

# Nano DSC and MCDSC



## Site Preparation Guide

# Ideal Setup

Table of Contents .....	2
Ideal Setup .....	3-4
MCDSC .....	3
Nano DSC .....	4
System Components.....	5
Instrument Measurements .....	6
Utility Requirements.....	7-8
Laboratory .....	7
Power .....	7
Gas .....	8
Water .....	8
Computer Requirements.....	9-10
Hardware .....	9
Software .....	10
Accessories .....	11-12
MCDSC Water Circulator.....	11
Nano DSC Autosampler.....	12
Site Preparation Checklist .....	13
Nano DSC.....	13
MCDSC.....	14
TA Instrument Offices.....	15



Circulator



Power



Cooling



Gas



LN<sub>2</sub>



Fluid



Light



Hardware



Software



Temp



Lab



Customer

# Ideal Setup



## MCDSC: IDEAL PLACEMENT AND BENCH MEASUREMENTS

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



Bench width: 2.4 m (8 ft)

Bench depth: 76 cm (30 in) min.

Distance from the wall: 20 cm (8 in) min.



Allow 38 cm (15 in) floor space and 20 cm (8 in) clearance at the rear of the water circulator for air circulation.



A continuous low flow rate dry gas purge is advised when operating the MCDSC below the ambient temperature.

# Ideal Setup



## NANO DSC: IDEAL PLACEMENT AND BENCH MEASUREMENTS

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



Bench width: 2.4 m (8 ft)

Bench depth: 76 cm (30 in) min.

Distance from the wall: 20 cm (8 in) min.



Pressure-regulated gas supplied from a tank is required with Autosampler systems.



An **Autosampler** requires an additional 65 cm (26 in) bench space to accommodate up to 6 bottles (0.5 L-4 L) and 1-2 waste outlet collection bottles (1 L-4 L). Additional floor space beneath the Autosampler is required for 4 L spent rinse fluid collection bottle.

