



**AOVITE**

浙江奥威特液压机械有限公司  
Zhejiang Aovite Hydraulic Machinery Co., Ltd.



**DRIVE & CONTROL**

传动与控制



## WHL 分动箱系列

WHL-A100 分动箱

WHL系列分动箱采用行星式的齿轮进行传动，主轴连接发动机带动行星齿轮，再由行星齿轮带动转向泵和举升泵工作。主要应用于工程机械领域，如矿山机械、摊铺机、起重机等等。

WHLseries adopts planetary gear struction . The shaft is connected with the engine to drive the planetary drive gear, and then the planetary driven gear drives the hydraulic pump to work. It widely be used in the field of construction machinery, such as mining machines , pavers, cranes and so on.

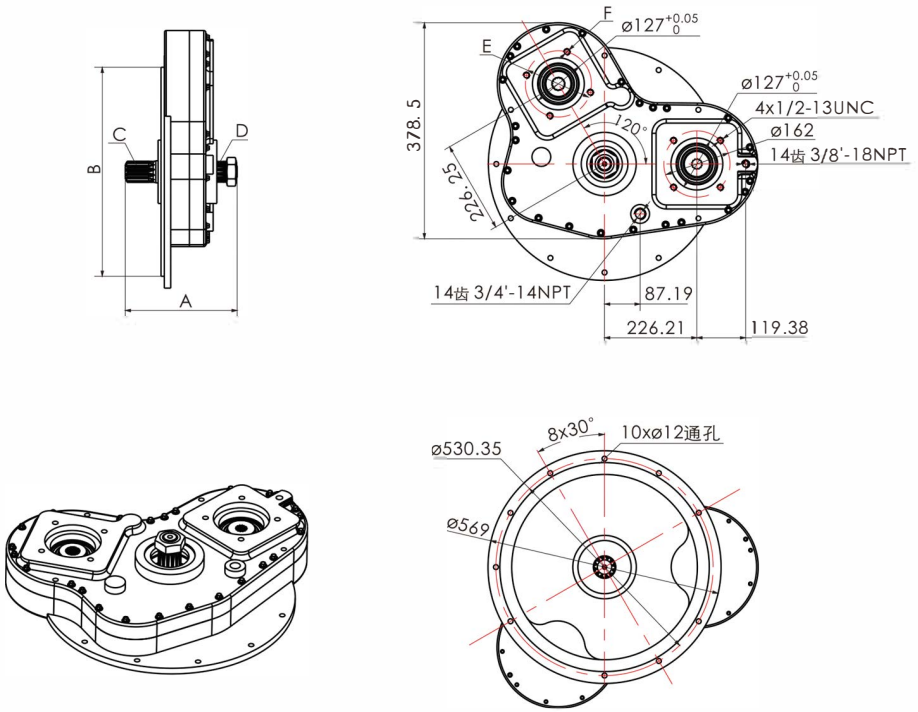
### 产品的特征和优点

- ① 箱体采用树脂型砂精密铸造
- ② 整体强度高、刚性好
- ③ 齿轮采用特殊设计技术并经渗碳淬火磨削加工，精度高于DIN6级。
- ④ 产品噪音低、振动低、承载高、寿命长

### Features and advantages

- The box body adopts resin molding sand precision casting
- High overall strength and good rigidity
- The gear adopts special training design technology andis carburized, quenched and grinded, with a precision higher than DIN6
- The product has low noise, low vibration, high bearing capacity and long service life

WHL系列安装尺寸图



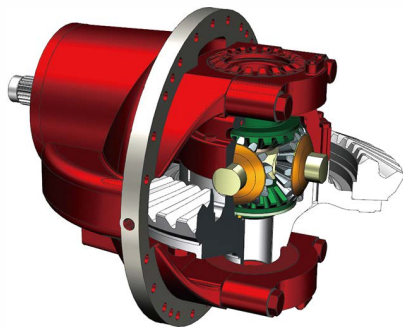
尺寸参数

单位: mm

型 号	A	B	C				D				E	F
			齿数	模数	齿根	压力角	齿数	模数	锥齿根	压力角		
WHL-A35(细齿)	273.05	ø510	33	1.5875	圆	45°	15	3.175	1:8	30°	ø180.9	2x5/8-11UNC
WHL-A35(粗齿)	273.05	ø510	12	3.908	平	30°	15	3.175	1:8	30°	ø180.9	2x5/8-11UNC
WHL-A37(细齿)	273.05	ø510	33	1.5875	圆	45°	15	3.175	1:8	30°	ø180.9	2x5/8-11UNC
WHL-A37(粗齿)	273.05	ø510	12	3.908	平	30°	15	3.175	1:8	30°	ø180.9	2x5/8-11UNC
WHL-A50	273.05	ø510	12	3.908	平	30°	15	3.175	1:8	30°	ø180.9	2x5/8-11UNC
WHL-A60	273.05	ø510	12	3.908	平	30°	15	3.175	1:8	30°	ø180.9	2x5/8-11UNC
WHL-A100	333.756	ø510	33	1.5875	平	45°	15	3.175	1:8	30°	ø162	4x1/2-13UNC
WHL-A100(新型)	333.756	ø510	39	1.5875	圆	45°	19	3.175	1:8	30°	ø162	4x1/2-13UNC



WDF35差速器

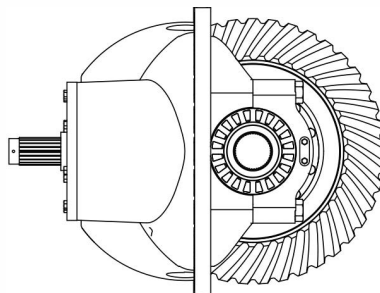
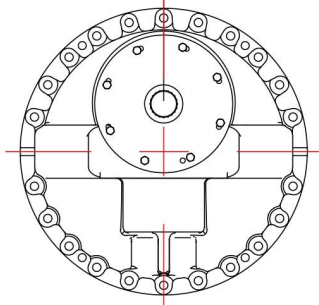
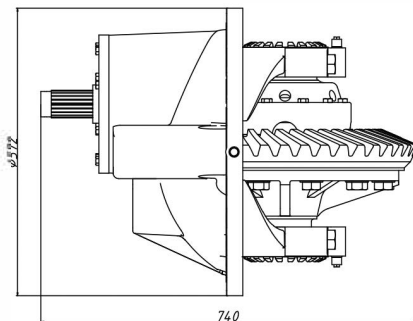
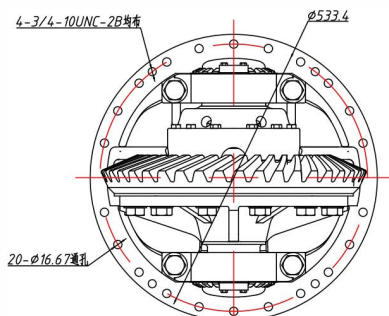


