示线。  
Over travel red warning line.
- \* 工作压力高，重量轻。  
High working pressure and light weight.

型号 Model	拉伸力 Tensile Force KN	螺纹规格 Thread Specification M	尺寸 size (mm)				行程 Stroke mm	工作压力 Working Pressure MPa	重量 Weight Kg
			D1	D2	d	H			
ZLD30	422	M30	94	47	32	210	40	150	8.5
ZLD33	500	M33	101	51	35	210	40	150	10.1
ZLD36	594	M36	109	56	38	210	40	150	12.7
ZLD39	727	M39	121	61	42	210	40	150	14.4
ZLD42	866	M42	132	66	44	210	40	150	16.4
ZLD45	922	M45	138	71	47	210	40	150	18
ZLD48	1027	M48	147	76	50	210	40	150	21
ZLD52	1354	M52	166	81	54	210	40	150	25
ZLD56	1413	M56	171	86	58	277	40	150	32
ZLD60	1688	M60	185	91	52	277	40	150	39
ZLD64	1830	M64	193	96	66	277	40	150	48

## SJD 系列 - 桥梁锁夹螺栓预紧器

SJD series - bridge lock bolt clamp pretensioner

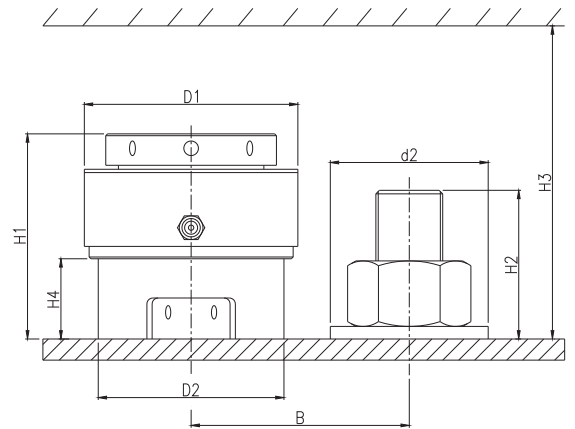
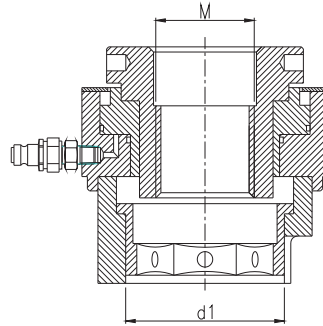


- \* 自动快速回程机构设计。  
Automatic quick return mechanism design.
- \* 超行程红色警戒指示线。  
Over travel red warning line.
- \* 磨光表面处理（发黑处理）。  
Polishing surface treatment (blackening).
- \* 工作压力高，重量轻。  
High working pressure and light weight.
- \* 不同规格的螺栓可以使用同一台拉伸器预紧或拆松。  
Different sizes of bolts can be tightened or loosened by using the same tensioner.

型号 Model	拉伸力 Tensile Force KN	螺纹规格 Thread Specification M	尺寸 Size (mm)				行程 Stroke mm	工作压力 Working Pressure MPa	重量 Weight Kg
			D1	D2	d	H			
SJD30	422	M30	94	86	270	120	20	150	8.2
SJD33	500	M33	101	92	273	122	20	150	12
SJD36	594	M36	109	100	276	127	20	150	15
SJD39	727	M39	121	108	279	130	20	150	22
SJD42	866	M42	132	117	283	133	20	150	24
SJD45	922	M45	138	122	285	139	20	150	27
SJD48	1027	M48	147	136	292	145	20	150	31
SJD52	1354	M52	166	156	303	153	20	150	38
SJD56	1413	M56	171	160	322	155	20	150	47
SJD60	1688	M60	185	172	354	155	20	150	51
SJD64	1830	M64	193	180	368	155	20	150	62

## YLD 系列 - 单级矮型螺栓拉伸器

YLD series - single stage low bolt tensioner



执行机械标准: GB/T 6390-2007

Implementation of mechanical standard: GB/T 6390-2007

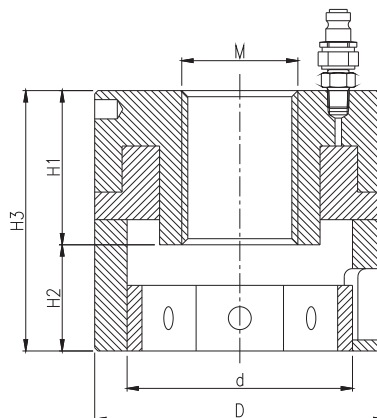
注: 工作压力 80MPa, 机械式回位。

Note: working pressure 80MPa, mechanical return.

型号 Model	螺纹规格 Thread	拉伸力 Tensile Force KN	尺寸 Size (mm)								活塞 Piston		重量 Weight Kg	
			D1	D2	d1	d2	H1	H2	H3	H4	B	面积 The Measure Of Area cm <sup>2</sup>		行程 Stroke mm
YLD1	M20×2.5	296	97	84	60	35	95	38	130	20	50+d2/2	37	6	2.8
	M22×2.5		97	84	60	45	95	42	130	20	50+d2/2	37		2.8
	M24×3		97	84	60	45	95	46	130	20	50+d2/2	37		2.8
	M27×3		97	84	60	45	95	52	130	20	50+d2/2	37		2.8
YLD2	M24×3	440	114	98	72	45	108	46	150	26	58+d2/2	55	8	4.2
	M27×3		114	98	72	45	108	52	150	26	58+d2/2	55		4.2
	M30×3.5		114	98	72	55	108	57	150	26	58+d2/2	55		4.2
	M33×3.5		114	98	72	55	108	63	150	26	58+d2/2	55		4.2
YLD3	M36×4	664	145	122	92	65	142	69	190	46	74+d2/2	83	8	8.1
	M39×4		145	122	92	65	142	74	190	46	74+d2/2	83		8.1
	M42×4.5		145	122	92	75	142	80	190	46	74+d2/2	83		8.1
	M45×4.5		145	122	92	75	142	86	190	46	74+d2/2	83		8.1
YLD4	M45×4.5	1080	180	155	117	75	200	86	255	75	92+d2/2	135	12	20
	M48×5		180	155	117	90	200	92	255	75	92+d2/2	135		20
	M52×5		180	155	117	90	200	99	255	75	92+d2/2	135		20
	M56×5.5		180	155	117	100	200	107	255	75	92+d2/2	135		20
YLD5	M60×5.5	1440	250	220	156	100	265	114	340	95	127+d2/2	180	15	48
	M64×6		250	220	156	110	265	122	340	95	127+d2/2	180		48
	M68×6		250	220	156	110	265	130	340	95	127+d2/2	180		48
	M72×6		250	220	156	120	265	137	340	95	127+d2/2	180		48
	M76×6		250	220	156	140	265	145	340	95	127+d2/2	180		48
	M80×6		250	220	156	140	265	152	340	95	127+d2/2	180		48

## YLP 系列 - 普通型螺栓拉伸器

YLP series - General bolt tensioner



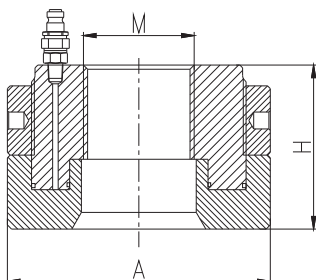
■ 执行机械标准 :GB/T 6390-2007  
Implementation of mechanical standard: GB/T 6390-2007

■ 注：工作压力 80MPa，机械式回位。  
Note: working pressure 80MPa, mechanical return.

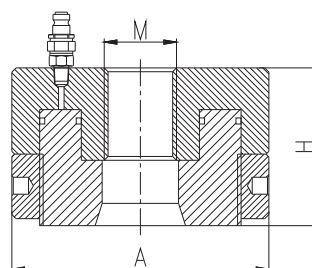
型号 Model	螺纹规格 Thread	拉伸力 Tensile Force KN	尺寸 Size (mm)					活塞 Piston	
			D	d	H1	H2	H3	面积 The Measure Of Area cm <sup>2</sup>	行程 Stroke mm
YLP01	M30×3.5	125	70	54	70	26	96	15.7	5
YLP02	M33×3.5	140	76	60	72	28	103	17.3	5
YLP03	M36×4	150	83	66	74	30	109	18.9	5
YLP04	M39×4	195	88	72	75	32	112	24.5	5
YLP05	M42×4.2	210	94	77	76	34	116	26.5	5
YLP06	M45×4.5	230	100	83	78	38	124	28.5	5
YLP07	M48×5	280	106	89	80	40	129	35.3	5
YLP08	M52×5	300	112	94	82	45	134	37.6	5
YLP09	M56×5.5	385	124	100	84	48	145	48	5
YLP10	M60×5.5	480	136	106	86	51	154	59.7	5
YLP11	M64×6	505	142	112	88	53	151	62.9	5
YLP12	M68×6	610	153	118	90	58	162	76	5
YLP13	M72×6	720	165	124	92	62	166	90.3	5
YLP14	M76×6	755	171	130	95	64	174	94.3	5
YLP15	M80×6	880	183	136	105	68	175	110	5
YLP16	M85×6	1020	195	143	110	72	189	127.2	5
YLP17	M90×6	1165	207	146	115	74	198	145.5	5
YLP18	M95×6	1320	218	157	120	80	218	165	5
YLP19	M100×6	1365	224	164	125	84	223	170.5	5W
YLP20	M105×6	1580	228	175	135	88		197.3	5
YLP21	M110×6	1760	254	181	145	95		220	5
YLP22	M115×6	1800	260	188	155	98		225	5
YLP23	M120×6	1910	271	194	165	100		238.8	5
YLP24	M125×6	1960	277	198	175	105		245	5
YLP25	M130×6	2165	289	210	185	110		270.4	5

## DN/HN 系列 - 液压螺母

DN/HN series - hydraulic nut



顶环液压螺母  
Top ring hydraulic nut



底环液压螺母  
Bottom ring hydraulic nut

- \* 简单、快捷、精确  
Simple, quick and accurate
- \* 采用无转矩设计，避免摩擦、螺栓扭曲、螺栓预紧力等因素的影响，使被紧固螺栓受纯拉伸力。  
The non-torque design is adopted to avoid the influence of friction, bolt twist and bolt pre-tightening force, so that the fastened bolt is subjected to pure tensile force.
- \* 特别适合重负荷震动机械紧固。  
Especially suitable for heavy load vibration machinery fastening.
- \* 带有行程指示器，允许在操作过程中观察、测量和控制拉伸量  
With stroke indicator, it is allowed to observe, measure and control drawing amount during operation.
- \* 可以精确设定预载荷，精度高达  $\pm 3\%$   
The pre load can be accurately set, and the accuracy is as high as  $\pm 3\%$ .
- \* 最大工作压力：150MPa  
Maximum working pressure: 150MPa

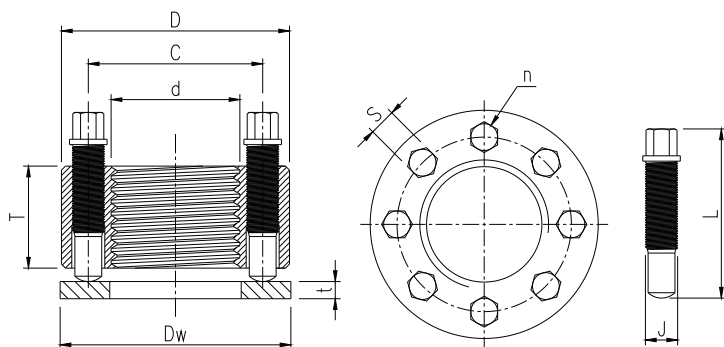
型号 Model		螺纹规格 Thread Specification mm	外径 External Diameter mm	高度 Height mm	作用面积 Area Of Action cm <sup>2</sup>	最大出力 Maximum Force KN	行程 Stroke mm	重量 Weight Kg
顶环液压螺母 Top Ring Hydraulic Nut	底环液压螺母 Bottom Ting Hydraulic Nut	M	A	H				
DN30	HN30	30	75	61	17.3	259	6	0.9
DN33	HN33	33	83	64	22.5	338	6	1.1
DN36	HN36	36	88	67	24.5	368	6	1.3
DN39	HN39	39	94	70	26.5	397	6	1.5
DN42	HN42	42	100	73	28.5	427	6	1.9
DN45	HN45	45	106	77	32.4	486	6	2.4
DN48	HN48	48	118	80	4	600	6	2.8
DN52	HN52	52	123	84	42.4	636	8	3.6
DN56	HN56	56	135	88	53.6	804	8	4.9
DN60	HN60	60	147	93	65.9	989	8	5.6
DN64	HN64	64	153	99	69.1	1036	8	6.7
DN68	HN68	68	159	105	72.4	1086	8	8.8
DN72	HN72	72	170	109	86.5	1298	10	9.7
DN76	HN76	76	176	117	90.1	1351	10	11.7
DN80	HN80	80	194	124	106	1590	10	14.9
DN85	HN85	85	200	130	113.9	1708	10	16.4
DN90	HN90	90	212	140	131.7	1976	10	19.6
DN95	HN95	95	223	148	150.7	2261	10	23.4
DN100	HN100	100	236	154	163.3	2450	15	28.5



## CY 系列 - 超级螺母

CY series super nut

- \* 操作温度: -60℃ -200℃。  
Operating temperature: -60℃ -200℃.
- \* 标准预负载下螺栓应力: 410-890MPa。  
The bolt stress under standard preload is 410-890MPa.
- \* CY 系列超级螺母适用于高强度机械紧固, 适合于大型六角螺母使用的一切场合。  
CY series super nuts are suitable for high strength mechanical fastening and for all occasions of large hexagonal nuts.
- \* 适用场合: 低温螺栓、压缩机、泵、高压法兰、减速箱、齿轮箱、分体式齿轮、破碎机、军用机械等。  
Applicable occasions: low-temperature bolts, compressors, pumps, high-pressure flanges, reducers, gearbox, split gears, crushers, military machinery, etc.

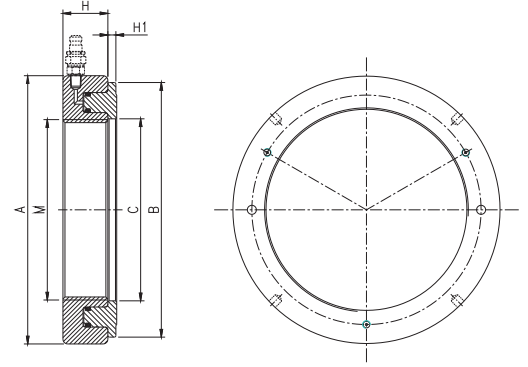


型号 Model	螺纹直径 Thread Diameter d	螺母 Nut (mm)			顶推螺栓 Push bolt (mm)			垫片 (mm)		标准产品		重量 Weight Kg	
		外径 Outside Diameter D	厚度 Thickness T	中心距 Center Distance C	长度 Length L	数量 Number n	直径 Diameter J	对边 Opposite Side S	外径 Outside Diameter Dw	厚度 Thickness t	预紧力 Pretightening Load KN		扭矩 Torque NM
CY-M20	M20	37	17	29	30	8	M6×0.75	5	38	3.3	144	15	0.14
CY-M24	M24	47	24	35	40	6	M8×1	6	48	4.8	216	36	0.3
CY-M27	M27	50	24	39	40	8	M8×1	6	51	4.8	288	36	0.32
CY-M30	M30	53	24	41	40	8	M8×1	6	54	4.8	288	36	32
CY-M33	M33	62	32	48	52	6	M10×1.25	8	63	4.8	344	42	0.54
CY-M36	M36	66	32	51	52	8	M10×1.25	8	67	4.8	459	42	0.68
CY-M39	M39	71	32	54	52	10	M10×1.25	8	72	4.8	574	42	0.77
CY-M42	M42	75	32	56	52	12	M10×1.25	8	77	4.8	688	42	0.86
CY-M45	M45	81	38	62	62	8	M12×1.25	10	83	6.4	700	132	1.22
CY-M48	M48	85	38	65	62	10	M12×1.25	10	87	6.4	874	132	1.32
CY-M52	M52	94	38	70	62	12	M12×1.25	10	96	6.4	1049	132	1.63
CY-M56	M56	97	38	76	62	12	M12×1.25	10	99	6.4	1049	132	1.68
CY-M60	M60	107	58	83	91	8	M16×1.5	14	109	6.4	1228	315	3.2
CY-M64	M64	113	58	87	91	10	M16×1.5	14	115	8	1589	315	3.5
CY-M72	M72	119	58	94	91	12	M16×1.5	14	121	8	1906	315	3.6
CY-M80	M80	132	61	103	91	16	M16×1.5	14	134	8	2542	315	4.5
CY-M90	M90	145	61	113	91	16	M16×1.5	14	147	8	2542	315	5.4
CY-M100	M100	157	61	123	91	16	M16×1.5	14	159	8	2542	315	6.4
CY-M110	M110	177	61	133	91	20	M16×1.5	14	179	8	3177	315	8.2
CY-M120	M120	189	81	149	113	18	M20×1.5	17	191	10	4739	647	11.8
CY-M140	M140	215	94	169	126	22	M20×1.5	17	217	10	5792	647	17.2
CY-M160	M160	226	107	189	139	24	M20×1.5	17	228	10	6318	647	19.5



## DN/HN 系列 - 液压螺母

DN/HN series - hydraulic nut



型号 Model	螺纹规格 Thread specification	外径 Outside diameter	压环外径 Outer diameter of pressure ring	压环内径 Inner diameter of pressure ring	油缸厚度 Cylinder height	压环厚度 Ring height	行程 Stroke	有效面积 Cylinder Effective Area Advance	最大推力 Maximum Cylinder Capacity Advance	重量 Weight
	M	A	B	C	H	H1				
	mm	mm	mm	mm	mm	mm	mm	cm <sup>2</sup>	KN	kg
HMV50	M50×1.5	114	104	50.5	38	4	5	29	290	2.70
HMV55	M55×2	120	109	55.5	38	4	5	31.5	315	2.75
HMV60	M60×2	125	115	60.5	38	5	5	33	330	2.80
HMV65	M65×2	130	121	65.5	38	5	5	36	360	3.00
HMV70	M70×2	135	127	70.5	38	5	5	38	380	3.20
HMV75	M75×2	140	132	75.5	38	5	5	40	400	3.40
HMV80	M80×2	146	137	80.5	38	5	5	42	420	3.70
HMV85	M85×2	150	142	85.5	38	5	5	44	440	3.75
HMV90	M90×2	156	147	90.5	38	5	5	47	470	4.00
HMV95	M95×2	162	153	95.5	38	5	5	49	490	4.30
HMV100	M100×2	166	158	100.5	38	6	5	51	510	4.40
HMV105	M105×2	172	163	105.5	38	6	5	53	530	4.65
HMV110	M110×2	178	169	110.5	38	6	5	56	560	4.95
HMV115	M115×2	182	174	115.5	38	6	5	58	580	5.00
HMV120	M120×2	188	179	120.5	38	6	5	60	600	5.25
HMV125	M125×2	192	184	125.5	38	6	5	62	620	5.35
HMV130	M130×2	198	190	130.5	38	6	5	64	640	5.65
HMV135	M135×2	204	195	135.5	38	6	5	66	660	5.90
HMV140	M140×2	208	200	140.5	38	7	5	68	680	6.00
HMV145	M145×2	214	206	145.5	39	7	5	73	730	6.50
HMV150	M150×2	220	211	150.5	39	7	5	75	750	6.60
HMV155	M155×3	226	218	155.5	39	7	5	81	810	6.95
HMV160	M160×3	232	224	160.5	40	7	6	86	860	7.60
HMV165	M165×3	238	229	165.5	40	7	6	89	890	7.90
HMV170	M170×3	244	235	170.5	41	7	6	94	940	8.40
HMV180	M180×3	256	247	180.5	41	7	6	103	1030	9.15
HMV190	M190×3	270	259	191	42	8	7	115	1150	10.50
HMV200	M200×3	282	271	201	43	8	8	125	1250	11.50
HMV205	Tr205×4	288	276	207	43	8	8	128	1280	12.00
HMV210	Tr210×4	294	282	212	44	8	9	134	1340	12.50
HMV215	Tr215×4	300	287	217	44	8	9	137	1370	13.00
HMV220	Tr220×4	306	293	222	44	8	9	144	1440	13.50
HMV225	Tr225×4	312	300	227	45	8	9	152	1520	14.50
HMV230	Tr230×4	318	305	232	45	8	9	155	1550	15.00
HMV235	Tr235×4	326	311	235	46	8	10	162	1620	16.00
HMV240	Tr240×4	330	316	242	46	9	10	165	1650	16.50
HMV250	Tr250×4	342	329	252	46	9	10	176	1760	17.50
HMV260	Tr260×4	356	341	262	47	9	11	188	1880	19.50
HMV270	Tr270×4	368	352	272	48	9	12	198	1980	20.50
HMV280	Tr280×4	380	363	282	49	9	12	211	2110	22.00

