

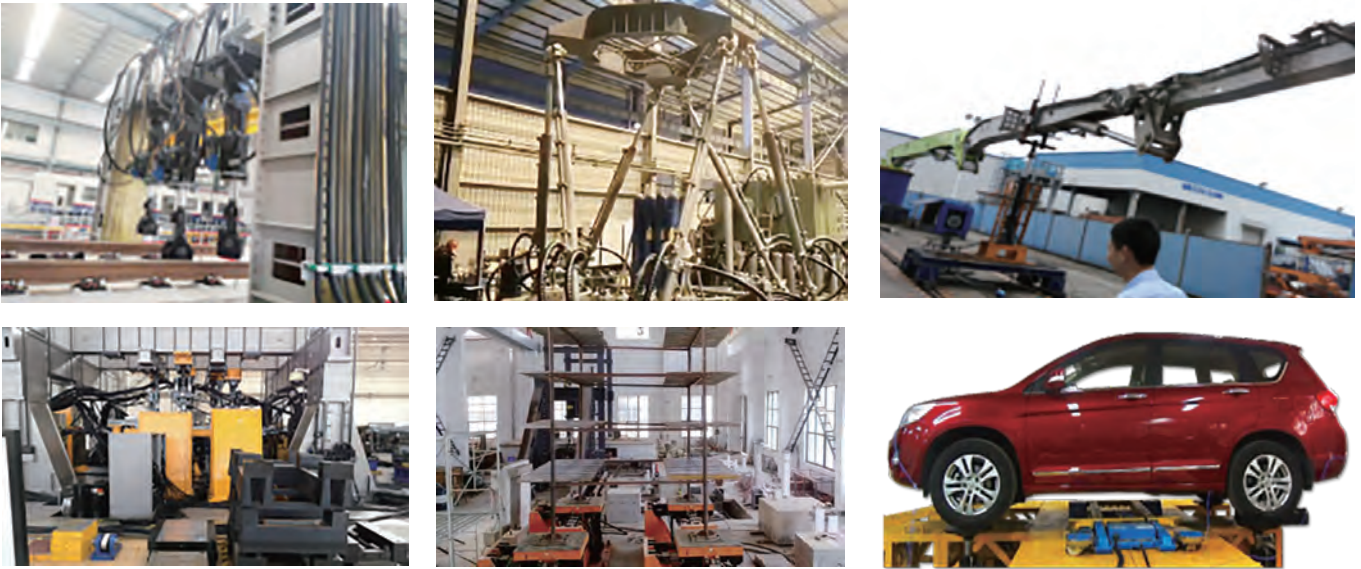
HLSS series High-performance Hydrostatic Support
Servo Hydraulic Cylinder Specification Selection

Load(kN)			Piston Rod Diameter (mm)	Piston Diameter (mm)	Stroke (mm)
21(MPa)	28(MPa)	32(MPa)			
2.6-23.1	3.4-30.7	4-35.2	25	28-45	50-150
4.2-35	5.6-46.7	6.4-53.4	30	34-55	50-200
7-54.4	9.3-72.5	10.7-82.9	40	45-70	50-250
10.5-64.3	13.9-85.7	16-98	50	56-80	50-400
15.4-134.1	20.4-178.8	23.4-204.4	63	70-110	50-400
24.7-197.9	32.9-263.8	37.6-301.5	70	80-130	50-400
28-265.5	37.3-354	42.7-404.6	80	90-150	50-400
31.3-288.6	41.7-384.8	47.7-439.8	90	100-160	50-400
34.6-340.2	46.1-453.5	52.8-518.4	100	110-175	50-400
37.9-364.9	50.5-486.5	57.8-556	110	120-185	50-400
65.6-402	87.4-536	99.9-612.6	125	140-200	50-400
153.3-549.2	204.5-732.3	233.7-836.9	140	170-230	50-400
237.5-692.7	316.6-923.6	361.9-1055.6	160	200-260	50-400
263.8-758.6	351.8-1011.5	402.1-1156.1	180	220-280	50-400
371.1-1029.2	494.8-1372.2	565.5-1568.3	200	250-320	50-350