差速比2.5:1

Differential ratio:2.5:1

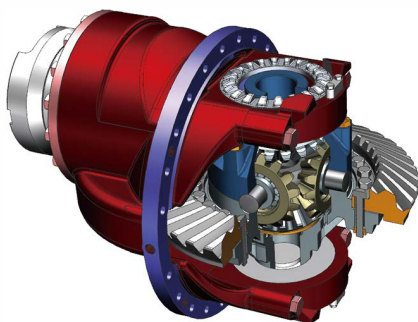
旋转方向: 顺时针

Rotation: CW





WDF100差速器

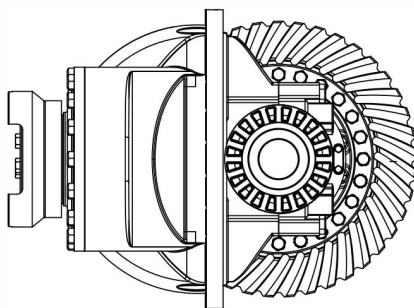
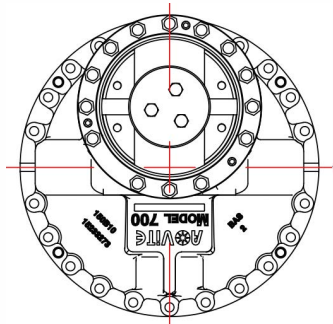
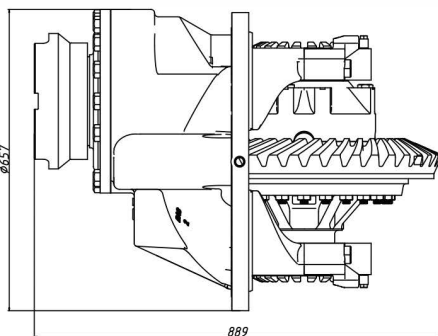
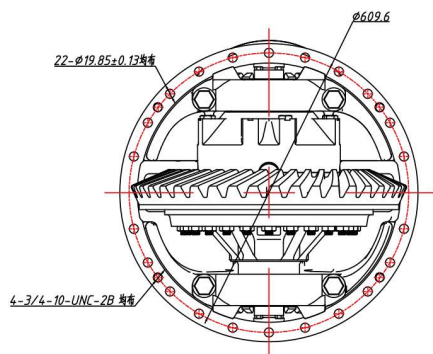


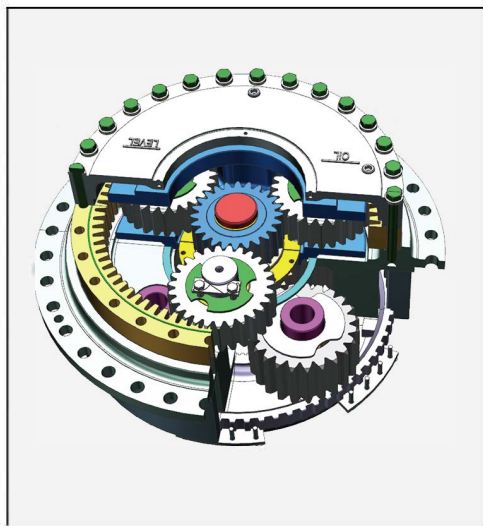
差速比2.16:1

Diferential ratio:2.5:1

旋转方向：顺时针

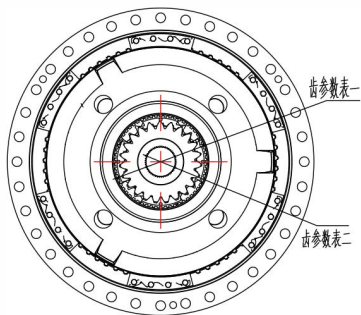
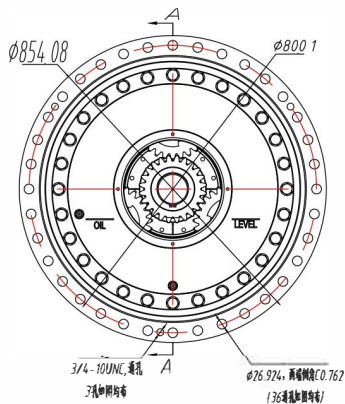
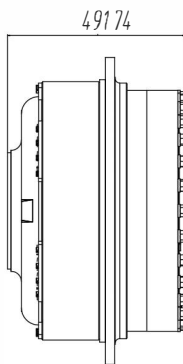
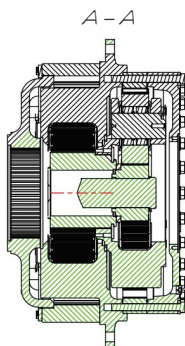
Rotation: CW





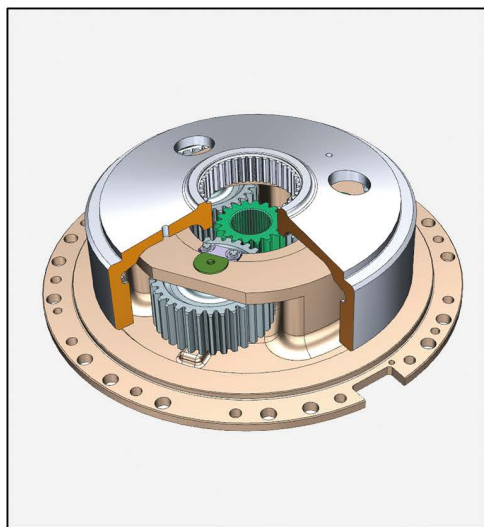
## WPGR-100轮边减速器

齿参数表一		齿参数表二	
最小成型直径	258.7498	齿数Z	52
节径 (参考)	254	公称径节	16/32
大径	259.8166	节圆	82.55
小径	249.8471	基圆直径	71.49084
径节	6/12	压力角	30°
齿数	60	成形直径	84.3026
压力角	30°	最小有效弧齿厚	2.3368
基圆直径 (参数)	220.0402	最大弧齿厚	2.49428
齿形	平齿根侧配合-特殊	最大跨测距	78.81112
齿台半轴		量销直径	2.7432