续表  
continued

型号 Model	螺纹规格 Thread specification	外径 Outside diameter	压环外径 Outer diameter of pressure ring	压环内径 Inner diameter of pressure ring	油缸厚度 Cylinder height	压环厚度 Ring height	行程 Stroke	有效面积 Cylinder Effective Area Advance	最大推力 Maximum Cylinder Capacity Advance	重量 Weight
	M	A	B	C	H	H1	mm	cm <sup>2</sup>	KN	kg
	mm	mm	mm	mm	mm	mm				
HMV290	Tr290×4	390	375	292	49	9	13	224	2240	22.50
HMV300	Tr300×4	404	386	302	51	10	14	236	2360	25.50
HMV310	Tr310×5	416	397	312	52	10	14	249	2490	27.00
HMV320	Tr320×5	428	409	322	53	10	14	263	2630	29.50
HMV330	Tr330×5	438	419	332	53	10	14	270	2700	30.00
HMV340	Tr340×5	450	430	342	54	10	14	284	2840	31.50
HMV345	Tr345×5	456	436	347	54	10	14	294	2940	32.50
HMV350	Tr350×5	464	442	352	56	10	14	299	2990	35.00
HMV360	Tr360×5	472	455	362	56	10	15	313	3130	35.50
HMV365	Tr365×5	482	460	367	57	11	15	317	3170	38.50
HMV370	Tr370×5	486	466	372	57	11	16	328	3280	39.00
HMV380	Tr380×5	498	476	382	58	11	16	335	3350	40.50
HMV385	Tr385×5	504	483	387	58	11	16	347	3470	41.00
HMV400	Tr400×5	522	499	402	60	11	17	367	3670	45.50
HMV410	Tr410×5	534	510	412	61	11	17	383	3830	48.00
HMV420	Tr420×5	546	522	422	61	11	17	400	4000	50.00
HMV430	Tr430×5	556	532	432	62	11	17	408	4080	52.50
HMV440	Tr440×5	566	543	442	62	12	17	425	4250	54.00
HMV450	Tr450×5	580	554	457	64	12	17	441	4410	57.50
HMV460	Tr460×5	590	565	462	64	12	17	451	4510	60.00
HMV470	Tr470×5	602	576	472	65	12	18	469	4690	62.00
HMV480	Tr480×5	612	587	482	65	12	19	486	4860	63.00
HMV490	Tr490×5	624	597	492	66	12	19	495	4950	66.00
HMV500	Tr500×5	636	609	502	67	12	19	515	5150	70.00
HMV510	Tr510×6	648	624	512	68	12	20	533	5330	74.00
HMV520	Tr520×6	658	634	522	68	13	20	543	5430	75.00
HMV530	Tr530×6	670	645	532	69	13	21	562	5620	79.00
HMV540	Tr540×6	682	657	542	69	13	21	582	5820	81.00
HMV550	Tr550×6	693	667	552	70	13	21	592	5920	84.00
HMV560	Tr560×6	704	678	562	71	13	22	612	6120	88.00
HMV570	Tr570×6	716	689	572	72	13	23	632	6320	91.00
HMV580	Tr580×6	726	699	582	72	13	23	642	6420	94.00
HMV600	Tr600×6	748	721	602	73	13	23	673	6730	100.0
HMV630	Tr630×6	782	754	632	74	14	23	729	7290	110.0
HMV650	Tr650×6	804	775	652	75	14	23	762	7620	115.0
HMV670	Tr670×6	826	796	672	76	14	24	795	7950	120.0
HMV690	Tr690×6	848	819	692	77	14	25	842	8420	127.0
HMV710	Tr710×7	870	840	712	78	15	25	877	8770	135.0
HMV750	Tr750×7	912	883	752	79	15	25	952	9520	146.0
HMV800	Tr800×7	965	936	802	80	16	25	1039	10390	161.0
HMV850	Tr850×7	1020	990	857	83	16	26	1146	11460	181.0
HMV900	Tr900×7	1075	1043	902	86	17	30	1241	12410	205.0
HMV950	Tr950×8	1126	1097	952	86	17	30	1357	13570	218.0
HMV1000	Tr1000×8	1180	1150	1002	88	17	34	1458	14580	239.0

## 螺栓预紧力推荐表

Recommended form of bolt preload

下表数据主要适用于螺栓拉伸器、液压螺母的选择

The data in the following table are mainly applicable to the selection of bolt tensioner and hydraulic nut.

强度等级 Strength Grade		4.8	6.8	8.8	10.9	12.9
最小破断强度 Minimum Breaking Strength		400MPa	600MPa	800MPa	1000MPa	1200MPa
材质 Texture Of Material		一般构造用钢 General structural steels	机械构造用钢 Mechanically constructed steel	洛钼合金钢 Molybdenum alloy steel	镍钼合金钢 Nickel molybdenum molybdenum alloy steel	镍钼合金钢 Nickel molybdenum molybdenum alloy steel
螺栓 Bolt M	螺母对边 The Edge Of The Nut S	预紧力 Pretightening Force KN				
		16	24	30	45	60
18	27	37	55	74	104	125
20	30	47	71	94	132	159
22	34	58	87	117	164	197
24	36	68	102	135	190	228
27	41	88	132	176	248	298
30	46	108	161	215	303	363
33	50	133	200	266	375	449
36	55	157	235	314	441	529
39	60	187	281	375	527	632
42	65	215	323	430	605	726
45	70	251	376	502	705	846
48	75	283	424	566	796	955
52	80	338	506	675	949	1139
56	85	390	585	780	1096	1315
60	90	454	680	907	1275	1531
64	95	514	771	1028	1445	1734
68	100	587	880	1173	1650	1980
72	105	664	996	1329	1868	2242
76	110	747	1120	1494	2100	2520
80	115	834	1251	1668	2346	2815
85	120	950	1425	1900	2672	3206
90	130	1073	1610	2147	3019	3623
100	145	1343	2014	2686	3777	4533
110	155	1643	2464	3285	4620	5544
120	175	1973	2959	3945	5548	6657
125	180	2149	3223	4298	6043	7252



上表中螺栓拉伸力数据仅作参考使用。  
The bolt tensile force data in the table above are for reference only.



螺栓拉伸力值首先应依据机械设备设计所需扭矩为准。  
The bolt tensile force should first be based on the torque required for mechanical equipment design.

注：上表中数值为螺栓达到屈服极限的 60% 时所测定。

Note: the value in the above table is determined when the bolt reaches 60% of the yield limit.

建议螺栓预紧力为：表中数据 × (70-80) %

The recommended bolt tightening force is: data in table (70-80)%.

例如：M42 10.8 级螺栓；则预紧力为  $605 \times (70-80) \% = 423.5-484\text{KN}$

For example, M42 grade 10.8 bolts, pretightening force is  $605 \times (70-80)\% = 423.5-484\text{KN}$

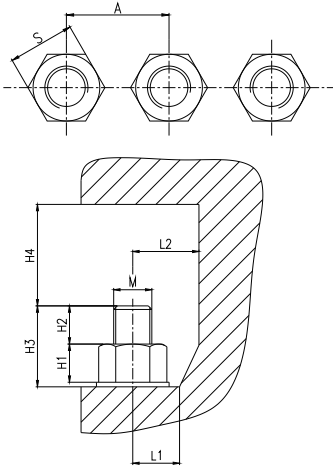
## 空间的考虑 Space considerations

### 一、使用液压扳手工况

#### 1. Use hydraulic wrench.

- \* 您应该了解液压扳手的使用条件  
You should know the working conditions of hydraulic wrench.
- \* 六角形螺母（八角螺母）

- \* Hexagon nut (octagonal nut)
- \* 内六角螺栓  
Inner hex bolts
- \* 城堡型螺母  
Castle nut

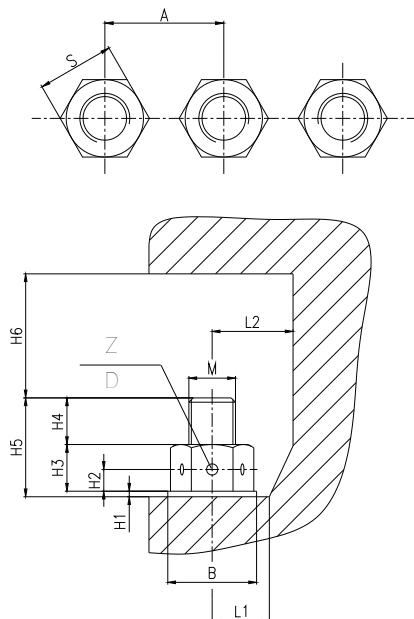


液压扳手工况调查表 - 请填写详细 Hydraulic wrench working condition questionnaire - please fill in the details.			
螺栓规格 Bolt specification	M	mm	
螺母对边 The edge of the nut	S	mm	
螺母间距 Nut spacing	A	mm	
螺母厚度 Nut height	H1	mm	
螺杆伸出长度 Screw extension length	H2	mm	
螺杆总伸出长度 Total screw length	H3	mm	
螺杆距离顶端障碍物 Screw distance from top obstacle	H4	mm	
螺母中心距离尖角 Nut center distance	L1	mm	
螺母中心距离侧壁 Nut center distance from side wall	L2	mm	
预紧扭矩 Pretightening torque	T	mm	

### 二、使用液压拉伸器工况

#### 2. Use hydraulic tensioner.

- \* 您应该了解液压拉伸器的使用条件  
You should know the working conditions of hydraulic tensioner.
- \* 螺杆伸出螺母长度  $\geq 1$  倍螺杆直径  
screw extended nut length greater than 1 times screw diameter
- \* 圆形螺母或六角形螺母  
Round nut or hexagon nut



液压拉伸器工况调查表 - 请填写详细 Hydraulic tension condition questionnaire - please fill in the details.			
螺栓规格 Bolt specification	M	mm	
牙距 Thread distance	P	mm	
圆形螺母直径 Round nut diameter		mm	
六角螺母对边 Six angle nut opposite side	S		
螺母厚度 Nut height	H3	mm	
圆形螺母拔孔高度 Hole height of circular nut	H2	mm	
圆形螺母拔孔数量 Number of holes for round nuts	Z	mm	
圆形螺母拔孔直径 Hole diameter of round nut	D	mm	
垫片直径 Gasket diameter	B	mm	
垫片厚度 Gasket height	H1	mm	
螺母间距 Nut spacing	A	mm	
螺杆伸出长度 Screw extension length	H4	mm	
螺杆总伸出长度 Total screw length	H5	mm	
螺杆距离顶端障碍物 Screw distance from top obstacle	H6	mm	
螺母中心距离尖角 Nut center distance	L1	mm	
螺母中心距离侧壁 Nut center distance from side wall	L2	mm	
预紧扭矩 Pretightening torque	T	mm	

**NEW**  
**新品**



## SP304 系列 - 液压扳手专用电动泵

SP304 series - special electric pump for hydraulic wrench

高性能散热器，油温达 35℃ 时风扇启动，确保长时间不间断。

High performance radiator, oil temperature up to 35 degrees, the wind fan start, ensure long time.

工程塑料一体成型电器盒，更加耐用。

Engineering plastics integrated forming electrical box is more durable.

铸造铝合金油箱，油液零泄露，更加轻便，坚固。

Casting aluminum alloy tank, zero leakage of oil, more light and strong.

嵌入式油位计，油位刻度线指示，查看油位更加方便快捷。

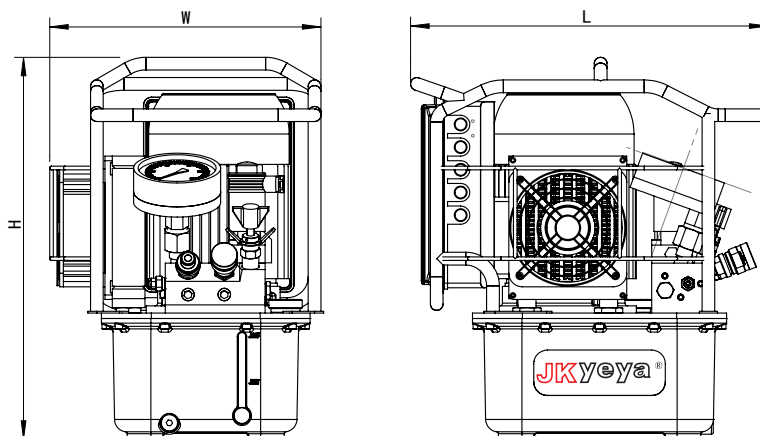
The embedded oil level gauge and the oil level calibration line indicate that the oil level is more convenient and fast.



- \* 高效率的三级流量压力设计，完美模拟人工操作，实现快速轻负载，慢速重负载，螺栓预紧更加精准。  
Efficient three-stage flow pressure design, perfect simulation of manual operation, fast light load and slow heavy load, bolt pre-tightening more accurate.
- \* 标准配置同时带动两台液压扳手（另可配置同时带动 4 台液压扳手）。  
The standard configuration also drives two hydraulic wrenches at the same time (another 4 hydraulic wrenches can be configured at the same time).
- \* 铝钛合金制造泵体，质量小，携带轻便。  
Aluminum titanium alloy pump body, small quality, portability.
- \* 在 40 ~ 700bar 范围内自由调整输出压力  
Adjust output pressure freely in the range of 40 to 700bar.
- \* 无碳刷大功率电机，维护方便，寿命长，电机配有启动电容，可带载启动，操作更简洁。  
Brushless high-power motor, easy maintenance, long life, motor with starting capacitor can start with load, more concise operation.

### 外型尺寸

Outer size



### 技术参数

technical parameter

型号 Model	输出口 Output Port	电源参数 Power Parameter	工作压力 (MPa) Working Pressure			流量 (L/min) Flow			油箱容积 Tank Volume (L)	外型尺寸 Outer Size (L×W×H) (mm)	参考重量 Reference Weight (KG)
			高压 High	中压 Medium	低压 Low	高压 High Pressure	中压 Medium	低压 Low			
SP304-2	4	220V/1.1KW	70	32	6	0.8	1.6	8	7.6	394x300x420	26
SP304-4	8	220V/1.1KW	70	32	6	0.8	1.6	8	7.6	394x300x420	26

## DP 系列 – 大流量三级液压泵

DP304 series - large flow three stage hydraulic pump



- \* 双电机三级工作，流量更大，效率更快。  
Dual motors operate at three levels, with larger flow and faster efficiency.
- \* 标准配置同时带动四台液压扳手（加装分配器可带八台液压扳手工作）。  
The standard configuration also drives 4 hydraulic wrenches at the same time (with 8 hydraulic wrenches installed on the distributor).
- \* 铝钛合金制造泵体。  
Aluminum titanium alloy pump body.
- \* 在 40 ~ 700bar 范围内自由调整输出压力  
Adjust output pressure freely in the range of 40 ~ 700bar.
- \* 无碳刷大功率电机，维护方便，寿命长，电机配有启动电容，可带载启动，操作更简洁。  
Brushless high-power motor, easy maintenance, long life, motor with starting capacitor, can start with load, more concise operation.
- \* 高性能散热器，油温达到 35℃ 时风扇启动。  
High performance radiator, when the oil temperature reaches 35 degrees, the fan starts.

### 技术参数

technical parameter

型号 Model	输出口 Output Port	电源参数 Power Parameter	工作压力 (MPa) Working Pressure			流量 (L/min) Flow			油箱容 积 Tank Volume (L)	外型尺寸 Outer Size (L×W×H) (mm)	参考重量 Reference Weight (KG)
			高压 High	中压 Medium	低压 Low	高压 High	中压 Medium	低压 Low			
DP220-4	8×1/4 NPT	220V/1.1KW	70	32	6	1.6	3.2	15	14	550X400X570	61
DP220-8	16×1/4 NPT	220V/1.1KW								550X400X570	61
DP380-4	8×1/4 NPT	380V/1.1KW								550X400X570	61
DP380-8	16×1/4 NPT	380V/1.1KW								550X400X570	61



## EMP304 - 液压扳手三级泵

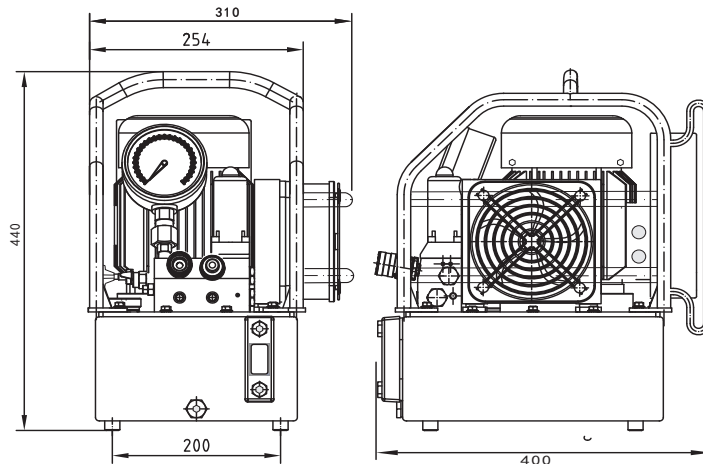
EMP304 - hydraulic wrench three stage pump

- ✳ 高效率的三级流量压力设计，完美模拟人工操作，实现快速轻负载，慢速重负载，螺栓预紧更加精准。  
Efficient three-stage flow pressure design, perfect simulation of manual operation, fast light load, slow heavy load, bolt pre-tightening more accurate.
- ✳ 标准配置同时带动两台液压扳手（另可配置同时带动4台液压扳手）。  
The standard configuration also drives two hydraulic wrenches at the same time (another 4 hydraulic wrenches can be configured at the same time).
- ✳ 铝钛合金制造泵体，质量小，携带轻便。  
Aluminum titanium alloy pump body, small quality, portability.
- ✳ 在 40 ~ 700bar 范围内自由调整输出压力  
Adjust output pressure freely in the range of 40 - 700bar.
- ✳ 无碳刷大功率电机，维护方便，寿命长，电机配有启动电容，可带载启动，操作更简洁。  
Brushless high-power motor, easy maintenance, long life, motor with starting capacitor, can start with load, more concise operation.
- ✳ 高性能散热器，油温达到 35℃ 时风扇启动。  
High performance radiator, when the oil temperature reaches 35 degrees, the fan starts.



### 外型尺寸

Outer size



### 技术参数

technical parameter

型号 Model	输出口 Output Port	电源参数 Power Parameter	工作压力 (MPa) Working Pressure			流量 (L/min) Flow			油箱容 积 Tank Volume (L)	外型尺寸 Outer Size (L×W×H) (mm)	参考重量 Reference Weight (KG)
			高压 High	中压 Medium	低压 Low	高压 High	中压 Medium	低压 Low			
EMP304-2	4×1/4 NPT	220V/1.1KW	70	32	6	0.8	1.6	8	7.6	394x300x420	27
EMP304-4	8×1/4 NPT	220V/1.1KW	70	32	6	0.8	1.6	8	7.6	394x300x420	27.5



## JKQ304 液压扭矩扳手气动泵 JKQ304- Hydraulic Torque Wrench Pneumatic pump

使用抗震型压力表，分辨率高、重复精度高、耐冲击、故障率低。  
The use of aseismic pressure gauge has high resolution, high repeatability, impact resistance and low failure rate.

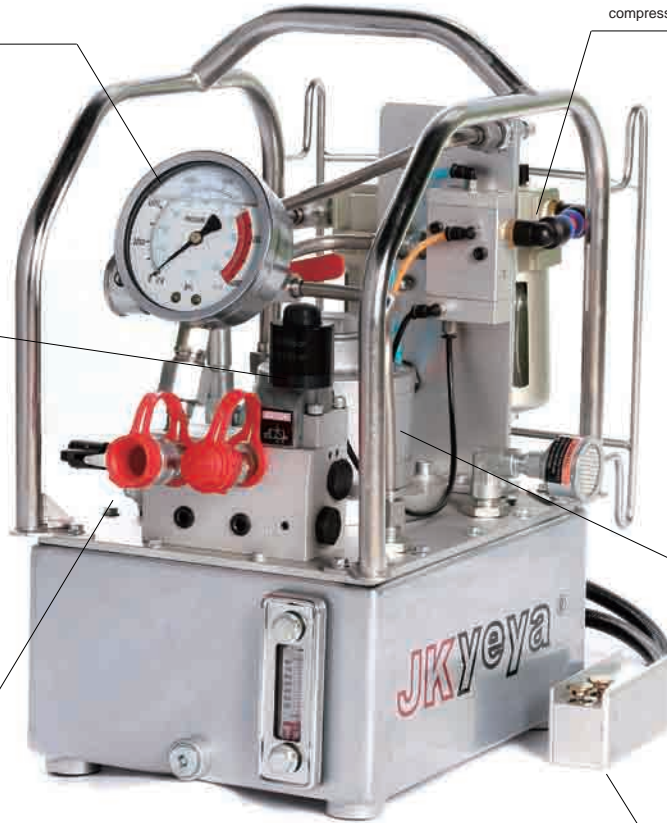
进口气动换向阀，安全防爆换向平稳，冲击性小，零泄漏。  
Imported pneumatic reversing valve, safe explosion-proof commutation stable, small impact, zero leakage.

插装式溢流阀设计，性能稳定、噪音低、维修方便、维护费用低。  
The cartridge relief valve is designed with stable performance, low noise, easy maintenance and low maintenance cost.

配有气源过滤器、气动减压阀、油雾器能提供清洁润滑的压缩空气。  
Equipped with air source filter, pneumatic pressure reducing valve and oil mist can provide clean and lubricated compressed air.

采用进口气动马达，稳定好、寿命长，质量轻、耗气量少。  
The imported pneumatic motor has good stability, long life, light weight and less gas consumption.

铝制防爆手柄，坚实可靠。  
Aluminum explosion-proof handle, solid and reliable.



铝制防爆手柄，坚实可靠。  
Aluminum explosion-proof handle, solid and reliable.



