

**ANTON 安東**



# Metrological Detection Technology

**东方智慧 全球分享**  
Oriental wisdom , Global sharing

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## 1.1 Brief Introduction of Service Capability

Anton Instrument Testing Co., Ltd., as the pioneer and leader of the third-party testing and calibration service in China's private oil and gas service industry, is a comprehensive third-party organization integrating instrument maintenance and testing, instrument matching, type selection and procurement consulting services, providing one-stop solutions for enterprises worldwide. The Company was established in 2009 with a registered capital of 50 million yuan. The total number reached 77, including 5 national first-class registered metrologists, 14 national second-class registered metrologists, more than 46 holding certificates of inspectors, and 44 senior and middle-level testing engineers.

The company has passed 250 items of testing and calibration approved by China National Accreditation Service for Conformity Assessment (CNAS), 41 items of metrological standard building assessment, 16 items of compulsory metrological authorization, over 300 person-times/item of metrological verification, F1-F2 verification and maintenance certificate. Laboratories and testing centers have been set up in Iraq's Halfaya oil field, Chengdu, Chongqing and Xinjiang in China. The total number of equipment exceeds 1,398 sets and the detection capacity exceeds 2,200 sets (pieces)/day.

The scope of service covers six categories of measuring instruments, including geometric sense, thermology, mechanics, electrology, chemistry and optics, as well as security equipment such as safety valves, positive pressure air respirator and safety gauge testing. The service network is all over the world, and the testing report has been recognized by laboratories in many countries and regions around the world and has international credibility. As an internationalized and diversified professional testing and certification institution, Anton aspires to become the industry leader with forward-looking vision.

## 1.2 Service Performance

- Customers of oil and gas fields already served: Tarim, Karamay, Southwest, Changqing, etc. and Iraqi Halfaya oil fields overseas, etc.
- More than 400 other clients have been served, covering food, pharmacy, machinery, electronics, electricity, chemical industry, etc.
- A total of 200,000 pieces of various instruments and equipment have been tested/verified/calibrated.

<p>中国石化天然 塔里木</p> <p>计量器具检测</p> <p>项目名称: 塔里木油 检测</p> <p>委托方: 中国石化 塔里木</p> <p>受托方: 安东仪器</p> <p>签订地点: 青</p>	<p>流量计及标准器检定</p> <p>合同编号: 2016-8</p> <p>(委托方) 甲方: 中国石化 (受托方) 乙方: 安东仪器</p> <p>签订地点: 青海</p>	<p>2017 年塔指、北疆井队 检测</p> <p>中石化胜利工程公司</p> <p>甲方(委托方): 中国石化 乙方(受托方): 安东仪器</p> <p>本合同于 2017 年 7 月 27</p>	<p>合同编号: XNS15CL2017-003</p> <p>承揽合同 (检验检测类)</p> <p>定作人: 中国石化天然气股份有限公司 西 技术研究院</p> <p>承揽人: 安东仪器仪表检测有限公司</p> <p>合同名称: 工程院 2017 年计量器具校准</p> <p>签订地点: 成都市</p> <p>签订时间: 2017 年 3 月 31 日</p>	<table border="1"><thead><tr><th colspan="2">PETROCHINA INTERNATIONAL IRAQ FZE IRAQ BRANCH</th></tr></thead><tbody><tr><td colspan="2">Contract Description</td></tr><tr><td>Contract Number</td><td>HPY-CONPO000-0007</td></tr><tr><td>SAP Number</td><td>35001547</td></tr><tr><td>Description of Service</td><td>Provision of Inspection, Calibration &amp; Certification of Fire and Gas Detectors for CPEI, CPEI and F&amp;G</td></tr><tr><td>Budget</td><td>CPEI, CPEI and F&amp;G Facilities, Halfaya Offshore, Mission Protection, Iraq</td></tr><tr><td>Location of Service</td><td>CPEI, CPEI and F&amp;G Facilities, Halfaya Offshore, Mission Protection, Iraq</td></tr><tr><td>Patron/Client Contact</td><td>Zhu Junren</td></tr><tr><td>Department &amp; Division</td><td>Production</td></tr><tr><td>Contact Numbers</td><td>Telephone: 971 4 440 4100</td></tr><tr><td>Email Address</td><td>halfaya_ammunition@petrochina-irac.com</td></tr><tr><td colspan="2">Contractor's Details</td></tr><tr><td>Contractor</td><td>Joint Venture of Anton Offshore Services DMCC and SGS Supervise Gasoline Fuel Control Services Eilat Branch</td></tr><tr><td>Address</td><td>Unit No.1001, Jeddah Tower, Cluster Y, Jumeirah Lake Towers, Dubai, U.A.E.</td></tr><tr><td>Principal Contact (Name)</td><td>Mr. Ma Jian</td></tr><tr><td>Contact Information</td><td>Telephone: 00971 4 425 0018/00071 55 Fax: 00971 4 425 0010 Email Address: qian_jian@anton.com</td></tr><tr><td colspan="2">Award Details</td></tr><tr><td>Currency of Payment</td><td>United States Dollars</td></tr><tr><td>Effective Date</td><td>1st October 2016</td></tr><tr><td>Term</td><td>Three (3) Years</td></tr><tr><td>Price</td><td>294,402.57 (Two Hundred Ninety Four Thousand and Four Hundred Two United States dollars and Fifty Seven Cents only)</td></tr><tr><td colspan="2">EXHIBIT</td></tr><tr><td>1. Signature Page</td><td>Number of Pages</td></tr><tr><td>2. Terms and Conditions</td><td>A</td></tr><tr><td>3. Scope of work</td><td>B</td></tr><tr><td>4. Schedule of Compensation</td><td>C</td></tr><tr><td>5. Bank Guarantee</td><td>D</td></tr><tr><td>6. Parent Company Guarantee</td><td>E</td></tr><tr><td>7. Insurance</td><td>F</td></tr><tr><td>8. HSE &amp; Security Requirements</td><td>G</td></tr><tr><td colspan="2">The Parties acknowledge and agree that this Agreement is subject to the Terms and Conditions attached hereto as Exhibits including, but not limited to, "Exhibit A", all of which together shall constitute this Agreement ("Agreement"). 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# 1.3 Qualification-Industry