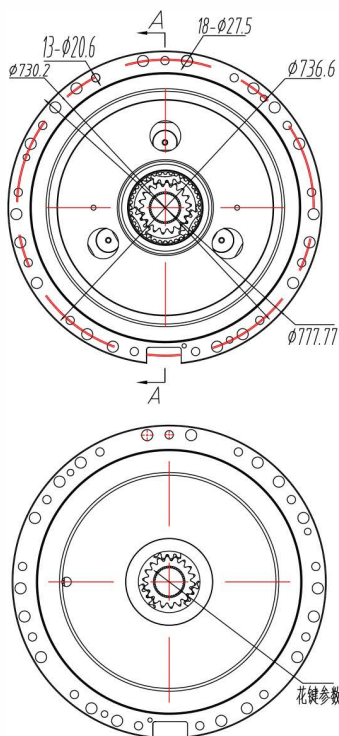
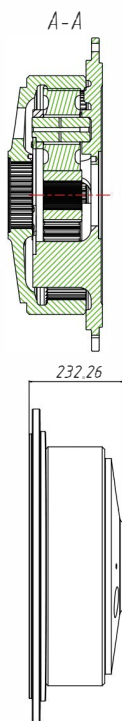


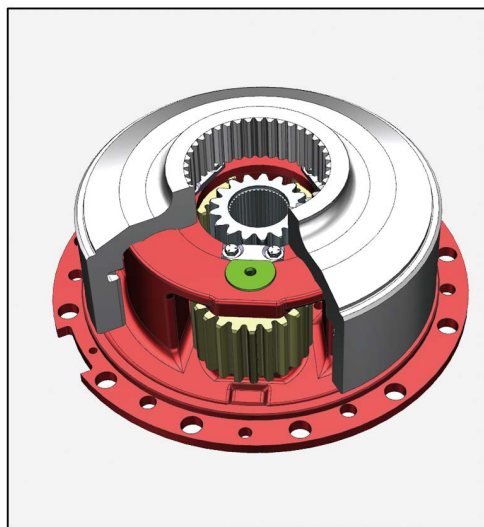
## WPGR-50轮边减速器



### 内花键基本参数

齿数	$z$	45
压力角	$\alpha$	$30^\circ$
模数	$M_n$	1.5875/0.79375
径节	$DP$	16/32
基圆直径	$d_b$	$\phi 61.867$
配合齿轮件号 ZJ-AWT-923999/9240003		

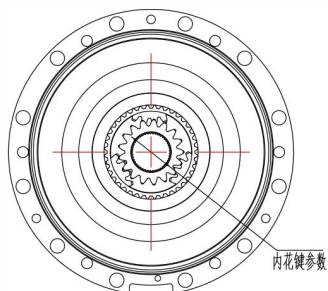
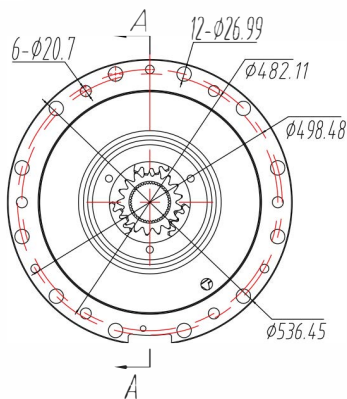
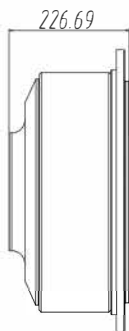
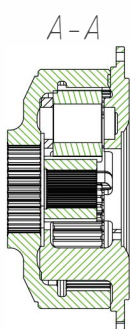




## WPGR-35轮边减速器

### 内花键基本参数

齿数	$z$	45
压力角	$\alpha$	$30^\circ$
模数	$M_n$	1.5875/0.79375
径节	$DP$	16/32
基圆直径	$d_b$	$\phi 61.867$
配合齿轮件号 ZJ-AWT-923999/9240003		







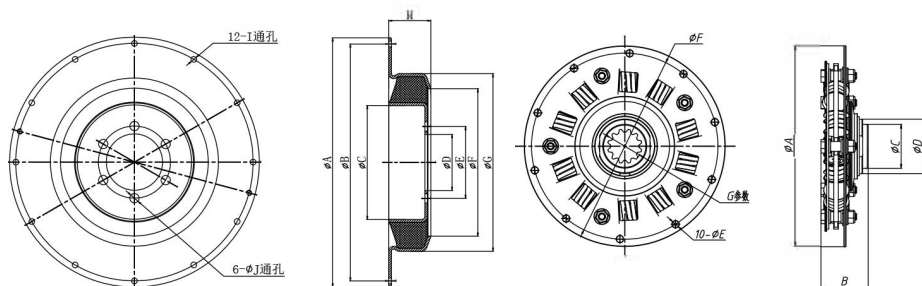
## WCO系列

### 产品的特征和优点:

WCO联轴器可以延长传动系统部件的使用寿命，因为它们可以降低载荷的大小，衰减多个平面的振动，适应多个平面的失调，并作为屏障来阻挡齿轮啮合、离合器啮合等产生的噪音。

### Features and advantages :

WCO couplings prolong driveline component life because they reduce the magnitude of imposed loads, attenuate vibration in multiple planes, accommodate misalignments in multiple planes, and act as barriers impeding noise created by meshing gears, engaging clutches, etc.



### WCO系列

型号	A	B	C	D	E	F	G	H	I	J
WCO-450	450.8246	428.625	206.38	101.625	130.175	266.9	321.5	76.2	10.55	16.6
WCO-304	304.8	71.58	66.675	82.55	10.5	282.58	G 齿参数			
							齿数	压力角	模数	大径 小径
							12	30°	3.908/6.5	50.927 40.386



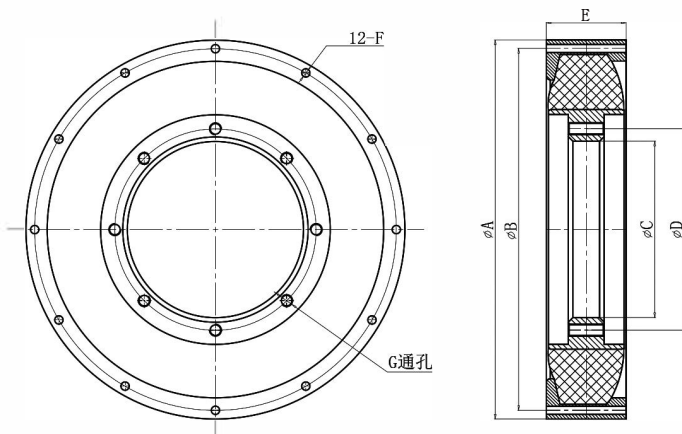
## WCP系列

产品的特征和优点:

WCP系列联轴减震器适用于广泛的驱动应用，从非公路传动系统到船舶柴油机组的驱动连接，这些联轴器的软扭刚性使其成为柴油和组应用的理想选择。

Features and advantages :

WCP Series Couplings are useful for a wide range of rotary drive applications, from off-highway truck drivelines to Drive connection of marine diesel engine set. The soft torsional stiffness of these couplings makes them ideally suited for diesel applications with remotely mounted driven components. Typical applications include,



WCP系列

型号	A	B	C	D	E	F	G
WCP-394	394.1	371.475	152.4	177.8	76.2	φ15.875 9.7 φ10.3通孔	6-1/2-13牙
WCP-482	482.6	460.38	224	292.5	101.6	φ10.5通孔	8-5/8-11UNC
WCP-571	571.47	542.925	254	292.1	108.077	φ16.891通孔	16-5/8-11UNC



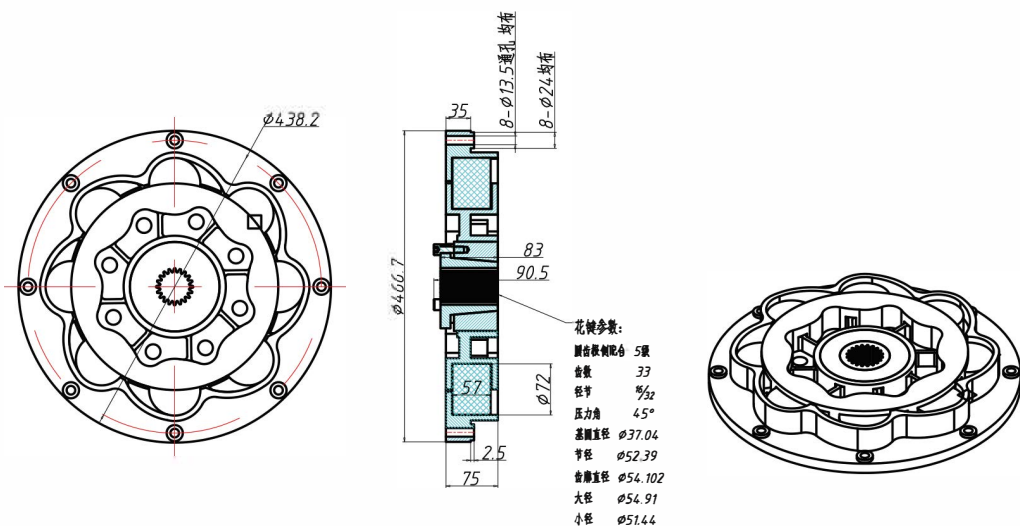
## WCF

产品的特征和优点:

WCF联轴器开发用于克服许多扭转问题与车辆和工业动力传动系统相关系统。这些减震器可延长设备寿命通过防止扭转振动，冲击和错位。

Features and advantages :

WCF have been developed to overcome numerous torsional problems associated with vehicular and industrial driveline systems. These Dampers increase equipment life by protecting against torsional vibration, shock and misalignment.





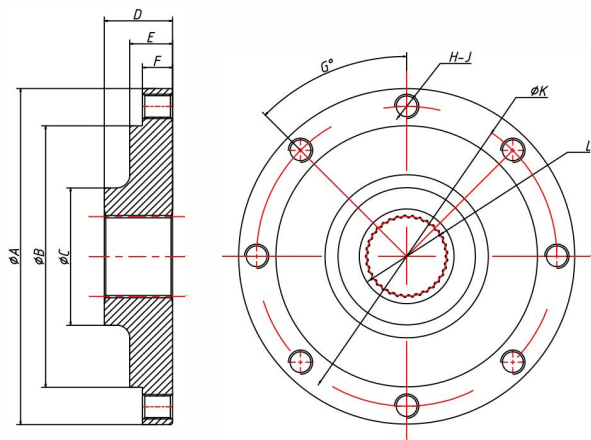
## WFL系列

产品的特征和优点:

WFL系列是根据WCO、WCF、WCP系列联轴减震器而设计的专用法兰盘。同时,我方接受客户的定制设计。标准号:GB/T9112-2000;ANSI B16.5; DIN2543-2573.

Features and advantages :

WFL series is a special flange designed according to WCO, WCF, WCP series coupling. Meanwhile, we accept customized design. Standard No. : GB/T9112-2000;ANSI B16.5; DIN2543-2573.



项目	参数一	参数二
数量	33	39
模数	158.75	158.75/0.19375
螺牙	16/32	16/32
螺距	φ52.387	φ52.387
总长度	65	65
分度圆直径	φ52.3875	φ61.9125
大径	φ54.915	φ64.4552
小径	φ51.435	φ61.087
键槽宽	φ54.102	
总宽	φ37.04	
圆筒壁厚	φ304.8	φ304.8
圆筒最大厚度	φ47.8383	φ57.379
圆筒厚度		

名称	φA	φB	φC	D	E	F	G	H-J	K	K
CFL35	φ171.7		φ101.6	48.514		22.35	60°	8-5/8-11英寸	φ130.175	详见附录表一
CFL45	φ220.3	φ171.45	φ90	44.4	27.9	22.35	45°	8-5/8-11	φ196.85	详见附录表一
CFL50	φ202.793	φ152.273	φ101.6	53.84	22.352	12.7	60°	6-φ13.5	φ177.8	详见附录表一
CFL100	φ326.91	φ253.925	φ111.22	63.5	28.05	16.87	45°	8-φ16.662	φ292.1	详见附录表二