气源过滤器  
Air source filter

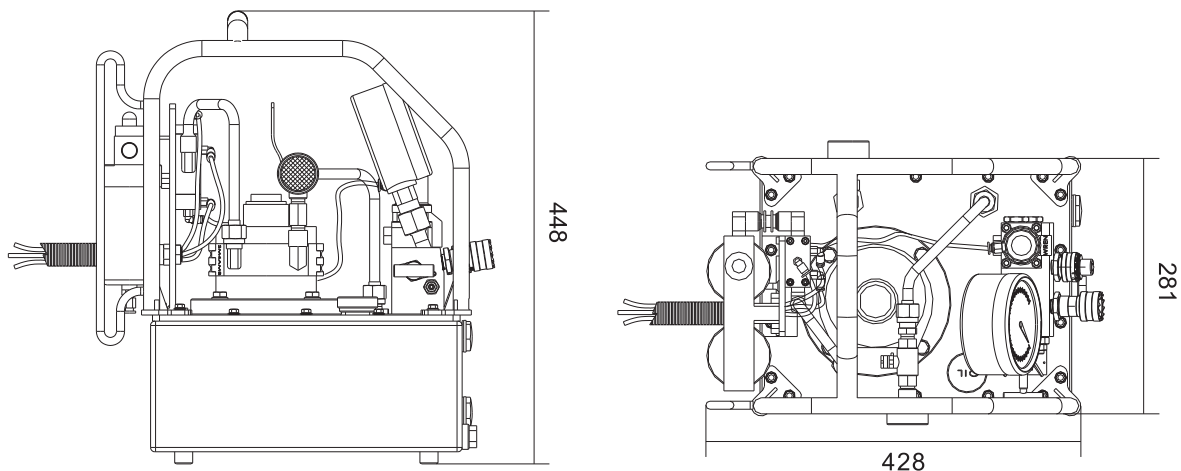
## JKQ304 液压扭矩扳手气动泵

JKQ304- Hydraulic Torque Wrench Pneumatic pump

- \* 利用压缩空气作为动力源，一般使用在防爆、煤矿等应用场合，具有防爆、安全、不发热、能长时间连续工作等优点；  
Compressed air as a power source is generally used in explosion-proof, coal mine and other applications, with explosion-proof, safe, non-heating, long-term continuous work and other advantages.
- \* 使用高性能气动换向阀，安全可靠，性能稳定。  
The use of high-performance pneumatic reversing valve, safe and reliable, stable performance.
- \* 泵站采用铝钛合金制作，重量轻便，携带方便；  
The pump station is made of aluminum titanium alloy, with light weight and convenient portability.
- \* 可同时驱动两台液压扳手（也可根据客户要求定做同时驱动四套液压扳手）；  
It can drive two hydraulic wrenches at the same time (also can drive four sets of hydraulic wrenches according to customer requirements).
- \* 压力从 4-70MPa 可连续调节；  
The pressure can be adjusted continuously from 4 to 70MPa.
- \* 使用气源压力需要满足 4-8bar 的要求；  
The use of gas source pressure needs to meet the requirements of 4-8bar.
- \* 可根据用户需求提供不同规格气动液压泵的定制；  
According to the needs of users, we can provide customized specifications for pneumatic pumps with different specifications.
- \* 系统压力释放按钮，可以在液压泵停止工作情况下释放压力；  
The system pressure release button can release pressure when the hydraulic pump stops working.
- \* 钢制经书结构保护架，能保护机身又方便搬运。  
The steel structure protection rack can protect the fuselage and facilitate handling.

### 外型尺寸

Outer size



### 技术参数

technical parameter

型号 Model	气源参数 Gas Source Parameters			工作压力 (MPa) Working Pressure			流量 (L/min) Flow			油箱容 积 Tank Volume (L)	外型尺寸 Outer Size (mm)	参考重量 Reference Weight (KG)
	气压 Pressure (bar)	额定功率 Rated Power (kw)	耗气量 Air (m³/h)	高压 High	中压 Medium	低压 Low	高压 High	中压 Medium	低压 Low			
QMP304	4-8	1.3	134	70	32	6	0.8	1.6	8	7.6	428x281x448	21

## AMP304 系列 - 液压扳手自动泵

AMP304 series - hydraulic wrench automatic pump

一键式操作、速度快、结构紧凑重量轻  
One button operation, fast speed, compact structure and light weight.

集成电路控制，可实现自动控制系统温度、30秒无操作自动停机、自动泄压、电机过载保护和报警。  
Integrated circuit control can realize automatic control system temperature, 30 seconds automatic shutdown without operation, automatic voltage relief, motor overload protection and alarm.

遥控手柄按照人体工程学设计，操作舒适，坚固耐用。  
The remote control handle is ergonomically designed, comfortable and durable.

插装式液压阀设计，维修方便，维护费用低。  
Cartridge hydraulic valves are easy to maintain.

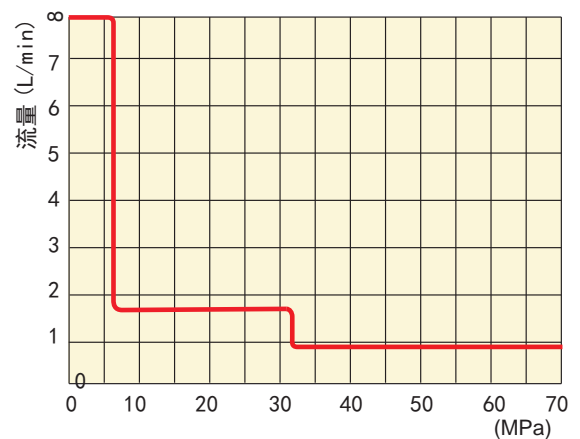


1.1KW 无碳刷交流电机，功率大，免维护，寿命长，能长时间连续工作。  
1.1KW brushless AC motor has high power, no maintenance, long life, and can work continuously for a long time.

电磁先导阀快速换向，关机自动泄压，配有启动电容，能带压启动。  
The electromagnetic pilot valve reversing rapidly, automatically depressurized on shutdown, equipped with starting capacitor, and can start with pressure.

多功能数显式压力表可切换多种压力显示方式可在 MPa、Kg、bar、PSi 相互切换，满足不同情况下对压力数值的读取。  
Multifunctional digital pressure gauge can switch various pressure display modes. It can switch between MPa, Kg, bar and PSi to satisfy the reading of pressure values under different conditions.

- \* 智能化一键式操作，只需要按下启动按钮即可实螺栓的紧固和拆松，操作人员可快速完成紧固 / 拆松任务。  
Intelligent one-button operation, only need to press the start button to tighten and loosen the solid bolt, the operator can quickly complete the tightening/loosening task.
- \* 高效率的三级流量压力设计，完美模拟人工操作，实现快速轻负载，慢速重负载，螺栓预紧更加精准。  
Efficient three-stage flow pressure design, perfect simulation of manual operation, fast light load, slow heavy load, bolt pre-tightening more accurate.
- \* 集成电路与数显压力表通过压力数值信号来实现换向，响应速度快，工作效率高。  
The integrated circuit and the display pressure gauge realize the commutation through the pressure numerical signal, which has fast response speed and high working efficiency.
- \* 无碳刷大功率电机，维护方便，寿命长，电机配有启动电容，可带载启动，操作更简洁。  
Brushless high-power motor, easy maintenance, long life, motor with starting capacitor, can start with load, more concise operation.
- \* 设定压力后，压力表控制换向阀，使调压阀经常处于关闭状态，寿命大为延长。  
After setting the pressure, the pressure gauge controls the reversing valve, so that the pressure regulating valve is often closed and the service life is greatly prolonged.
- \* 速度快、效率高，比普通自动泵效率提高 30% 以上。  
The efficiency is higher and the efficiency is more than 30% higher than that of the ordinary automatic pump.
- \* 高性能散热器，油温达 35℃ 时风扇启动，确保长时间不间断工作。  
High performance radiator, when the oil temperature reaches 35 degrees, the wind fan starts to ensure that it works continuously for a long time.



AMP304 电动液压扳手自动泵流量图  
Flow chart of AMP304 electric hydraulic wrench automatic pump

### 技术参数

technical parameter

型号 Model	输出口 Output Port	电源参数 Power Parameter	工作压力 (MPa) Working Pressure			流量 (L/min) Flow			油箱容 积 Tank Volume (L)	外型尺寸 Outer Size (L×W×H) (mm)	参考重量 Reference Weight (KG)
			高压 High Pressure	中压 Medium Pressure	低压 Low Pressure	高压 High Pressure	中压 Medium Pressure	低压 Low Pressure			
AMP304-2	4×1/4 NPT	220V/1.1KW	70	32	6	0.8	1.6	8	7.6	394×300×420	28
AMP304-4	8×1/4 NPT	220V/1.1KW	70	32	6	0.8	1.6	8	7.6	394×300×420	28.5

## EMP204 系列 – 液压扳手二级泵

EMP204 series - hydraulic spanner two stage pump



- \* 选用标准滑阀，换向平稳，通用性好。  
The standard slide valve is adopted, with stable commutation and good versatility.
- \* 两级压力流量设计，两种输出流量自动切换。  
Two stage pressure flow design, two output flow automatic switching.
- \* 泵站采用铝钛合金制作，重量轻便、携带方便。  
The pump station is made of aluminum titanium alloy, with light weight and convenient portability.
- \* 无碳刷大功率电机，维护方便，寿命长。  
Brushless high power motor has convenient maintenance and long service life.
- \* 高性能散热器，油温达 35℃ 时风扇自动启动，确保长时间不间断工作。  
High performance radiator, when the oil temperature reaches 35 degrees, the fan starts automatically, so that it can work without interruption for a long time.
- \* 电控箱采用集成电路，可配液压油缸、扳手、液压钳等液压机具使用。  
The electric control box adopts integrated circuits, and can be equipped with hydraulic machines, such as hydraulic cylinders, wrenches, hydraulic tongs, etc.

### 技术参数

technical parameter

型号 Model	输出口 Output Port	电源参数 Power Parameter	工作压力 (MPa) Working Pressure		流量 (L/min) Flow		油箱容积 Tank Volume (L)	外型尺寸 Outer Size (L×W×H) (mm)	参考重量 Reference Weight (KG)
			高压 High Pressure	低压 Low Pressure	高压 High Pressure	低压 Low Pressure			
EMP204X-2	4×1/4 NPT	220V/1.1KW	70	6	0.8	6	7.6	394x300x420	27
EMP204X-4	8×1/4 NPT	220V/1.1KW	70	6	0.8	6	7.6	394x300x420	27.5
EMP204-1	2×1/4 NPT	220V/1.5KW	70	6	1.1	6	8	450x325x540	36
EMP204-2	4×1/4 NPT	220V/1.5KW	70	6	1.1	6	8	450x325x540	36.5
EMP204-4	8×1/4 NPT	220V/1.5KW	70	6	1.1	6	8	450x325x540	37
EMP204-380-1	2×1/4 NPT	380V/1.5KW	70	6	1.1	6	8	450x325x540	36
EMP204-380-2	4×1/4 NPT	380V/1.5KW	70	6	1.1	6	8	450x325x540	36.5
EMP204-380-4	8×1/4 NPT	380V/1.5KW	70	6	1.1	6	8	450x325x540	37

## EPS200 系列 – 超高压电动泵

EPS200 series ultra high voltage electric pump

# 静音型

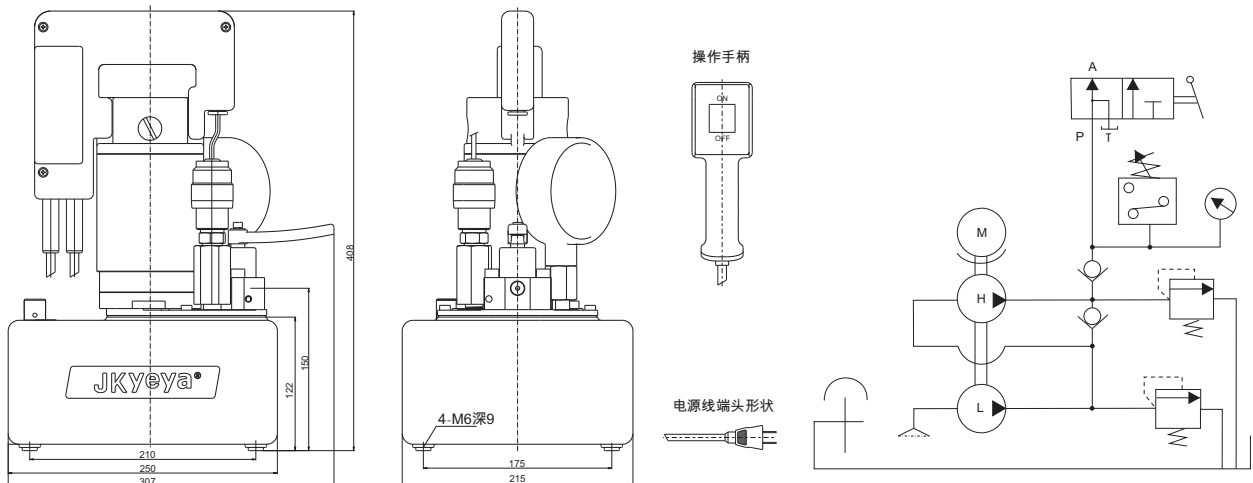
## Mute



- \* 泵站最高使用压力 200MPa。  
The maximum service pressure of pumping station is 200MPa.
- \* 直流永磁电机，运行低噪音。  
DC permanent magnet motor operates with low noise.
- \* 体积小，便于携带。  
Small size, easy to carry.
- \* 适合于配套螺栓拉伸器、造船、风电等现场作业。  
It is suitable for supporting bolt tensioner, shipbuilding, wind power and other field operations.
- \* 高低压自动切换，工作效率更高。  
High and low voltage automatic switching, higher efficiency.
- \* 配有压力开关，是操作更加方便。  
With pressure switch, it is more convenient to operate.

### 外型尺寸

Outer size



### 技术参数

technical parameter

型号 Model	输出口 Output Port	电源参数 Power Parameter	工作压力 (MPa) Working Pressure		流量 (L/min) Flow		油箱容积 Tank Volume (L)	外型尺寸 Outer Size (L×W×H) (mm)	参考重量 Reference Weight (KG)
			高压 High Pressure	低压 Low Pressure	高压 High Pressure	低压 Low Pressure			
EPS2000	M14x1.5	220V/0.45KW	200	3	0.1	2.0	4.5	394x300x420	17

## EPS150 系列 – 超高压电动泵

EPS150 series ultra high voltage electric pump



- \* 泵站最高使用压力 150MPa。  
The maximum service pressure of pumping station is 150MPa.
- \* 单作用、高性能超高压电动泵。  
Single acting high performance electric pump.
- \* 泵体由铝钛合金制作，重量轻。  
The pump body is made of aluminum titanium alloy with light weight.
- \* 无碳刷大功率电机，维护方便，寿命长。  
Brushless high power motor has convenient maintenance and long service life.
- \* 适用于液压螺栓拉伸器，造船、风电等现场。  
It is suitable for hydraulic bolt tensioner, shipbuilding, wind power and other fields.
- \* 卡扣式快速接头，操作快捷、方便。  
Fastener type quick connector is quick and convenient to operate.

### 技术参数

technical parameter

型号 Model	输出口 Output Port	电源参数 Power Parameter	工作压力 (MPa) Working Pressure	流量 (L/min) Flow	油箱容积 Tank Volume (L)	外型尺寸 Outer Size (mm)	参考重量 Reference Weight (KG)
EPS150-220	1/4 G	220V/1.5KW	150	0.8	8	500x260x530	38
EPS150-380	1/4 G	380V/1.5KW	150	0.8	8	500x260x530	38

## EMP2004 系列 – 超高压电动泵

EMP2004 series ultra high voltage electric pump

风电专用

Special for wind power

- \* 泵站最高使用压力 200MPa。  
The maximum service pressure of pumping station is 200MPa.
- \* 高低压自动切换，工作效率更高。  
High and low voltage automatic switching, higher efficiency.
- \* 泵体由铝钛合金制作，重量轻。  
The pump body is made of aluminum titanium alloy with light weight.
- \* 无碳刷大功率电机，维护方便，寿命长。  
Brushless high power motor has convenient maintenance and long service life.
- \* 适用于液压螺栓拉伸器，造船、风电等现场。  
It is suitable for hydraulic bolt tensioner, shipbuilding, wind power and other fields.
- \* 卡扣式快速接头，操作快捷、方便。  
Fastener type quick connector is quick and convenient to operate.



### 技术参数

technical parameter

型号 Model	输出口 Output Port	电源参数 Power Parameter	工作压力 (MPa) Working Pressure		流量 (L/min) Flow		油箱容积 Tank Volume (L)	外型尺寸 Outer Size (L×W×H) (mm)	参考重量 Reference Weight (KG)
			高压 High Pressure	低压 Low Pressure	高压 High Pressure	低压 Low Pressure			
EMP2004	G1/4	220V/1.1KW	200	3	0.3	2.5	8	400x310x440	27

## SP2004 系列 – 超高压电动泵

SP200 series ultra high voltage electric pump



- ✧ SP2004 是 EMP2004 系列升级为铸造铝合金油箱，泵体采用航空铝合金材质制作。体积更小，重量更轻，携带方便。  
 SP2004 is EMP2004 series upgraded to cast aluminum alloy tank, and the pump body is made of aviation aluminum alloy material. Smaller size, lighter weight and easy to carry.
- ✧ 泵站最高使用压力 200MPa。  
 The maximum service pressure of pumping station is 200MPa.
- ✧ 高性能安全阀，使压力更加稳定。  
 The high performance safety valve makes the pressure more stable.
- ✧ 高性能散热器，可长保证长时间使用。  
 High performance radiator can be used for long time.

### 技术参数

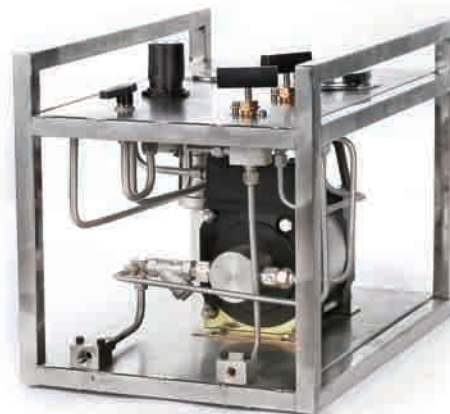
technical parameter

型号 Model	输出口 Output Port	电源参数 Power Parameter	工作压力 (MPa) Working Pressure		流量 (L/min) Flow		油箱容积 Tank Volume (L)	外型尺寸 Outer Size (L×W×H) (mm)	参考重量 Reference Weight (KG)
			高压 High Pressure	低压 Low Pressure	高压 High Pressure	低压 Low Pressure			
SP2004	G1/4	220V/1.1KW	200	3	0.3	2.5	8	394x300x420	24

## J 系列 – 气液增压泵

J series gas-liquid booster pump

- ✧ J 系列气液增压泵采用单气控非平衡气体分配阀来实现泵的往复运动，泵体气动驱动部分全部采用铝合金制造。  
 J series gas-liquid booster pump uses single gas control non-equilibrium gas distribution valve to realize the reciprocating motion of the pump. The pneumatic driving part of the pump body is all made of aluminium alloy.
- ✧ 高压部分材质根据材质不同选用碳钢后者不锈钢，泵的全套密封均为进口优质产品，从而保证泵的性能。  
 High-pressure parts are made of carbon steel and stainless steel according to different materials. All the seals of the pump are imported high-quality products, so as to ensure the performance of the pump.
- ✧ 最大驱动气压为 10bar，为了保证寿命，建议使用气压  $\leq 8\text{bar}$ 。  
 The maximum actuation pressure is 10bar. To ensure life expectancy, it is recommended to use air pressure less than 8bar.



### 技术参数

technical parameter

型号 Model	输出口 Output Port	增压比 Turbocharging Ratio	出口压力 (MPa) Export Pressure		流量 (L/min) Flow	参考重量 Reference Weight (KG)
			(bar)	psi		
J80	G 1/4	80:1	640	9280	2.44	25
J100	G 1/4	100:1	800	11600	1.92	25
J130	G 1/4	130:1	1040	15080	1.4	25
J175	G 1/4	175:1	1400	20300	1.14	25
J255	G 1/4	255:1	2040	2580	0.75	25
J400	G 1/4	400:1	3200	46400	0.48	25



## ISP2004 系列 – 智能拉伸电动泵

ISP2004 series - Intelligent stretching electric pump



- \* 最高工作液压 200Mpa。  
The highest working hydraulic pressure is 200 Mpa.
- \* 可于螺栓拉伸器，张拉等工况。  
It can be operated in bolt stretcher and tension.
- \* 采用西门子控制器及人机界面，性能更稳定。  
The performance of SIEMENS controller and human-machine interface is more stable.
- \* 只需输入拉伸力，一键式操作。工作更快捷。  
Just input tensile force, one button operation. Work faster.
- \* 自动补压功能，消除机械变形的压力损失。使拉伸更准确。  
The automatic pressure compensation function eliminates the pressure loss caused by mechanical deformation. Make the drawing more accurate.
- \* 操作记录数据可查询。  
Operation record data can be querying.
- \* 自动泄压功能。  
Automatic pressure relief function.