Certificates	Certification Authority
CNAS Laboratory Accreditation	China National Accreditation Service for Conformity Assessment
Measurement Standard Assessment Certificate	Administration of Quality and Technical Supervision of Sichuan Province PRC
Quality Management System Certification	Beijing Zhongjing Kehuan Quality Certification Co., Ltd.
Occupational Health and Safety Certification	Beijing Zhongjing Kehuan Quality Certification Co., Ltd.
Environmental Management System Certification	Beijing Zhongjing Kehuan Quality Certification Co., Ltd.
Health, Safety and Environmental Management System Certification	Beijing Zhongjing Kehuan Quality Certification Co., Ltd.

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## 2.1 Temperature Laboratory

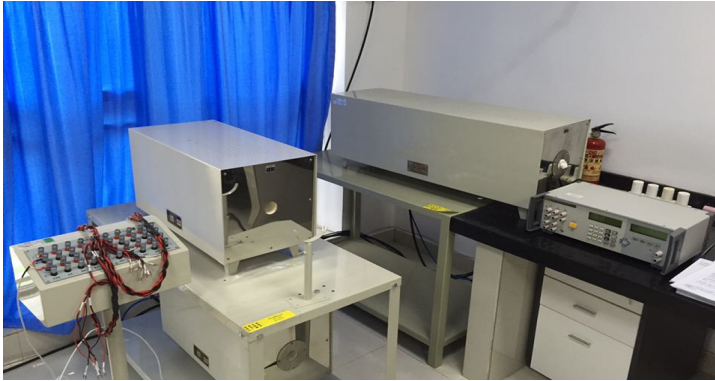
Measurement standard building examination passed: first-class thermocouple, second-class platinum resistor, environmental test equipment, temperature secondary instrument, precision dew point meter, etc.

41 CNAS calibration approvals.





## 2.1 Temperature Laboratory



### Thermocouple Verification Device

1. Measurement range:  $(-60 \sim 1300)^{\circ}\text{C}$
  2. Measurement Accuracy: Grade I
- Projects carried out: Various types of precious metals and inexpensive metal thermocouples.



### Temperature and Humidity Verification Device

1. Measurement range:  $(5 \sim 50)^{\circ}\text{C}$   
 $(30 \sim 90) \% \text{RH}$
  2. Measurement accuracy: temperature  $\leq 0.5^{\circ}\text{C}$ ;  
Humidity  $\leq 0.8\% \text{RH}$
- Projects carried out: various temperature and humidity meters, temperature and humidity sensors, etc.



## 2.1 Temperature Laboratory



### Platinum Resistance Verification Device

1. Measurement range:  $(-60 \sim 300)^{\circ}\text{C}$
  2. Measurement Accuracy: Grade II
- Projects carried out: contact temperature instruments such as platinum resistors, temperature transmitters, bimetallic thermometers and glass thermometers.



### Portable Thermostatic Bath Device

1. Measurement range:  $(-60 \sim 300)^{\circ}\text{C}$
  2. Measurement Accuracy: Grade II
- Projects carried out: contact temperature instruments such as platinum resistors, temperature transmitters, bimetallic thermometers and glass thermometers.

