Pressure Gauge Calibration Bench

Product Manual

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ABOUT US

Company introduction

JINAN ODMT FLUID CONTROL EQUIPMENT CO.,LTD as a professional provider in the field of fluid control,serves for petroleum,chemical,shipbuilding,automobile,aviation,marine,military etc.in-dustries and related laboratories in univer-sities andresearch institutes.ODMT has all kinds of fluid conveying equipment and pressure test and control equipment.

We specialize in high-pressure system engineering consulting,design manufacture,installation, debugging and mainte-nance services.We adopt advanced pressurization technology in the world,with hydraulic pressure up to 640 MPa and pneumatic pressure up to 210 MPa.

Company introduction

ODMT company is the manufacturer of auto hose test machine.lts main products include: auto hose pulse test bench,hose flexibility test machine,hose burst test machine,hose pressure withstand test machine and other auto parts pressure test machines.

ODMT oil-free lubrication gas boosters include air boosters,nitrogen bosster,oxygen booster,helium booster,hydrogen booster,argon booster,stc

According to customers' requirements,the following can be ordered:air tightness pressure test system, hydraulic pressure test system,hydraulic hoses,joints,valves,pipe fittings,cylinders,pres-sure vessels,
sensors,instrument pressure test system,hydraulic hoses,joints,valves,pipe fittings,cylinders,pres-sure
vessels,sensors,instrument pressure test system,pressure test and monitoring system and pressure data collecting and processing system.

Company introduction

ODMT company has always adhered to the concept of high-quality service, with an agile, efficient, experienced and dynamic team.Odimet people regard the quality of products as their life, and regard products as their own character, through continuous R & D and innovation, the product system is more mature and perfect.

ODMT company introduces foreign advanced product technology, combines with the current situ-ation of China's pressure detection industry to improve products. most of the equipment parts are imported products, It has established long-term cooperation with FESTO, IFM, Schneider and ASTON, these world leading famous brands provide high quality accessories for odmt, so that the company's products have a reliable quality assurance.

ODMT company has been focusing on the cultivation and development of professionals, with a high-quality professional team, From product development, mechanical design, equipment test-ing, technical services are completed by professional and technical personnel,Established a com-plete after-sales service system, so that customers buy products, there is no worry.

We always put customer satisfaction in the first place, accumulated years of rich experience, professional product R & D team, high-quality brand image construction, and reasonable organi-zational structure are the reasons why customers choose us.

Pressure gauge calibration table

ODMT's MFC series pressure gauge calibration bench can be used for production commissioning, calibration and inspection of mechanical pointer pressure gauges, including spring tubes (C-type tubes, coil spring tubes, spiral tubes) and other mechanical pointer pressure gauges.The gas calibration bench can calibrate pressures up to 15MPa, and the liquid calibration bench can calibrate pressures up to 400Mpa (please contact us for calibration benches with higher test pressures).

Gas test pressure gauge calibration table MFCG15（0~15MPa）

Main features

1. The user provides the calibration gas source or installs a booster device in the system;
2. The high-precision pressure regulating device controls the gas pressure of the system, and the pressure increase and decrease during the calibration process are stable and accurate;
3. All pipelines and joints are sealed in a highly reliable manner to avoid leakage;
4. The pressure gauge quick manual joint technology is internationally leading, with a long service life and no leakage;
5. The equipment can calibrate two pressure gauges at the same time to improve work efficiency;
6. The closed overall structure is adopted, the equipment is neat and beautiful, and it is convenient for actual operation and later maintenance;
7. It can provide pressure, voltage, current measurement and DC 24V output, which is convenient for users to calibrate pressure transmitters, digital pressure gauges or other pressure instruments.