### 技术参数

technical parameter

型号 Model	输出口 Output Port	电源参数 Power Parameter	工作压力 (MPa) Working Pressure		流量 (L/min) Flow		油箱容积 Tank Volume (L)	外型尺寸 Outer Size (L×W×H) (mm)	参考重量 Reference Weight (KG)
			高压 High Pressure	低压 Low Pressure	高压 High Pressure	低压 Low Pressure			
ISP2004	G1/4	220V/1.1KW	200	3	0.3	2.5	8	400X380X600	55

## ZMP2004 系列 – 自动卸压泵

ZMP2004 series - automatic pressure relief pump

- \* 泵体由铝钛合金制作、重量轻、方便携带。  
The pump body is made of aluminum titanium alloy, light weight and easy to carry.
- \* 无碳刷大功率电机、维护方便、寿命长，电机配有启动电容，可带载启动，操作更简洁，  
Brushless high-power motor, easy maintenance, long life, motor with starting capacitor, can start with load, more concise operation.
- \* 适用于液压螺栓拉伸器，造船、风电等现场，  
It is suitable for hydraulic bolt tensioner, shipbuilding, wind power and other fields.
- \* 卡扣式快速接头，操作快捷、方便，  
Fastener type quick connector is quick and convenient to operate.
- \* 采用两级流量压力设计，高低压输出自动切换，工作效率高、螺栓预紧更加准确。  
With two-stage flow and pressure design, the output of high and low pressure can be automatically switched, the working efficiency is high, and the bolt pre-tightening is more accurate.
- \* 高性能散热装置，确保设备能长时间不间断的工作。  
The high performance heat sink ensures that the equipment can work continuously for a long time.



型号 Model	输出口 Output Port	电源参数 Power Parameter	工作压力 (MPa) Working Pressure		流量 (L/min) Flow		油箱容积 Tank Volume (L)	外型尺寸 Outer Size (L×W×H) (mm)	参考重量 Reference Weight (KG)
			高压 High Pressure	低压 Low Pressure	高压 High Pressure	低压 Low Pressure			
ZMP2004	G1/4	220V/1.1KW	200	3	0.3	2.5	8	400x310x440	26

## FB204 系列 – 超高压电动泵

FB204 series ultra high voltage electric pump



FBS 手动换向  
FBS manual reversing



FBD 电磁换向  
FBD electromagnetic reversing



FBE 自动换向  
FBE automatic reversing

- \* EX d II BT4 式三相异步电动机，安全，适合防爆场合。  
EX D II BT4 three-phase asynchronous motor is safe and suitable for the condition of anti- explosion.
  - \* 电控系统采用 EX d II BT4 式防爆磁启动器，安全防爆。  
The EX D II BT4 explosion-proof magnetic starter is adopted in the electric control system, which is safe and explosion-proof.
  - \* 外置式调压阀，压力 7-70MPa 之间连续可调。  
The external pressure regulating valve is continuously adjustable between pressure 7-70MPa.
  - \* 柱塞泵选用三级柱塞泵、工作效率高、压力波动小。  
Plunger pump uses three stage plunger pump, high efficiency and low pressure fluctuation.
- 泵装有管状可移动保护架，以防止泵被损坏移动方便  
The pump is equipped with a tubular movable protector to prevent the pump from being damaged and easy to move.

### 技术参数

technical parameter

型号 Model	输出口 Output Port	电源参数 Power Parameter	工作压力 (MPa) Working Pressure			流量 (L/min) Flow			油箱容 积 Tank Volume (L)	外型尺寸 Outer Size (L×W×H) (mm)	参考重量 Reference Weight (KG)
			高压 High	中压 Medium	低压 Low	高压 High	中压 Medium	低压 Low			
FBS204-1	2×1/4 NPT	380V/1.5KW	70	-	6	0.8	-	6	10	560x370x640	75
FBS204-2	4×1/4 NPT	380V/1.5KW	70	-	6	0.8	-	6	10	560x370x640	75
FBS204-4	8×1/4 NPT	380V/1.5KW	70	-	6	0.8	-	6	10	560x370x640	75
FBD204-1	2×1/4 NPT	380V/1.5KW	70	-	6	0.8	-	6	10	560x370x640	75
FBD204-2	4×1/4 NPT	380V/1.5KW	70	-	6	0.8	-	6	10	560x370x640	75
FBD204-4	8×1/4 NPT	380V/1.5KW	70	-	6	0.8	-	6	10	560x370x640	75
FBE204-1	2×1/4 NPT	380V/1.5KW	70	-	6	0.8	-	6	10	560x370x640	75
FBE204-2	4×1/4 NPT	380V/1.5KW	70	-	6	0.8	-	6	10	560x370x640	75
FBE204-4	8×1/4 NPT	380V/1.5KW	70	-	6	0.8	-	6	10	560x370x640	75

## EMP204D/EMP204S 液压泵站

EMP204D/EMP204S hydraulic pumping station



EMP204D 液压泵站



EMP204S 液压泵站

- \* **二级压力，二种输出流量自动切换**  
Two level pressure, automatic switching of two output flows.
- \* **泵体由铝钛合金制作，重量轻。**  
The pump body is made of aluminum titanium alloy with light weight.
- \* **无碳刷大功率电机，维护方便，寿命长。**  
Brushless high power motor, easy maintenance and long life.
- \* **电控箱采用集成电路，可配液压油缸、液压钳，等液压机具使用。**  
The electric control box adopts integrated circuits, and can be equipped with hydraulic cylinders, hydraulic tongs and other hydraulic machines.
- \* **内置液控单向阀适用于长时间保压工况。**  
Built in hydraulic check valve is suitable for long time packing condition.
- \* **适配单作用油缸使用，可定制双作用油缸使用。**  
The use of single acting oil cylinder can be customized for double acting cylinders.
- \* **轻便紧凑型设计，整机重量轻便于移动。**  
Lightweight and compact design. The whole machine is lightweight and portable.
- \* **双级泵设计，电磁换向控制，低压大流量。**  
Two stage pump design, electromagnetic commutation control, low pressure and large flow rate.
- \* **空载时执行液压件运动速度快。提高工作效率。**  
The speed of hydraulic parts is fast when empty. Improve work efficiency.
- \* **高压大流量，适合多种液压机具配套使用。**  
High pressure and large flow, suitable for all kinds of hydraulic machines.
- \* **泵装有管状可移动保护架，以防止泵被损坏移动方便。**  
The pump is equipped with a tubular movable protector to prevent the pump from being damaged and easy to move.
- \* **可根据客户需要定制不同规格的油箱，适用于大吨位液压油缸。**  
The fuel tank with different specifications can be customized according to customer needs. It is suitable for large tonnage hydraulic cylinders.
- \* **内置液控单向阀适用于长时间保压工况。**  
Built in hydraulic check valve is suitable for long time packing condition.
- \* **适配双作用油缸使用。**  
Suitable for dual acting cylinders.

### 技术参数

technical parameter

型号 Model	输出口 Output Port	电源参数 Power Parameter	工作压力 (MPa) Working Pressure		流量 (L/min) Flow		油箱容积 Tank Volume (L)	外型尺寸 Outer Size (L×W×H) (mm)	参考重量 Reference Weight (KG)
			高压 High Pressure	低压 Low Pressure	高压 High Pressure	低压 Low Pressure			
EMP204D-220	1×3/8 NPT	220V/1.5KW	70	6	1.1	6	8	420x260x530	37
EMP204D-380	1×3/8 NPT	380V/1.5KW	70	6	1.1	6	8	420x260x530	37
EMP204S20-220	2×3/8 NPT	220V/1.5KW	70	6	1.1	6	20	680x570x645	57
EMP204S40-220	2×3/8 NPT	220V/1.5KW	70	6	1.1	6	40	680x570x645	57
EMP204S20-380	2×3/8 NPT	220V/1.5KW	70	6	1.1	6	20	680x570x645	57
EMP204S40-380	2×3/8 NPT	220V/1.5KW	70	6	1.1	6	40	680x570x645	57

## PHG 系列 – 汽油发动机液压泵

FB204 series ultra high voltage electric pump



- \* 在工作现场无电源及压缩空气时，这是一个合理的选择。  
This is a reasonable choice when there is no power supply and compressed air at work site.
- \* 可操作单、双作用液压工具，工作压力可达 70MPa 外置式调压阀，压力 7-70MPa 之间连续可调。  
Operating single-acting and double-acting hydraulic tools, the working pressure can reach 70 MPa external pressure regulating valve, and the pressure can be continuously adjusted between 7 and 70 MPa.
- \* PHG 系列汽油发动机、液压泵均有预置单向阀，以防止由前推位置转向保压位置时的压力丢失。  
PHG series gasoline engines and hydraulic pumps have pre-installed one-way valves to prevent pressure loss from the forward position to the holding position.
- \* 泵由一个四冲程，2.0kW 的 HONDA 发动机所驱动，在所有汽油发动机中具有最低的重量马力比普通汽油机具有强制空气冷却功能。  
Driven by a 4-stroke, 2.0kW HONDA engine, the pump has the lowest weight horsepower among all gasoline engines with forced air cooling function compared with ordinary gasoline engines.
- \* PHG 系列泵装有管状可移动保护架，以防止泵被损坏移动方便。  
PHG series pumps are equipped with tubular movable protector to prevent the pump from being damaged and easy to move.

### 技术参数

technical parameter

型号 Model	输出口 Output Port	发动机参数 Engine Parameters		工作压力 (MPa) Working Pressure		流量 (L/min) Flow		油箱容积 Tank Volume (L)	外型尺寸 Outer Size (L×W×H) (mm)	参考重量 Reference Weight (KG)
		排量 Displacement (cm3)	转速 Speed (r/min)	高压 High Pressure	低压 Low Pressure	高压 High Pressure	低压 Low Pressure			
PHG120	M16×1.5	163	3000	70	-	1.1	-	8	540×430×500	54
PHG220	M16×1.5	163	3000	70	6	1.1	6	8	540×430×500	54

## PEH 系列 – 汽油发动机液压泵

PEH series gasoline engine hydraulic pump

- \* 本机动泵作为液动力源，主要与专业破拆工具配套使用；结构紧凑、机动性强、轻便、外形美观，油管可快速接驳工具，发动机冷却条件好。  
As a hydraulic power source, the motor pump is mainly used in conjunction with professional disassembly tools. It has compact structure, strong maneuverability, light weight, beautiful appearance, fast tubing connection tools, and good engine cooling conditions.
- \* 具有高、低压两级压力输出，自动转换，工作效率高。  
With high and low pressure two stage pressure output, automatic conversion, high efficiency.
- \* 无需准备时间，可保持连接状态与工具同时移动，噪音低。  
No prep time is prepared, it can keep the connection status with the tool moving at the same time, noise is low.



### 技术参数

technical parameter

型号 Model	输出口 Output Port	发动机参数 Engine Parameters		工作压力 (MPa) Working Pressure		流量 (L/min) Flow		油箱容积 Tank Volume (L)	外型尺寸 Outer Size (L×W×H) (mm)	参考重量 Reference Weight (KG)
		排量 Displacement ml (cc)	转速 Speed (r/min)	高压 High Pressure	低压 Low Pressure	高压 High Pressure	低压 Low Pressure			
PHG220	M16×1.5	86	3600	63	5	0.83	4	8	300X440X470	22

## EMP086 系列—液压电动泵 EMP086 series - hydraulic electric pumps



- \* 喷塑涂面，防腐蚀、耐污能力强。  
Plastic spray coating, strong corrosion resistance and pollution resistance.
- \* 轻便紧凑型设计，整机重量轻便于移动。  
Lightweight and compact design. The whole machine is lightweight and portable.
- \* 双级泵设计，手动换向控制，低压大流量。  
Two stage pump design, manual reversing control, low pressure and large flow rate.
- \* 空载时执行液压件运动速度快，提高工作效率。  
The speed of hydraulic parts is fast when empty. improve work efficiency
- \* 高压大流量，适合多种液压机具配套使用。  
High pressure and large flow, suitable for all kinds of hydraulic machines.
- \* 泵装有管状可移动保护架，以防止泵被损坏移动方便。  
The pump is equipped with a tubular movable protector to prevent the pump from being damaged and easy to move.
- \* 可根据客户需要定制不同规格的油箱该系列泵也可定制单作用。  
Different specifications of oil tanks can be customized according to customer needs. The series pumps can also be customized for single action.

### 技术参数

technical parameter

型号 Model	输出口 Output Port	电源参数 Power Parameter	工作压力 (MPa) Working Pressure		流量 (L/min) Flow		油箱容积 Tank Volume (L)	外型尺寸 Outer Size (L×W×H) (mm)	参考重量 Reference Weight (KG)
			高压 High Pressure	低压 Low Pressure	高压 High Pressure	低压 Low Pressure			
EMP086-220	2×3/8 NPT	220V/1.5KW	70	6	1.1	6	8	480x440x615	48
EMP086-380	2×3/8 NPT	380V/1.5KW	70	6	1.1	6	8	480x440x615	48

## HP 系列—单作用铝制高压手动泵

HP series - single acting aluminum high pressure manual pump

- \* 合理的结构和外观设计，整体美观、便于携带。  
The reasonable structure and appearance design are beautiful and easy to carry.
- \* 双速设计，泵的工作效率提高 80%。  
Double speed design, pump efficiency increased by 80%.
- \* 内置安全阀，用于过载保护。  
Built in safety valve for overload protection.
- \* 油箱容量大，可适用于多种型号的油缸或工具。  
The tank has large capacity and can be applied to various types of cylinders or tools.
- \* 铝钛合金材料制造，质量轻、强度高、耐腐蚀、抗冲击，能适合各种工作环境。  
Aluminum-titanium alloy material, light weight, high strength, corrosion resistance, impact resistance, can be suitable for various working environments
- \* 最大工作压力为 280MPa。  
The maximum working pressure is 280MPa
- \* 内置精密高低压切换阀，性能稳定可靠。  
Built in precision high and low pressure switch valve, stable and reliable performance.



型号 Model	输出口 Output Port	工作压力 (MPa) Working Pressure		流量 (L/min) Flow		可用油量 Tank Volume (ML)	外型尺寸 Outer Size (L×W×H) (mm)	参考重量 Reference Weight (KG)
		高压 High Pressure	低压 Low Pressure	高压 High Pressure	低压 Low Pressure			
HP100	G1/4	100	2	1.1	6	8	556x124x160	8.8
HP160	G1/4	100	2	1.1	6	8	556x124x160	8.8
HP250	G1/4	250	2	1.1	6	8	556x124x160	8.8
HP280	G1/4	280	2	1.1	6	8	556x124x160	8.8

## RMCD 系列容积同步顶升系统 - 经济型

RMC series volume synchronous jacking system -economical

### 系统工作原理

Working principle of the system

RMC 系列容积同步顶升系统是基于“等容积”控制原理，即在相同的时间内给每个控制点输出相同量的液压油来实现同步控制的目的。控制过程无需考虑重物的中心分布，特别适用于小型千斤顶，RSM/RCS 超薄型千斤顶。

The RMC series volume synchronous jacking system is based on the principle of "equal volume" control, which is to output the same amount of hydraulic oil to each control point in the same time to achieve the purpose of synchronous control. The control process does not need to consider the center distribution of heavy objects, especially for small jacks, RSM/RCS super-thin jacks.

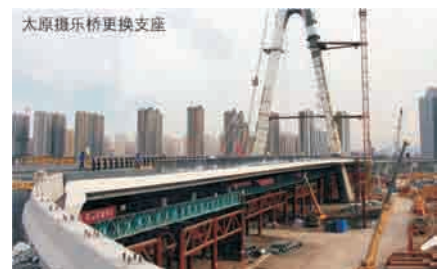
容积同步采用开环控制实现同步，所以在选型和高精密制造方面提出了很高的要求，但是由于其操作简单、易于连接、系统稳定、精度高等优点，现今被广泛使用在一些要求高精度、高效率的施工现场。

The RMC series volume synchronous jacking system is based on the principle of "equal volume" control, which is to output the same amount of hydraulic oil to each control point in the same time to achieve the purpose of synchronous control. The control process does not need to consider the center distribution of heavy objects, especially for small jacks, RSM/RCS super-thin jacks.



### 工程案例

Project case



## RMCD 系列容积同步顶升系统 - 经济型

RMC series volume synchronous jacking system -economical

### 系统特点

System features

- \* 采用了双柱塞泵动力系统，实现了快速找平，重载平稳顶升。  
Double plunger pump power system is adopted to achieve rapid leveling and heavy load leveling
- \* 控制精度高，同步精科可以达到 0.5mm，并且同步顶升和下降都可完全控制。  
The control precision is high, the synchronous precision can reach 0.5mm, and the synchronous jacking and descending can be completely controlled.
- \* 产品应用灵活，可根据不同的使用工况、油缸吨位和数量、顶升精度进行灵活的联机控制。  
The product is flexible and can be controlled flexibly according to different working conditions, oil cylinder tonnage and quantity and jacking accuracy.
- \* 每个控制点相对独立，可对一个或几个控制点单独调节，控制点之间互不干涉。  
Each control point is relatively independent and can be adjusted independently to one or several control points without interference between the control points.
- \* 系统采用模块化设计，可以控制 4、8、12、16，并且可以联机控制扩展至 99 个点。  
The system adopts modular design, which can control 4, 8, 12 and 16, and can be extended to 99 points online.
- \* 根据使用工况，可选用接入位移传感器和压力传感器，对系统工况进行实时监控。  
According to the working condition, the access displacement sensor and pressure sensor can be selected to monitor the system working condition in real time

### 系统参数

System parameter

同步点数 Sync Points	型号 Model	额定压力 Nominal Pressure	额定流量 Nominal Capacity	油箱容积 Oil Tank	电源参数 (380v, 50Hz)	重量 Weight (kg)
		Mpa	L/min	L		
2	PMCD02D	70	0.5x2	100	1.5KW	125
2	PMCD02S	70	0.5x2	100	1.5KW	125
4	PMCD04D	70	0.5x4	100	2.2KW	125
4	PMCD04S	70	0.5x4	100	2.2KW	125
8	PMCD08D	70	0.5x8	100	5.5KW	125
8	PMCD08S	70	0.5x8	100	5.5KW	125
12	PMCD12D	70	0.5x12	100	11KW	150
12	PMCD12S	70	0.5x12	100	11KW	150

额定流量可根据客户需求进行定制。

Rated flow can be customized according to customer needs.

油箱容积可根据客户需求进行定制。

Tank volume can also be customized according to customer needs.

电机可根据需求选用可调速的变频电机 (VFDM)。

Motor can be selected according to the requirements of variable speed motor (VFDM).

### 工程案例

Project case



## PMC 系列脉宽同步顶升系统 - 实用型

PMC series pulse width synchronous jacking system - practical

### 系统工作原理

Working principle of the system

PMC 系列 PLC 同步顶升系统是基于 PLC 控制技术, 通过传感器的反馈来控制升降及定位。控制过程无需考虑重物的中心分布, 适用于对大型、重载桥梁进行顶升作业, 特别适用于配套 RSM/RCS 超薄型千斤顶用于更换桥梁支座。

PMC series PLC synchronous jacking system is based on PLC control technology, which can control the lifting and positioning by the feedback of the sensor. The control process does not need to consider the center distribution of heavy objects. It is suitable for the lifting operation of large and heavy bridge. It is especially suitable for supporting RSM/RCS super thin jacks to replace the bridge support.

通过改变每个油缸的流量来调节千斤顶的顶升位移, 该系统保持了良好的位置控制。通过消除人为干涉, 同步升降维持了机构完整性, 提高了生产效率, 增强了升降动作的安全性。

By changing the flow of each cylinder to adjust the jacking displacement of the jack, the system maintains good position control. Through the elimination of human interference, the synchronous lifting and lifting maintain the integrity of the mechanism, improve the production efficiency, and enhance the safety of the lifting movement.

基于 PLC 控制的同步顶升系统减少了重量分布不均和不同顶升点间负载转移造成的折弯, 扭曲和倾斜的危险。

The synchronous jacking system based on PLC reduces the risk of bending, twisting and slanting caused by uneven weight distribution and load transfer between different jacking points.

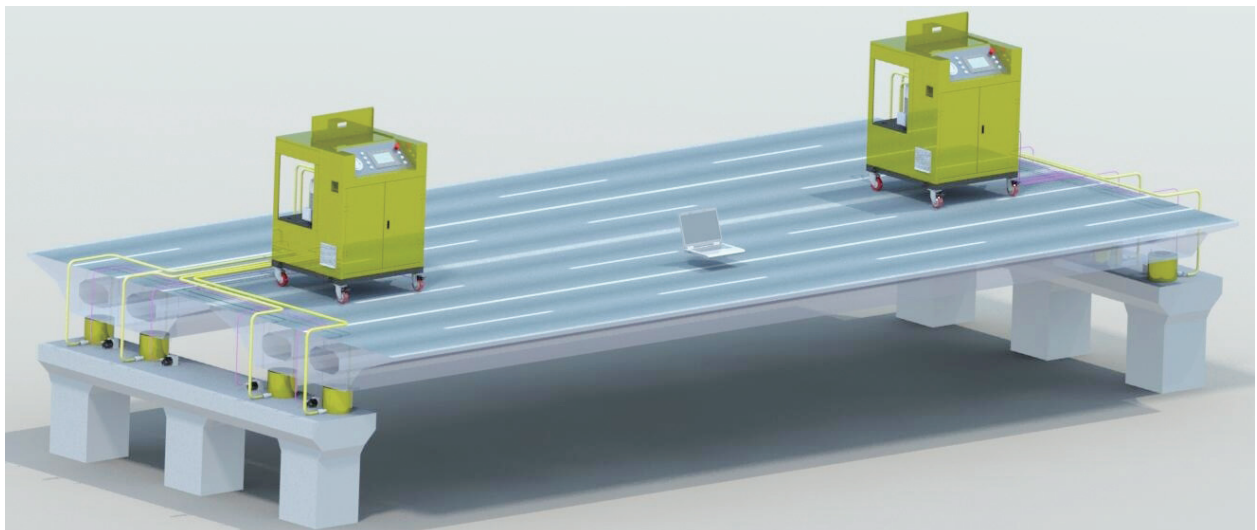
核心电气控制系统采用了德国西门子 PLC 可编程控制器, 结合了高性能位移传感器和压力传感器检测系统, 实现了压力控制和位移控制控制双重控制, 进而保证了千斤顶的精准控制和顶升过程安全控制。

Core electrical control system USES Germany Siemens PLC programmable controller, combined with the high-performance displacement sensor and pressure sensor test system, realized the pressure control and displacement control control dual control, thus ensures the precision of the jack and jack-up process safety control.