## 2.2 Physics and Chemistry Laboratory

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### Physical and Chemical Laboratory

Measurement and calibration examination passed: gas chromatograph, ultraviolet and visible spectrophotometer, acidimeter, viscometer, densimeter, glass meter, etc.

It has also passed 43 CNAS calibration approvals.



### Viscometer Verification Device

1. Measurement range: (2 ~ 100000) mm<sup>2</sup>/s
2. Measurement accuracy: Grade II

Projects: various capillary viscometers, rotary viscometers, outflow cup viscometers, rolling ball viscometers, etc.



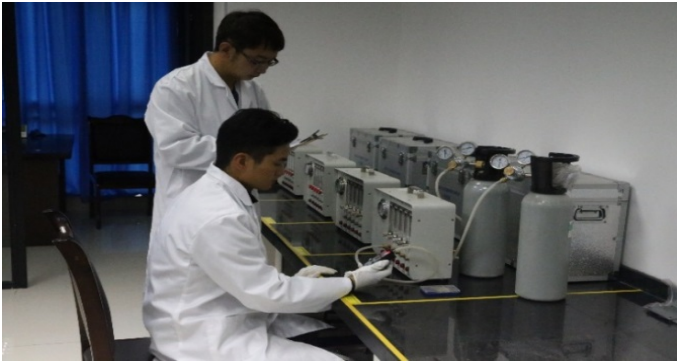
### Verification Device of Densimeter

1. Measurement range: (650 ~ 2000) kg/m<sup>3</sup>

2. Measurement Accuracy: Grade I

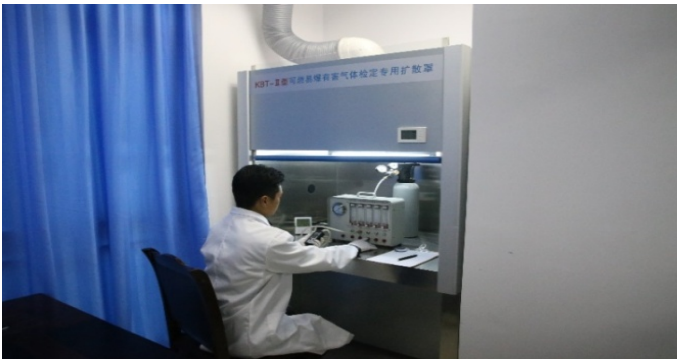
Projects carried out: various densitometers, alcohol meters, baume meters, etc.

## 2.3 Gas Laboratory



### Gas Laboratory

Measurement and standard-setting assessment passed: combustible gas, hydrogen sulfide gas, oxygen concentration, carbon monoxide, sulfur dioxide, ammonia, etc.  
9 CNAS calibration approvals.



### Verification Device of Alarm Device

1. Measurement range: (0 ~ 100%)  
Projects carried out: various combustible, explosive, toxic and harmful gas detectors.



### Field Testing/Calibration

1. On-site detection/calibration of various combustible, explosive, toxic and harmful gas alarms.

## 2.4 Length Laboratory



### Length Laboratory

Measurement and standard-building assessment passed: level gauge, flat plate, four equivalent blocks, vernier gauge, level gauge, steel tape measure, orifice plate, etc.

54 CNAS calibration approvals.



### Universal Length Meter

Measurement range: (0 ~ 100) mm

Measurement accuracy:  $U=0.5\mu\text{m}$   $k=2$

Projects carried out: shaft, hole, plug gauge, ring gauge, clamping gauge, measuring rod, cone, smooth cylindrical parts, low-grade measuring block, internal thread, external thread, thread plug gauge, thread ring gauge, micrometer, vernier caliper, dial gauge, etc.



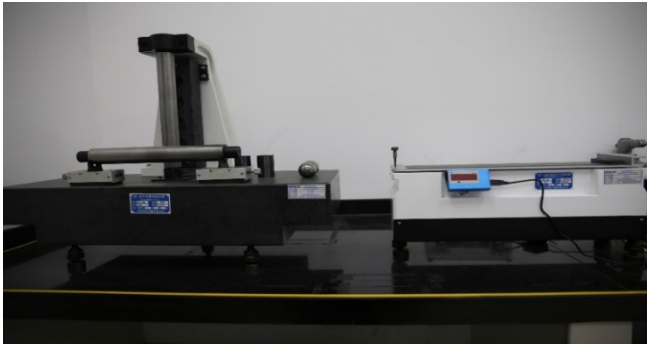
### Universal Tool Microscope

Measurement accuracy:  $(1+L/100)\mu\text{m}$

Projects carried out: diameter, length, angle and hole position of the workpiece; Geometric parameters of various cutting tools, dies and measuring tools; The length, width and distance of the line on the printed circuit board and the size and location of the component welding holes; 2-D form and location tolerance of various parts, etc.

