AC系列-自动补偿式油压冲器 AC Series Shock Absorber

型号 MODEL	行程 Stroke (mm)	螺纹公称 Screw Thread	每次最大吸收能量 Max. Absorbing Energy Per Cycle E(Nm)	小时最大吸收能量 Max. Absorb. Energy/Hour Ec(Nm/hr)	最大有效重量 Max. Effective Mass Me(kg)	最高撞击速度 Max. Impact Speed (m/s)	页次 page
AC-0604	4	M6×0.75	1. 8	6, 480	0.4-4	0.5-2.0	17
AC-0806	6	M8×1.0	2	7,200	0.5-6	0.5-2.0	17
AC-1005	5	M10×1.0	3	10,800	1-7	0.8-3.0	17
AC-1008	8	M10×1.0	4	14,400	2-9	0.8-3.0	17
AC-1210	10	M12×1.0	5	18,000	5-30	0.8-3.0	17
AC-1412	12	M14×1.5	15	36,000	8-100	0.8-3.0	19
AC-1416-C	16	M14×1.5	20	35,000	10-150	0.3-5.0	19
AC-1416	16	M14×1.5	20	40,000	10-150	0.8-3.0	19
AC-1425	25	M14×1.5	25	48,000	12-160	0.8-3.0	19
AC-2020	20	M20×1.5	40	48,000	30-700	1.0-3.5	19
AC-2030	30	M20×1.5	50	54,000	30-700	1.0-3.5	19
AC-2050	50	M20×1.5	60	66,000	60-1,200	1.0-3.5	19
AC-2525	25	M25×1.5	80	60,000	200-1,500	1.0-4.0	21
AC-2540	40	M25×1.5	120	84,000	300-2,000	1.0-4.0	21
AC-2550	50	M25×1.5	98	98,000	15-160	1.0-4.0	21
AC-2580	80	M25×1.5	150	127,500	20-200	1.0-4.0	21
AC-3660	60	M36×1.5	250	125,000	400-2,400	1.0-4.0	21
AC-0806-S	6	M8×1.0	3	7,000	6	0.3-2.5	23
AC-1007-S	7	M10×1.0	6	12,400	12	0.3-3.5	23
AC-1412-SC	12	M14×1.5	20	33,000	35	0.3-5.0	23
AC-1412-S	12	M14×1.5	20	33,000	40	0.3-5.0	23
AC-2015-S	15	M20×1.5	59	38,000	120	0.3-5.0	23
AC-2725-S	25	M27×1.5	147	72,000	120	0.3-5.0	23
ACD-2030	30	M20×1.5	45	54,000	40-900	1.0-3.5	25
ACD-2035	35	M20×1.5	52	62,400	40-650	1.0-3.5	25
ACD-2050	50	M20×1.5	60	150,000	400	4.0	25
ACD-2045-QY	45	M20×1.5	55	137, 500	350	4.0	25
ACD-2050-L	50	M20×1.5	60	150, 000	400	4.0	25

断路器专用缓冲器 Shock Absorber For Cutout Breaker

型号 MODEL	行程 Stroke (mm)	螺纹公称 Screw Thread	每次最大吸收能量 Max. Absorbing Energy Per Cycle	小时最大吸收能量 Max. Absorb. Energy/Hour	最大有效重量 Max. Effective Mass Me(kg)	最高撞击速度 Max. Impact Speed (m/s)	页次 page
AC2009	9	M20×1.5	75	85,000	150	3,0	35
AC3010	10	M30×1.5	98	115,000	180	2,5	35
AC3516	16	M35×1.5	80	90,000	200	3,5	35

阻挡缸缓冲器 Stopper Cylinder shock Absorber

型号 MODEL	行程 Stroke (mm)	螺纹公称 Screw Thread	每次最大吸收能量 Max. Absorbing Energy Per Cycle E(Nm)	小时最大吸收能量 Max. Absorb. Energy/Hour Ec(Nm/hr)	最大有效重量 Max. Effective Mass Me(kg)	最高撞击速度 Max. Impact Speed (m/s)	页次 page
ZC-1408	8	-	16	9,600	25	3.6	37
ZC-2010	10	-	25	15,000	120	3.0	37
FC-2010	10	M20X1.5	25	15,000	120	3.0	37
ZD-1408	8	-	16	12,000	40	4.0	38
ZD-2210	10	-	35	20,000	250	3.5	38

