

Discovery DSC25P



Site Preparation Guide

Table of Contents

| | |
|----------------------------------|-----|
| Table of Contents | 1 |
| Ideal Setup | 2 |
| System Components..... | 3 |
| Instrument Measurements | 4 |
| Utility Requirements..... | 5-6 |
| Power | 5 |
| Gas | 6-7 |
| Computer Requirements | 8 |
| Site Preparation Checklist | 9 |
| TA Instrument Offices..... | 10 |

Ideal Setup



IDEAL PLACEMENT AND BENCH MEASUREMENTS

Select a location with a rigid laboratory bench that is level and is in a vibration-free environment.



Bench length: 183 cm (72 in)

Bench depth: 76 cm (30 in)

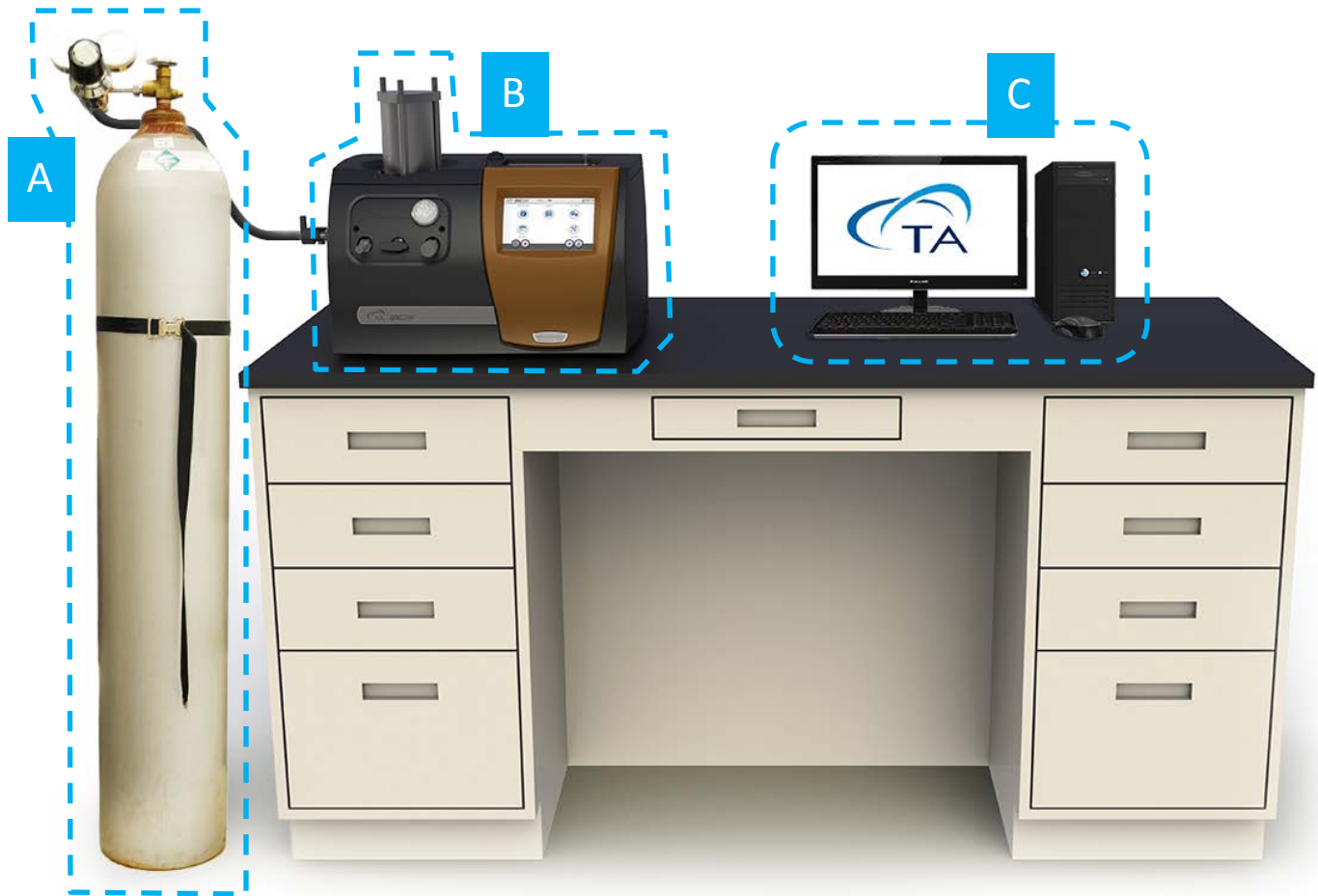


Allow free air to circulate around the instrument. Do not place equipment against walls or cabinets that might impede air flow. Leave at least 7.5 cm (3 in) clearance around the Discovery DSC25P.

System Components



MAIN SYSTEM COMPONENTS



- A. Gas Tank
- B. Instrument
- C. Computer (Controller)

Instrument Measurements



MAIN INSTRUMENT



Height: 50 cm (19.5 in)

Width: 61 cm (24 in)

Depth: 66 cm (26 in)

Weight: 35 kg (77 lbs)

Utility Requirements



POWER

Instrument

- 100–240 VAC, 47/63 Hz, 600 W
- Safety ground per local regulation

Power cords



CAUTION

Use power cords with plugs appropriate for your circuit.

CAUTION

Supply voltages lower than indicated may result in a degradation of performance.

CAUTION

Ensure that the mains assigned do not also supply power to noise generating equipment nearby, such as motors, welders, transformers, etc.