Continuous test pressure gauge calibration table MFCV01-1 (-0.1~1MPa)

Main features

1. The user provides the calibration gas source or installs a booster device in the system;
2. Install a high-quality vacuum pump for vacuum calibration;
3. The high-precision pressure regulating device controls the gas pressure of the system, and the pressure increase and decrease during the calibration process are stable and accurate.
4.All pipelines and joints are sealed in a highly reliable manner to avoid leakage;

Liquid Pressure Gauge Calibration Bench

Select the calibration bench of the relevant model according to the range of the pressure gauge to be debugged and calibrated. The test medium is clean water, the driving air pressure is 0.1-0.8MPa, the maximum driving pressure shall not exceed 1.0MPa, and the maximum calibration pressure can reach 400MPa.

Model	Calibrate Range	Maximum pressure	Pressure rate	Test medium
MFCL6	0.6-2.5MPa	7.5MPa	5:1	Water
MFCL16	2.5-16MPa	18MPa	25:1	Water
MFCL60	10-60MPa	75MPa	100:1	Water
MFCL375	60-375MPa	400MPa	500:1	Water

Flange pressure gauge calibration table

Vacuum-positive pressure flange pressure gauge calibration bench
Test pressure range: -150-150KPA
Flange diameter range: 15mm-125mm
Test medium: air

Flange pressure gauge calibration table MFLT-6/20-2-S
Test pressure range: 6-40MPA
Flange diameter range: 15mm-125mm
Test medium: Clean water

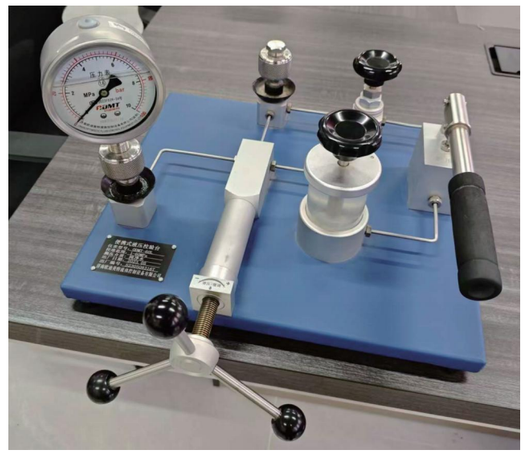
Portable Pressure Gauge Calibration Bench

1. Calibration pressure:(-0.095~16)MPa

2. Working liquid: compressed air;

Portable pressure gauge calibration station Model: MSY-70

1. Calibration pressure: 1~60MPa;
2. Connection thread M20*1.5;
3. Working liquid: transformer oil or water;
4. Weight: 11.6KG;
5. Relative humidity: ≤80%



Piston pressure gauge test station (precision pressure gauge calibrator)

MDJB-series wide-range piston pressure gauge is newly developed, designed and manufactured by our company in accordance with the latest national "Piston pressure gauge test station" verification regulations (JJG59-2007). Because its key components use tungsten carbide materials with high hardness and low temperature linear expansion coefficient, which improves the wear resistance of the piston, the deformation after pressure is extremely small (negligible) and the performance is extremely stable. The working medium of the piston uses diisooctyl sebacate, which makes the pressure gauge extremely sensitive. Due to the use of new materials, new technologies and new processes, the technical indicators of the new Piston pressure gauge test station have been greatly improved. It is widely used to calibrate pressure instruments such as digital pressure gauges, precision pressure gauges, pressure transmitters, and pressure sensors.

Performance characteristics

1. The piston and piston cylinder are made of high-strength, high-hardness, and low-temperature linear expansion coefficient cemented carbide tungsten carbide materials after careful grinding. The working environment temperature is wide and the performance is stable at 20±5°C.
2. The load center of gravity is low, and the weight is directly added to the piston through the hanging basket. The piston runs smoothly, the pressure fluctuation is very small, and the indication is accurate.
3. The pressure medium above 25MPa uses diisooctyl sebacate with very low viscosity, so as to ensure that the pressure gauge has extremely high sensitivity.
4. The weights used in the pressure gauge are made of carbon steel material for 0.05 grade, and all non-magnetic stainless steel materials above 0.02 grade.
5. The working position of the piston is monitored by a displacement sensor. The piston has an up and down stroke of 0~3mm. The instrument display has the advantages of sensitivity, eye-catching and accuracy.
6. The pressure gauge above 25MPa is designed with a protection system to avoid breaking the piston rod due to improper operation.
7. The pressure adjustment is light and labor-saving, and it can be done easily even at a pressure of 100MPa.

