We are looking forward to working with you!

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HENGLI HYDRAULIC

As a benchmarking company of Chinese high-end hydraulic transmission industry, Hengli Hydraulic is always devoting to the innovation and development in the following four areas: production design, manufacturing process, quality improvement and management improvement. We, Hengli Hydraulic, is making effort to realize the intelligent manufacture at the same time the high-efficiency and energy saving of the hydraulic components and try to reshape the “Made in China” image through technology innovation. Meanwhile we are committed to creating a new pattern of the world’s hydraulics industry and contribute to global technological innovation.

Hengli Hydraulic is dedicated to designing and developing hydraulic transmission products and solutions that meet the real needs of local customers for the global market based on the diverse market demands, in particular the field of mobile machinery and tunnel engineering. We, Hengli Hydraulic, take advantage of our years of application experience to provide the customer the most optimized solutions, thus establish strong partnerships with our customers and maintain a sustainable development in a competitive market.

What we provide
• Hydraulic Cylinder
• Hydraulic Piston Pump & Motor
• Hydraulic Control Valve for Mobile Machinery
• Industrial Valve
• Hydraulic Pump Unit and System

• High performance Hydraulic Test Bench
• High-precision Casting
• Pneumatic Components and integrated System
• Cold-drawn Seamless Steel Pipe
• Surface Coating-Thermal Spray Treatment

For more detailed information, please visit our website at
www.henglihydraulic.com

Precise Control, Convenient Operation
Excavator-specific
Hydraulic System Solutions

HVSE / HVME Multi-way Main Control Valve
HP3V/HP5V / V90N Series Piston Pump
HM5X Series Motor

HENGLI HYDRAULIC

Efficient - Quality - Reliable
www.henglihydraulic.com
Hydraulic system solution for small size excavator
Suitable for excavator ranging from 1.5T to 15T

The small size excavator applies a load sensing system, whose post valve compensation can realize a method of flow distribution. Even if the output flow of the pump is insufficient to meet the flow demand of each loop, all the loops can still smoothly perform compound control actions at the same time without being affected by the pressure of each loop. The system will reduce the flow in the same proportion to compensate for changes in flow demand. The post-valve compensation system is a trend for compact, efficient and complex mobile hydraulic systems and the actuators are optimally controlled regardless of inlet flow or number of actuators.

Solutions

- **Mini excavators ranging from 1.5T to 2T**
  1*HVSE09 series flow sharing multi-way control valve
  1*HP5V series piston pump, rated displacement 76
  2*HVME18 series multi-way control valve
  1*PH series pilot pedal
  1*MHSTE5G series pilot oil supply valve bank
  Whole set of hydraulic cylinders

- **Mini excavators ranging from 2.6T to 4T**
  1*HVSE09 series flow sharing multi-way control valve
  1*HP5V series piston pump, rated displacement 45
  2*HVME18 series multi-way control valve
  1*PH series pilot pedal
  1*MHSTE5G series pilot oil supply valve bank
  Whole set of hydraulic cylinders

- **Mini excavators ranging from 1.5T to 2T**
  1*HVSE12 series flow sharing multi-way control valve
  1*HP5V series piston pump, rated displacement 76
  2*HVME18 series multi-way control valve
  1*PH series pilot pedal
  1*MHSTE5G series pilot oil supply valve bank
  Whole set of hydraulic cylinders

- **Excavators ranging from 5T to 6.5T**
  1*HVSE12 series flow sharing multi-way control valve
  1*HP5V series piston pump, rated displacement 105
  2*HVME18 series multi-way control valve
  1*PH series pilot pedal
  1*MHSTE5G series pilot oil supply valve bank
  Whole set of hydraulic cylinders

- **Excavators ranging from 7T to 8T**
  1*HVSE18 series flow sharing multi-way control valve
  1*HP5V series piston pump, rated displacement 76
  2*HVME18 series multi-way control valve
  1*PH series pilot pedal
  1*MHSTE5G series pilot oil supply valve bank
  Whole set of hydraulic cylinders