### 系统连接示意图

System connection schematic





## PMC 系列脉宽同步顶升系统 - 实用型

PMC series pulse width synchronous jacking system - practical

### 系统特点

System features

- \* 采用了双柱塞泵动力系统，实现了快速找平，重载平稳顶升。  
Double plunger pump power system is adopted to achieve rapid leveling and heavy load leveling
- \* 控制精度高，同步精科可以达到 0.5mm，并且同步顶升和下降都可完全控制。  
The control precision is high, the synchronous precision can reach 0.5mm, and the synchronous jacking and descending can be completely controlled.
- \* 产品应用灵活，可根据不同的使用工况、油缸吨位和数量、顶升精度进行灵活的联机控制。  
The product is flexible and can be controlled flexibly according to different working conditions, oil cylinder tonnage and quantity and jacking accuracy.
- \* 每个控制点相对独立，可对一个或几个控制点单独调节，控制点之间互不干涉。  
Each control point is relatively independent and can be adjusted independently to one or several control points without interference between the control points.
- \* 系统采用模块化设计，可以控制 4、8、12、16，并且可以联机控制扩展至 99 个点。  
The system adopts modular design, which can control 4, 8, 12 and 16, and can be extended to 99 points online.
- \* 具有数据存储和记录功能，方便生成报表。  
It has data storage and recording function to facilitate the generation of reports.
- \* 可选配变频电机驱动 (VFDM) 和 PLC 装置，确保精确同步和流量控制。  
Optional variable frequency motor drive (VFDM) and PLC device to ensure accurate synchronization and flow control.
- \* 简洁、直观的人机交互界面，便于设置参数和操作。  
Simple and intuitive human-computer interaction interface, easy to set parameters and operation

### 系统参数

System parameter

同步点数 Sync Points	型号 Model	额定压力 Nominal Pressure	额定流量 L/min Nominal Capacity		油箱容积 Oil Tank	电源参数 (380v, 50Hz)	外形尺寸 (LxWxH) mm	重量 Weight (kg)
		Mpa	70 MPa	6 MPa	L			
4	PMC04D	70	1.13	6	100	1.5KW	780×760×1080	125
4	PMC04S	70	1.13	6	100	1.5KW	780×760×1080	125
8	PMC08D	70	1.13	6	100	1.5KW	780×760×1080	125
8	PMC08S	70	1.13	6	100	1.5KW	780×760×1080	125
12	PMC12D	70	1.13	6	100	1.5KW	780×760×1080	125
12	PMC12S	70	1.13	6	100	1.5KW	780×760×1080	125
16	PMC16D	70	1.93	10	100	2.2KW	780×760×1080	150
16	PMC16S	70	1.93	10	100	2.2KW	780×760×1080	150

### 工程案例

Project case



## FMCS 系列变频同步控制系统

FMCS series Variable frequency synchronization control system

### 系统工作原理

Working principle of the system

FMCS 系列变频同步控制系统是一种闭环控制系统，是基于变频控制技术 (VFDM) 与传感器技术来控制千斤顶升降及准确定位。控制过程无需考虑重物的中心分布，适用于对大型、重载结构进行整体顶升作业。

FMCS series variable frequency synchronization control system is a closed-loop control system, which is based on the variable frequency control technology (VFDM) and sensor technology to control the lifting and accurate positioning of the jack. The control process does not need to consider the center distribution of heavy objects, which is suitable for the overall lifting operation of large and heavy load structures.

VFDM 技术实现了真正意义上的连续流量调节，通过连续改变电机的转速来调节流量的大小。因此变频控制技术在平稳性和可靠性方面要高于同类型的其他系统。

VFDM technology realizes continuous flow regulation in real sense, which can adjust the flow rate by continuously changing the speed of the motor. Therefore, frequency conversion control technology is higher in stability and reliability than other systems of the same type.

每个控制点兼有压力和位移双重控制系统，可实现同步升降、同步顶推、重载称重、等比例升降、姿态调整等多种功能。基于 PLC 控制的同步顶升系统减少了重量分布不均和不同顶升点间负载转移造成的折弯、扭曲和倾斜的危险。

Each control point has dual pressure and displacement control system, which can realize synchronous lifting, synchronous pushing, heavy load weighing, etc. The synchronous jacking system based on PLC reduces the risk of bending, twisting and slanting caused by uneven weight distribution and load transfer between different jacking points.

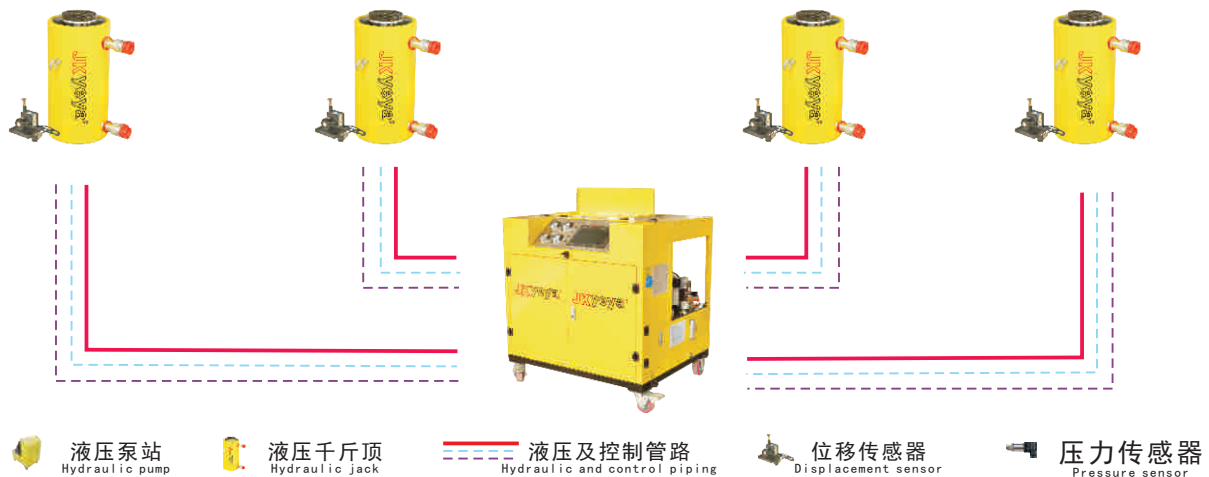


控制阀组  
Control valve group



### 系统连接示意图

Schematic diagram of system connection



## FMCS 系列变频同步控制系统

FMCS series Variable frequency synchronization control system

### 系统特点

System features

- ✧ 采用双泵系统，实现了高速置零，平稳顶升的功能。  
The double pump system is adopted to achieve the function of high speed zero setting and smooth lifting.
- ✧ 完全计算机控制，顶升过程无需人工干涉，系统自动检测顶升状态并能根据顶升情况给出。  
Complete computer control, lifting process without manual interference, the system automatically detects the lifting status and can be given according to the lifting situation;
- ✧ 同步控制精度可以达到 0.1mm，同步顶升和同步下降都完全可控。  
The accuracy of synchronous control can reach 0.1mm, and synchronous jacking and synchronous descent are completely controllable.
- ✧ 每个控制点油路相对独立，系统压力可以单独调节互不干涉。  
Each control point is relatively independent and the system pressure can be adjusted independently of each other.
- ✧ 系统主要部件均选用知名国际品牌，密封件全部采用进口密封。  
The main components of the system are famous international brands, and all seals are imported sealed.
- ✧ 适用性比较广泛，可配套使用单作用千斤顶或者双作用千斤顶。  
It has wide applicability and can be matched with single acting jack or double acting Jack.
- ✧ 系统使用方便，液压管路与液压千斤顶以及液压泵组连接全部采用快插式接头。  
The system is easy to use, and the connection between hydraulic pipeline and hydraulic jack and hydraulic pump group is all made of quick plug-in joint.
- ✧ 根据使用工况，可选用接入位移传感器和压力传感器，对系统工况进行实时监控。  
According to the working condition, the displacement sensor and pressure sensor can be selected to monitor the working condition of the system in real time.

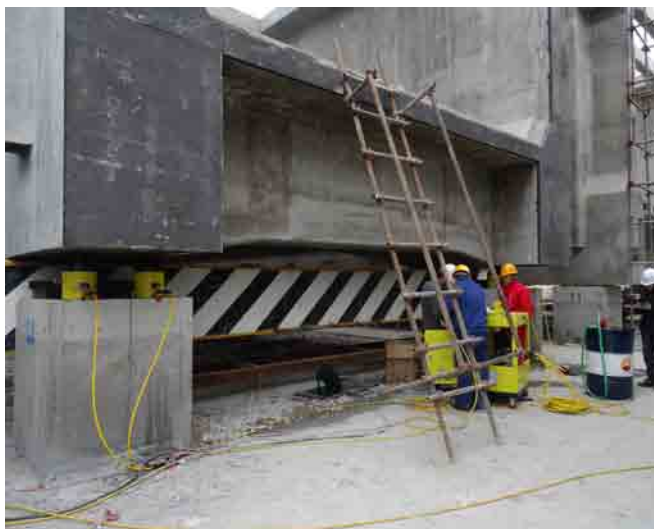
### 系统参数

System parameter

同步点数 Sync Points	型号 Model	额定压力 Nominal Pressure	额定流量 L/min Nominal Capacity		油箱容积 Oil Tank	电源参数 (380v, 50Hz)	外形尺寸 (LxWxH) mm	重量 Weight (kg)
		Mpa	70 MPa	6 MPa	L			
2	FMCS-02	70	2x1.13	2x6	100	1.5KW	1050×870×1080	125
4	FMCS-04	70	4x1.13	4x6	100	1.5KW	1050×870×1080	125
8	FMCS-08	70	8x1.13	8x6	100	1.5KW	1050×870×1080	125
12	FMCS-12	70	12x1.13	12x6	100	1.5KW	1050×870×1080	125
16	FMCS-16	70	16x1.13	16x6	100	1.5KW	1050×870×1080	125
20	FMCS-20	70	20x1.13	20x6	100	1.5KW	1050×870×1080	125
24	FMCS-24	70	24x1.13	24x6	100	1.5KW	1050×870×1080	150

### 工程案例

Project case



## 3DCS 系列三维顶升系统

3DCS Intelligent three dimensional jacking system

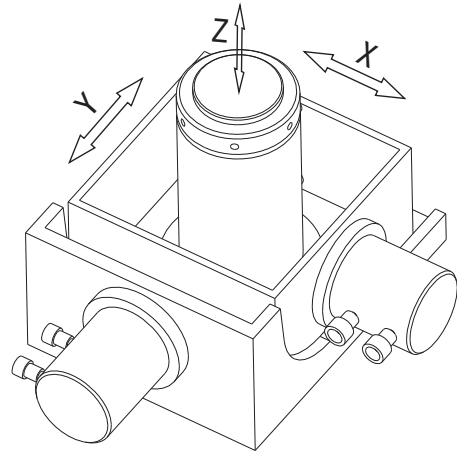
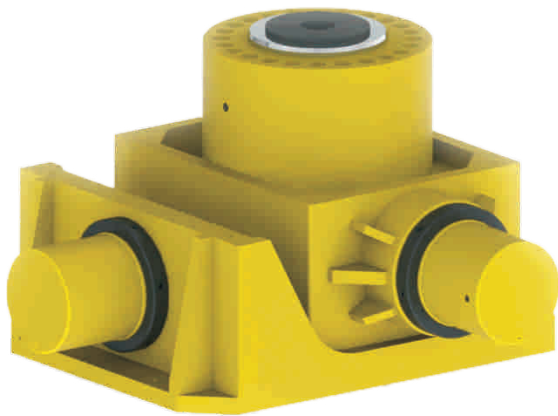
### 系统工作原理

Working principle of the system

三维调整液压系统主要由三维千斤顶、同步调整液压系统、位移检测系统以及管路附件组成，是一种起重位移的专用工具，三维千斤顶主要结构是由三个双作用超高压千斤顶、结构支撑体以及滑道组成，主顶升千斤顶配有液压安全阀用于保护负载。The three-dimensional adjustment hydraulic system is mainly composed of three-dimensional jack, synchronous adjustment hydraulic system, displacement detection system and pipeline accessories. It is a special tool for lifting displacement. The main structure of three-dimensional jack is composed of three double-acting ultra-high pressure jacks, structural support and slideway. The main jack jack is equipped with a hydraulic safety valve to protect the load.

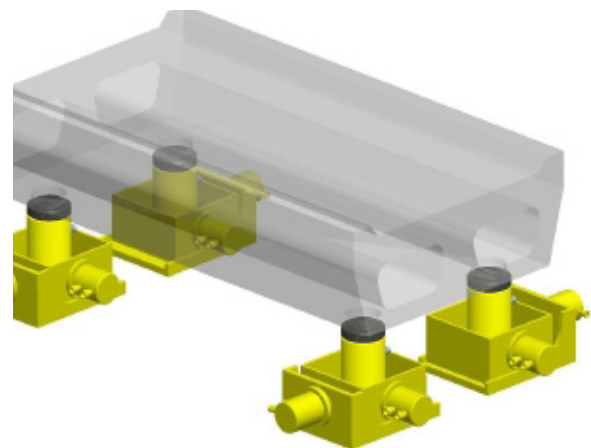
该产品主要应用于船体焊接、铁路、公路的桥梁或类似梁式重物的位移作业，进行低高度、短距离的垂直方向 (Y) 横向 (X) 和纵向 (Z) 的位移，该产品的滑动摩擦副由千斤顶座、立式千斤顶座上的不锈钢滑板与立千斤顶座底部的聚四氟乙烯板组成、摩擦系数小且移动平稳。

This product is mainly used for the displacement of hull welding, railway, highway bridges or similar beam-type heavy objects, and for the vertical (Y) lateral (X) and vertical (Z) displacement of low altitude and short distance. The sliding friction pair of the product consists of a jack seat, a stainless steel slide plate on the vertical jack seat and a PTFE plate at the bottom of the jack seat. The friction coefficient is small and the movement is stable.



### 顶升示意图

System connection schematic



## 3DCS 系列三维顶升系统

3DCS Intelligent three dimensional jacking system

### 系统特点

System features

- ✧ 承载能力大，可调整 100 吨至 6000 吨的构件。  
The load capacity is large, and the components can be adjusted from 100 tons to 6,000 tons
- ✧ 控制精度高，同步精科可以达到 0.5mm，并且同步顶升和下降都可完全控制。  
The precision is high, the synchronous precision can reach 0.5mm, and the jacking and descending can be completely controlled.
- ✧ 产品应用灵活，可根据不同的使用工况、油缸吨位和数量、顶升精度进行灵活的联机控制。  
The product is flexible and can be controlled according to different conditions, cylinder tonnage and quantity, jacking accuracy.
- ✧ 每个控制点相对独立，可对一个或几个控制点单独调节，控制点之间互不干涉。  
Each control point is relatively independent and can be adjusted independently or several control points without interference.
- ✧ 系统采用模块化设计，可以控制 4、8、12、16，并且可以联机控制扩展至 99 个点。  
The system adopts modular design, which can control 4, 8, 12 and 16, and can be extended to 99 points online.
- ✧ 具有数据存储和记录功能，方便生成报表。  
It has data storage and recording function to facilitate the generation of reports.
- ✧ 系统控制界面简洁，操作方便，自动化程度高。  
The system control interface is simple, easy to operate and highly automatic

### 系统参数

System parameter

型号 Model	顶升方向 Direction	承载能力 Capacity	额定压力 Nominal Pressure	行程 Stroke	有效面积 Effective Area	液压油容量 Oil Capacity	重量 Weight (kg)
		T (KN)	Mpa	mm	cm <sup>2</sup>	cm <sup>3</sup>	
3DCS-100	竖直方向	100	70	200	132.7	2655	312
	横向方向	30		100	42.1	400	
	纵向方向	30		100	42.1	400	
3DCS-200	竖直方向	200	70	200	256.9	5318	519
	横向方向	50		100	77	770	
	纵向方向	50		100	77	770	
3DCS-300	竖直方向	300	70	200	456.2	9124	738
	横向方向	75		100	102.6	1067	
	纵向方向	75		100	102.6	1067	
3DCS-500	竖直方向	500	70	200	730.6	14612	1904
	横向方向	150		100	198.6	1986	
	纵向方向	150		100	198.6	1986	
3DCS-800	竖直方向	800	70	200	1176.3	23524	3858
	横向方向	200		100	256.9	2660	
	纵向方向	200		100	256.9	2660	
3DCS-1000	竖直方向	1000	70	200	1465.7	29316	5366
	横向方向	300		100	456.2	4562	
	纵向方向	300		100	456.2	4562	

### 工程案例

Project case

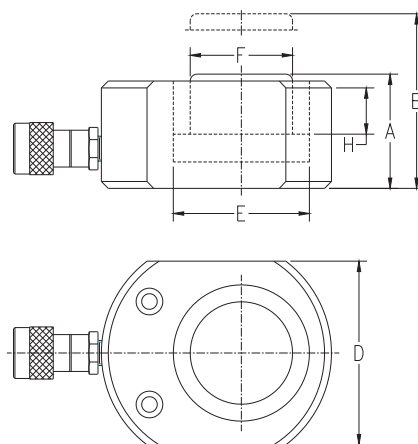
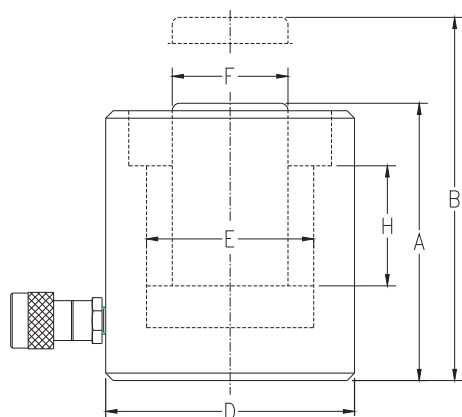


## RSM/RCS 系列—薄型液压油缸

RSM/RCS series Thin hydraulic cylinder



- \* 紧凑的扁平设计，适用于狭小空间作业  
Compact flat design for small space operations
- \* 千斤顶活塞镀硬铬，防止刮伤和腐蚀  
Chrome plated piston, prevent scratches and corrosion
- \* 烤漆表面耐腐蚀等恶劣环境  
Baking varnish surface, Corrosion resistant
- \* 防尘圈设计延长使用寿命  
Dustproof circle design extends service life
- \* 可选用弹簧复位活塞  
Spring reset piston can be selected



### 参数表

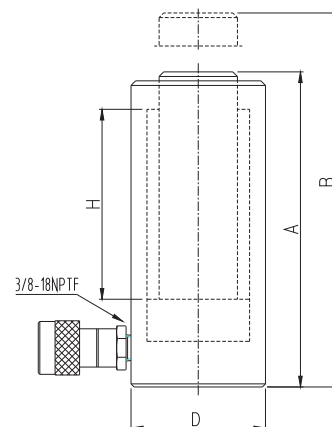
Parameter table

承载能力 Capacity ton (KN)	行程 Stroke (mm)	型号 Model	有效面积 Effective Area (cm <sup>2</sup> )	液压油容量 Oil Capacity (cm <sup>3</sup> )	本体高度 A Height (mm)	伸长高度 B Extended Height (mm)	外径 D Outside Diameter (mm)	油缸内径 E Cylinder Diameter (mm)	柱塞直径 F Plunger Diameter (mm)	重量 Weight (Kg)
5 (45)	6	RSM5-6	6.5	4	32	38	58×41	28.7	19.5	1.0
10 (101)	12	RSM10-12	14.5	18	42	54	82×55	42.9	21.5	1.4
20 (201)	11	RSM20-11	28.7	32	51	62	101×76	60.5	27.5	3.1
30 (295)	13	RSM30-13	42.1	55	58	71	117×95	73.2	39.5	4.5
50 (435)	16	RSM50-16	62.2	99	66	82	140×114	89	44.5	6.8
75 (714)	16	RSM75-16	102	164	79	95	165×139	114	62	11.3
100 (886)	16	RSM100-16	126.6	203	85	101	178×153	127	65	14.5
150 (1386)	16	RSM150-16	198.1	317	100	116	215×190	159	80	26.3
10 (101)	38	RCS10-38	14.5	55	88	126	69	42.9	38.1	4.1
20 (201)	45	RCS20-45	28.7	129	98	143	92	60.5	50.8	5.0
30 (295)	62	RCS30-62	42.1	261	117	179	101	73.2	66.5	6.8
50 (435)	60	RCS50-60	62.2	373	122	182	124	89	69.8	10.9