油压缓冲器规格一览表 SPECIFICATION STABLE

AD系列-可调整式油压冲器 AD Series Adjustable Shock Absorber

型号 MODEL	行程 Stroke (mm)	螺纹公称 Screw Thread	每次最大吸收能量 Max. Absorbing Energy Per Cycle E(Nm)	小时最大吸收能量 Max. Absorb. Energy/Hour Ec(Nm/hr)	最大有效重量 Max. Effective Mass Me(kg)	最高撞击速度 Max. Impact Speed (m/s)	页次 page
AD-1410	10	M14X1.5	20	24,000	80	3.2	28
AD-1415	15	M14X1.5	22	26,400	120	3.2	28
AD-2016	16	M20X1.5	25	32,000	200	3.6	28
AD-2025	25	M20X1.5	39	39,000	312	3.6	28
AD-2525	25	M25X1.5	85	51,000	400	3.6	30
AD-2530	30	M25X1.5	95	57,000	480	3.6	30
AD-2540	40	M25X1.5	100	84,000	700	3.6	30
AD-2550	50	M25X1.5	98	98,000	720	4.2	30
AD-2580	80	M25X1.5	150	127,500	800	4.2	30
AD-3625	25	M36X1.5	150	90,000	1,400	3.2	30
AD-3650	50	M36X1.5	300	108,000	1,400	3.2	30
AD-4225	25	M42X1.5	260	130,000	3,000	3.6	31
AD-4250	50	M42X1.5	500	155,000	4,000	4.8	31
AD-4275	75	M42X1.5	750	187,500	6,000	4.8	31
AD-64050	50	UNF21/2-12	12,000	1,560,000	12,727	1.6	32
AD-64100	100	UNF21/2-12	24,000	1,920,000	18,181	1.6	32
AD-64150	150	UNF21/2-12	36,000	2,520,000	23,636	1.6	32

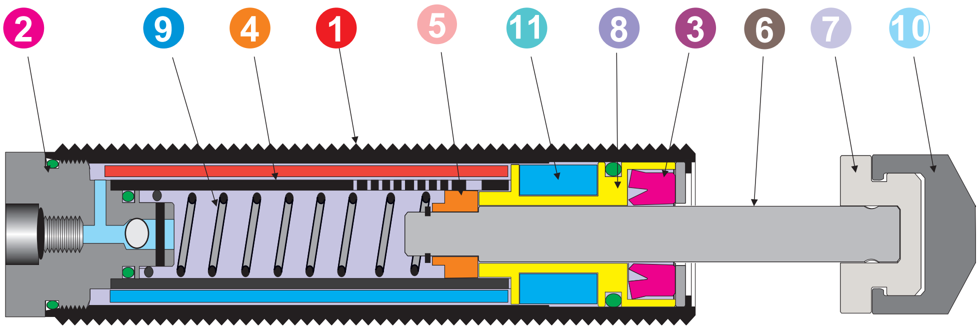
ADH系列-可调整式油压冲器 ADH Series Adjustable Shock Absorber

型号 MODEL	行程 Stroke (mm)	螺纹公称 Screw Thread	每次最大吸收能量 Max. Absorbing Energy Per Cycle E(Nm)	小时最大吸收能量 Max. Absorb. Energy/Hour Ec(Nm/hr)	最大有效重量 Max. Effective Mass Me(kg)	最高撞击速度 Max. Impact Speed (m/s)	页次 page
ADH-4225	25	M42X1.5	380	115,000	3,500	2,5	34
ADH-4250	50	M42X1.5	800	150,000	5,500	2,5	34
ADH-4275	75	M42X1.5	1100	185,000	7,200	2,5	34
ADH-64050	50	M64X2	1900	250,000	13,000	2,0	34
ADH-64100	100	M64X2	2650	310,000	18,000	2,0	34
ADH-64150	150	M64X2	4000	380,000	23,000	2,0	34
ADH-85050	50	M85X2	2350	390,000	37,500	1,8	34
ADH-85100	100	M85X2	4200	665,000	40,500	1,8	34
ADH-85150	150	M85X2	6500	980,000	44,000	1,8	34