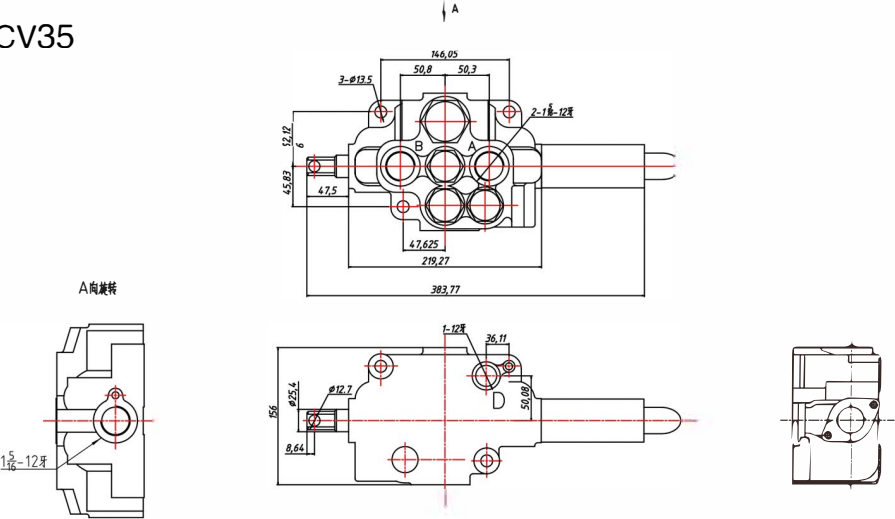


WHV 系列液压控制阀是用于控制液压油缸的“下落”、“浮动”、“保持”、“举升”功能，此款液压阀可有多种控制方式可选择：机械控制，液控，电控，可满足不同工况下的控制需求。

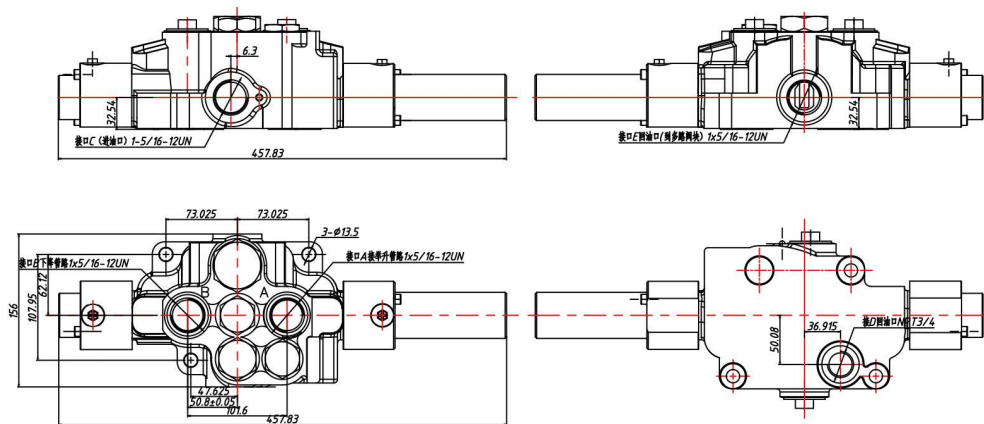
WHV series hydraulic control valve is used to control the hydraulic cylinder of "falling", "floating", "holding", "lifting" function, This hydraulic valve can be controlled in various ways: mechanical control, hydraulic control and electric control, which can meet the control requirements under different working conditions.

	公称压力(Mpa)	公称流量(L/min)	卸荷阀调整范围(Mpa)	液压油（MLP）	控制方式
WCV35	25	250	10~25	符合DIN51524标准矿物质油	机械控制
WCV50	25	250	10~25	符合DIN51524标准矿物质油	液控
WCV100	25	350	10~25	符合DIN51524标准矿物质油	液控、电控