## RC 系列—单作用液压油缸

RC series single acting cylinder

- \* 千斤顶活塞镀硬铬，防止刮伤和腐蚀。  
Chrome plated piston, prevent scratches and corrosion
- \* 烤漆表面耐腐蚀等恶劣环境。  
Baking varnish surface, Corrosion resistant
- \* 防尘圈设计延长使用寿命。  
Dustproof circle design extends service life
- \* 单作用，弹簧复位。  
Single acting, spring reset



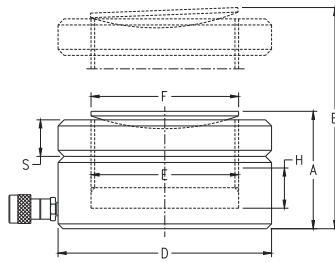
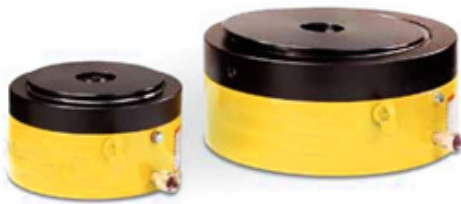
### 参数表

Parameter table

承载能力 Capacity ton (KN)	行程 Stroke (mm)	型号 Model	有效面积 Effective Area (cm <sup>2</sup> )	液压油容量 Oil Capacity (cm <sup>3</sup> )	本体高度 A Height (mm)	伸长高度 B Extended Height (mm)	外径 D Outside Diameter (mm)	重量 Weight (Kg)
5 (45)	16	RC05-16	6.5	10	41	57	38	1
	15	RC05-25		16	110	135		1.2
	76	RC05-76		50	165	241		1.5
	127	RC05-127		83	215	342		1.9
	177	RC05-177		115	273	450		2.4
	232	RC05-232		151	323	555		2.8
10 (101)	26	RC10-26	14.5	38	89	115	57	1.8
	54	RC10-54		78	121	175		2.3
	105	RC10-105		152	171	276		3.3
	156	RC10-156		226	247	403		4.4
	203	RC10-203		294	298	501		5.4
	257	RC10-257		373	349	606		6.4
	304	RC10-304		441	400	704		6.8
	356	RC10-356		516	450	806		8.2
15 (142)	25	RC15-25	20.3	51	124	149	69	3.3
	51	RC15-51		104	149	200		4.1
	101	RC15-101		205	200	301		5
	152	RC15-152		308	271	423		6.8
	203	RC15-203		411	322	525		8.2
	254	RC15-254		516	373	627		9.5
	305	RC15-305		619	423	728		10.9
	356	RC15-356		723	474	830		11.8
25 (232)	26	RC25-26	33.2	86	139	165	85	5.9
	50	RC25-50		166	165	215		6.4
	102	RC25-102		339	215	317		8.2
	158	RC25-158		525	273	431		10
	210	RC25-210		697	323	533		12.2
	261	RC25-261		867	374	635		14.1
	311	RC25-311		1033	425	736		16.3
	362	RC25-362		1202	476	838		17.7
30 (295)	209	RC30-209	42.1	880	387	596	101	18.1
50 (498)	51	RC50-51	71.2	362	176	227	127	15
	101	RC50-101		719	227	328		19.1
	159	RC50-159		1131	282	441		23.1
	337	RC50-337		2399	460	797		37.6
75 (718)	156	RC75-156	102.6	1601	285	441	146	29.5
	333	RC75-333		3417	492	825		59

## CLP 系列—薄型自锁式液压油缸

CLP series thin self-locking cylinder



- \* 薄型油缸结构紧凑。  
Thin cylinder structure compact
- \* 千斤顶活塞镀硬铬，防止刮伤和腐蚀。  
Chrome plated piston, prevent scratches and corrosion
- \* 安全的螺母锁定设计适合机械负载支撑。  
Secure nut locking design for mechanical load support
- \* 可承受额定负荷 3% 的偏载而不产生挤压损伤。  
Can withstand 3% of the rated load off-load

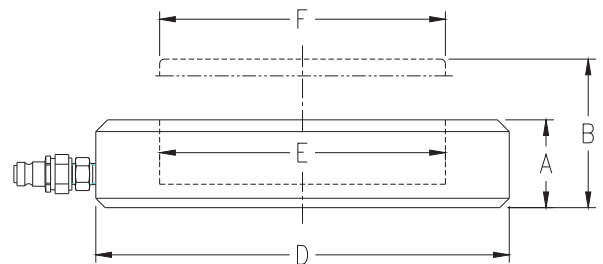
### 参数表

Parameter table

承载能力 Capacity ton (KN)	行程 Stroke (mm)	型号 Model	有效面积 Effective Area (cm <sup>2</sup> )	液压油容量 Oil Capacity (cm <sup>3</sup> )	本体高度 A Height (mm)	伸长高度 B Extended Height (mm)	外径 D Outside Diameter (mm)	油缸内径 E Cylinder Diameter (mm)	柱塞直径 F Plunger Diameter (mm)	自锁螺母高度 S Height of Lock Nut (mm)	重量 Weight (Kg)
50 (606)	50	CLP50	86.6	432	125	175	140	105	Tr105×4	30	15
100 (1001)	50	CLP100	1431	715	137	187	175	135	Tr135×6	32	26
150 (1588)	45	CLP150	226.8	1021	148	193	220	170	Tr170×6	42	44
200 (2198)	45	CLP200	283.4	1275	155	200	245	190	Tr190×6	44	57
250 (2540)	45	CLP250	362.9	1633	159	204	275	215	Tr215×6	46	74
400 (3858)	45	CLP400	551.3	2481	178	223	350	265	Tr265×6	58	134
500 (5111)	45	CLP500	730.2	3286	192	237	400	305	Tr305×6	65	189

## RTC 系列·超高压薄型千斤顶

RTC series extra-high pressure thin jack



### 参数表

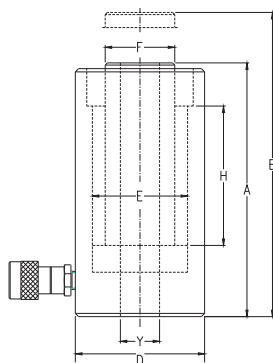
Parameter table

承载能力 Capacity ton	行程 Stroke (mm)	型号 Model	有效面积 Effective Area (cm <sup>2</sup> )	液压油容量 Oil Capacity (cm <sup>3</sup> )	本体高度 A Height (mm)	伸长高度 Extended Height (mm)	外径 D Outside Diameter (mm)	油缸内径 E Cylinder Diameter (mm)	回位 Return	重量 Weight (Kg)
5	5	RTC5	3.46	34.6	30	35	60	21	负载 Load	0.67
10	10	RTC10	7.07	70.7	30	40	70	30	负载 Load	0.9
25	10	RTC25	17.34	173.4	30	40	90	47	负载 Load	1.49
50	10	RTC50	38.46	384.6	30	40	118	70	负载 Load	2.43
100	10	RTC100	69.36	693.6	33	43	152	94	负载 Load	3.81
150	10	RTC150	105.63	1056.3	34	44	180	116	负载 Load	5.88
200	10	RTC200	136.79	1367.9	35	45	204	132	负载 Load	8.15



## RCH 系列—单作用中空液压油缸

RCH series-Single acting hollow cylinder

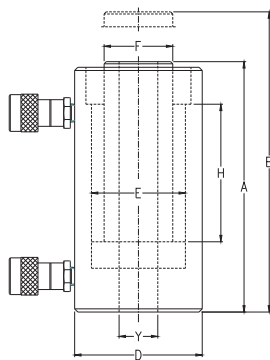


- \* 单作用，弹簧复位。  
Single acting, spring reset
- \* 烤漆表面耐腐蚀等恶劣环境。  
Baking varnish surface, Corrosion resistant
- \* 所有型号均配 3/8NPT 接头和护帽。  
All models are available with 3/8NPT joint and hood
- \* 千斤顶活塞镀铬，防止刮伤和腐蚀  
Chrome plated piston, prevent scratches and corrosion

承载能力 Capacity ton (KN)	行程 Stroke (mm)	型号 Model	有效面积 Effective Area (cm <sup>2</sup> )	液压油容量 Oil Capacity (cm <sup>3</sup> )	本体高度 A Height (mm)	伸长高度 B Extended Height (mm)	外径 D Outside Diameter (mm)	油缸内径 E Cylinder Diameter (mm)	柱塞直径 F Plunger Diameter (mm)	中心孔径 Y Center Aperture (mm)	重量 Weight (Kg)
13 (125)	8	RCH13-8	17.9	14	55	63	69	54	35.1	19.6	1.5
	42	RCH13-42	17.9	75	120	162	69	54	35.1	19.6	2.8
	76	RCH13-76	17.9	136	184	260	69	54	35.1	19.6	4.4
20 (215)	49	RCH20-49	30.7	150	162	211	98	73	54.1	26.9	7.7
	155	RCH20-55	30.7	476	306	461	98	73	54.1	26.9	14.1
30 (326)	64	RCH30-64	46.6	298	178	242	114	89	63.5	33.3	10.9
	155	RCH30-155	46.6	722	330	485	114	89	63.5	33.3	21.8
60 (576)	76	RCH60-76	82.3	626	247	323	159	124	91.9	53.8	28.1
	153	RCH60-153	82.3	1259	323	476	159	124	91.9	53.8	35.4
100 (931)	76	RCH100-76	133.0	1011	254	330	212	165	127.0	79	63.0

## RRH 系列·双作用中空液压油缸

RRH series-Double acting hollow cylinder

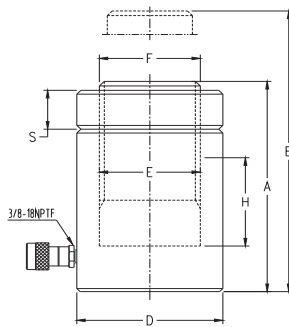


- \* 中空柱塞设计，即可以用于推力，也可以用于拉力。  
The hollow plunger design, easy to thrust or tension
- \* 烤漆表面耐腐蚀等恶劣环境。  
Baking varnish surface, Corrosion resistant
- \* 所有型号均配 3/8NPT 接头和护帽。  
All models are available with 3/8NPT joint and hood
- \* 可根据客户要求定做加长行程千斤顶。  
Customized according to customer requirements

承载能力 Capacity ton	行程 H Stroke (mm)	型号 Model	油缸最大承载能力 (KN) Maximum Capacity		有效面积 (cm <sup>2</sup> ) Effective Area		液压油容量 Oil Capacity (cm <sup>3</sup> )		本体高度 A Height (mm)	伸长高度 B Extended Height (mm)	外径 D Outside Diameter (mm)	油缸内径 E Cylinder Diameter (mm)	柱塞直径 F Plunger Diameter (mm)	中心孔径 Y Center Aperture (mm)	重量 Weight (Kg)
			进程 Process	回程 Return	进程 Process	回程 Return	进程 Process	回程 Return							
30	178	RRH30-178	326	213	46.6	30.4	829	541	330	508	114	89	65	33.3	21.0
	258	RRH30-258	326	213	46.6	30.4	1202	784	431	689	114	89	65	33.3	27.0
60	89	RRH60-89	576	380	82.3	54.2	733	482	247	336	159	124	92	53.8	28.0
	166	RRH60-166	576	380	82.3	54.2	1366	900	323	489	159	124	92	53.8	35.0
	257	RRH60-257	576	380	82.3	54.2	2115	1393	438	695	159	124	92	53.8	45.0
100	38	RRH100-38	931	612	133.0	87.4	505	333	165	203	212	165	127	79.2	33.0
	76	RRH100-76	931	612	133.0	87.4	1011	666	254	330	212	165	127	79.2	61.0
	153	RRH100-153	931	612	133.0	87.4	2035	1337	342	495	212	165	127	79.2	79.0
	257	RRH100-257	931	612	133.0	87.4	3402	2246	460	717	212	165	127	79.2	106.0
150	76	RRH150-76	1429	718	204.1	102.6	4144	2083	349	552	247	190	152	79.2	111.0

## CLL 系列—单作用螺母自锁液压油缸

CLL series-Single acting nut selflocking cylinder

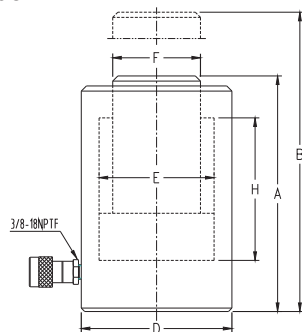


- \* 单作用，负载回位。  
Single action, load return.
- \* 自锁螺母，适用于长时间负的作业。  
Self-locking nut, suitable for long work
- \* 溢流孔兼有限制行程功能。  
The function of limiting travel
- \* 油缸可承受 5% 的侧向负荷。  
It can withstand 5% lateral load

承载能力 Capacity	行程 Stroke	型号 Model	有效面积 Effective Area	液压油容量 Oil Capacity	本体高度 Collapsed Height	伸展高度 Extended Height	外径 Outside Diameter	油缸内径 Bore Diameter	柱塞直径 Plunger Diameter	螺母高度 Nut Height	重量 Weight
t (KN)	H (mm)		cm <sup>2</sup>	cm <sup>3</sup>	A (mm)	B (mm)	D (mm)	E (mm)	F (mm)	S (mm)	(Kg)
50 (496)	50	CLL50-50	70.9	355	164	214	125	95	Tr95x4	38	15
	100	CLL50-100	70.9	709	214	314	125	95	Tr95x4	38	20
	150	CLL50-150	70.9	1064	264	414	125	95	Tr95x4	38	25
	200	CLL50-200	70.9	1418	314	514	125	95	Tr95x4	38	30
	250	CLL50-250	70.9	1773	364	614	125	95	Tr95x4	38	35
100 (929)	300	CLL50-300	70.9	2127	414	714	125	95	Tr95x4	38	40
	50	CLL100-50	132.7	664	187	237	165	130	Tr130x6	45	30
	100	CLL100-100	132.7	1327	237	337	165	130	Tr130x6	45	39
	150	CLL100-150	132.7	1991	287	437	165	130	Tr130x6	45	48
	200	CLL100-200	132.7	2654	337	537	165	130	Tr130x6	45	56
150 (1406)	250	CLL100-250	132.7	3318	387	637	165	130	Tr130x6	45	64
	300	CLL100-300	132.7	3981	437	737	165	130	Tr130x6	45	73
	50	CLL150-50	200.9	1005	209	259	207	160	Tr160x6	47	53
	100	CLL150-100	200.9	2010	259	359	207	160	Tr160x6	47	66
	150	CLL150-150	200.9	3014	309	459	207	160	Tr160x6	47	78
200 (1880)	200	CLL150-200	200.9	4019	359	559	207	160	Tr160x6	47	92
	250	CLL150-250	200.9	5024	409	659	207	160	Tr160x6	47	104
	300	CLL150-300	200.9	6029	459	759	207	160	Tr160x6	47	117
	50	CLL200-50	268.6	1343	243	293	237	185	Tr185x6	52	83
	100	CLL200-100	268.6	2687	293	393	237	185	Tr185x6	52	98
250 (2540)	150	CLL200-150	268.6	4030	343	493	237	185	Tr185x6	52	117
	300	CLL200-300	268.6	8060	493	793	237	185	Tr185x6	52	170
	50	CLL250-50	362.8	1814	249	299	275	215	Tr215x6	58	116
	100	CLL250-100	362.8	3629	299	399	275	215	Tr215x6	58	135
	150	CLL250-150	362.8	5443	349	499	275	215	Tr215x6	58	162
300 (3165)	300	CLL250-300	362.8	10886	499	799	275	215	Tr215x6	58	234
	50	CLL300-50	452.2	2261	295	345	310	240	Tr240x6	65	173
	100	CLL300-100	452.2	4522	345	445	310	240	Tr240x6	65	203
	150	CLL300-150	452.2	6782	395	545	310	240	Tr240x6	65	233
	300	CLL300-300	452.2	13565	545	845	310	240	Tr240x6	65	323
400 (3859)	50	CLL400-50	551.2	2756	335	385	350	265	Tr265x6	75	250
	100	CLL400-100	551.2	5513	385	485	350	265	Tr265x6	75	225
	150	CLL400-150	551.2	8269	435	585	350	265	Tr265x6	75	327
	300	CLL400-300	551.2	16538	585	885	350	265	Tr265x6	75	441
	500 (5118)	50	CLL500-50	731.1	3653	375	725	400	305	Tr305x6	85
100		CLL500-100	731.1	7302	425	525	400	305	Tr305x6	85	415
150		CLL500-150	731.1	10959	475	625	400	305	Tr305x6	85	466
300		CLL500-300	731.1	20930	625	925	400	305	Tr305x6	85	617
600 (5984)		50	CLL600-50	854.8	4277	395	445	430	330	Tr330x6	95
	100	CLL600-100	854.8	8554	445	545	430	330	Tr330x6	95	505
	150	CLL600-150	854.8	12830	495	645	430	330	Tr330x6	95	562
	300	CLL600-300	854.8	25650	645	945	430	330	Tr330x6	95	737
	800 (8145)	50	CLL800-50	1163.5	5818	455	505	505	385	Tr385x6	105
100		CLL800-100	1163.5	11636	505	605	505	385	Tr385x6	105	789
150		CLL800-150	1163.5	17453	555	705	505	385	Tr385x6	105	870
300		CLL800-300	1163.5	34907	705	1005	505	385	Tr385x6	105	1110
1000 (10160)		50	CLL1000-50	1451.4	7257	495	545	560	430	Tr430x6	118
	150	CLL1000-150	1451.4	21772	595	745	560	430	Tr430x6	118	1141
	300	CLL1000-300	1451.4	73544	745	1045	560	430	Tr430x6	118	1430

## DS 系列—单作用大吨位液压油缸

DS series - Single acting hydraulic cylinder

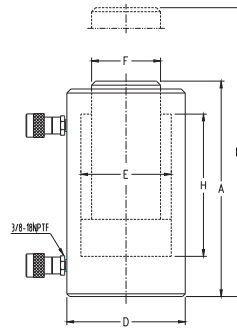


- ✧ 单作用，负载回位。  
Single action, load return
- ✧ 千斤顶活塞镀硬铬，防止刮伤和腐蚀。  
Chrome plated piston, prevent scratches and corrosion
- ✧ 烤漆表面耐腐蚀等恶劣环境。  
Baking varnish surface, Corrosion resistant
- ✧ 防尘圈设计延长使用寿命。  
Dustproof circle design extends service life
- ✧ 油缸可承受 5% 的侧向负荷  
It can withstand 5% lateral load

承载能力 Capacity	行程 Stroke	型号 Model	有效面积 Effective	液压油容量 Oil Capacity	本体高度 Collapsed Height	伸展高度 Extended Height	外径 Outside	油缸内径 Bore	柱塞直径 Plunger	重量 Weight
t (KN)	H (mm)		cm <sup>2</sup>	cm <sup>3</sup>	A (mm)	B (mm)	D (mm)	E (mm)	F (mm)	(Kg)
50 (496)	50	DS50-50	78.5	392.5	162	212	140	100	70	17
	100	DS50-100	78.5	785	212	312	140	100	70	21
	150	DS50-150	78.5	1177.5	262	412	140	100	70	27
	200	DS50-200	78.5	1570	312	512	140	100	70	32
	250	DS50-250	78.5	1962.5	362	612	140	100	70	36
300	DS50-300	78.5	2355	412	712	140	100	70	39	
100 (929)	50	DS100-50	153.9	769	182	232	180	140	100	32
	100	DS100-100	153.9	1539	232	332	180	140	100	40
	150	DS100-150	153.9	2308	282	432	180	140	100	48
	200	DS100-200	153.9	3077	332	532	180	140	100	56
	250	DS100-250	153.9	3846	382	632	180	140	100	64
300	DS100-300	153.9	4615	432	732	180	140	100	72	
150 (1406)	50	DS150-50	201	1005	196	246	216	160	115	42
	100	DS150-100	201	2010	246	346	216	160	115	52
	150	DS150-150	201	3014	296	446	216	160	115	62
	200	DS150-200	201	4019	346	546	216	160	115	72
	250	DS150-250	201	5024	396	646	216	160	115	72
300	DS150-300	201	6029	446	746	216	160	115	91	
200 (1880)	50	DS200-50	314	1570	216	266	268	200	150	62
	150	DS200-150	314	4710	316	466	268	200	150	92
	200	DS200-200	314	6280	366	566	268	200	150	107
	300	DS200-300	314	9420	466	766	268	200	150	137
250 (2540)	100	DS250-100	363	3629	265	365	285	215	165	123
	150	DS250-150	363	5443	335	485	285	215	165	141
	200	DS250-200	363	7257	385	585	285	215	165	159
	300	DS250-300	363	10886	485	785	285	215	165	195
300 (3165)	100	DS300-100	452	4522	362	462	320	240	190	237
	150	DS300-150	452	6782	412	562	320	240	190	261
	200	DS300-200	452	9043	462	662	320	240	190	285
300	DS300-300	452	13564	562	862	320	240	190	333	
400 (3859)	100	DS400-100	572	5723	425	525	367	270	220	293
	150	DS400-150	572	8584	475	625	367	270	220	332
	200	DS400-200	572	11445	525	725	367	270	220	362
	300	DS400-300	572	17168	625	925	367	270	220	421
500 (5118)	100	DS500-100	707	7065	469	569	400	300	240	316
	150	DS500-150	707	10597	519	669	400	300	240	480
	200	DS500-200	707	14130	569	869	400	300	240	433
	300	DS500-300	707	21195	669	969	400	300	240	599
500	DS500-500	707	35325	869	1369	400	300	240	782	
600 (5984)	100	DS600-100	855	8548	479	549	445	330	270	791
	150	DS600-150	855	12823	529	679	445	330	270	565
	200	DS600-200	855	17097	579	779	445	330	270	637
	300	DS600-300	855	25646	679	979	445	330	270	701
	500	DS600-500	855	42723	879	1379	445	330	270	815
800 (8145)	100	DS800-100	1194	11940	524	624	550	390	320	766
	150	DS800-150	1194	17910	574	724	550	390	320	868
	200	DS800-200	1194	23880	624	824	550	390	320	996
	300	DS800-300	1194	35820	724	1024	550	390	320	1058
500	DS800-500	1194	59699	924	1424	550	390	320	1274	
1000 (10160)	100	DS1000-100	1451	14515	614	714	600	430	350	1022
	150	DS1000-150	1451	21772	664	814	600	430	350	1194
	200	DS1000-200	1451	29029	714	914	600	430	350	1267
	300	DS1000-300	1451	43544	814	1114	600	430	350	1486

