Discovery DSC 25, DSC 250, DSC 2500

Site Preparation Guide

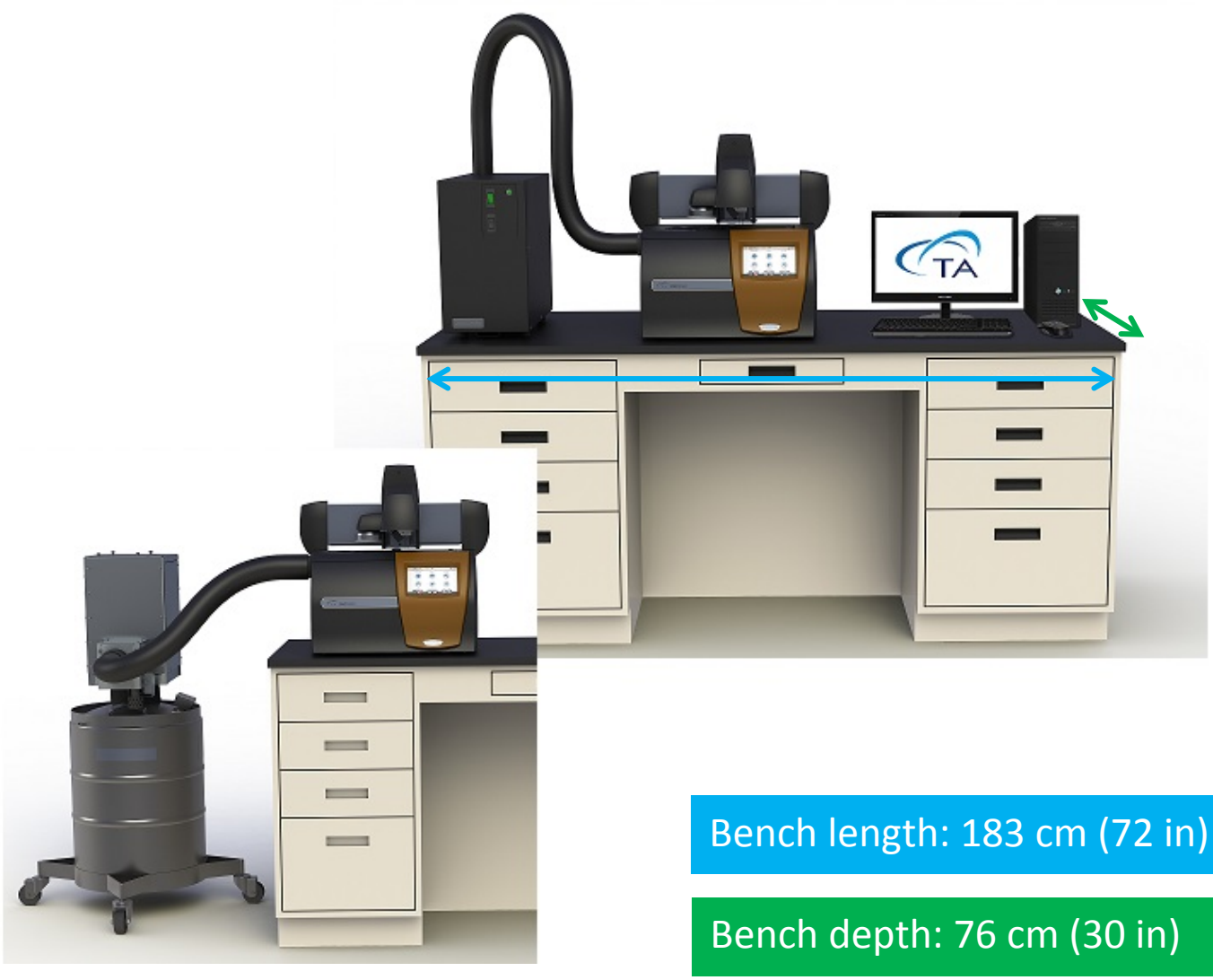
Revision D Issued April 2019

Table of Contents

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)

Distance from the wall: 30.5 cm (12 in) min.

NOTE

The casters on the LN Pump dewar are 61 cm (24 in) x 61 cm (24 in). Allow for 1–3 ft of space between the DSC and the LN Pump depending on how the supply/return line is oriented.

System Components

MAIN SYSTEM COMPONENTS

A. Cooling Accessory (RCS shown)

B. Instrument

C. Computer (Controller)

Instrument Measurements

DSC *WITH* AUTOSAMPLER

Height: 61 cm (24 in)

Width: 53 cm (21 in)

Depth: 51 cm (20 in)

DSC *WITHOUT* AUTOSAMPLER

Height: 43 cm (17 in)

Width: 53 cm (21 in)

Depth: 51 cm (20 in)

Weight*: 22 kg (48 lbs)

*Includes Autosampler, Autolid, and FACS

Utility Requirements

POWER

- 100–240 VAC, 50/60 Hz, 600 W
- Safety ground per local regulation

GAS

Cell purge gases: air, nitrogen, oxygen, argon, helium

Description	Requirement
Cell/base purge gas pressure:	100–140 kPa (10–20 psig)
Cooling gas (air) pressure for **FACS**:	170 kPa (25 psig max)
Cooling gas (nitrogen) pressure for **RCS**:	170 kPa (25 psig max)
Conditions	• Must be dry • Must be free from oil and dirt
Cooler	Use dry nitrogen as the base purge gas when using a cooler.
Other	1/8” polyethylene tubing and fittings are supplied in the accessory kit