HR系列一液压速度控制器 HR Series Hydraulic Speed Controls

型号 MODEL	A	B	最大行程 Maximum Stroke	使用温度 Working Temperature	最大负荷 Maximum Load	页次 page
HR15	157	142	15mm	0-70°C	350kgf	42
HR30	208	178	30mm	0-70°C	350kgf	42
HR60	286	226	60mm	0-70°C	350kgf	42
HR80	342	262	80mm	0-70°C	350kgf	42
HR100	396	296	100mm	0-70°C	350kgf	43
HRT60	286	226	60mm	0-70°C	350kgf	43
HRT100	396	296	10mm	0-70°C	350kgf	43

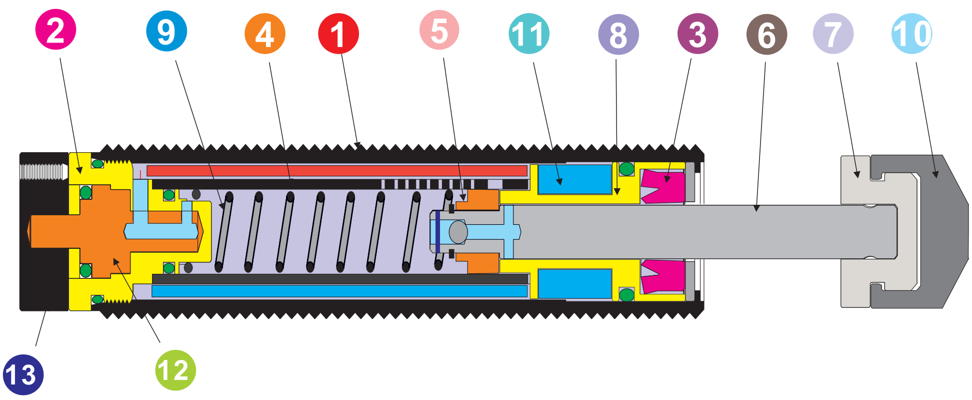
AC系列固定式油压缓冲器内部结构 AC SERIES FIXED TYPE SHOCK ABSORBER STRUCTURE



固定式为不可调整式结构，是通过改变内部溢流孔孔径大小、溢流孔数量及位置来获得不同缓冲特性。根据冲击速度不同可分为高速（−1）、中速（−2）、低速（−3）三种。按溢流孔面积变化方式可分为单孔溢流孔及多孔溢流式二种。

Fixed type is of none adjustable structure. It gets different buffer characteristics through changing internal overflow hole size, quantity and position. According to the different impact speed, it is divided into high speed (－1), medium speed (－2), low speed (－3). According to overflow hole area change, it can be divided into single overflow hole, multiple overflow holes