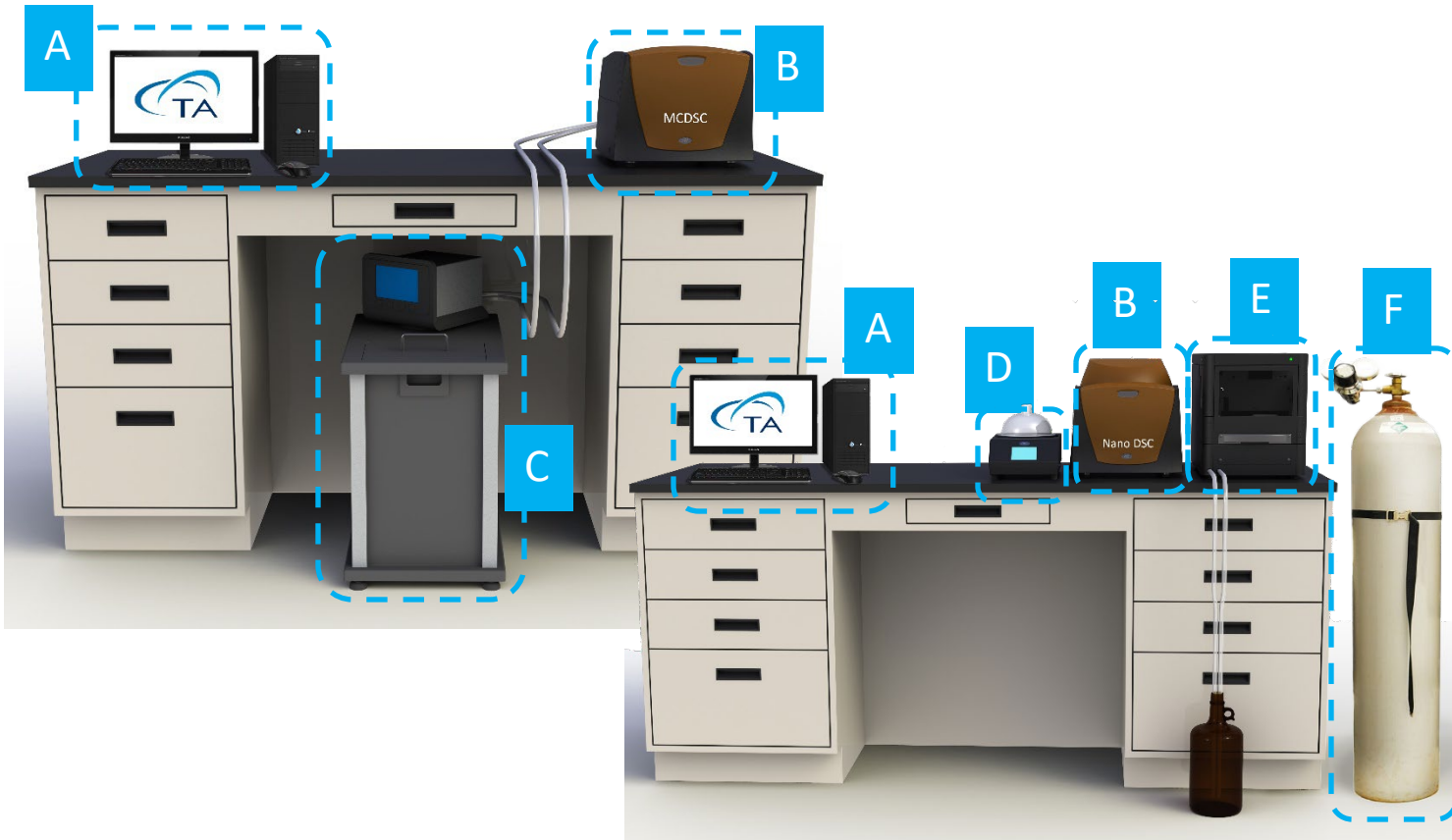


An additional 30 cm (1 ft) bench space is required to accommodate the **Degassing Station**.

# System Components



## MAIN SYSTEM COMPONENTS



- A. Computer (Controller)
- B. Instrument
- C. External Water Circulator/Controller (MCDSC only)
- D. Degassing System (required for all Nano DSC systems)
- E. Optional Autosampler (Nano DSC only)
- F. Gas Tank

# Instrument Measurements



## NANO DSC



Height: 28 cm (11 in)

Width: 35 cm (14 in)

Depth: 53 cm (21 in)

Weight: 17 kg (37 lbs)



## MCDSC

Height: 31 cm (12 in)

Width: 35 cm (14 in)

Depth: 53 cm (21 in)

Weight: 21 kg (46 lbs)



# Utility Requirements



## LABORATORY

Item	Requirement
Temperature	15–30°C
Relative Humidity	5–80% (non-condensing)
Temperature Stability	±1°C with changes in temperature being gradual shifts instead of fast changes
Instrument Location Environment	<ul style="list-style-type: none"><li>• Dust-free</li><li>• Vibration-free</li><li>• Away from exposure to direct sunlight and direct air drafts</li><li>• Pollution Degree 2 Environment</li><li>• Maximum altitude: 2000 m (6560 ft)</li></ul>



## POWER

Item	Requirement
Nano DSC	100–240 VAC, 3A, 50/60 Hz
MCDSC	100–240 VAC, 4A, 50/60 Hz
Power line	Grounded, single-phase line for instrument and computer, not shared with motors, heaters, or compressors <ul style="list-style-type: none"><li>• 15 A for voltages near 120 VAC</li><li>• 10 A for voltages near 230 VAC</li></ul>
Electrical power cord	<ul style="list-style-type: none"><li>• The plug of the cord must be rated to carry at least 125% of the product current rating.</li><li>• The cord length must be less than 4.5 meters and must be UL or CSA approved.</li></ul>
Customer-supplied	Surge suppressor power strip