* If other specifications are required, they can be customized according to user’ s requirements

APPLICATION OF
SERVO HYDRAULIC CYLINDER

In the static and dynamic testing field such as vehicle road simulation tests, multi-degree-of-freedom shaking table, steering system test bench, earthquake simulation shaking table, etc.; when the hydraulic cylinder is in extremely slow or fast motion, high positioning and repetition accuracy are required, without any viscosity.



HENGLI HYDRAULICS

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
- Threaded Cartridge Valve
- Orbital Motor and Brake
- Control Components
- 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.henglihydraulics.com

We are looking forward to working with you!

CHINA

No.99 Longqian Road ,Wujin District, Changzhou 213167
TEL: +86 400 101 8889
E-mail: hengli@henglihydraulics.com

AMERICA

580 Crossroads Parkway, Bolingbrook Illinois 60440
TEL: +01 630 995 3674
E-mail: sales@hengliamerica.com

JAPAN

7F Kyoei Building, 2-1-19 Shibadaimon,
Minato-Ku, Tokyo 105-0012, Japan
TEL: +81 03 6809 1696
E-mail: hl_zhaozhen@163.com



Official website



Official WeChat

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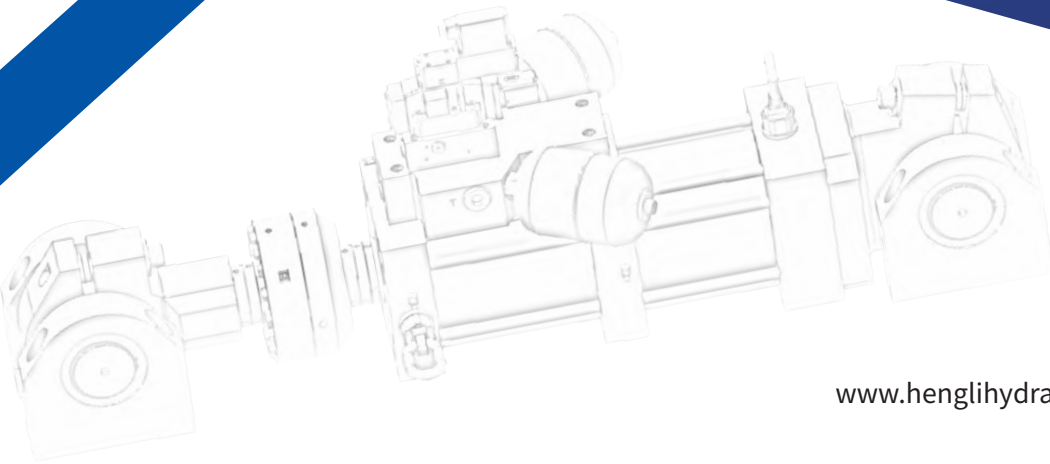
HENGLI HYDRAULICS



High Strength Stable Performance

Servo Hydraulic Cylinder
Technology

- Servo-actuated hydraulic cylinder
- Complete hydraulic servo system
- Multi-channel hydraulic servo test equipment