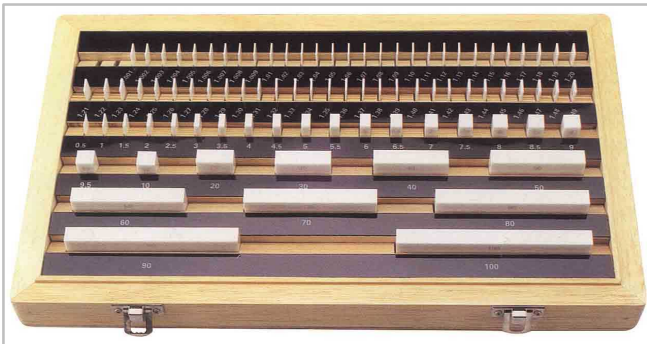


## 2.4 Length Laboratory



### Level Meter Verification Device

1. Measuring range:  $\pm 1.5\text{mm/m/m}$
  2. Measurement accuracy:  $0.0025\text{mm/m}$
- Projects carried out: various levels.



### Gauge Block Standard Device

1. Measurement range:  $(0.5 \sim 291.8) \text{ mm}$
  2. Measurement Accuracy: Grade IV
- Projects carried out: vernier, indicator, micrometer and other calipers.



### Steel Tape Measuring Device

1. Measuring range:  $(0 \sim 5) \text{ m}$
  2. Measurement Accuracy:  $\pm (0.03 + 0.03 L) \text{ mm}$
- Projects carried out: all kinds of steel tape, cloth ruler, etc.

## 2.5 Mechanics Laboratory



### Mechanics Laboratory

Measurement and standard building  
assessment passed: standard  
dynamometer, weight, torque, hardness  
tester, rotation speed, etc.  
33 CNAS calibration approvals.



### Torque Wrench Tester

1. Measuring range: (0.5 ~ 3000) n.m
  2. Measurement accuracy: Grade 0.3
- Projects carried out: all kinds of torque meters.





### Standard Device for Dynamometer

1. Measurement range: (0.1 ~ 2000) kN
  2. Measurement accuracy: Grade 0.3
- Projects carried out: All kinds of tension, pressure and universal testing machines



### Verification Device of Tachometer

1. Measurement range: (1 ~ 30000) r/min
  2. Measurement accuracy: Grade 0.01
- Projects carried out: various tachometers, speed sensors, etc.



### Tension Meter Calibration Device

1. Measurement range: (7 ~ 50) n
  2. Measurement accuracy: Grade 1.6
- Project carried out: screen tensiometer.



### Digital Shore Hardness Tester Verification Device

1. Measurement range: (0 ~ 50) n
  2. Measurement accuracy: Grade 0.1
- Projects carried out: Type A Shore Hardness Tester, Type D Shore Hardness Tester, etc.

## 2.6 Pressure Laboratory



### Pressure Laboratory

Measurement and standard building examination passed: 0.01 class piston manometer, 0.05 class piston manometer, etc.  
28 CNAS calibration approvals.



### 0.01 Piston Pressure Gauge Standard Device

1. Measurement range: (-0.1 ~ 250) MPa
2. Measurement accuracy: Grade 0.01

Projects carried out: piston pressure gauge, digital pressure gauge, pressure transmitter, pressure controller, precision pressure gauge, general pressure gauge and other pressure instruments.

## 2.7 Electrical Laboratory



### Electrical Laboratory

Measurement and standard building assessment passed: digital multimeter, insulation resistance meter, frequency meter, leakage current tester, grounding resistance meter, withstand voltage tester, etc. 42 CNAS calibration approvals.



### Multifunctional Product Calibrator

Projects carried out: digital multimeter, power meter, power factor meter, frequency meter, etc.

## 2.7 Electrical Laboratory



### Functional Electrical Safety Calibrator

1. Measuring range: (0 ~ 5) m
  2. Measurement Accuracy:  $\pm(0.03+0.03 L)$  mm
- Projects carried out: various types of steel tape, cloth ruler, etc.



### Insulation Resistance Verification Device

1. Measurement range:  $0\Omega \sim 21G\Omega$
  2. Measurement accuracy: 0.2%
- Projects carried out: insulation resistance, insulation resistance tester, etc.

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1. Localization of professional services, global information sharing;
2. One-stop solution provider for testing, calibration and technical services;
3. Flexible and efficient service, providing on-site+laboratory testing;
4. Perfect information service system to realize overall process control;
5. Provision of scheme design and technical consulting services.



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**THANKS!**

Helping others succeed...