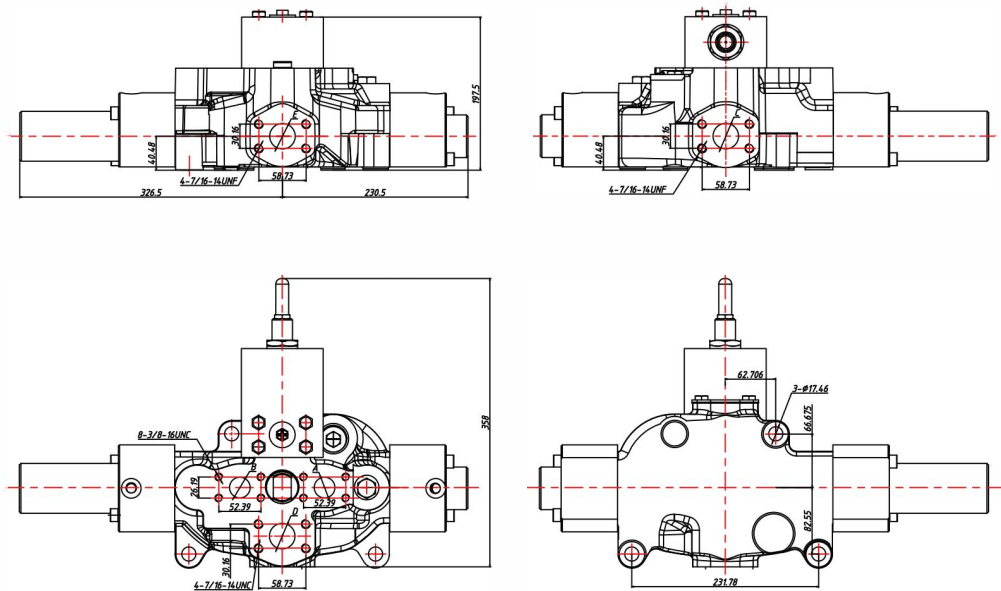
WCV35



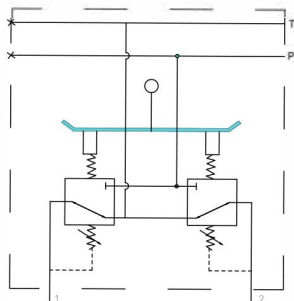
## WCV50



## WCV100

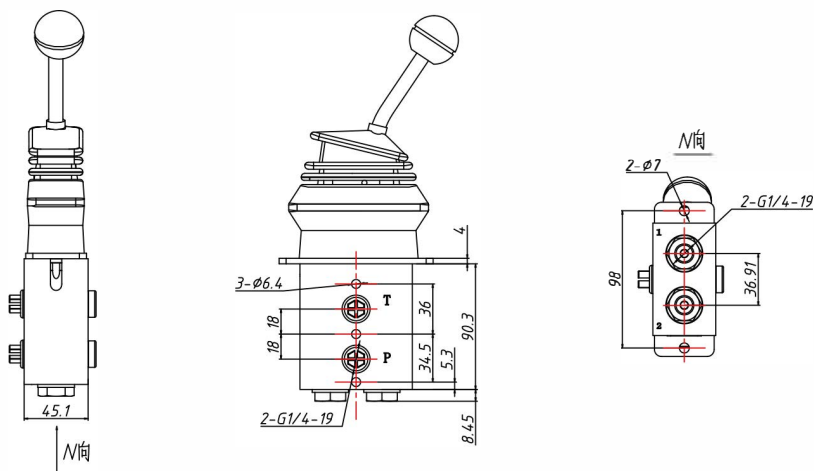


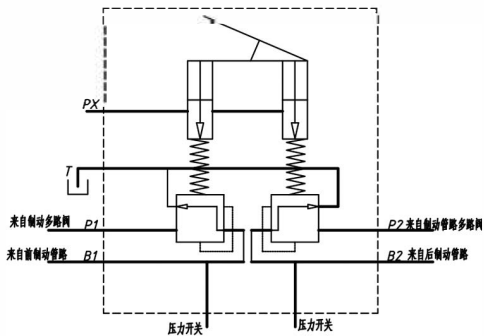




举升控制手柄是举升液压系统的控制元件，往往安装在驾驶室内，操纵人员可以很方便的通过切换各个档位来实现“下落”、“浮动”、“保持”、“举升”四个动作。

The hydraulic remote control valve is the control component of the lifting hydraulic system, which is usually installed in cab. The operator can easily switch various gears to realize four actions of "falling", "floating", "holding" and "lifting".

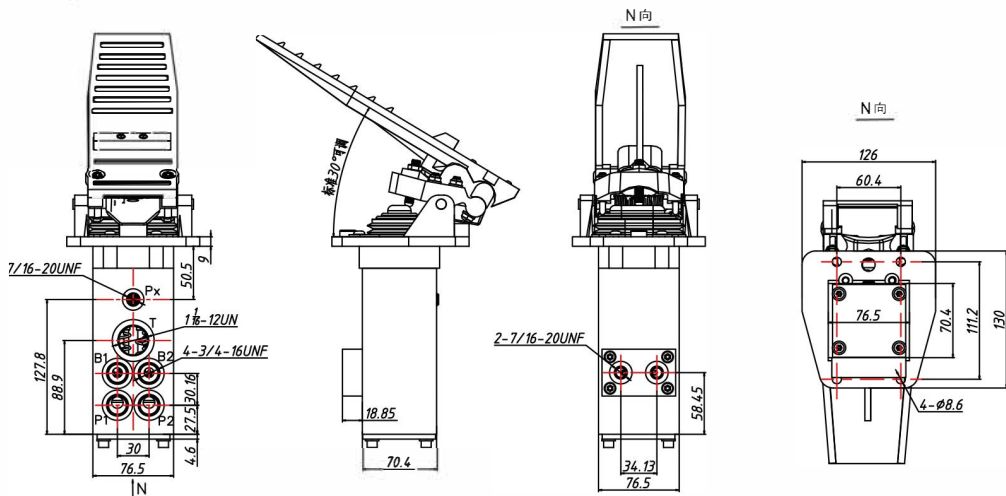


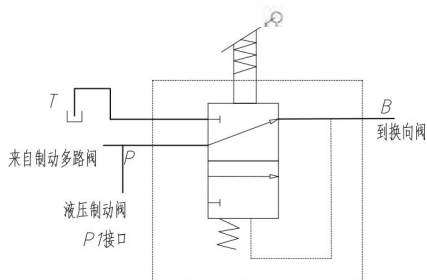


WVT-16 液压制动阀是根据目前主流市场研发的, 往往配合盘式制动器来实现制动功能。主要有以下优点: 1. 响应速度快, 2. 制动平稳, 提高驾驶舒适性。3. 可匹配传感器, 实现电液控制。4. 设有紧急制动, 当液压制动系统失效时, 依旧能实施制动功能。

WVT-16 hydraulic brake valve is developed according to the current mainstream market , it is often used with disc brakes to achieve the braking function.It has the following advantages:

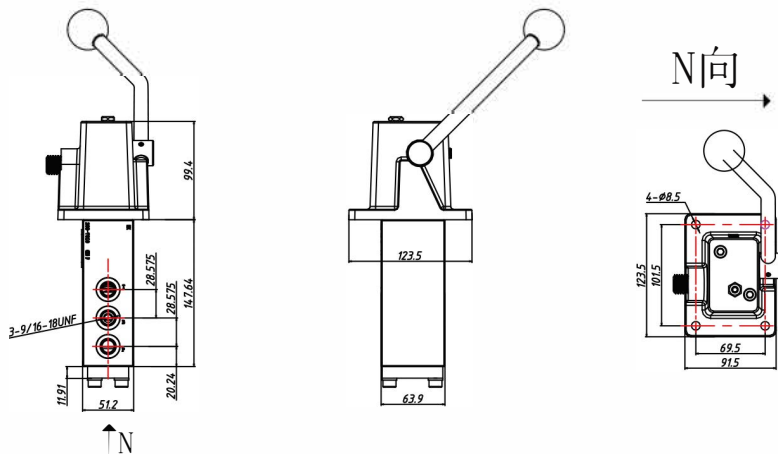
1. Fast response .
2. Smooth braking to improve driving comfort.
3. The sensor can be matched to realize the electro hydraulic control.
4. Emergency braking is provided. The braking function can still be implemented when the hydraulic braking system fails.





缓行控制阀为中位关闭控制阀，用于当车辆下坡时实施持续的作用力使车辆以安全稳定的速度进行。当缓行器手柄拉向后方时，使原来停留在供油口的压力油供到换向阀。当手柄推向前方时，切断油路，压力油回油箱，缓行控制阀与盘式制动器进行联合工作，从而保证在泥泞路面以及下坡时具有稳定而强有力的通过性，降低整个液压制动系统的损耗来延长使用寿命。

The retarder valve is a median shutoff valve, when the truck is going downhill, a continuous force is applied to make the truck move at a safe and stable speed. When the retarder handle is pulled backward, the pressure oil that originally stayed at the supply port is supplied to the reversing valve, when the retarder handle is pushed forward, cut off the oil circuit, the pressure oil returns to the tank, the retarder valve always work with the disc brake to ensure the vehicle in muddy roads and downhill has a stable and strong trafficability, reduces the entire hydraulic brake system loss to prolong the service life.