Main technical parameters:

a. Measurement range and measurement aacy level
The measurement accuracy level is shown in the table below when the ambient temperature is (20±2)°C and the temperature fluctuation is no more than 0.5°C

Model	Test range (MPa)	Accuracy
MDJB-6T	0.04～0.6	±0.05%
MDJB -60T	0.1～6	±0.02%
MDJB-250T	0.5～25	
MDJB-600T	1～60	
MDJB -1000T	1～100	

The quality and quantity of the weights are shown in the table below.

Model	Test range (MPa)	Piston weight + chassis weight (kg) / pressure	Weight mass (kg) and quantity (pieces) — Pressure from weights						
			0.1kg / MPa	0.2kg / MPa	0.5kg / MPa	1kg / MPa	2kg / MPa	4kg / MPa	5kg / MPa
MDJB-6T	0.04～0.6	0.4 / 00.4	1 / 0.01	2 / 0.02	1 / 0.05	5 / 0.1			
MDJB -60T	0.1～6	1 / 0.1	1 / 0.01	2 / 0.02	1 / 0.05	1 / 0.1	2 / 0.2	1 / 0.4	10 / 0.5
MDJB-250T	0.5～25	1 / 0.5	1 / 0.05	2 / 0.1	1 / 0.25	1 / 0.5	2 / 1	1 / 2	8 / 2.5
MDJB-600T	1～60	1 / 1	1 / 0.1	2 / 0.2	1 / 0.5	1 / 1	2 / 2	1 / 4	10 / 5
MDJB -1000T	1～100	1 / 1	1 / 0.1	2 / 0.2	1 / 0.5	1 / 1	2 / 2	1 / 4	18 / 5

PLC Controlled Setting Test Point Pressure Gauge Calibration Table

PLC Controlled Setting Test Point Pressure Gauge Calibration Table is divided into two types according to the test medium: gas calibration table and liquid calibration table

Main features

Test product: ordinary pressure gauge
Test pressure range: 0.1-6MPa; three pressure points can be tested: 0.1-0.6MPa, 0.6-2.5MPa, 2.5-6MPa;
Test medium: 0.1-6MPa compressed air
(If the workshop does not have a 0.8-6MPa gas source, ODMT can be equipped with a gas booster system);
Test point of pressure section: each pressure gauge determines three pressure points according to the pressure gauge range, such as a 6MPa pressure gauge, the calibrated pressure points are 1MPa, 3MPa, 6MPa;
Pressure measurement accuracy: ±0.1%F.S
Pressure control accuracy: ±2%F.S
Constant pressure accuracy: -2～+2%
Test station: 3 stations (one master station, 2 test stations)
Control mode: Siemens PLC control, touch screen operation
Pressure regulation mode: proportional servo precision pressure regulation, closed-loop control

Liquid Setting Test Point Pressure Gauge Calibration Table

Test product: ordinary pressure gauge
Test medium: clean water
Pressure measurement accuracy: ±0.1%F.S
Pressure control accuracy: ±2%F.S
Constant pressure accuracy: -2～+2%

Test station: 3 stations (one master station, 2 test stations)
Control mode: Siemens PLC control, touch screen operation
Pressure regulation mode: proportional servo precision pressure regulation, closed-loop control

Calibration pressure range: 10-60MPa, calibrated pressure gauge range: 0-10MPa, 0-16MPa, 0-25MPa, 0-40MPa, 0-60MPa;
Calibrated test points of pressure section: Each pressure gauge needs to select three calibrated pressure points according to the range, for example: for a pressure gauge with a range of 10MPa, the calibrated pressure points are 2MPa, 5MPa, and 10MPa;