AD系列调整式油压缓冲器内部结构 AD SERIES ADJUSTABLE TYPE SHOCK ABSORBER STRUCTURE



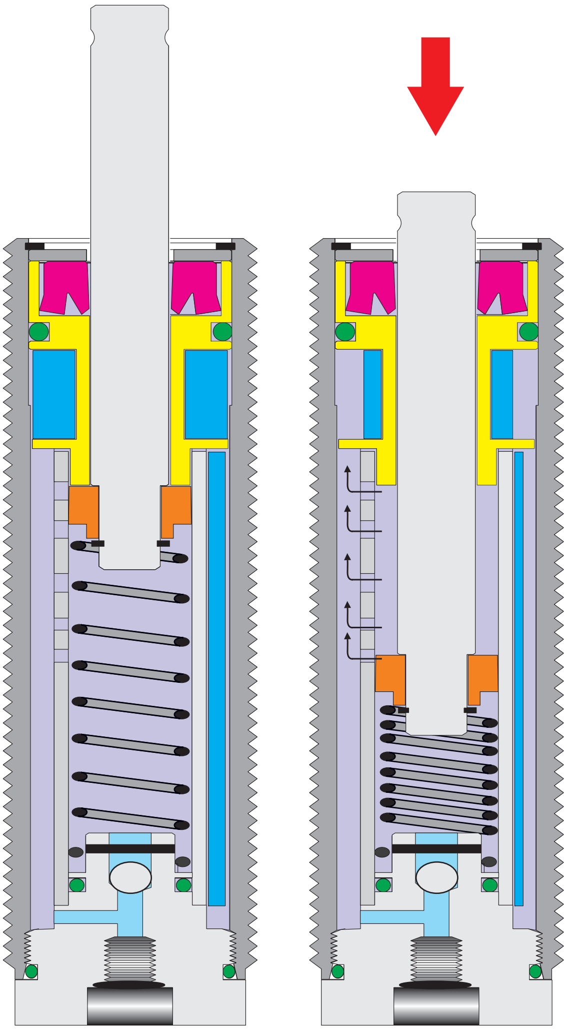
通过转动调整旋钮来改变产品内部液压油排量，从而达到调整缓冲器的吸收特性。一般调整范围为0−8刻度范围，冲击力从“0”至“8”刻度逐步增大。当产品结构为单孔溢流时，其冲击力调整变化最大。当结构为多孔溢流孔时，从“0”至“8”其冲击力变化较小。

Through rotating the adjustable rotary button, it changes internal hydraulic oil displacement. It thus adjusts the buffer absorption characteristics. Common adjustable range: 0−8 scale range. Impact force gradually increases from “0” to “8” When the product structure is of single hole overflow, it gets maximum adjustable change of impact force. When the structure is of multi−hole overflow, it has small impact force change from “0” to “8”.

1 外压缸 OUT TUBE	6 活塞杆 OPISTON ROD	11 蓄压海绵 ACCUMULATOR
2 后盖 END COVER	7 撞击头 HEAD	12 流量调整栓 ADJUSTMENT BLOT
3 油封 ROD COVER	8 轴承 BEARING	13 流量调整旋钮 ADJUSTMENT KNOB
4 内压缸 INNER TUBE	9 弹簧 SPRING	
5 活塞 PISTON	10 消音套 CAP	

所有的PRTA油压缓冲器皆可由下图来说明其缓冲原理。当受到撞击时，活塞杆往内移，迫使液压油通过油孔流入蓄压器内，因而产生抵制力。经由设计及试验过的油孔大小及排列，在整个撞击的过程中，内压缸内的压力始终保持一定，如此便产生一固定大小之缓冲力，也就是所谓的线性减速。经由此线性减速过程，PRTA油压缓冲器能将运动工作件平稳且安静地以最小的力量将运动件停止下来。在冲击行程结束时，复归弹簧将活塞杆推回起始位置，以等待下一次冲击。

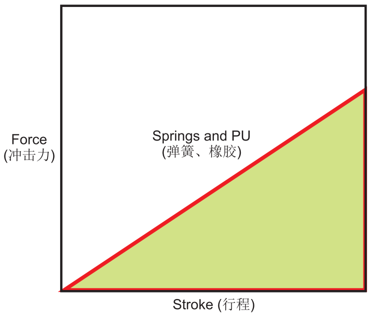
We describe the operation principle of all PRTA shock absorbers through below diagram. After being knocked, piston rod moves inward. It forces hydraulic oil to pour into pressure accumulator through oil hole. It thus produces resistance. After size arrangement of the designed and experimented oil holes, in the whole knocking process, pressure of internal cylinder keeps constant. It thus produces a fixed buffering power, i.e. so-called linear deceleration. Through the linear deceleration process, PRTA shock absorber smoothly and peacefully stops the moving part by minimum force. After the completion of impact stroke, resetting spring pushes the piston rod to the starting position and wait for the next impact.