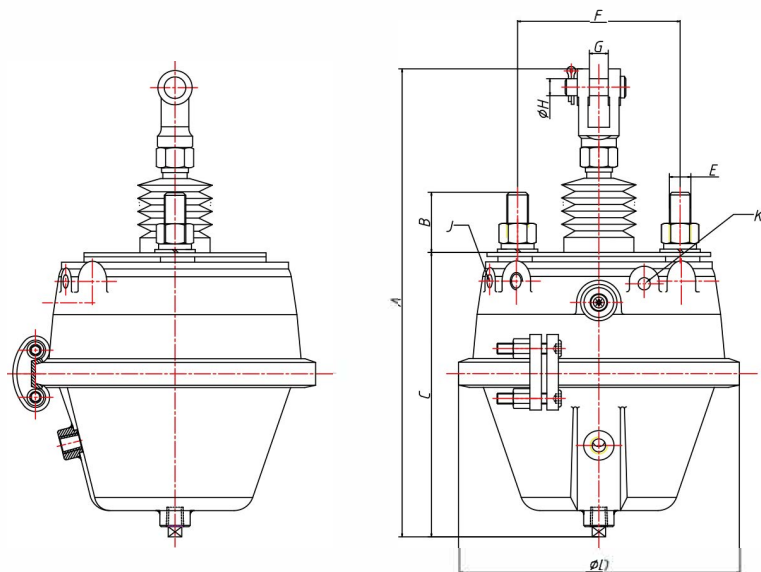
## WAC制动分泵系列

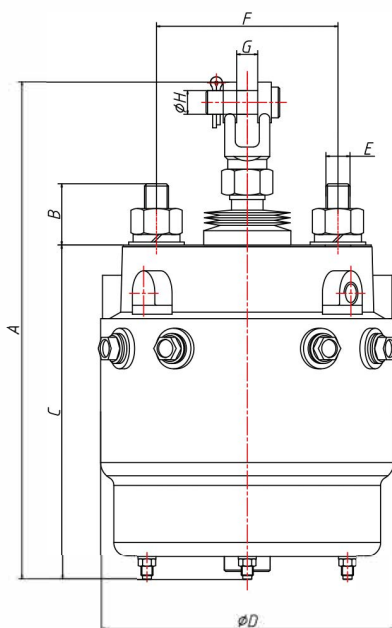
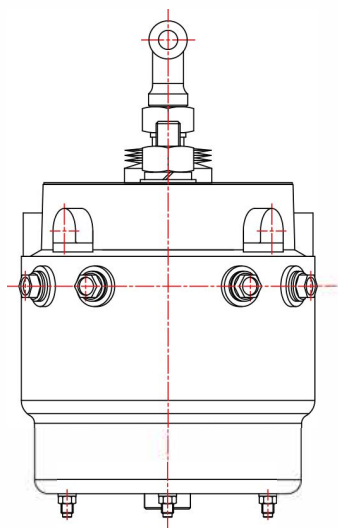
安全制动分泵是单向工作隔膜来执行制动的，并配有机械推杆闭锁装置。它主要用于车辆工作、停车和紧急制动。安全制动分泵通常的功能为工作制动，此外，它在制动时有机械闭锁作用，以防供气系统不能正常工作。另外，它还可用于停车制动。

The chamber is by a one-way working diaphragm to perform the brake, and equipped with a mechanical push rod locking device. It is mainly used for trucks work, parking and emergency braking. The chamber usually used for working braking, in addition, it has the function of mechanical lock when braking, in case the air supply system cannot work properly.

名称	A	B	C	φD	E	F	G	H	J	K
WAC305-L	346	42	210	φ208.5	2-5/8-18#	120.65	14	φ12.6	黄油嘴	
WAC305-R	346	42	210	φ208.5	2-5/8-18#	120.65	14	φ12.6		黄油嘴
WAC305-B 后制动分泵	355	42	240	φ226.5	2-3/4-16#	120.65	20.5	φ19.05		

名称	A	B	C	φD	E	F	G	H
WAC307-F 前制动分泵	330	42	224	φ195	2-5/8-18#	120.65	18	φ15.73
WAC307-B 后制动分泵	485	42	320	φ195	2-5/8-18#	120.65	20.5	φ18.95



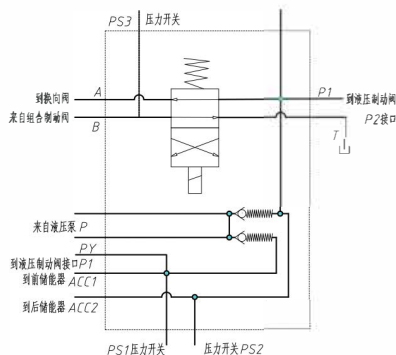


集成阀组是根据液压原理图将各种阀合理地放置到液压阀块的各个平面上，通过内部油道实现整个阀组的功能，具有内部流道短、弯道少、阻力损失少，便于安装维修、抗污染能力强，性能可靠，寿命长等特点。

阀组结构紧凑、液压元件密度高、占用面积小的优点，能够简化液压系统设计和安装，便于实现集成化和标准化，有利于降低制造成本、提高精度及可靠性。奥威特具有专业的设计人员，先进的阀块加工设备 & 检测试验系统、完善的质量控制体系，能够根据客户需求，按液压原理图提供满足各种流量、压力及控制方式的液压集成阀组。阀块材料可分为铝合金，钢件材料等，铝合金表面进行阳极氧化处理，镀锌处理。钢件表面往往采用镀铬处理等。

Manifold valves stack multiple hydraulic valves on different levels of a single valve assembly according to the hydraulic principle diagram to achieve a variety of functions through an internal oil passage. These stack valves are known for their short internal passage, low pressure loss, easy installation and maintenance, non-polluting capacity, reliable performance and long service life. The integrated valve also features a compact structure, high density hydraulic components and a small footprint, making it ideal for simplifying the design and installation of hydraulic systems to ensure integration and standardization to reduce manufacturing costs, improve precision, and improve reliability.

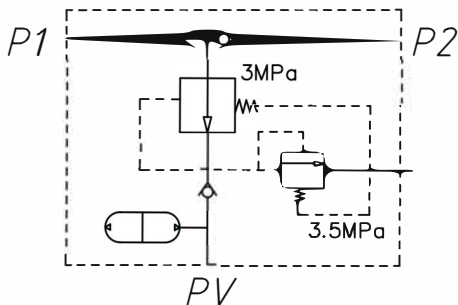
Backed by a team of professional designers and state of the art valve processing equipment, testing systems, and quality control systems, we are able to provide our customers with a variety of hydraulic Manifold valves that integrate multiple functions, including flow control and pressure control. The Manifold valves are available in aluminum alloy or steel materials. The aluminum alloy surface undergoes an anodizing and galvanization process, while the steel surface undergoes nickel plating for corrosion resistance.