RCS90

Computer Requirements

HARDWARE REQUIREMENTS

Description	Requirement
Processor	• Intel® Core™ 2 Duo or better • 2.93 GHz with 3 MB L2 cache
Memory	≥ 16 GB RAM
Hard drive	≥ 80 GB free space • 700 MB required for Full version of TRIOS • 400 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

Computer Requirements

SOFTWARE REQUIREMENTS

Item	Requirement
Operating System	• Windows 7, 8, 10 Ultimate, Enterprise, & Professional • Home version not supported
	64-bit version for TRIOS v4.5 and up
Other	Microsoft Operating System Service Pack
Other	Must be up-to-date
Browser	Internet Explorer
Network	*TA Instruments is not responsible for resolving issues associated with connections to your corporate network.*
Conflicts	*TA Instruments is not responsible for resolving hardware/software conflicts created by the addition of third party hardware or software to the computer.*

Accessories

REFRIGERATED COOLING SYSTEM MEASUREMENTS

	RCS120	RCS90	RCS40
Height	88 cm (34.6 in)	46 cm (18 in)	26 cm (10 in)
Width	35.6 cm (14.5 in)	26 cm (10 in)	26 cm (10 in)
Depth	56 cm (22 in)	51 cm (20 in)	51 cm (20 in)
Weight	102 kg (225 lbs)	47.7 kg (105 lbs)	24.8 kg (55 lbs)

Accessories

REFRIGERATED COOLING SYSTEM REQUIREMENTS

Requirements

	RCS120	RCS90	RCS40
	230 VAC/8.5 A/50 Hz 230 VAC/7.5 A/60 Hz	120 VAC/12 A/60 Hz 220 VAC/6 A/50 Hz	120 VAC/6.25 A/60 Hz 220 VAC/4 A/50 Hz
	Uses NEMA 5-15 plug	Uses NEMA 5-20P plug	Uses NEMA 5-15 plug

NEMA 5-20P 

NEMA 5-15 

- RCS90/RCS40: Place the RCS90 and RCS40 on a table separate from the laboratory bench. If no table is available, place the RCS on the bench to the left of the instrument.
- RCS120: RCS120 must be kept on the floor

- A base and cooling purge (nitrogen) is required in addition to the standard cell purge
- Use 99.999% pure nitrogen or LN boil-off gas to reduce moisture
- New or recently used calibrated regulator is recommended
- Make sure tubing is cut cleanly and squarely on the ends. Use of the Legris Tubing Cutter #3000-71-00 is recommended 
- Leak check all tubing

CAUTION Do not use Tygon® tubing due to its high moisture permeability

Customer-supplied:
- Regulator
- Moisture trap (P/N 200266.001) to prevent moisture build-up

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Accessories

FINNED AIR COOLING SYSTEM REQUIREMENTS

Requirements

- Cooling gas (air) maximum air pressure: 25 psig (170 kPa gauge)
- Use standard grade nitrogen and clean house air
- Leak check all tubing
- Make sure tubing is cut cleanly and squarely on the ends. Use of the Legris Tubing Cutter #3000-71-00 is recommended

Recommendations:

- Use a filter
- Use a new or recently calibrated regulator

Customer-supplied: Regulator

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Accessories

LN PUMP MEASUREMENTS

Height: 122 cm (48 in)

Width: 86 cm (34 in)

Depth: 86 cm (34 in)

Weight EMPTY: 50 kg (110 lbs)

Weight FULL: 92.5 kg (204 lbs)

Accessories

LN PUMP REQUIREMENTS

Requirements

24VDC using universal power supply (refer to the Discovery LN Pump Getting Started Guide)

Requirements

- Cooling gas (nitrogen or LN boil-off) maximum pressure for use with the LN2P = 170 kPa gauge (25 psig)
- Low pressure Liquid Nitrogen dewar required

CAUTION Do not use Tygon® due to its high moisture permeability

- Use new or recently serviced/calibrated regulator
- Use 99.999% pure helium to reduce moisture build-up in the cell

Recommendations

- Helium gas recommended for cell purge via the GAS 2 port
- Make sure tubing is cut cleanly and squarely on the ends. Use of the Legris Tubing Cutter #3000-71-00 is recommended

- Leak check all tubing
- Use the gas dryer (P/N 200266.001) to pre-dry and indicate unsatisfactory moisture levels
- Use the purge gas purifier (P/N 970425.901) to achieve a dew point of -180°C

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Site Preparation Checklist

PHOTOCALORIMETER ACCESSORY MEASUREMENTS

NOTE The PCA cannot be used with the DSC 25.

Height: 15 cm (6 in)

Width: 28 cm (11 in)

Depth: 44 cm (17 in)

Weight: 9.4 kg (21 lbs)

PHOTOCALORIMETER ACCESSORY REQUIREMENTS

Requirements	
	Same general requirements as DSC. See pages 5–7.

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Site Preparation Checklist

Discovery DSC 25, DSC 250, DSC 2500

	Sufficient bench space for instrument, computer, and cooling accessory (if needed) ☐ Length: 183 cm (72 in) ☐ Depth: 76 cm (30 in)
	Instrument power is 100–240 VAC, 50/60 Hz, 600 W
	Purge gas– Air, nitrogen, oxygen, argon, or helium ☐ Base purge gas pressure is 100–140 kPa (10–20 psig) ☐ Cooling gas (air) pressure for FACS is 170 kPa (25 psig max) OR ☐ Cooling gas (nitrogen) for RCS or LN Pump is 170 kPa (25 psig max) ☐ Use 99.999% pure nitrogen or LN boiloff gas to reduce moisture ☐ Moisture trap (P/N 200266.001) to prevent moisture buildup

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.

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

_____ __/__/____

Customer *DD* *MM* *YYYY*

_____ _____ _____ _____

Company *City* *State* *Country*

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

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