Computer controlled gas setting test pressure point pressure gauge calibration table

Performance parameters

Test product: ordinary pressure gauge
Test pressure range: 0.1-6MPa; three pressure points can be tested: 0.1-0.6MPa, 0.6-2.5MPa, 2.5-6MPa;
Test medium: 0.1-6MPa compressed air
(If the workshop does not have a 0.8-6MPa gas source, ODMT can be equipped with a gas booster system);
Test point of pressure section: each pressure gauge determines three pressure points according to the pressure gauge range, such as a 6MPa pressure gauge, the calibrated pressure points are 1MPa, 3MPa, 6MPa;
Pressure measurement accuracy: ±0.1%F.S
Pressure control accuracy: ±2%F.S
Constant pressure accuracy: -2～+2%
Test station: 3 stations (one master station, 2 test stations)
Control mode: Computer control, mouse/touch screen operation, automatic recording, automatic generation of test reports.

Computer controlled liquid setting test pressure point pressure gauge calibration table

Test medium: clean water
Pressure measurement accuracy: ±0.1%F.S
Pressure control accuracy: ±2%F.S
Constant pressure accuracy: -2～+2%
Test station: 3 stations (one master station, 2 test stations)
Control mode: Computer control, mouse/touch screen operation, automatic recording, automatic generation of test reports.
Pressure regulation mode: proportional servo precision pressure regulation, closed-loop control

Calibration pressure range: 10-60MPa, calibrated pressure gauge range: 0-10MPa, 0-16MPa, 0-25MPa, 0-40MPa, 0-60MPa;
Calibrated test points of pressure section: Each pressure gauge needs to select three calibrated pressure points according to the range, for example: for a pressure gauge with a range of 10MPa, the calibrated pressure points are 2MPa, 5MPa, and 10MPa;

Features:

1. The equipment includes: positive and negative pressure test system and liquid test system. The positive and negative pressure test system can perform vacuum and low pressure range calibration, and the liquid test system can calibrate the high pressure range pressure gauge;
2. The vacuum test part uses German Leybold vacuum pump and vacuum pressure gauge;
3. Low pressure test process: reduce the high pressure gas pressure for testing;
4. High pressure test process: use low pressure compressed air as the driving gas source to drive the booster to increase the liquid pressure to calibrate the pressure gauge. (If the pressure gauge needs to be calibrated with gas, ODMT can customize the high pressure gas calibration system)
5. The booster of the high pressure boosting system is designed by our company, with the characteristics of high pressure and large flow;
6. All valves of the overall equipment are imported high-performance products, such as SMC for vacuum valves, Festo, Asco, Tescom, etc. for proportional pressure reducing valves;
7. Siemens PLC control: It has the function of dynamically displaying test data, and can query and call test data by category and print calibration reports;

Pressure gauge overpressure leak test bench

Micro-pressure gauge overpressure leak test bench

Model: MFCG-2-150KPA-29
Driving pressure: 0.6MPa gas source
Test medium: gas
Test pressure: 0-150KPa

Test station: 29 stations
Control and operation mode: Siemens PLC control, manual selection of required pressure mode, automatic control of output pressure.

Overpressure leakage detection test table of low pressure gauge MGS-Y6-30-PB

Product Introduction

This equipment tests overpressure and leak detection by using a high-pressure gas source (self-provided by the user) or a high-pressure gas source output by the booster system equipped with the equipment. According to the test requirements, the pressure of the high-pressure gas source is adjusted through a proportional high-pressure reducer to stabilize the outlet. The system reaches the pressure and then performs a pressure holding test. After the pressure holding time is reached, it automatically stops and determines the test results. It has the characteristics of high degree of automation, adjustable output pressure, simple operation, and reliable performance.