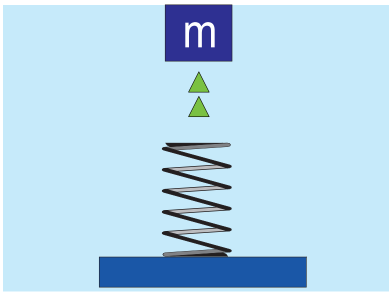


油压缓冲器缓冲效果 BUFFERING EFFECT

所有运动物体都具有动能，能量大小取决于运动物体的重量及速度。让一个运动物体停下来，必须安装一个能够直接对物体产生反作用力的装置：如弹簧，橡胶，空气暂存器或阻尼器，这些虽然价格便宜，但都存在一个致命缺点，即当受到外力冲击时都会产生反弹。油压缓冲器采用液压原理，液压油通过特殊设计节流口被挤出生产热量，热量通过金属传递散发至空气中，实现动能转化为热能。关于油压缓冲器与弹簧、橡胶及空气暂存器等缓冲效果，可从从以下图示进行说明：
All moving objects have kinetic energy. Energy amount is decided by the weight and speed of moving object. If you want to stop a moving object, you shall install a device such as spring, rubber, air register or damper etc. that produces counter-acting force to the object. Though these things are cheap, they have a vital problem, i.e. it rebounds at any outer impact. shock absorber applies hydraulic principle. Hydraulic oil has been extruded the production heat through a specially designed choke. Heat is emitted to the air through metal transfer. Therefore kinetic energy is converted into heat energy.Regarding buffer effects of shock absorber, spring, rubber, air register etc., it will be described in the following diagrams.

弹簧或橡胶 SPRING OR RUBBER

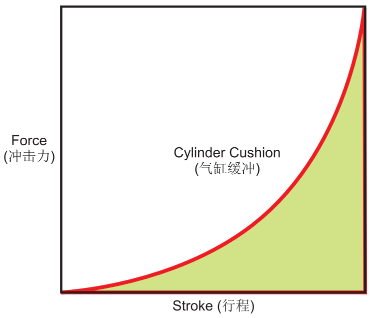


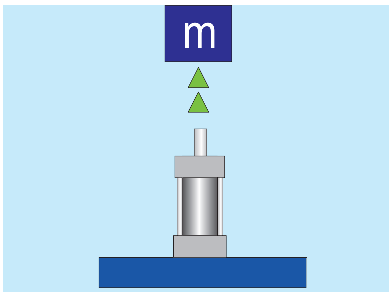


Springs and PU (弹簧、橡胶)

由于运动物体能量无法被吸收而被暂时储存，随着行程增加，反作用力也逐渐增强，至行程末端反作用力达到最高峰，最终不可避免的产生极大反弹，造成机械损坏。
As kinetic energy of moving object can not be absorbed, it has been stored temporarily, therefore following the increase of the stroke, counter-acting force is getting stronger and stronger. It reaches an summit when it comes to the stroke end. It finally and inevitably rebounds and causes the mechanical damage.

空气暂存器 AIR REGISTER

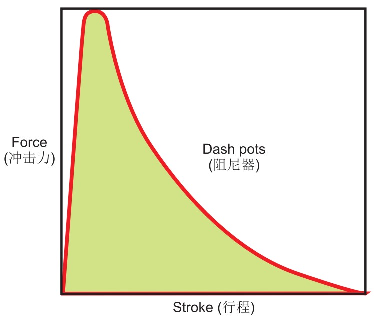


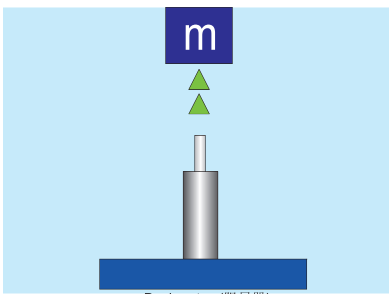


Cylinder Cushion (气缸缓冲)

在运动物体行程初期以最低呈线性持续，产生较低能量储存，在接近行程末端时，反作用力成倍增加，最终不可避免的产生极大反弹，造成机械损坏。
It gives continuous linear display in the early stage of the moving object. It produces low energy storage. When the stroke goes to an end, counter-acting force gets doubled increase. It finally and inevitably rebounds and causes the mechanical damage.