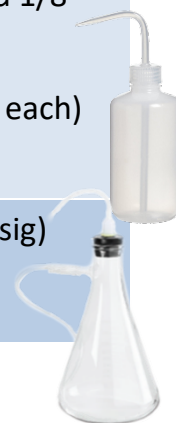


# Utility Requirements



## GAS

Instrument	Requirement
Nano DSC Autosampler	<ul style="list-style-type: none"><li>• Filtered, compressed nitrogen, regulated to 45 psi (3 bar), with 1/16-inch outlet line diameter. Customer-supplied. Note: Adapters for 1/4- and 1/8 - inch lines are included with the instrument.</li><li>• 2 to 5 customer-supplied bottles for rinsing/cleaning solutions (&gt; 1 L each)</li><li>• 2 customer-supplied waste collection bottles (&gt; 2 L each)</li></ul>
MCDSC	A dry purge gas source (ex. air, nitrogen, argon) at low pressure (5–10 psig) is required for operation of the instrument with sample temperatures below the dew point conditions in the laboratory.



## WATER

Instrument	Requirement
MCDSC	Requires an external water circulator →
Nano DSC	18 megohm deionized (DI) water





# Computer Requirements



## HARDWARE REQUIREMENTS

Item	Requirement
Processor	<ul style="list-style-type: none"><li>• Intel® Core™ i5 8400 or better</li><li>• 2.8 GHz with 9 MB L2 cache</li></ul>
Memory	≥ 16 GB RAM DDR4 2666 SDRAM
Hard drive	≥ 300 GB free space
DVD (optional)	≥ 48x CD-ROM or DVD (optional for installing software). Obtain the latest software updates at <a href="http://www.tainstruments.com/support/software-downloads-support/downloads">http://www.tainstruments.com/support/software-downloads-support/downloads</a>
Screen resolution	Minimum: 1280 x 1024 with 24-bit colors Recommended: 1920 x 1080 with 24-bit colors
Graphic card	128 MB DirectX10 or higher recommended
Screen (LCD) size	Recommended: 24" wide screen
USB Ports (1 for instrument and 1 for Autosampler)	2.0

# Computer Requirements



## SOFTWARE REQUIREMENTS

Item	Requirement
Operating System	<ul style="list-style-type: none"><li>• Windows 10 Ultimate, Enterprise &amp; Professional</li><li>• Home version not supported</li><li>• 64 bit version</li></ul>
Browser	Internet Explorer
Service Pack	Microsoft Operating System Service Pack
Updates	Windows Operating System and associated Microsoft updates must be up to date
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>

# Accessories



## WATER CIRCULATOR FOR MCDSC



Height: 68 cm (27 in)

Width: 37 cm (14.5 in)

Depth: 57 cm (22 in)

Weight: 55 kg (120 lbs)

### Requirements



Must be placed 20 cm (8 in) from the rear wall.



Circulator



Power



Cooling



Gas



LN<sub>2</sub>



Fluid



Light



Hardware



Software



Temp



Lab

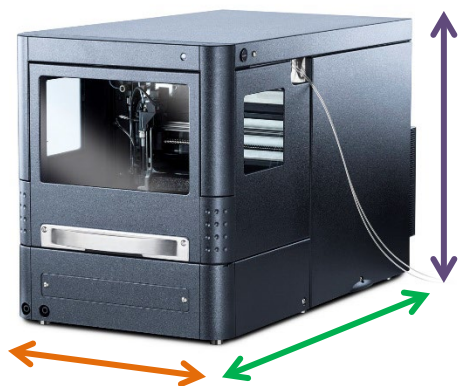


Customer

# Accessories



## NANO DSC AUTOSAMPLER



Height: 35 cm (14 in)

Width: 30 cm (12 in)

Depth: 56 cm (22 in)







Weight: 21 kg (46 lbs)