Product Introduction

Model: MGS-Y6-30-PB
Driving pressure: 0.8MPa
Test medium: gas
Gas source pressure: 0-8MPa (if there is no high-pressure gas source, ODMT can be equipped with a gas booster pump)
Test pressure: 0.1-8MPa
Test station: 30 stations
Control and operation mode: PLC control of Siemens, manual selection of required pressure mode, automatic control of output pressure
Remarks: Overpressure leak test benches with "non-immersion" and "immersion" specifications can be customized according to needs

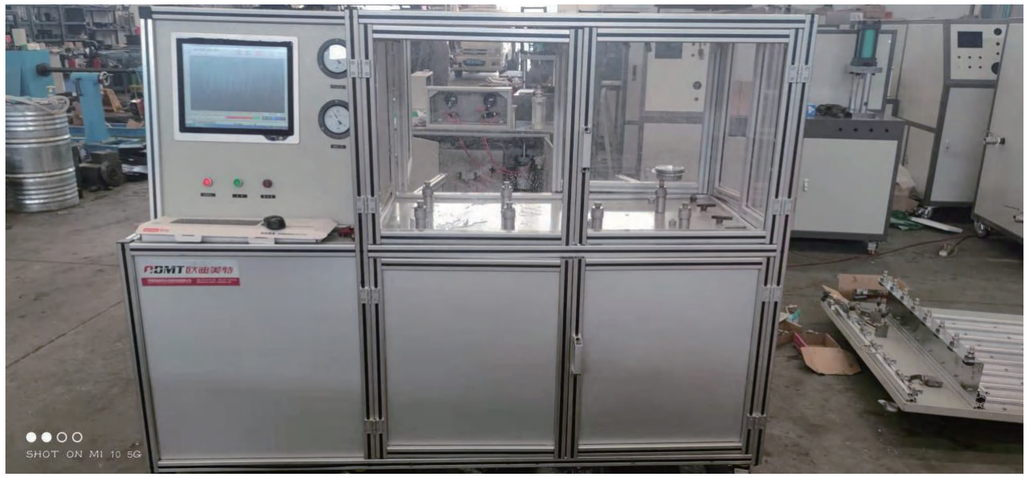
High pressure gauge overpressure leak test bench

Model: MLS-PT80H-20P

Driving pressure: 0.8MPa compressed air
Test medium: clean water (or other liquids)
Test pressure: 10-80MPa
Control and operation mode: PLC control of Siemens, manual selection of required pressure mode, output pressure
automatic control
Remarks: Please consult our company for overpressure test benches above 80MPa.

Pressure fatigue pulse test bench

Gas Test Fatigue Test Bench



The equipment tests the gas fatigue test through the high-pressure gas source (prepared by the user) or the high-pressure gas source output by the booster system equipped with the equipment. According to the test requirements, the high-pressure gas source pressure is adjusted through the proportional high-pressure reducer to stabilize the output. After the system reaches the pressure, it automatically unloads and can repeatedly increase the pressure and cycle the test. After reaching the set fatigue times, the equipment automatically stops. It has the characteristics of high degree of automation, adjustable output pressure, simple operation, and reliable performance.

Gas-testing technical parameters:

1. Type: gas proportional control system;
2. Test medium: air or nitrogen
3. Test pressure: 0.1-1MPa;
4. Pulse frequency: can be set within the range of 0-0.5Hz
5. Number of test pieces at the same time: designed according to customer requirements, each piece can be controlled separately, and a special pressure gauge quick connector is standard;
6. Number of single cycles: up to 1 million times (can be set);
7. Control method: computer control, set the test pressure, pulse number, pulse frequency through the control software written in Labview, and then start the test. When the number of tests is reached, it will automatically stop and alarm.