CAUTION

An independent heavy GROUND wire must be provided through the power hookup. Improper grounding may cause severe damage for which the supplier will not accept responsibility. All power strips must be fully grounded and carry the ground through to the sockets into which the computer is plugged.

Utility Requirements



GAS

Purge gases: Nitrogen, air, oxygen, carbon monoxide, carbon dioxide, hydrogen, helium, argon.



OXYGEN WARNING: If excessive amounts of **hydrocarbons** are present in the DSC25P, energetic combustion could occur causing damage to the DSC25P cell and possible injury to the operator. Oxygen supply lines valves, gauges, and regulators must be free from hydrocarbons and rated for oxygen service. If the inside of the tubing smells oily or has liquid or black carbon residue in it, hydrocarbons may be present. Remove the pressure housing and visually inspect the DSC25P cell for oil or other organic contaminants. Immediately discontinue use if contamination (spilled samples, oily residue, oily smell, carbon black, etc) occurs. Check that all supply tubing connecting your DSC25P to other devices (oxygen cylinder, gauges, valves, regulators) are .125 in. OD, are rated for high pressure service to 21 MPa gauge, and are free of hydrocarbons.



HYDROGEN WARNING: Hydrogen gas should be used with extreme care. It is **highly flammable** when exposed to flame or oxidizing materials. [The Sax Safety Handbook, Dangerous Properties of Industrial Materials, indicates that the lower explosion limit (LEL) under ambient conditions for hydrogen is 4.1% in air. Care should be taken to keep the concentration below this value.] When using hydrogen in the Pressure DSC cell, the cell should be initially purged thoroughly with helium before introducing hydrogen.



LIQUID NITROGEN will burn the skin because of its extremely low temperature. When handling liquid nitrogen, wear goggles or a face shield and gloves large enough to be removed

Utility Requirements



GAS

| Description | Requirement |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Atmosphere | -100 kPa – 7 MPa (1 Pa to 7 MPa absolute), constant pressure or constant volume |
| Dynamic Gas Pressure | To 200 mL/min (cell flow rate) |
| Regulator | <ul style="list-style-type: none"> • Customer-supplied • Two-stage regulator with output range 0 to 1000 psig • Oxygen-rated |
| Supply tubing | <ul style="list-style-type: none"> • Customer-supplied • 0.125-in OD • Must be rated for high pressure service to 21 mPa gauge (3000 psig) • Must be free of hydrocarbons |
| Conditions | <ul style="list-style-type: none"> • Must be dry • Must be free from oil and dirt |
| Quench Cooler | To -130°C with liquid nitrogen |



Quench Cooler
(P/N 970316.000)

Computer Requirements



HARDWARE REQUIREMENTS

| Description | Requirement |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Processor | <ul style="list-style-type: none">Intel® Core™ 2 Duo or better2.93 GHz with 3 MB L2 cache |
| Memory | Required: ≥ 4 GB RAM Recommended: 8 GB RAM |
| Hard drive | ≥ 80 GB free space <ul style="list-style-type: none">700 MB required for Full version of TRIOS400 MB required for Lite version of TRIOS (without Online help) |
| DVD | ≥ 48x CD-ROM or DVD |
| Screen resolution | Required: 1280 x 1024 with 24-bit colors Recommended: 1920 x 1080 with 24-bit colors |
| Graphic memory | 128 MB |
| Screen (LCD) size | Required: 19" or greater Recommended: 24" wide screen |



SOFTWARE REQUIREMENTS

| Item | Requirement |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating System | <ul style="list-style-type: none">Windows 7, 8, 10 Ultimate, Enterprise, & ProfessionalHome version not supported |
| | Required: 32-bit or 64-bit version Recommended: 64-bit version |
| Other | Microsoft Operating System Service Pack |
| Other | Must be up-to-date |
| Browser | Internet Explorer |
| Network | <i>TA Instruments is not responsible for resolving issues associated with connections to your corporate network.</i> |
| Conflicts | <i>TA Instruments is not responsible for resolving hardware/software conflicts created by the addition of third party hardware or software to the computer.</i> |

Site Preparation Checklist



Discovery DSC25P

| | |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Sufficient bench space for instrument and computer <input type="checkbox"/> Length: 183 cm (72 in) <input type="checkbox"/> Depth: 76 cm (30 in) |
| | <input type="checkbox"/> Instrument power is 100–240 VAC, 47/63 Hz, 600 W |
| | Purge gas– Nitrogen, air, oxygen, carbon monoxide, carbon dioxide, hydrogen, helium, argon. <input type="checkbox"/> Purge gas pressure: -100kPa gauge (-15 psig) to 7 MPa gauge (1000 psig) constant pressure or constant volume <input type="checkbox"/> Customer-supplied two-stage regulator with output range 0 to 1000 psig, rated for oxygen <input type="checkbox"/> Dynamic gas purge: to 200 mL/min (cell flow rate) <input type="checkbox"/> I have read and understand the OXYGEN warning <input type="checkbox"/> I have read and understand the HYDROGEN warning <input type="checkbox"/> I have read and understand the LIQUID NITROGEN warning |

I hereby acknowledge that all utility requirements have been met per the checklist above and that they will be ready at the agreed time of installation.

If all utility requirements are not met at the agreed time of installation, additional charges may be incurred for a return Service trip.

 Customer DD / MM / YYYY

 Company City State Country

Please send a signed copy of the completed checklist to your local Service representative.

TA Instruments Offices

For information on our latest products, contact information, and more, see our website at:
<http://www.tainstruments.com>.

To find your local TA Instruments office and contact information, visit
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