



Test type

- Slip & Tensile Strength
- Permanent Elongation & Tensile Strength
- Static Tension Test
- Static Compression Test
- Cyclic Tension & Compression Test

Test standards

- AC 133: 2010: 4.1
- BS 8110: PART 1: 1997 3.12.8.16.2
- BS4482
- BS4483
- BS4449
- ASTM A 1034: 10.5, 10.7
- Others.....

Servo-hydraulic Universal Testing Machine | HUT Type DP

Description

HUT series type DP servo-hydraulic universal testing machine is designed with up-mounted actuator structure. Bidirectional differential cylinder provides bidirectional control of tension and compression in one single space. Advanced side action hydraulic tensile grips provide high gripping performance for high strength and high hardness materials without any initial gripping force.

Clearance-free structure and actuator up and down to adjust the test space offers easy operation and high efficiency. This machine is mainly used for tensile test of metallic materials. It provides closed loop control of constant force, constant displacement and constant extension, smoothly switching among them.

Test results can be automatically calculated and be able to printed and exported.

Load Frame Configuration: 4 columns, servo-controlled hydraulic

Capacity: 600kN, 1000kN, 2000kN

Test Space: Single zone

Typical specimens: Fasteners, rebar, chain, welds, castings

Features

Load frame

1. Single zone design ensures all types of tests finish in one space. Compact and reasonable design is ergonomic and effectively reduces labor intensity.
2. Upper actuator features excellent axis alignment, good shock absorption and easy to adjust test space.
3. Advanced side action hydraulic tensile grips provide high gripping performance for high strength and high hardness materials without any initial gripping force.
4. Long travel double-acting cylinder can accommodate different specimen size. One-body forging piston and rod, and imported sealing components, ensure perfect sealing, high accuracy and repeatability.
5. Robust and high-accuracy guidance protects cylinder from lateral force, improving the working life of sealing components.
6. "I" shape force transducer features excellent linearity and stability with ultra measurement accuracy.
7. High precision encoder provides with high accuracy of displacement measurement and control.
8. Imported servo valve offers fast response and high-accuracy control, and easy to maintain.
9. Equipped famous brand motor features high efficiency, energy-saving, high shaft-torque, good performance, low noise, low shaking, high reliability and easy to maintain.

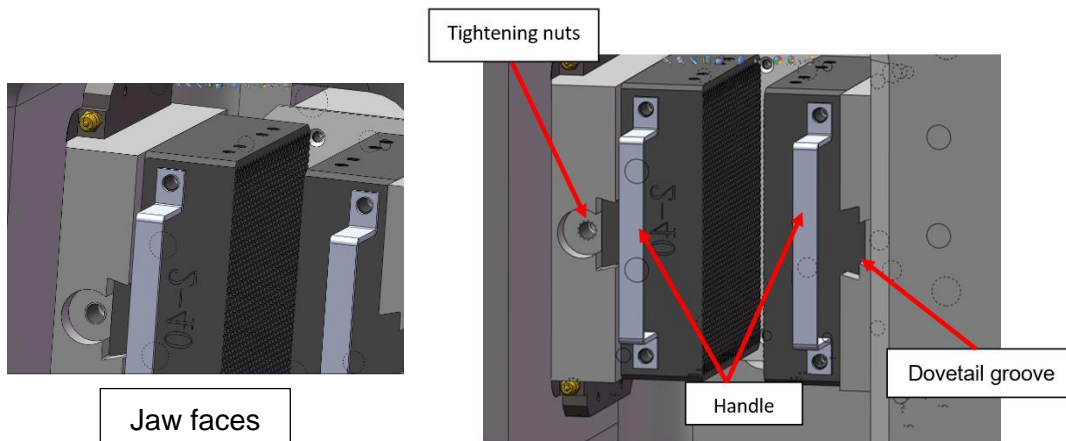
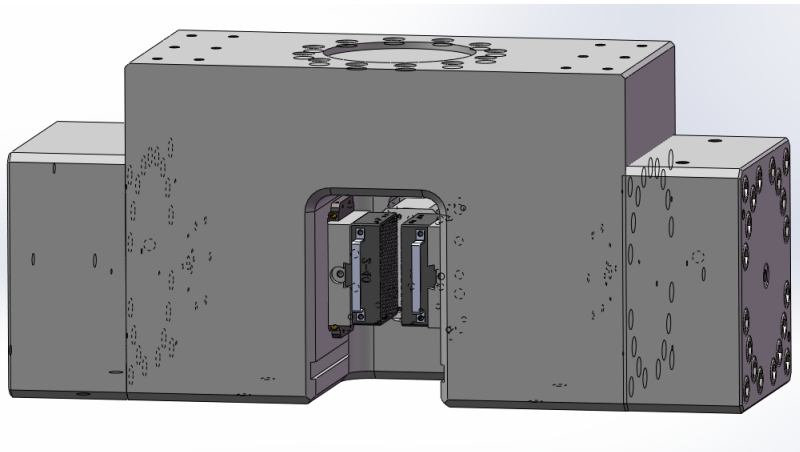