- **Excavators ranging from 13T to 15T**
  1*HVSE12 series flow sharing multi-way control valve
  1*HP5V series piston pump, rated displacement 105
  2*HVME18 series multi-way control valve
  1*PH series pilot pedal
  1*MHSTE5G series pilot oil supply valve bank
  Whole set of hydraulic cylinders

Hengli Hydraulic provides a complete hydraulic system consisting of piston pump, multi-way control valve, hydraulic motor, pilot control elements and hydraulic cylinders for the manufacturers of excavator. According to the customer’s requirement, functions like the arm regeneration (not available for HVSE 09 type), anti-nodding, boom lock, travelling synchronization can be generated to the multi-way control valve together with pressure compensator in slide valve design, all these improvements contributes to comfortable operation, high efficiency and low power consumption. The HP5V series piston pump can bear a continuous working pressure of 320 bar with compound control electric proportional power control, load sensing and power cut off control, which can ensure the safety of the whole hydraulic system and maximize the working efficiency of the excavator for high excavating capacity.

HVSE series flow sharing multi-way control valve
- **High operational coordination and high efficiency**
- **Compactable structure and lightweight**
- **Precise control, excellent fine-movement performance**
- **Low pressure loss and low hydraulic oil consumption**
- **Comfortable operation**
- **Adjustable sequence for each work section**

**HVME series multi-way control valve in mono-block design**
- **Mono-block design, small size and light weight**
- **Improved oil confluence for high efficiency**
- **Priority line for better motion coordination**

**HP5V series variable displacement axial piston pump in double pump design, rated displacement 75**
- **Suitable for high pressure and medium pressure working conditions in open loop**
- **Composite controllers available: flow controller, pressure controller, electric proportional power controller, torque controller etc.**
- **High efficiency, long life-time and continuous pressure up to 350 bar**
- **Compact design with PTO, various flange & connector available for different auxiliary pumps**
- **Special housing structure design for low noise requirements**

**HM5X series swing motor**
- **Suitable for high pressure open/closed loop**
- **Compact design with mechanical brake and accessory valves highly integrated around rotating parts**
- **Clockwise and counter-clockwise rotation direction available, the mounting flange can be directly connected to the gear box**
- **Low maintenance cost with hydraulic oil lubrication**
Hydraulic system solution for medium and large excavator

Suitable for excavator ranging from 20T to 60T

The medium and large excavator applies a positive flow control or a negative flow control system. The hydraulic system solution is designed to meet the specific needs of medium and large excavator operating pressure increases.

In the negative flow control system, the signal collection point is at the outlet of the control valve in the main oil loop of the multi-way valve and the displacement of the pump increases with the increase of the negative flow control pressure; in the positive flow control system, the signal collection point locates at the output control pressure of joystick and the displacement of the pump increases as the operating pressure increases.

### Solutions

- Excavators ranging from 20T to 36T
  - 1* HVME270 series multi-way control valve in mono-block design
  - 1* VMXN series double pump, rated displacement 180/212
  - 1* HM5X series swing motor, rated displacement 180/212
  - 2* YDVMH series pilot joystick
  - 1* MFD series pilot oil supply valve bank
  - Whole set of hydraulic cylinders

- Excavators ranging from 36T to 60T
  - 1* HVME400 series multi-way control valve in mono-block design
  - 1* VMXN series double pump, rated displacement 180
  - 1* HP3V series double pump, rated displacement 212
  - 1* HM5X series swing motor, rated displacement 180
  - 2* YDVMH series pilot joystick
  - 1* MFD series pilot oil supply valve bank
  - Whole set of hydraulic cylinders

### HVME series multi-way control valve in mono-block design

- Arm regeneration function
- Boom down movement regeneration, confluence function while lifting
- Swing priority circuit for better compounded operation
- Straight travelling valve equipped
- Mono-block design for small size and light weight
- In-block oil confluence for high efficiency
- Bucket stick limit function