阻尼器 DAMPER

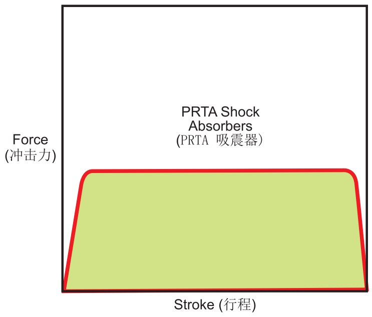


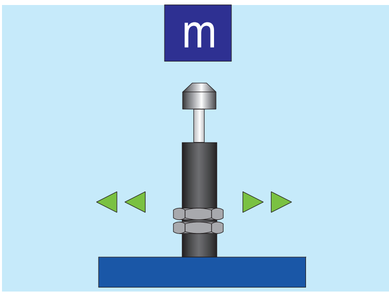


Dash pots (阻尼器)

在行程初期会以高峰反作用力使运动物体瞬间停下，造成机械震动，然后再慢慢掌滑行到行程末端
In the early stage of moving object stroke, it instantly stops the moving object by peak counter-acting force. It causes the mechanical shock. It then slowly slides to the stroke end.

油压缓冲器 SHOCK ABSORBER





PRTA Shock Absorbers (PRTA 吸震器)

PRTA油压缓冲器能在最短时间内将运动物体能量吸收，并转化为热能散发至空气中，使物体在整个行程中呈现线性减速，最终顺滑平稳停下
PRTA shock absorber can absorb the kinetic object energy as soon as possible. It converts to heat energy and sends out to the air. Therefore the object shows linear deceleration in the whole stroke. It finally and smoothly slides and stops.

油压缓冲器的功能 The functions of shock absorber

1.提高生产效率：由于油压缓冲器能使冲击物平稳停止下来，因此，机器设备可在高频及高速下作业，大大提高生产效率。
It enhances the productivity: As shock absorber can smoothly stop the impaction, therefore it greatly enhances the production efficiency of the machine and equipment in HF and high speed operation.

2.延长机械寿命：由于缓冲器能将冲击物能量吸收，使用缓冲器可大大减小运动物体对机器所造成的冲击和震动，避免机械因冲击震动造成的损坏。降低维修成本，延长机器使用寿命，减少售后服务。
It prolongs the mechanical life: As the buffer absorbs the impaction energy, it greatly reduces the impact and shock of kinetic object to the machine. It avoids the mechanical damage due to any impact / shock. It reduces the repair cost, prolongs the service life of the machine, brings about less after sale services.

3.提高产品质量：由于缓冲器消除了冲击物所造成的震动噪音及破坏性冲击，机器设备平稳运行，产品质量自然会得到提高。
It enhances the product quality: As the buffer removes the shocking noise and destructive impact by the impaction, it brings about the smooth machine / equipment operation. Therefore it naturally enhances the product quality.

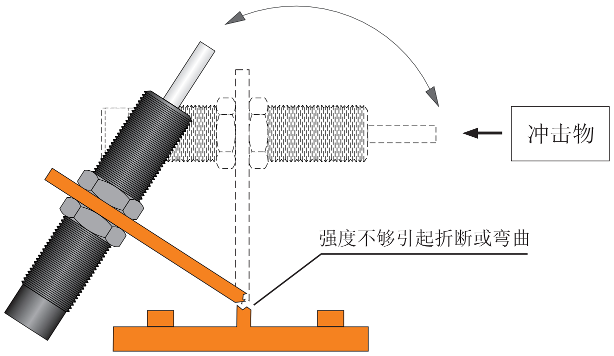
4.大幅减小噪音，提供安静工作环境。
It greatly reduces the noise, offers a peaceful operating environment.