Main cylinder

- Piston rod is Nickel and Chrome plated, with strong anti-corrosion and anti-wearing ability.
- Extra thick rod ensures high stiffness to resist lateral loading.
- Piston and rod are one-body forging with strong impact resistance.
- Sealing components are U shape and double sealing ring, ensuring zero leakage.
- Guidance wearing ring is applied to ensure high resistance to lateral force and low friction.
- Main cylinder matching with differential circuit allows fast return of piston.
- Zero clearance and pre-loading connection between piston rod and upper grip guarantees high reliability.
- WANCE uses most advanced Piston / guide sleeve copper melting process as wearing ring, with service life five times than polymer material.

Side action hydraulic grip

- Side-load dampening reduces the risk of grip damage when testing slightly bent or irregularly shaped specimens such as rebar or wire rod
- Opposing jaw faces repeatedly self-center during specimen clamping reducing testing time and eliminating the need to resynchronize the grip faces between tests
- Tensile tests on a wide range of materials including: steel rod and plate, machined rounds and flats, reinforcement bar, 3- and 7-wire strand, conveyor belt, and wood products



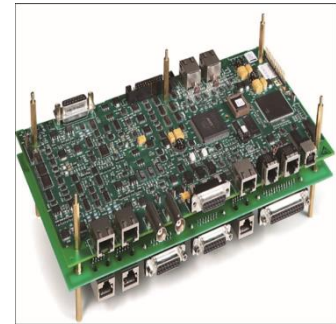
Hydraulic power unit

- Equipped with Cartridge logic valve in the hydraulic system of the equipment, it can be smart regulation of system pressure. The pressure servo technology can guarantee that the system pressure is always only higher than the cylinder pressure 1MPa, when the test force is low, the pump output pressure is lower, when the test force increases, pump output pressure increases the proportion too.
- The differential pressure is adjustable to ensure no shaking during test, thus saving energy and reducing heating
- Low noise: gear pump combined with our technology of HPU production reduces noise, improving the working conditions of workers.
- Easy installation and maintenance: The hydraulic unit is designed with semi-open structure. Rear cover opens two doors, easy maintenance and parts replacement.
- Low heating and good cooling: The unique pressure differential servo control technique makes the system heat significantly reduced. The hydraulic unit is designed with semi-open structure and air-cooling device. Cooling devices can start automatically or manually. The air-cooling motor automatically starts when the temperature reaches the preset value of oil temperature gauge, making the system in high temperature environment continue to work normally.
- High filtration precision: triple filter, the particle size is less than 5 microns before entering the servo valve, improving the service life of the servo valve and control accuracy, easier to maintain.
- Pressure overload protection: when the pressure exceeds the system rated pressure, relief valve will begin to overflow, to ensure the security of the entire system.
- Seal method: Piping lines are sealed with high-pressure hose sleeve type Cone fittings with excellent sealing performance, which can be repeated assembly and disassembly. Cylinder piston rod and piston seal are used with U- seals and dust ring , at the same time with high anti-lateral pressure and low friction rate of large-size guide ring , offering high ability to resist lateral force, thus to ensure cylinder of zero leakage and long service life.
- The system has two sets of differential circuit. One is for main cylinder, so that after the end of the test, the main cylinder piston can faster return to improve work efficiency. Another is for the clamping cylinder. Clamping cylinder allows fast and low pressure gripping the specimen. Only after samples are fully clamped, extra-high pressure can be supplied, avoiding damaging sample because of too high clamping force. After specimen is broken, high pressure will be automatically released. This design fully takes the efficiency and operational safety into account.