### HP3V series variable axial piston double pump

- Suitable for heavy duty working conditions in open loop
- Compact rotating parts, the pump length is shorter than similar products
- Spherical valve plate design for strong anti-contamination ability and high volumetric efficiency
- Front and rear heavy load bearings with an design life time of 20,000 hours
- Steel-melted copper technology shoes with a double pull-up force as copper shoes
- Reserved Hall rush plate angle sensor mounting area
- Closed loop precise control of flow to improve efficiency and reduce energy consumption
- Various controller available, composite controls of flow, pressure and torque possible

### HM5X series swing motor

- Suitable for high pressure open/closed loop
- Compact design with mechanical brake, relief valve, change valve and anti-rotary valve integrated
- Clockwise and counter-clockwise rotation direction available, the mounting flange can be directly connected to the gear box
- Light weight and compact design improvement based on mature technology
- Improved output power

### M Mature product application solution

Hengli is experienced in providing product application solutions for medium and large excavators with positive or negative flow control systems. With the swing priority valve, the straight traveling valve and the flow regeneration valve etc. integrated on the multi-way control valve and mono-block design for minimum the pressure loss in the flow pass, the power consumption of the excavator can be reduced. The double pump design for the main pump provides advantages as overall compact design and convenient operation. Besides the pump can be directly installed with the help of the flange to save installation time and the whole set of components contribute to saving commissioning time. Hengli will provide suitable system solutions to customers according to the working condition of the different size of the excavators. All Hengli products are applied with light weight and compact design to save the installation space. The complete set of machine components matching and optimized system contributes to comfortable operation, low system power loss, high efficiency and low power consumption.

<table>
<thead>
<tr>
<th>Displacement (cm³/rev)</th>
<th>Rated pressure (bar)</th>
<th>Peak pressure (bar)</th>
<th>Rated speed (r/min)</th>
<th>Installation length with pump included (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>130×2</td>
<td>380</td>
<td>420</td>
<td>2200</td>
<td>558.7</td>
</tr>
<tr>
<td>180×2</td>
<td>380</td>
<td>420</td>
<td>2100</td>
<td>612</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Displacement (cm³/rev)</th>
<th>Rated pressure (bar)</th>
<th>Peak pressure (bar)</th>
<th>Rated speed (r/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>212×2</td>
<td>343</td>
<td>392</td>
<td>1800</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Maximum displacement (cm³/rev)</th>
<th>Rated pressure (bar)</th>
<th>Peak pressure (bar)</th>
<th>Rated output torque (N·m)</th>
<th>Maximum braking torque (N·m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>129.2</td>
<td>324</td>
<td>392</td>
<td>670</td>
<td>843</td>
</tr>
<tr>
<td>149 / 169 / 180</td>
<td>324</td>
<td>392</td>
<td>932</td>
<td>1250</td>
</tr>
</tbody>
</table>
We, Hengli, not only focus on fulfilling customers’ needs, but also make efforts to provide innovative solutions to create more value for our customers.

At Hengli Hydraulic Application and R&D Center, there’s a professional and powerful excavator application commissioning team, who can support our customers to achieve the perfect match between all the hydraulic components of the system and the engine and transmission components, ensuring the complete machine reaching the best performance. We are always devoted to create innovative solutions to create more value for our customers.

We are always ready working with you to meet the challenges and solve the problems. Together we can develop new ways to optimize critical machine systems and implement test validation and optimization. Together we can reduce the risks raised in system development, manufacturing and testing. Together with our efforts we can bring your innovative products to market quickly and economically to stand out from the competition and bring more market value.

Professional and experienced application engineers and R & D team

Development
We work with you to understand your unique application needs and for conception and design of the solutions.

Test
Design becomes practical with the support of full evaluation solutions during the test of the machines.

Commissioning
Together we observe the systematic solutions for the test machines and analyze the data to verify the hydraulic components and system performance.

Verification
We keep track the status of your machines and present and improve system solutions based on your feedback.