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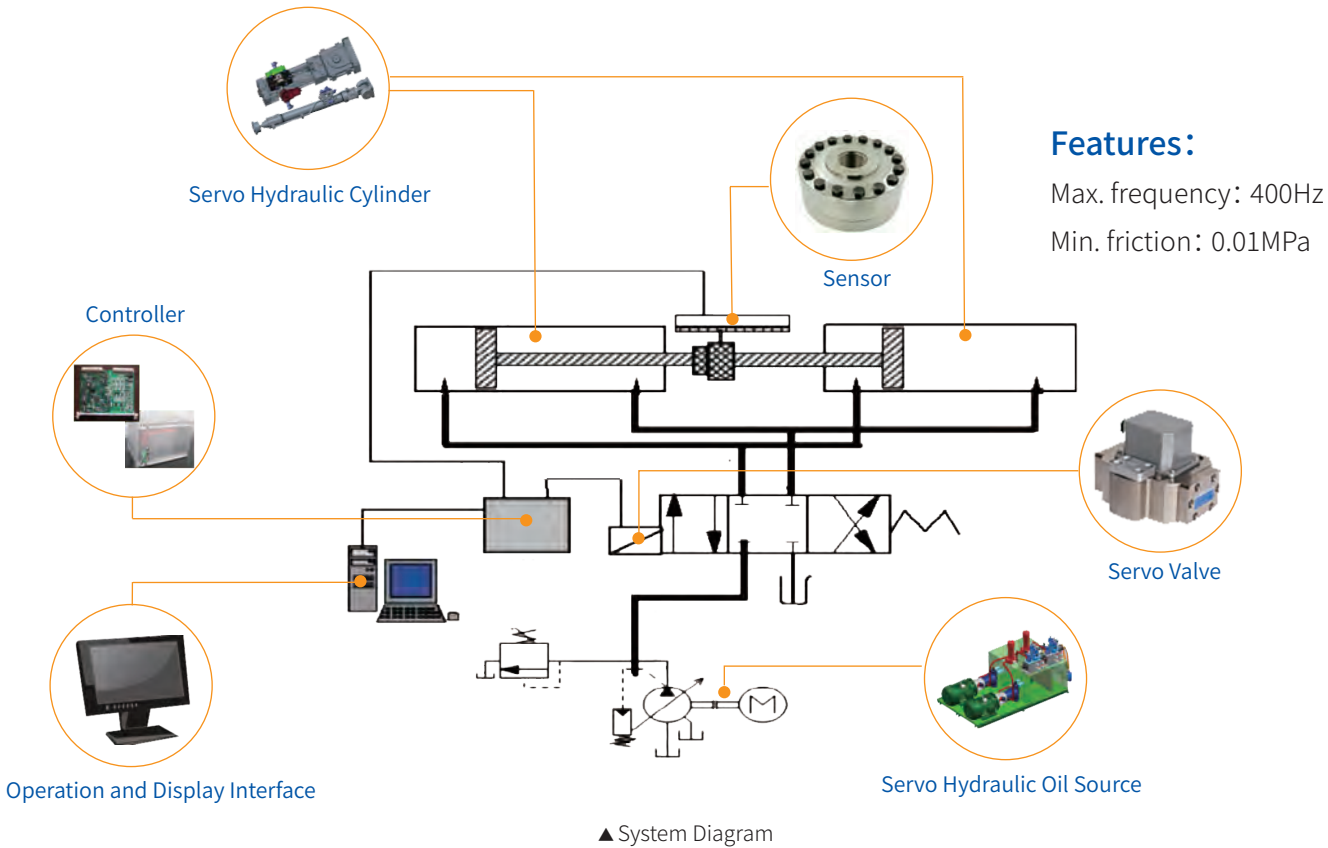


INTRODUCTION TO HENGLI' S SERVO SYSTEM TECHNOLOGY

Over the years, Hengli has provided customers with more perfect, ideal and efficient products and solutions in many fields, including hydraulics, control and components. Hengli has entered the servo hydraulic system field, can provide customers with professional servo hydraulic systems and complete high-end sets of hydraulic servo solutions, bringing customers a brand-new experience. Whether it is servo actuated hydraulic cylinders, a complete hydraulic servo system or a complex multi-channel hydraulic servo test equipment, Hengli can tailor perfect solutions according to specific needs.