Liquid Test Fatigue Test Bench

The equipment uses hydraulic drive, and the output oil (water) pressure is proportional to the hydraulic pump pressure. By adjusting the pressure of the driving hydraulic source, the low-pressure oil (water) is pressurized to high-pressure oil (water). The pulse pressure is set by the pressure controller, so that the system automatically unloads after reaching the pressure and can repeatedly pressurize and cycle test, and automatically stops when the set pulse number is reached. Its characteristics include high degree of automation, adjustable output pressure, simple operation, reliable performance, and wide range of applications.

Technical parameters of liquid-driven fatigue test bench

1. Type: liquid-driven control system;
2. Test medium: hydraulic oil or water;
3. Test pressure: 1.6-6MPa,
10-60MPa, 25-160MPa, 60-400MPa;
4. Pulse frequency: can be set within the range of 0.5-1Hz;
5. Number of test pieces at the same time: designed according to customer requirements, each piece can be controlled separately, and a special pressure gauge quick connector is standard;
6. Number of single cycles: up to 1 million times (can be set);
7. Control mode: computer control, set the test pressure, pulse number, and pulse frequency through the control software written in Labview, and start the test. When the number of tests is reached, it will automatically stop and alarm.

Pressure gauge cover automatic tightening and leak detection integrated machine

Product Introduction

This equipment is used to assemble the cover and case of the pressure gauge together. First, place the case and cover on the tooling, click the start button, and the equipment will automatically tighten the cover and automatically detect leaks after tightening. Leak test: Fill with gas and perform pressure test. If there is no pressure release within the specified time, it is considered qualified. After the test is completed, tighten and leak test the next workpiece.
Siemens PLC control, automatically tighten and leak test, automatically determine qualified and unqualified, and display on the touch screen. Specifications of tightening pressure gauge: two cases with a diameter of 100mm and 150mm.
Note: Because each pressure gauge manufacturer uses different molding molds for the case, a sample of the pressure gauge case is required when ordering.

Intelligent pressure gauge cover edge sealing machine

Product Introduction

The purpose of this equipment is to assemble the meter cover by squeezing and deforming the meter cover through a mold and then fixing it on the meter case.
Working process: Put the pressure gauge housing and the meter cover together on the upper tooling, and position them according to the shape of the meter cover. After starting the equipment, the pressing cylinder drives the upper tooling and the bearing to press down. After pressing the meter case, start the hydraulic cylinder, and squeeze the forming mold driven by the cylinder inward. After reaching the specified position, it automatically returns.

Equipment features

1. The workpiece is extruded and formed, with a smooth surface without wrinkles;
2. Siemens PLC intelligent control, parameter setting through the touch screen;
3. All cylinders are controlled by solenoid valves;
4. Stable performance and low noise;
5. It can package pressure gauges with diameters of 60mm and 100mm.

Intelligent automatic pressure oil injection machine

Product Introduction

The equipment is fully automatically controlled by Siemens PLC intelligent control, automatic metering, automatic filling, and the filling medium is silicone oil or glycerin.
The equipment consists of an electronic scale, oil storage tank, heating device, oil pump, metering pump, induction device, oil filling station, PLC control system, and 4-station setting (can also be 2-station setting).
The automatic pressure gauge oil filling machine has the functions of low liquid level alarm, oil tank heating, automatic, manual, and inching oil filling; it can realize the setting of flow rate, flow velocity, and filling volume; it is suitable for filling pressure gauges of multiple specifications and models;
The equipment is equipped with an electronic scale for weighing the barrel medium. When it is lower than a certain weight, the equipment will alarm and prompt replacement; the oil is pumped into the oil storage barrel through the motor pump group. When the oil storage barrel is full, the motor pump group automatically stops working to avoid the motor working for a long time; then the system composed of servo motor and metering pump injects the medium into the filling station respectively, and each station is equipped with a sensing device to realize automatic filling and stopping; the oil storage barrel is equipped with a temperature sensor to adjust the medium temperature in time; the station height is adjustable to meet the filling of pressure gauges of different specifications.