Controlling system – DTC-500

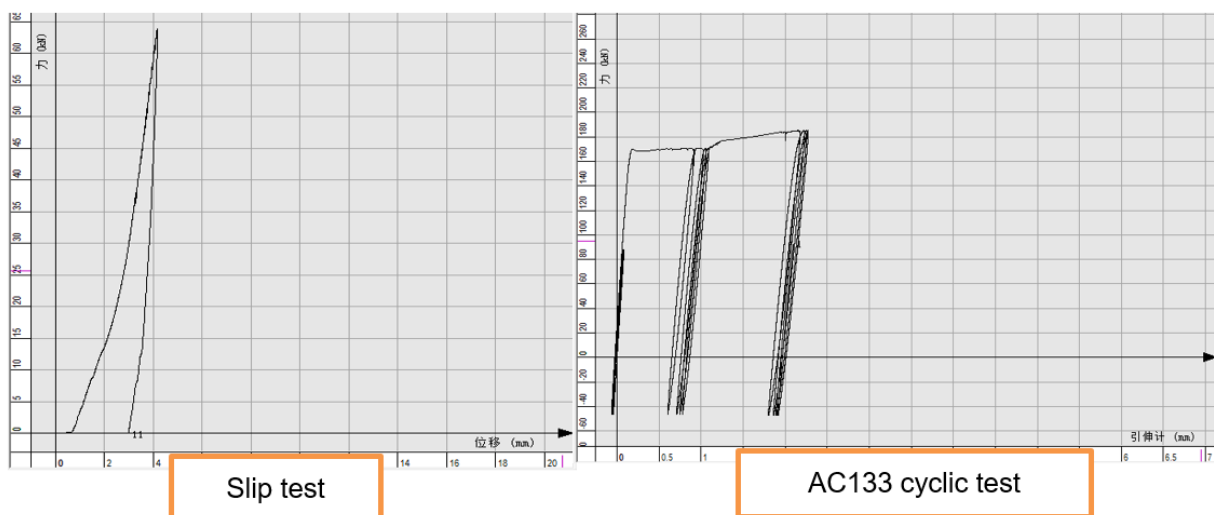
- Closed loop control of stress, strain and displacement.
- 1000Hz sampling frequency and closed-loop control frequency
- 1/500000 resolution
- 16 I/O port
- Standard RS232 communication, optional USB communication
- Over-load, over-current, over-voltage, over-speed, and over-travel protection



Professional test software

This software features a large, growing host of pre-packaged test methods to help you quickly and efficiently meet the requirements of global test standards such as ASTM, ISO, DIN, EN, BS, and more. Selected by an operator at runtime, these methods are crafted to meet the specific test flow, analysis and reporting requirements of industry standards across a range of specimen and test types. Pre-packaged test methods are available in a wide selection of bundled sets, including: Polymers & Plastics, Metals, Construction Materials, Biomedical Products, Paper Products, Adhesives, foam, textiles and more.

- Versatile, easy-to-use TestPilot software with a large and growing library of standards-compliant test methods (ASTM, ISO, DIN, EN, BS, and more)
- Modular design permits easy upgrading
- Plenty of test standards are built in the library of the software for routine tests.
- User configured report: user can preset report template and include necessary information, like company information, statistics, and etc. Test report can export to Excel or Word.
- Powerful graphic function: real time display curves, like displacement-load, stress-strain, displacement-time, load-times, and others
- Powerful analysis function can calculate typical value and display on the curve, like Fm, ReL, ReH, Rp.
- Measurement unit: Users can select SI, or others, like N, kN, Kgf, lbf, Mpa, and so on, user can define the unit by themselves using formula.