5.提高机械运转的安全性。
It enhances the safety of mechanical operation.

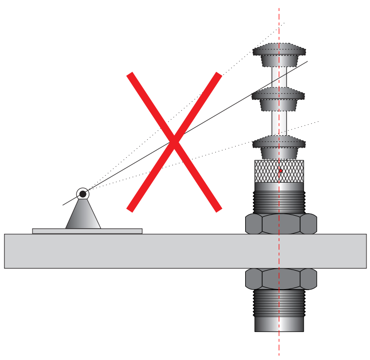
油压缓冲器运用范围：Application range of shock absorber

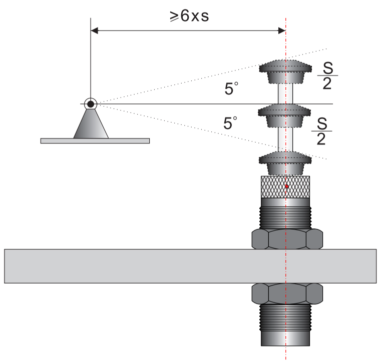
1.机械手、取出臂、送料设备、网印机、移印机、输送机、运搬机械、电子机械。
Mechanical arm, take-out arm, feeding equipment, screen printer, pad printer, conveyor, carrying machinery, electronic machinery
2.实验室、教学设备、工作母机、食品包装机械、橡塑胶机械。
Laboratory, teaching equipment, machine tool, food packaging machinery, rubber and plastic machinery
3.汽机车制造业、木工、建筑机械、航空交通机械。
Car and locomotive manufacture industry, carpentry, construction machinery, aviation and traffic machinery
4.国防军事、医疗设备、医疗卫生设备、环保设备。
Civil defense military, medical treatment equipment, medi-care sanitation and hygiene equipment, environment protection equipment

1、载体强度确认 Carrier strength confirmation
在使用前需确认载体强度，载体强度不充分状态下运作会导致机械破坏。
Before use, please firstly confirm the carrier strength. Under the conditions of insufficient carrier strength, it will cause the mechanical damage.

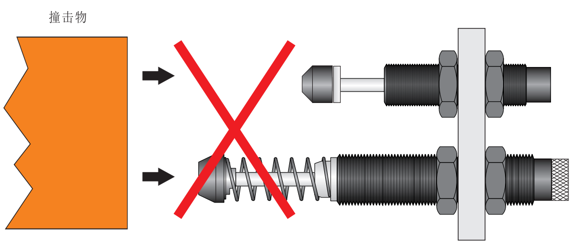


2、注意偏心及偏心角度 Please pay attention to eccentric and eccentric angle
负荷在超过+/−2.5度以上运作，会使活塞路线弯曲，导致活塞与内压缸壁产生单边摩擦，长期运行会使油压缓冲器性能下降或功能失效，最终会导致机器损坏。在安装时，冲击物对准轴的中心放置，要使运动方向和活塞运动方向一致。
为了防止缓冲器增加侧向负荷，缓冲器的安装位置距旋转支点的距离应等于或大于缓冲行程的6倍。
当侧向负荷与缓冲器中心线成5度角时吸收能量最大。在旋转负荷安装中，请不要使用消音帽。
When the load operates exceeding +/−2.5°, it bends the piston line, and the piston has one−side friction with internal cylinder wall. Long−time operation decreases the properties or losses the functions of shock absorber. It finally damages the machine. In installation, target the impaction object to central axle position, and direction of motion coincides with the piston movement direction.
In order to prevent the buffer from increasing the side load, distance between buffer installation position and rotary pivot shall ⩾ 6 times of buffer stroke.
When side load forms 5° angle with the buffer center line, it gets maximum absorbed energy. In installing the rotary load, please do not use the silencing cap.