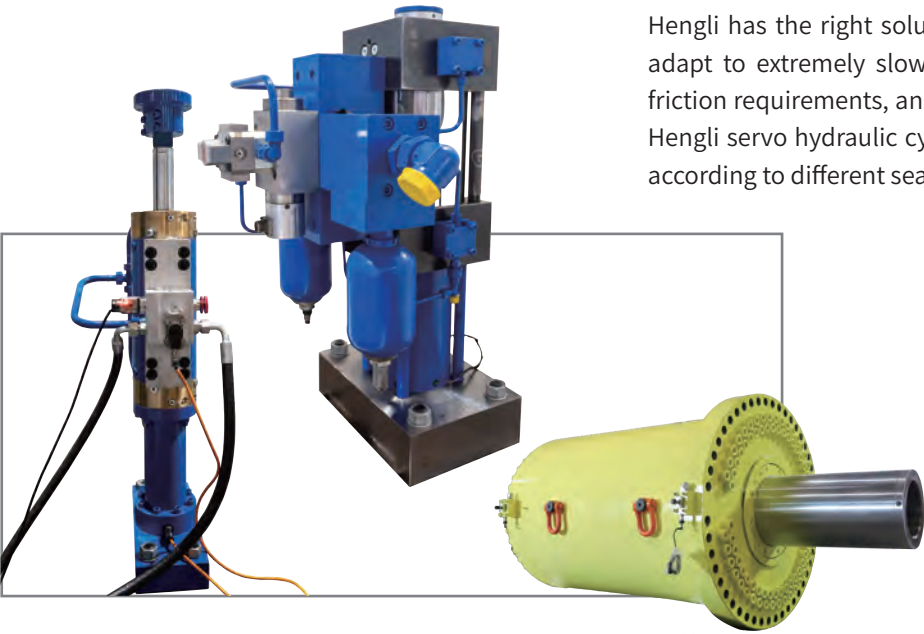
System Components

The whole system mainly includes the servo hydraulic cylinder, servo hydraulic oil source, controller, sensor, operation and display interface, control software and so on.



Features:
Max. frequency: 400Hz
Min. friction: 0.01MPa

TECHNICAL SCHEME OF SERVO HYDRAULIC CYLINDER



Hengli has the right solutions for all kinds of situations, allow us to adapt to extremely slow and extremely fast speeds, extremely low friction requirements, and achieve excellent response characteristics. Hengli servo hydraulic cylinders can be divided into three categories according to different sealing structure.

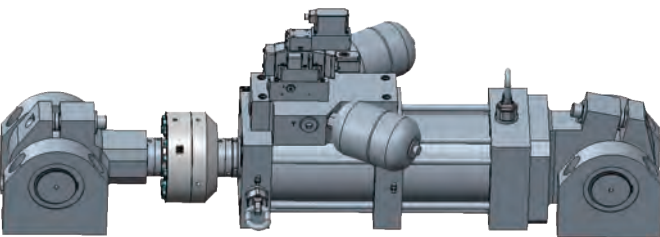
Low Friction Seal Solution

Basic Scheme

Different combinations of guide elements and seals that optimize friction are used to form a hydraulic cylinder with a very low friction coefficient. It has the characteristics of low friction, low damping, wide temperature range, high load-bearing capacity, and no crawling at low speeds. Equipped with axial magnetostrictive displacement sensors required by various signals to accurately measure piston displacement.

Characteristics:

- Multi-structure hydraulic cylinder
- Suitable for long-stroke test, or for simple test tasks with general accuracy requirements
- Work frequency: 0 - 15 Hz
- Work pressure: no more than 32 MPa
- Speed: ≤ 4 m/s
- Can withstand appropriate external and movement to produce lateral force
- Flexible structure configuration, the specifications and sizes can be customized according to user requirements



HLSL Series Low Friction Seal Servo Hydraulic Cylinder Specification Selection

Piston Diameter (mm)	Piston Rod Diameter (mm)	Max. Stroke (mm)	Max. Working Pressure (MPa)
32	14	1000	32
	22	2000	
40	18	1000	
	22	2000	
50	28	3000	
	28	3000	
63	36	5000	
	28	3000	
80	36	5000	
	45	5000	
100	45	5000	
	56	5000	
125	45	5000	
	56	5000	
160	70	5000	
	90	5000	
200	70	5000	
	90	5000	
	110	5000	
	140	5000	