## DQ 系列—双作用大吨位液压油缸

DQ series - Double acting cylinder



- \* 双作用，液压复位，可推拉应用。  
Double action, hydraulic reset, can be pushed and pulled
- \* 千斤顶活塞镀硬铬，防止刮伤和腐蚀。  
Chrome plated piston, prevent scratches and corrosion
- \* 烤漆表面耐腐蚀等恶劣环境。  
Baking varnish surface, Corrosion resistant
- \* 可承受额定负荷 5% 的偏载而不产生挤压损伤。  
Can withstand 5% of the rated load off-load
- \* 所有型号均配 3/8NPT 接头和护帽。  
All models are available with 3/8NPT joint and hood

承载能力 Capacity	行程 Stroke	型号 Model	有效面积 Effective		液压油容量 Oil Capacity		本体高度 Collapsed Height	伸展高度 Extended Height	外径 Outside	油缸内径 Bore	柱塞直径 Plunger	重量 Weight
			无杆腔	有杆腔	无杆腔	有杆腔						
50 (496)	50	DQ50-50	78.5	40	392.5	200	190	240	140	100	70	18
	100	DQ50-100	78.5	40	785	400	240	340	140	100	70	23
	150	DQ50-150	78.5	40	1177.5	600	290	440	140	100	70	28
	200	DQ50-200	78.5	40	1570	800	340	540	140	100	70	33
	250	DQ50-250	78.5	40	1962.5	1000	390	640	140	100	70	38
100 (929)	300	DQ50-300	78.5	40	2355	1200	440	740	140	100	70	42
	50	DQ100-50	153.9	75.4	769	377	205	255	180	140	100	34
	100	DQ100-100	153.9	75.4	1539	754	255	355	180	140	100	42
	150	DQ100-150	153.9	75.4	2308	1131	305	455	180	140	100	50
	200	DQ100-200	153.9	75.4	3077	1508	355	555	180	140	100	58
150 (1406)	250	DQ100-250	153.9	75.4	3846	1885	405	655	180	140	100	66
	300	DQ100-300	153.9	75.4	4615	2262	455	755	180	140	100	74
	50	DQ150-50	201	97.1	1005	486	196	246	216	160	115	47
	100	DQ150-100	201	97.1	2010	971	246	346	216	160	115	57
	150	DQ150-150	201	97.1	3014	1457	296	446	216	160	115	67
	200	DQ150-200	201	97.1	4019	1943	346	546	216	160	115	77
200 (1880)	250	DQ150-250	201	97.1	5024	2429	396	646	216	160	115	87
	300	DQ150-300	201	97.1	6029	2914	446	746	216	160	115	97
	300	DS150-300	201	97.1	6029	2914	446	746	216	160	115	91
	50	DQ200-50	314	137.4	1570	687	260	310	268	200	150	82
	150	DQ200-150	314	137.4	4710	2061	360	510	268	200	150	112
250 (2540)	200	DQ200-200	314	137.4	6280	2748	410	610	268	200	150	127
	300	DQ200-300	314	137.4	9420	4122	510	810	268	200	150	157
	100	DQ250-100	363	149	3629	1619	287	387	285	215	165	123
	150	DQ250-150	363	149	5443	2429	337	487	285	215	165	141
300 (3165)	200	DQ250-200	363	149	7257	3238	387	587	285	215	165	159
	300	DQ250-300	363	149	10886	4857	487	787	285	215	165	195
	100	DQ300-100	452	168.8	4522	1687	342	442	320	240	190	237
400 (3859)	150	DQ300-150	452	168.8	6782	2531	392	542	320	240	190	261
	200	DQ300-200	452	168.8	9043	3357	442	642	320	240	190	285
	300	DQ300-300	452	168.8	13564	5063	542	842	320	240	190	333
500 (5118)	100	DQ400-100	572	192	5723	1923	424	524	367	270	220	310
	150	DQ400-150	572	192	8584	2885	474	624	367	270	220	342
	200	DQ400-200	572	192	11445	3847	524	724	367	270	220	374
	300	DQ400-300	572	192	17168	5770	624	924	367	270	220	438
600 (5984)	100	DQ500-100	707	254	7065	2543	469	569	400	300	240	433
	150	DQ500-150	707	254	10597	3815	519	669	400	300	240	478
	200	DQ500-200	707	254	14130	5087	569	869	400	300	240	521
	300	DQ500-300	707	254	21195	7630	669	969	400	300	240	613
800 (8145)	500	DQ500-500	707	254	35325	12717	869	1369	400	300	240	792
	100	DQ600-100	855	283	8548	2826	479	579	445	330	270	550
	150	DQ600-150	855	283	12823	4239	529	679	445	330	270	601
	200	DQ600-200	855	283	17097	5652	579	779	445	330	270	668
	300	DQ600-300	855	283	25646	8478	679	979	445	330	270	711
1000 (10160)	500	DQ600-500	855	283	42723	14130	879	1379	445	330	270	904
	100	DQ800-100	1194	390	11940	3901	534	634	550	390	320	872
	150	DQ800-150	1194	390	17910	5852	584	734	550	390	320	988
	200	DQ800-200	1194	390	23880	7803	634	834	550	390	320	1092
1000 (10160)	300	DQ800-300	1194	390	35820	11704	734	1034	550	390	320	1176
	500	DQ800-500	1194	390	59699	19507	934	1434	550	390	320	1355
	100	DQ1000-100	1451	490	14515	4898	614	714	600	430	350	1105
1000 (10160)	150	DQ1000-150	1451	490	21772	7348	664	814	600	430	350	1210
	200	DQ1000-200	1451	490	29029	9797	714	914	600	430	350	1315
	300	DQ1000-300	1451	490	43544	14695	814	1114	600	430	350	1528

## 液压千斤顶的选用

Selection of hydraulic jack

### 一、力的选择

The choice of the force

工作时需要多大吨位的千斤顶，千斤顶在考虑密封的阻抗损失和千斤顶与活塞之间的支撑阻抗损失后，其力为额定值的94%-95%，当千斤顶需要连续运行时，推荐选用的千斤顶吨位高一些，通常按额定值的70%-80%计算。

The load of jack is 94-95% of the rated load after considering the sealing frictional loss and the support frictional loss between the jack and piston. When the jack needs to run continuously, the recommended load of the jack is higher, usually 70%-80% of the rated load is calculated.

### 二、行程的选择

Travel choice

如果空间足够大，请选择行程比实际所需行程长的千斤顶，以提高系统的可扩展能力，可靠性和耐用度。

If the space is enough, select a jack with a stroke longer than required to improve the system's scalability, reliability, and durability.

### 三、类型的选择

Type selection

千斤顶基本上分为两类：单作用（弹簧复位或负载复位）和双作用，CLL和DS型千斤顶没有弹簧复位功能，只能通过过载或重力收缩。

Jacks can be divided into two types: single action (spring reset or load reset) and double action. CLL and DS jacks have no spring reset function and can only shrink through load or gravity.

### 四、数量的选择

Quantity selection

是否需要多个千斤顶同步操作。

Whether multiple jacks are required to operate synchronously.

### 五、安装和运行时的警告及注意事项

Warning and precautions for installation

1. 确保载荷作用在千斤顶中心且其方向沿着千斤顶方向；

Make sure that the load act on the center of the jack and its direction is along the jack

2. 允许的偏心载荷必须是在千斤顶技术要求之内；

Allowable eccentric loads must be within the technical requirements of the jacks

3. 通过把法兰安装在颈部螺纹上，来安装千斤顶；

Install the jack by attaching the flange to the neck thread

4. 连接快速接头时，必须接通、螺纹旋紧，两端面贴合；

When connecting the quick joint, it must be connected and screwed tightly, and the two ends meet

5. 避免千斤顶活塞过渡伸展；

Avoid jacking piston overextension

6. 严禁千斤顶在载荷下时脱离油泵接口；

It is strictly forbidden to remove the oil pump interface when the jack is under load

7. 请远离热、火、雨、海水、潮湿等；

Keep away from heat, fire, rain, sea water, humidity, etc

8. 有任何漏油 / 渗油的现象时，立即检查；

Check immediately if there is any leakage

9. 当拉力端管路接头完全堵塞时，禁止运作双作用千斤顶，如果装有自封式管接头的千斤顶突然停止运行，则最大的可能是管接头松动导致油路不通。

Double acting jacks are not allowed to operate when the tension end pipe joint is completely blocked. If the jack equipped with the self-sealing pipe joint stops running suddenly, the biggest possibility is that the pipe joint becomes loose and the oil road is blocked.

### 六、非标千斤顶与特殊千斤顶

Non - standard jacks and special jacks

可根据你的要求定制非标千斤顶，或者1000吨以上的千斤顶

Can be customized according to your requirements, or more than 1000 tons of jacks

1、需要多大吨位力？

How much tonnage do you need?

2、所需行程和本体高度？

Required stroke and body height?

3、是否所有活塞、颈部或者基部螺纹均需要？

Are all piston, neck, or base threads required?

4、所要求的使用频率和条件？

Required frequency and conditions of use?

耐震压力表适用于环境剧烈振动场所，可耐受介质脉动，冲击及突然卸荷，仪表指示稳定清晰。广泛应用于机械，石油、化工、冶金、矿山、电力等部门，测量对铜和铜合金无腐蚀性介质的压力。

Seismic pressure gauge is suitable for severe vibration environment. It can withstand medium pulsation, shock and sudden unloading. Instrument indication is stable and clear. It is widely used in machinery, petroleum, chemical industry, metallurgy, mining, electric power and other departments to measure the pressure of non-corrosive medium for copper and copper alloy.

耐震压力表在外壳内填充阻尼液（一般为硅油或甘油）的仪表，能够抗工作环境振动和减少介质压力的脉动影响。

The shock-proof pressure gauge is an instrument filled with damp liquid (usually silicone oil or glycerin) in the outer shell, which can resist the vibration of working environment and reduce the fluctuation effect of medium pressure.

全焊接形前边可更好的防止水进入控制面板（防护等级 IP 66）。

The fully welded front can better prevent water from entering the control panel (protection level IP 66).

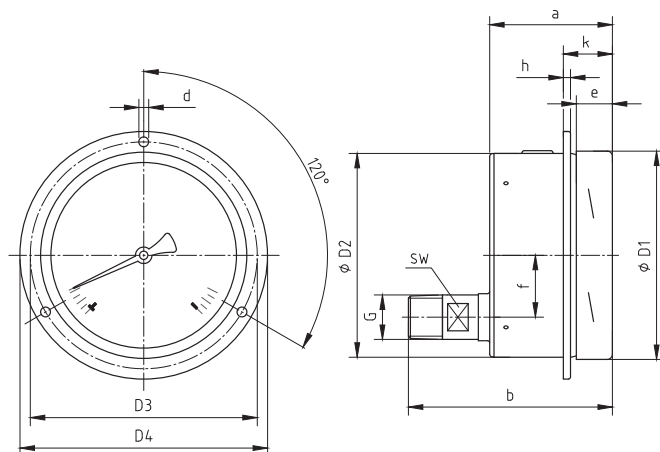
仪表执行标准：JB/T6804-2006。

Instrument execution standard: JB/T6804-2006.

1. 仪表使用环境温度为  $-40\sim 70\text{C}$ ，相对湿度不大于 80%，如偏离正常使用温度  $20\pm 5\text{C}$  时，须计入温度附加误差。  
The ambient temperature of the instrument is  $-40\sim 70\text{C}$ , and the relative humidity is not more than 80%. If it deviates from the normal operating temperature of  $20\pm 5\text{C}$ , the additional temperature error should be taken into account.
2. 仪表必须垂直安装，力求与测定点保持同一水平，如相差过高计入液柱所引起的附加误差，测量气体时可不考虑。安装时将表壳后部防爆口阻塞，以免影响防爆性能。  
Instruments must be installed vertically in order to maintain the same level with the measuring point. If the difference is too high, the additional errors caused by the liquid column should not be taken into account when measuring gas. When installing, the rear opening of the watch case is blocked, so as not to affect the explosion proof performance.
3. 仪表正常使用的测量范围：在静压下不超过测量上限的  $3/4$ ，在波动下不应超过测量上限的  $2/3$ 。在上述两种压力情况下大压力表测量最低都不应低于下限的  $1/3$ ，测量真空时真空部分全部使用。  
The measuring range for normal use of the instrument is not more than  $3/4$  of the upper limit under static pressure and  $2/3$  of the upper limit under fluctuation. Under the above two pressure conditions, the lowest measurement of large pressure gauge should not be less than  $1/3$  of the lower limit, and the vacuum part should be used in vacuum measurement.
4. 使用时如遇到仪表指针失灵或内部机件松动、不能正常工作等故障时应进行检修，或联系生产厂家维修。  
If the instrument pointer fails or the internal parts are loose or not working properly, it should be repaired or contacted with the manufacturer.
5. 仪表应避免震动和碰撞，以免损坏。  
The instrument should not shake and collide to avoid damage.
6. 订货时请注明：仪表型号及名称；仪表的测量范围；仪表的精度等级偏离正包装要求和和其它。  
When ordering, please specify the type and name of the instrument, the measuring range of the instrument, the accuracy level of the instrument deviates from the normal packaging requirements and others.

## YTN-ZT 系列轴向抗震带前边压力表

YTN -ZTseries axial pressure zone front pressure gauge



型号 Model	尺寸 /Dimensions mm												量程 (MPa) Range	精度 % Accuracy	重量 (Kg) Weight	
	a	b	D1	D2	D3	D4	d	e	f	h	k	G				SW
YTN-60ZT	42	69	63	63	75	85	3.6	14.5	18.5	2.5	15	M14X1.5	14	0-100	±1.6	0.16
YTN-100ZT	59.5	99	101	100	116	132	4.8	17	30	3	21	M20X1.5	19	0-100	±1.6	0.60

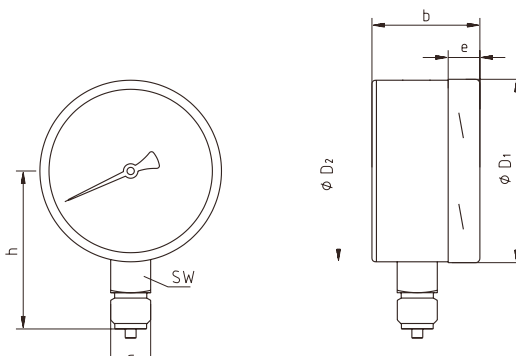
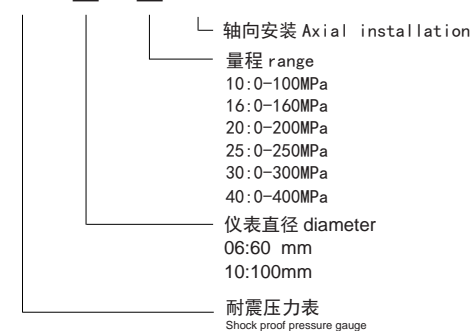
## YTN 系列 - 轴向抗震带前边压力表

YTN series - axial pressure zone front pressure gauge

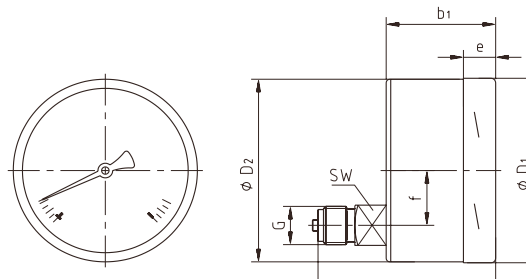
- \* 带实心隔板设计  
Design with solid diaphragm
- \* 卓越的负载循环稳定性和抗冲击性能  
Excellent load cycling stability and impact resistance
- \* 全不锈钢结构  
All stainless steel structure
- \* 量程高达 400MPa。  
Range up to 400MPa



YTN- □ - □ -Z



径向安装 / Radial installation



轴向安装 / Axial installation

型号 Model	尺寸 / Dimensions mm												精度 % Accuracy	重量 Kg Weight
	a	b	b1	b2	D1	D2	e	f	g	G	h	SW		
YTN-0610	17.5	42	42	61	63	63	14.5	18.5	18.5	NTP 1/4	54	14	±1.6	0.16
YTN-1010N	25	59.5	59.5	93	101	100	4.8	17	30	NTP 1/4	87	17	±1.6	0.60
YTN-1010	25	59.5	59.5	93	101	100	4.8	17	30	G 1/2	87	19	±1.6	0.65
YTN-1016	25	59.5	59.5	93	101	100	4.8	17	30	G 1/2	87	19	±1.6	0.65
YTN-1020	25	59.5	59.5	93	101	100	4.8	17	30	G 1/2	87	19	±1.6	0.65
YTN-1025	25	59.5	59.5	93	101	100	4.8	17	30	G 1/2	87	19	±1.6	0.65
YTN-1030	25	59.5	59.5	93	101	100	4.8	17	30	G 1/2	87	19	±1.6	0.65
YTN-1040	25	59.5	59.5	93	101	100	4.8	17	30	G 1/2	87	19	±1.6	0.65

	<p>MAX 100MPa</p> <p>T-1 将 G1/2 转换为 NTP 1/4, Convert G1/2 to NTP 1/4</p>
	<p>MAX 200MPa</p> <p>T-2 将 G1/2 转换为 RC 3/8 Convert G1/2 to RC 3/8</p>
	<p>MAX 400MPa</p> <p>T-3 于 T-2 配合使用, 将 G1/2 转换为 RC 3/8 In conjunction with T-2, convert G1/2 to RC 3/8</p>

## C701/C702 螺纹锁紧式快速接头

C701/C702 threaded locking type quick connector

- \* 采用螺纹锁紧结构，极大的提升了高压承受性能并防止意外断开  
The threaded locking structure has greatly improved the performance of high pressure and prevented accidental disconnection.
- \* 钢球密封和锥阀密封两种可选择  
Steel ball seal and cone valve seal can be alternative.
- \* 钢球采用坚硬的铬合金钢球，用弹簧加载以使固定在阀座处  
The steel balls are made of hard chrome alloy loaded with springs to fix them at the valve seat.
- \* 螺纹阀挡圈提供阀止档，保证阀能牢靠的对中  
The threaded valve ring provides valve stopper to ensure that the valve can be reliably located.
- \* 母体和公接均采用实心棒料加工，淬火处理极大提升产品性能  
Both the parent and the male joints are made of solid bar, which is greatly improved by quenching.
- \* 耐磨和冲击性能  
Grinding and impact properties



技术参数 technical parameter				
型号 Model	C7011	C7012	C7021	C7022
类型 type	母接头 Female Joint	公接头 male Joint	母接头 Female Joint	公接头 Male Joint
螺纹形式 Thread form	外螺纹 External	内螺纹 Internal	外螺纹 External	内螺纹 Internal
螺纹规格 Thread specification	NTP 1/4		NTP3/8	
额定流量 Rated flow rate(L/min)	15		20	
工作压力 Working pressure	70MPa			

## C116 系列快速接头

C116 series quick connector

- \* 比较高的工作压力，最大工作压力 150MPa。  
Relatively high working pressure. The maximum working pressure is 150MPa.
- \* 紧凑型设计  
Compact design
- \* 独特的密封设计  
Unique sealing design
- \* 连接和断开时无滴漏  
No leakage during connection and disconnection.
- \* 有标准的防尘罩  
There is a standard dustproof.



技术参数 technical parameter		
型号 Model	C1161	C1162
类型 type	母接头 Female Joint	公接头 Male Joint
螺纹规格 Thread specification	G 1/4	
螺纹形式 Thread form	内螺纹 Internal thread	
额定流量 Rated flow rate(L/min)	5.8	
工作压力 Working pressure	150mpa	



## W/N 系列 - 液压工具类过渡接头

W/N series hydraulic tool transition joint

- \* 多种螺纹连接方式  
Multiple threaded connections
- \* 经过热处理的优质钢材制作  
High quality steel processed by heat treatment
- \* 工作压力在 100-300Mpa 之间。  
The working pressure is between 100-300Mpa.