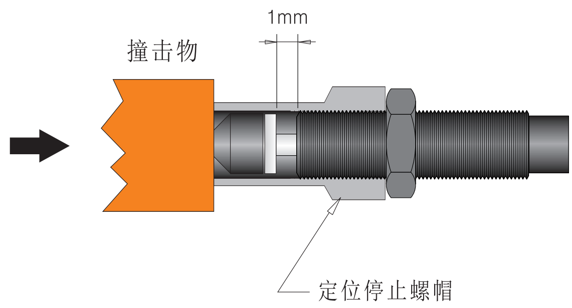




3、2支或2支以上产品并列使用时，必须用同一型号产品，使它们受到的压力均等，调整型产品在并列使用时，由于吸收特性的调整有一定的困难，所以在使用时要慎重考虑。
When 2PCS or 2PCS more products are of parallel use, same model of the product shall be used then. Therefore they get even pressure. When the adjustable products are of parallel use, as it is difficult in adjusting the absorption characteristics, therefore cautious use is strongly recommended!



4、油压缓冲器本身不是作为安全装置使用，应把外部安全装置调整在行程前1mm处。（如用定位螺帽）。
shock absorber can not be used as safety device. External safety device shall be adjusted 1mm before the stroke. (If use positioning nut)



5、不得私自拆卸或分解缓冲器，如组装不当，会导致扣环脱落或后盖掉落，内部零件飞出而导致事故。使用扣环结构缓冲器在运作过程中，不要将脸部接近缓冲器前端，避免扣环脱落零件飞出造成危险。
It is strictly forbidden to disassemble or separate the buffer by your own. Improper assembly will cause the retaining ring or rear cover to fall down. Internal parts might fly off and cause accident. In the operation process of retaining ring structure buffer, do not close your face to the buffer front. Otherwise retaining ring might fall down, or the part flies off. It is very dangerous to you.

6、严禁对轴心敲打、碰撞，易导致轴心弯曲，轴心表面不要附有污水、污油，轴心必须在干净环境下运作。否则会增加产品泄漏机率，降低产品使用寿命。
It is strictly forbidden to knock, collide the axle center. It easily causes bent axle center. Axle center surface can not have sewage, dirt, grease. Axle center shall be operated in a clean environment. Otherwise it might increase the product leakage possibilities, reduces the products' service life.

7、严禁在管牙及轴心处喷漆，否则会影响散热效果及发生漏油。
It is strictly forbidden to paint the taper pipe threads, axle center. Otherwise it will badly affect heat dissipation effects and cause oil leakage.

8、严禁焚烧：由于产品内为液压油，放入火中焚烧后会导致火灾或引发事故。
It is strictly forbidden to burn the product. As the product has hydraulic oil inside, burning the product will cause fire disaster or dangerous accident.

9、严禁在真空、高压环境下使用，否则会损坏机器。
It is strictly forbidden to use the product in vacuum, high pressure environment. Otherwise it will damage the machine.

AD系列缓冲器使用及注意事项 ATTENTION TO AD SERIES BUFFER

1.在使用时，先将调整旋钮刻度设置“4”，观察撞击效果后再调整到最适当的位置。（调整方法：如在“4”刻度行程终点留有“砰”的响声，则说明产品阻尼力太小，需往上调整。如在刚接触瞬间发生较大响声，说明阻尼力太大，应往下调整。）
In use, firstly adjust rotary button scale and set “4”, after observing the knocking effect, then adjust the most proper position. (Adjusting method: If “4” scale stroke end has “BANG” sound, it shows that the product damping force is far from enough. Therefore it adjusts upward. If in contact, it instantly gives a big sound, it shows that the damping force is too big. It shall be adjusted downward.)

2.在调整时需一步一步增大或减小，切勿跳跃式调整。在调整至适当位置时需用定位螺帽锁紧，防止在工作时因震动而松动。
Be sure to make step-by-step adjustment, it is strictly forbidden to make skipped adjustment!
When it adjusts the proper position, it shall be locked by positioning nut. It thus prevents from loose product in operation due to any shakes.