*If other specifications are required, they can be customized according to user' s requirements

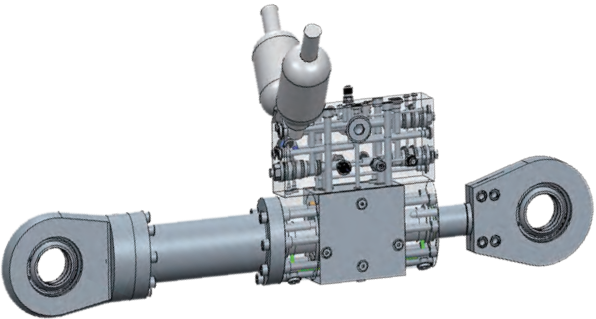
Throttle Gap Seal Solution

Cost-effective Scheme

Oil is used to throttle through the gap between the gap seal sleeve and the piston rod, thus replacing the common pressurized seal to achieve the sealing effect. Because the contact seal and dustproof ring do not bear pressure, the stick-slip friction of the hydraulic cylinder is reduced to the greatest extent. Therefore, the high dynamics and long service life of the servo hydraulic cylinder are ensured. This structure can only be realized when the machining error is controlled within a few microns, otherwise it will cause great hydraulic loss. The leaked oil flows back into the system without pressure through an oil gathering joint. This meets the requirements of all applications between standard seal and static hydraulic bearing.

Characteristics:

- Multi-structure hydraulic cylinder
- Suitable for all kinds of long and short stroke vibration, meeting the requirements of high frequency response and high sensitivity
- Work frequency: up to 400 Hz
- Work pressure: no more than 32 MPa
- Speed: ≤ 4 m/s (higher for special customization)
- Able to withstand suitable external and lateral forces generated by motion
- The structure configuration is flexible, and the same cylinder rod diameter as the static pressure support servo cylinder can be used for high-frequency response, short-stroke test, and it can also be designed for long-stroke test with extended stroke



HLSG Series High Performance Throttle Gap Seal Servo Hydraulic Cylinder Specification Selection

Piston Diameter (mm)	Piston Rod Diameter (mm)	Max. Stroke (mm)	Max. Working Pressure (MPa)
32	25	2000	32
40	25	2000	
	30	3000	
50	30	3000	
	40	5000	
63	40	3000	
	50	5000	
80	50	5000	
	63	5000	
90	70	5000	
	80	5000	
100	63	5000	
	70	5000	
125	80	5000	
	80	5000	
160	90	5000	
	100	5000	
200	110	5000	
	110	5000	
	140	5000	

*If other specifications are required, they can be customized according to user' s requirements

Hydrostatic Support Seal and Guidance Solution

High-quality Scheme

The piston rod floats in the center of the guide sleeve due to pressure in the four channels. The hydrostatic pressure can automatically align the piston rod and resist the possible lateral force to align the center. Therefore, the hydrostatic bearing is suitable for the working conditions wherehigh lateral force acts on piston rod. The contacting anti-leak seals and dustproof rings do not bear pressure, so only a small constant residual friction is generated. The hydrostatic support pressure is provided by the internal system pressure, and leaked oil is introduced into the oil tank without pressure through the connection pipe, so there is no need for an oil leakage suction pump, making it simple and convenient to use. It is widely used in automobile, aircraft tests, and high mechanical load test condition.

Characteristics:

- Double-rod hydraulic cylinder
- Suitable for short stroke vibration, meets the requirements of high frequency response and high sensitivity
- Work frequency: up to 400 Hz
- Work pressure: no more than 32 MPa
- Speed: ≤ 4 m/s (higher for special customization)
- Suitable for heavy loads and large lateral force conditions