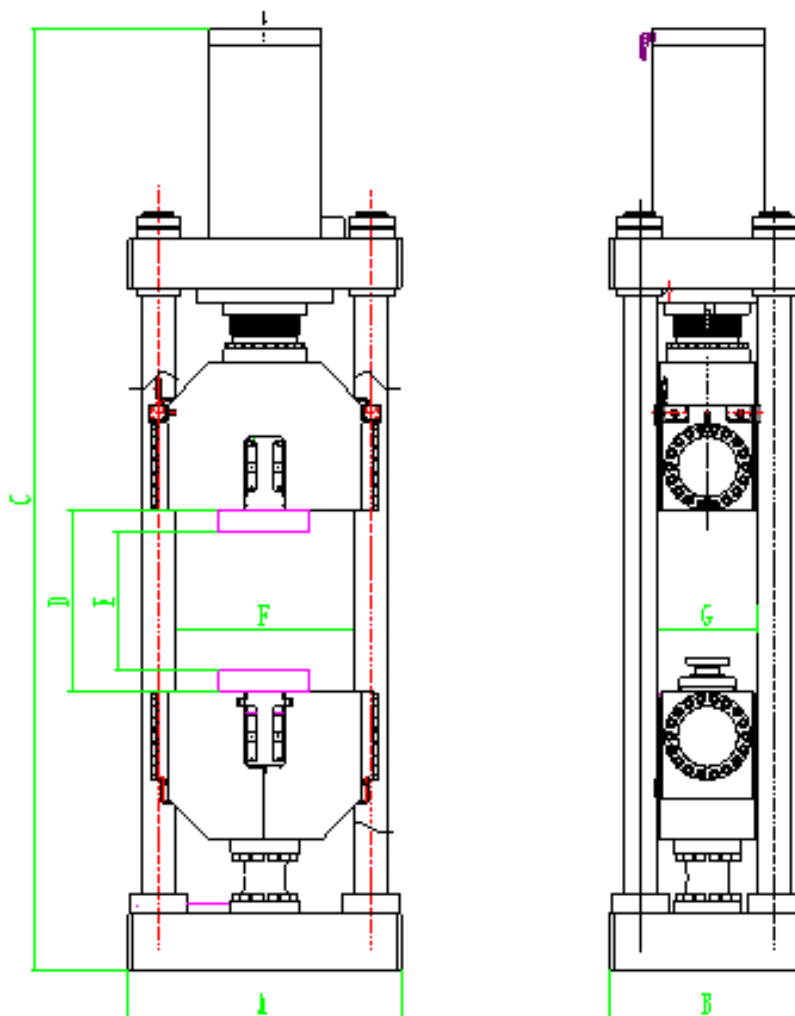


Machine dimension

Model	Dimension (mm) A×B×C	Effective tensile space (mm) D	Maximum compression space(mm) E	Distance between columns (mm) F×G	Piston travel (mm)
HUT605DP	800x600x2890	600	400	575x355	580
HUT106DP	880x660x3380	700	480	585x365	680
HUT206DP	1200x900x3930	800	525	770×470	780

Remark:

- For HUT206DP, minimum specimen length is 245mm, maximum length is 1025mm.
(As jaw face height is 150mm, recommend clamping 3/4, that is 112.5mm, total clamping length is 225mm)



Servo-hydraulic Universal Testing Machine | HUT Type DP

Specifications:

Model	HUT605	HUT106	HUT206
Type	DP		
Capacity (kN)	600	1000	2000
Calibration accuracy	Class 1 / Class 0.5		
Force accuracy	Better than $\pm 1\% / \pm 0.5\%$		
Force range	1% ~ 100%FS		
Displacement accuracy	Better than $\pm 1\% / \pm 0.5\%$		
Extension range	1% ~ 100%FS		
Extension accuracy	Better than $\pm 1\% / \pm 0.5\%$		
Extension resolution	1/500000 of max extension		
Position resolution (mm)	0.01		
Actuator (piston) up speed (mm/min)	280	240	195
Actuator (piston) down speed (mm/min)	660	375	310
Force loading speed	0.02%-2% FS /s		
Column number	4	4	4
Distance between columns (mm)	575x355	585x365	770x470
Maximum tension space (mm)	600	700	800
Maximum compression space (mm)	400	480	525
Diameter of round specimens (mm)	$\Phi 10- \Phi 20$ $\Phi 20- \Phi 45$	$\Phi 15- \Phi 35$ $\Phi 35- \Phi 60$	$\Phi 8 \sim \Phi 15$ $\Phi 15- \Phi 40$ $\Phi 40- \Phi 100$
Thickness of flat specimens (mm)	2-40	2-50	2-80
Compression platen	$\Phi 150$	200x200	$\Phi 240$
Actuator (piston) stroke (mm)	580	680	780
Frame dimension (LxWxH) (mm)	800x600x2890	880x660x3380	1200x900x3930
Frame weight (kg)	3000	5000	11000
Hydraulic Power Unit dimension (LxWxH) (mm)	870x1080x1150	870x1080x1150	860x1350x1350
Hydraulic Power Unit weight (kg)	800	800	1500
Oil tank capacity (Liter)	210	210	380
Anti-wear hydraulic oil	46#, L-HM46 or DTE-25 Brand: Mobile, Shell, Great wall, KUNLUN		
Flow rate (L/min) / maximum pressure (MPa)	7.5 / 25	11.8 / 25	19.2 / 25
Main cylinder hoses length	3.2m x 1 4.0m x 1	3.2m x 1 4.0m x 1	3.8m x 1 4.5m x 1
Upper grip hoses length	3.5m x 2	3.5m x 2	4.0m x 2
Lower grip hoses length	2.0m x 2	2.0m x 2	2.5m x 2
Power consumption (kW)	8	11	15
Power supply	3-phase, 5-line, AC380V, 50Hz		



Shenzhen Wance Testing Machine Co., Ltd.

No.9, Shuike Road, Tangwei, Guangming District,

Shenzhen 518132, China

Tel: +86-755-23057280 Fax: +86-755-23057995

Email: sales@wance.net.cn

www.wance.net