制动多路阀将液压油从液压泵传导到液压制动阀，前后制动管路储能器和后轮驻车制动器，此阀也向转向和制动控制油箱回油。当紧急制动开关接通，电磁阀接信号断开（如图所示），油液流出经换向阀到液压制动阀Px实施紧急制动。

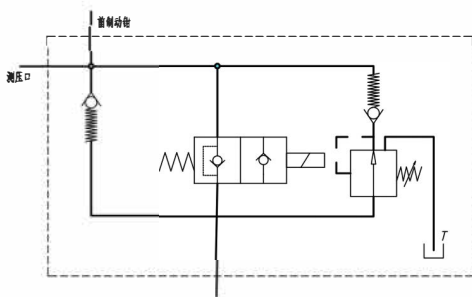
Brake manifold valve get the oil from hydraulic pump to hydraulic brake valve. Brake line accumulators ,brake assembly. Meanwhile it returns oil to steering and brake's tank.when the emergency switch on the solenoid signal will directly off ( as drawing say ). Oil flow out through selector valve to hydraulic brake valve Px port to implement the emergency brake .





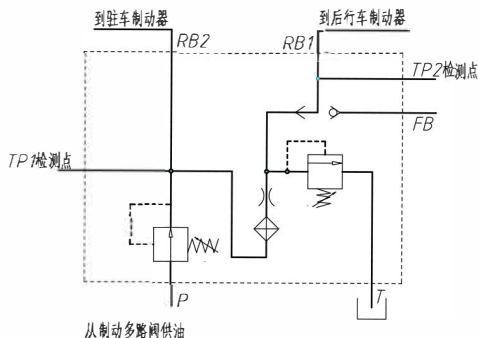
先导阀为压力控制阀，它将来自液压泵供应的压力降为3MPa和3.5MPa之间。先导阀与预充氮气1.3MPa的储能器安装在一起。

The pilot valve is also a pressure control valve, which reduces the pressure from the hydraulic pump and keep the pressure at 3- 3.5 MPa. The pilot valve is installed with a pre-filled nitrogen 1.3MPa accumulator.



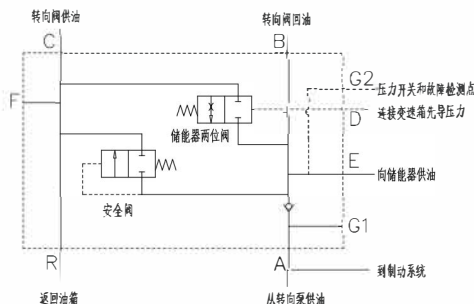
当按下50%的减压开关（电磁阀通电开关），可使制动压力减少一半，从而改善车辆在光滑、泥泞路面上的制动性能。电磁阀不通电，由驻车制动阀直接经阀芯供油制动卡钳，电磁阀通电经减压阀供油制动卡钳。

When the solenoid valve power on, it can make the braking pressure reduce by half. This function can improve the braking performance on the smooth and muddy roads. When the solenoid valve power off, the parking brake valve will directly supply the oil to brake assembly.



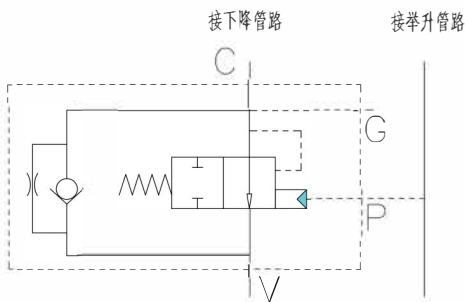
组合制动阀由减压阀、卸荷阀和往复阀组成。减压阀将来自后制动储能器的液压油压力降低，卸荷阀调节压力，经减压阀后提供后制动管路中余压，往复阀依据柱塞位置，为后制动管路提供余压，在脚踏阀或缓行器阀促动后，制动器促动压力克服余压，在后制动盘上产生制动作用。

The Modular brake valve is composed of reducing valve, unloading valve and reciprocating valve. The reducing valve reduces the hydraulic oil pressure from the rear brake accumulator, and the unloading valve regulates the pressure, which provides the residual pressure in the rear brake pipeline after passing through the reducing valve, reciprocating valve provides residual pressure for rear brake line according to plunger position, after the pedal valve or retarder valve is actuated, the brake actuation pressure overcomes the residual pressure and produces braking effect on the rear brake disc.



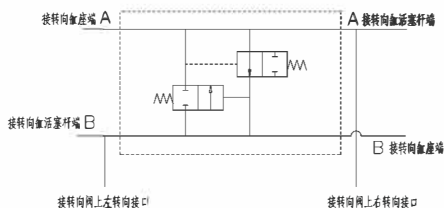
多路安全阀组由单向阀、储能器两位阀和系统保护安全阀组成的一种安全保护用阀，它通过向系统外排放介质来防止设备内介质压力超过规定数值，对人身安全和设备运行起到多层重要保护作用。

The Multiple relief valve assembly is composed of one-way valve, accumulator two position valve and a System protection safety valve. It prevents the medium pressure in the equipment from exceeding the specified value by discharging the medium out of the system. It plays an important multi-layer protection role for personal safety and equipment operation.



举升系统安装反跳阀是为了防止在卸料过程中，由于车箱的失衡而使举升缸内形成真空。反跳阀还有供给回油的作用，油液从下降回路通过举升阀，回到举升系统油箱。

Bounce valve be used in lifting hydraulic system can help the lifting cylinder avoid vacuum status when the truck body loss balance. Bounce valve with return port ,oil go through control valve at drop off port and return the tank of lifting system .



双向卸荷阀安装在转向阀与转向缸之间之间的液压管路上，其用于减缓对转向缸的冲击载荷，将由于路面冲击引起的缸内瞬时增大的油压，转移到对侧的油缸释放。如不抑制和缓解此冲击，将有可能损坏转向机构的元件。

The two-way unloading valve is installed on the hydraulic pipe between the steering valve and the steering cylinder, which is used to slow down the impact load on the steering cylinder and transfer the instantaneous increase of oil pressure in the cylinder caused by the road impact to the opposite side of the cylinder to release. If this impact is not contained and mitigated, it is possible to damage the steering components.

作为一个液压与传动行业制造商，我们并不仅向用户单纯地推销自己的产品。我们更希望能够以自身的技术优势和服务、行业资源，提供一种全面的技术支持，和客户形成一种优势的产业联盟，互利共赢，共同发展！

本样册仅为选型参考使用，若需要详细参数，请联系我司！

## 浙江奥威特液压机械有限公司

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