型号 Model		连接螺纹 1 Connecting thread 1	连接螺纹 2 Connecting thread 2	工作压力 (Mpa) Working pressure	说明 Explain
W701		NPT 1/4	NPT 1/4	70	全外螺纹 All External Thread
W702		NPT 1/4	G1/4	70	全外螺纹 All External Thread
W703		NPT 3/8	NPT 3/8	70	全外螺纹 All External Thread
W704		NPT 3/8	G 3/8		全外螺纹 All External Thread
W2001		G1/4	G1/4	200	连接螺纹 1 带 120° 外锥面 连接螺纹 2 带 120° 外锥面
W2002		G1/4	M14X1.5	200	连接螺纹 1 带 120° 外锥面 连接螺纹 2 带 120° 外锥面
W2003		G1/4	M16X1.5	200	连接螺纹 1 带 120° 外锥面 连接螺纹 2 带 120° 外锥面
W3001		M16X1.5	M16X1.5	300	连接螺纹 1 带 60° 外锥面 连接螺纹 2 带 60° 外锥面

## HP 系列 - 高压软管

HP series - high pressure hose

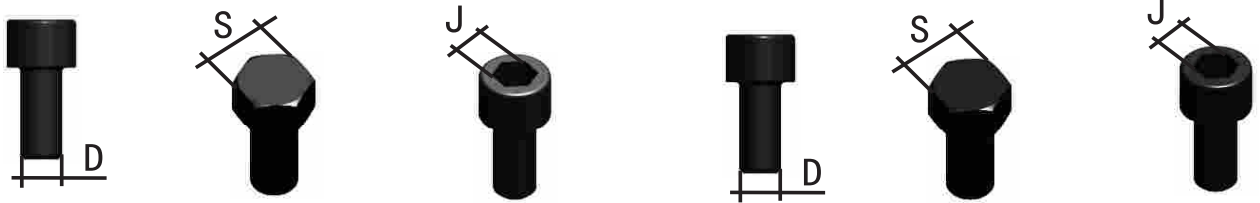
- \* 低体积膨胀力  
Low volume expansion force
- \* 防扭结的钢聚合物  
Anti twist steel polymers
- \* 最高使用压力 300Mpa  
Maximum operating pressure 300Mpa
- \* 双联液压软管液压扭矩扳手专用软管，机构紧凑，使用方便。  
Double hose hydraulic hose wrench special hose, compact, easy to use.

名称 Name	图示 Illustration	工作压力 Maximum working pressure (Mpa)	端头螺纹 End thread		型号 Model	长度 length (m)
			端头 1 End 1	端头 2 End 2		
H70S 双联管 Twin Hoses		70	NPT 1/4 内	NPT 1/4 外	H70S-4M	4
					H70S-6M	6
					H70S-9M	9
					H70S-12M	12
H70 软管 Single Hose		70	NPT 1/4 内	NPT 1/4 外	H70-4M	4
					H70-6M	6
					H70-9M	9
					H70-12M	12
H701 软管 Single Hose		70	NPT 1/4 外	NPT 1/4 外	H701-2M	2
					H701-4M	4
					H701-6M	6
					H701-12M	12
H702 软管 Single Hose		70	NPT 3/8 外	NPT 3/8 外	H702-2M	2
					H702-4M	4
					H702-6M	6
					H702-12M	12
H180 软管 Single Hose		180	G1/4 外 120° 外锥	G1/4 外 120° 外锥	H180-2M	2
					H180-4M	4
					H180-6M	6
					H180-9M	9
H250 软管 Single Hose		250	G1/4 外 120° 外锥	G1/4 外 120° 外锥	H250-2M	2
					H250-4M	4
					H250-6M	6
					H250-9M	9
H300 软管 Single Hose		300	G1/4 外 60° 外锥	G1/4 外 60° 外锥	H300-2M	2
					H300-4M	4
					H300-6M	6
					H300-9M	9



## 螺栓规格表

Bolt specification table

公制螺栓规格  
Metric bolt specification

螺栓规格 D	外六角对边 S	内六角对边 J
M10×1.5	17	8
M12×1.75	19	10
M14×2	22	12
M16×2	24	14
M20×2.5	30	17
M22×2.5	34	17
M24×3	36	19
M27×3	41	19
M30×3.5	46	22
M33×3.5	50	24
M36×4	55	27
M39×4	60	27 (30)
M42×4.5	65	32
M45×4.5	70	—
M48×5	75	36
M52×5	80	36
M56×5.5	85	41
M60×5.5	90	46
M64×6	95	46
M68×6	100	50
M72×6	105	55
M76×6	110	60
M80×6	115	65
M85×6	120	70
M90×6	130	70 (75)
M95×6	135	—
M100×6	145	85
M105×6	150	—
M110×6	155	—
M115×6	165	—
M120×6	175	—
M125	180	—
M130	185	—
M140	200	—
M150	215	—

英制螺栓规格  
Imperial bolt specification

螺栓规格 D	外六角对边 S	内六角对边 J
Bolt specification	Hexagon opposite	Inner hexagon opposite
5/8	1 1/16	1/2
3/4	1 1/4	5/8
7/8	1 7/16	3/4
1	1 5/8	3/4
1 1/8	1 13/16	7/8
1 1/4	2	7/8
1 3/8	2 3/16	1
1 1/2	2 3/8	1
1 5/8	2 9/16	—
1 3/4	2 3/4	1 1/4
1 7/8	2 15/16	1 3/8
2	3	1 1/2
2	3 1/8	1 5/8
2 1/4	3 3/8	1 3/4
2 1/4	3 1/2	1 3/4
2 1/2	3 3/4	1 3/4
2 1/2	3 7/8	1 7/8
2 3/4	4 1/8	2
2 3/4	4 1/4	2
3	4 5/8	2 1/4
3 1/4	5	2 1/4

上表列出的六角尺寸仅供参考，在特定工况中，应详细检查螺栓尺寸。

The hexagonal dimensions listed in the above table are for reference only. The bolt dimensions should be checked in detail in certain working conditions.



按螺栓、螺母的尺寸强度，确定扳手使用最大扭矩，在处理具体链接时，应确认工程制造商的使用参数。

According to the size and strength of bolts and nuts, determine the maximum torque for the spanner, and confirm the engineering manufacturer's usage parameters when dealing with specific links.



选择扳手时，务必注意拆送扭矩。

When selecting a wrench, be sure to pay attention to the unmounting torque.



重载套筒必须符合 ISO2725/1301174/DIN3129/3121/ASME-B107.2/1995

Heavy duty sleeves must conform to ISO2725/1301174/DIN3129/3121/ASME-B107.2/1995

## 螺栓预紧方法

Bolt preloading method

### 扭矩拧紧

原则上讲分两种拧紧方法：“非受控”和“受控”

受控拧紧：采用经过校准的可测量的设备，按照预先指定的方法，由经过培训的人员进行。

非受控拧紧：使用无法测量的设备或方法。使用锤子和扳手或其他类型的击打工具向螺栓和螺母组件上施加预紧。

### 受控拧紧的优点

- 1、螺栓负载已知、可控、准确。采用输出可控的工具，用计算来确定所需的工具设定值。
- 2、螺栓加载均匀。在带密封垫片的接头上特别重要，因为要使垫片有效，需要均匀一致的压紧。
- 3、按预定方法安全操作。消除了手工非控拧紧的危险动作，要求操作人员有熟练的技术且遵守规定的方法。
- 4、缩短操作时间，提高生产率。使用受控的工具代替人工劳动，缩短拧紧时间和操作人员的劳动强度。
- 5、结果可靠且可重复。使用经过校准和测试的设备，遵守规定的方法，技术熟练的操作人员，始终如一地实现已知的结果。
- 6、一次获得正确结果。通过确保螺栓的正确装配和拧紧消除了运行中螺栓失效的许多不确定性。

### 扭矩拧紧

1、什么是扭矩？

扭矩是作用在一个物体上使此物体转动的力的大小的量度标准。

2、什么是扭矩拧紧？

通过转动紧固件的螺母而向紧固件施加预负载。

3、扭矩拧紧和预负载

施加扭矩时产生的预负载的量很大程度上取决于摩擦作用。

4、主要有三种不同的“扭矩分量”

4.1、伸长螺栓的扭矩

4.2、克服螺栓和螺母螺纹中的摩擦力的扭矩

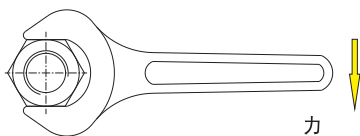
4.3、克服螺母孔平面（承载平面）处的摩擦力的扭矩。

润滑降低摩擦力

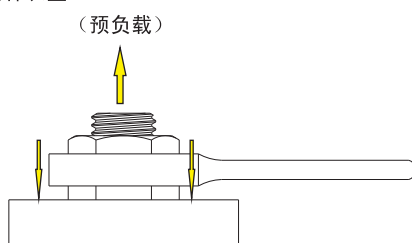
在拧紧过程中进行润滑可以降低摩擦力，减少安装过程中螺栓失效，延长螺栓的使用寿命。摩擦系数的变化可以影响规定的扭矩下达到的预负载的量。摩擦越高，转换为预负载的扭矩值越少。要精确地达到要求的扭矩值，必须知道润滑剂制造厂商提供的摩擦系数的值。应在螺母承受面和螺纹上涂润滑剂。

### 扭矩拧紧

旋转运动



紧固件的伸长量



### Tighten the torque

In principle, there are two tightening methods: "uncontrolled" and "controlled".

Controlled tightening: the use of calibrated measurable equipment, in accordance with pre-specified methods, by trained personnel.

Uncontrolled tightening: use equipment or methods that cannot be measured. Apply pre-tightening to bolt and nut assemblies using a hammer and wrench or other type of punching tool

### Advantages of controlled tightening

1. Known, controllable and accurate bolt load. The output controllable tool is used to calculate the required tool setting value.
2. Even bolt loading. This is especially important in joints with sealing gaskets, since uniform compression is required to make the gaskets effective.
3. Operate safely as scheduled. The dangerous action of manual non-controlled tightening is eliminated and the operators are required to be skilled and follow the prescribed methods.
4. Shorten operation time and improve productivity. Use controlled tools instead of manual labor to shorten tightening time and operator labor intensity.
5. Reliable and repeatable results. Use calibrated and tested equipment, follow prescribed methods, skilled operators, and consistently achieve known results. Get the right results at once. Many uncertainties of bolt failure in operation are eliminated by ensuring correct assembly and tightening of bolts.

### Tighten the torque

1. What is torque?

Torque is a measure of the amount of force acting on an object to make it rotate.

2. What is torque tightening?

Apply a preload on the fastener by rotating the nut of the fastener.

3. Tighten torque and preload

The amount of preload produced when torque is applied depends largely on friction.

4. There are mainly three different "torque components"

4.1 torque of elongated bolts

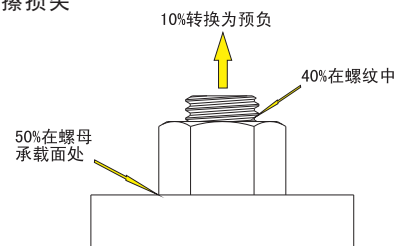
4.2 torque to overcome friction in bolt and nut threads

4.3 torque to overcome the friction at the bearing plane of the nut hole

Lubrication reduces friction

Lubrication during tightening reduces friction, reduces bolt failure during installation, and extends bolt life. The change of friction coefficient can affect the amount of preload achieved under the specified torque. The higher the friction, the less torque is converted to preload. To accurately achieve the required torque value, the friction coefficient provided by the lubricant manufacturer must be known. Lubricants should be applied to nut bearing surfaces and threads.

摩擦损失



预负载=施加的扭矩-摩擦损失

## 螺栓预紧方法

Bolt pretightening method

### 扭矩紧固法

拧紧时，通常一次只能拧紧一只螺栓，这样可能导致点加载和负载分散。为了防止这种情况发生，应按规定的模式分步施加扭矩。

扭矩施加顺序

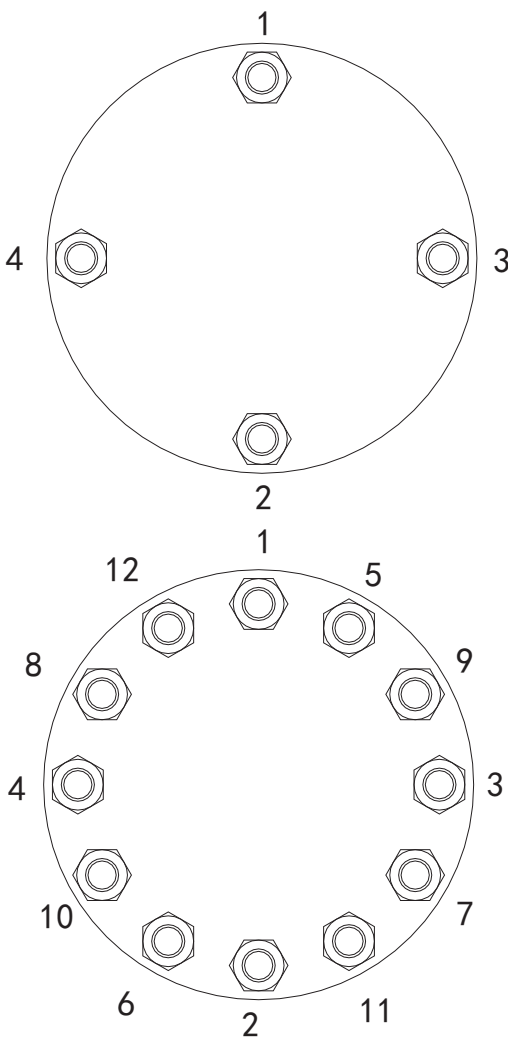
第一步：用扳手快速拧紧，确保 2-3 圈螺纹伸出螺母

第二步：按照上图所示模式，将每只螺栓拧紧到最终扭矩的 1/3

第三步：按照上图所示模式，将每只螺栓拧紧到最终所需扭矩的 2/3

第四步：按照上图所示模式增大到满扭矩

第五步：从 1 号螺栓开始，顺时针以最终扭矩值在每个螺栓上进行最后一遍拧紧



### 选择正确的扭矩扳手

- 1、在拧松螺母或螺栓时，所需的扭矩常常大于拧紧的的扭矩
- 2、一般情况下拆开螺母或螺栓的需要施加 2.5 倍的扭矩值
- 3、拧松螺母或螺栓时，施加的扭矩值不要超过工具最大扭矩的 75%

拆松螺栓扭矩至少应是 2 倍的拧紧扭矩

### Torque fastening

When tightening, you can usually tighten only one bolt at a time, which can lead to point loading and load dispersion. In order to prevent this from happening, torque should be applied step by step in accordance with the prescribed mode.

Load order

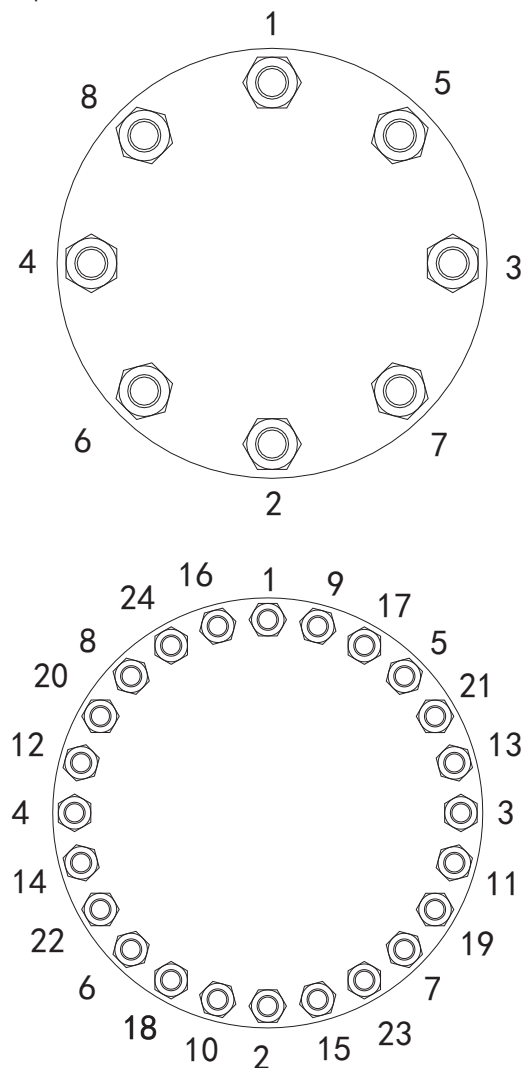
Step 1: tighten the nut quickly with a wrench to ensure 2-3 circles of thread sticking out the nut

Part 2: tighten each bolt to 1/3 of the final torque in the mode shown above

Part 3: tighten each bolt to 2/3 of the final required torque in the mode shown above

Part 4: increase to full torque in the mode shown above

Step5: starting with bolt no. 1, tighten each bolt clockwise for the last time with the final torque value



### Select the correct torque wrench

1. When loosening nuts or bolts, the required torque is often greater than that of tightening
2. In general, it is required to apply a torque value of 2.5 times to remove nuts or bolts
3. When loosening nuts or bolts, the applied torque value shall not exceed 75% of the maximum torque of the tool

Unscrew torque should be at least 2 times of tightening torque

## 螺栓预紧方法

Bolt pretightening method

### 扭矩转角紧固法

Torque corner fastening

扭矩转角紧固方法要比只用扭矩紧固方法精确

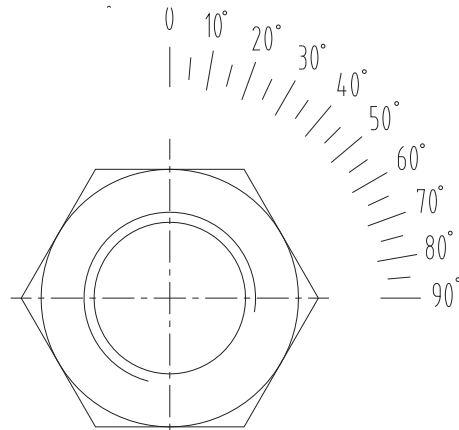
Torque corner fastening is more accurate than torque fastening only

用定义的转角自然地达到了精确的预紧力

The precise pre-tightening force is achieved naturally with the defined turning Angle

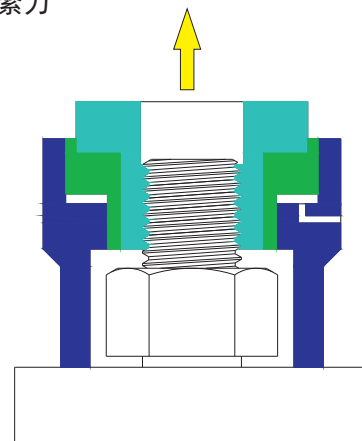
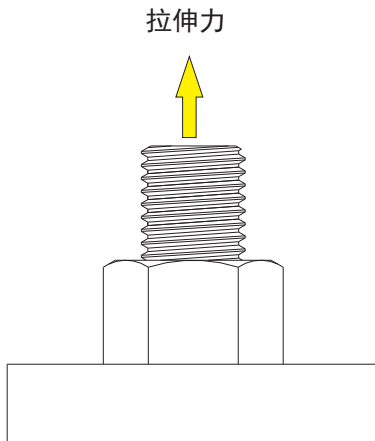
紧固质量高

High fastening quality



例如 使用拉伸器  
获得精确预紧力

轴向拉伸



### 拉伸预紧法

Stretch preloading method

选择拉伸预紧的条件

螺栓伸出螺母必须  $\geq 1$  倍的螺栓直径

拉伸方法预紧螺栓优点

螺栓没有被扭曲，因此螺栓上没有扭力

拉伸完成紧固螺母后精确的扭矩实现

Select the condition of tension pre-tightening

The bolt extension nut must be more than 1 times the bolt diameter

Drawing method pretightening bolt advantages

The bolt is not twisted, so there is no torque on the bolt

Accurate torque after tightening nut after stretching

### 常用单位换算

Common unit conversion

#### 扭矩/Torque

1N.m=0.737Ft.lb  
1Ft.lb=1.356N.m  
1Kg.m=7.233Ft.lb=9.8Nm

#### 压力/Pressure

1Mpa=1N/mm<sup>2</sup> 1Mpa=10.2kg/cm<sup>2</sup>  
1Mpa=10bar 1Mpa=145psi  
1bar=14.5psi 1psi=0.069bar

#### 重量/weight

1Ton=9.8KN 1KN=0.102Ton  
1N=0.102kg 1kg=9.8N  
1kg=2.204lb=9.8N

#### 力/Force

1kg=2.2046 lbs  
1lbs=0.4536kg  
1Ton=1000kg  
1KN=0.102Ton

#### 长度/length

1mm=0.039in 1in=25.4mm  
1m=3.281Ft 1Ft=0.305m

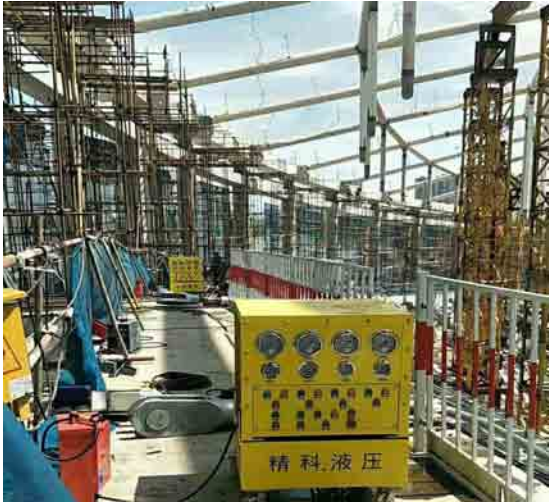
#### 功率/power

1HP=0.746KW  
1KW=1.34HP

# 使用案例

Use case





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