# Nano DSC

## Site Preparation Checklist



### Nano DSC

	<p>Sufficient bench space for instrument, computer, sample prep space and tools, and Degassing System or Autosampler (if needed):</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Depth: 76 cm (30 in) minimum</li> <li><input type="checkbox"/> Distance from the wall: 20 cm (8 in) minimum</li> <li><input type="checkbox"/> Nano DSC:             <ul style="list-style-type: none"> <li>• Length: 2.8 m (9 ft) for instrument, computer, sample prep and tools, and Degassing Station</li> </ul> </li> <li><input type="checkbox"/> Nano DSC with Autosampler:             <ul style="list-style-type: none"> <li>• Length: 2.8 m (9 ft) for instrument, Autosampler, computer, and sample prep and tools</li> <li>• Additional floor space beneath the Autosampler for 4 L collection bottle</li> </ul> </li> </ul> <p>Laboratory conditions meet the following requirements:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Dust-free, vibration-free, away from exposure to direct sunlight/air drafts, in a pollution degree 2 environment.</li> <li><input type="checkbox"/> Maximum altitude is 2000 m (6560 ft).</li> <li><input type="checkbox"/> Relative humidity is 5–80% non-condensing</li> <li><input type="checkbox"/> Temperature is 15–30°C with a stability of <math>\pm 1^\circ\text{C}</math></li> </ul>
	<ul style="list-style-type: none"> <li><input type="checkbox"/> 100–240 VAC, 3A, 50/60 Hz</li> </ul>
	<ul style="list-style-type: none"> <li><input type="checkbox"/> 18 megohm DI water</li> </ul>
 <p>if applicable</p>	<p>Nano DSC Autosampler:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Filtered, compressed nitrogen regulated to 45 psig (3 bar) with 1/16-inch outlet line (or 1/4- or 1/8-inch to be used with included adapter) diameter. Customer-supplied.</li> <li><input type="checkbox"/> 2–5 customer-supplied bottles for rinsing/cleaning solutions (&gt;1 L each)</li> <li><input type="checkbox"/> 2 customer-supplied waste collection bottles (&gt; 2 L each)</li> </ul>
	<ul style="list-style-type: none"> <li><input type="checkbox"/> The Customer assumes responsibility for any damage that occurs when the instrument is moved by someone other than a trained TA Instruments Service Representative.</li> </ul>
	<ul style="list-style-type: none"> <li><input type="checkbox"/> Computer meets all hardware requirements</li> <li><input type="checkbox"/> Computer meets all software requirements</li> <li><input type="checkbox"/> Customer's IT personnel has provided Administrative privileges on the controller computer</li> <li><input type="checkbox"/> The Customer's IT personnel will be on site the day of installation</li> </ul>

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.

# MCDSC

## Site Preparation Checklist



### MCSDC

	<p>Sufficient bench space for instrument, computer, sample prep space and tools:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Depth: 76 cm (30 in) minimum</li> <li><input type="checkbox"/> Distance from the wall: 20 cm (8 in) minimum</li> <li><input type="checkbox"/> Length: 4 m (8 ft) for instrument, computer, and sample prep space and tools</li> </ul> <p>Laboratory conditions meet the following requirements:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Dust-free, vibration-free, away from exposure to direct sunlight/air drafts, in a pollution degree 2 environment.</li> <li><input type="checkbox"/> Maximum altitude is 2000 m (6560 ft).</li> <li><input type="checkbox"/> Relative humidity is 5–80% non-condensing</li> <li><input type="checkbox"/> Temperature is 15–30°C with a stability of ±1°C</li> </ul>
	<p>Instrument power:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> MCDSC: 100–240 VAC, 4A, 50/60 Hz</li> <li><input type="checkbox"/> Water Circulator: 120 VAC, 60 Hz, 13A or 240 VAC 50 Hz, 13A</li> </ul>
	<ul style="list-style-type: none"> <li><input type="checkbox"/> A dry purge gas source (ex. air, nitrogen, argon) at 5–10 psig</li> </ul>
	<ul style="list-style-type: none"> <li><input type="checkbox"/> External water circulator</li> </ul>
	<ul style="list-style-type: none"> <li><input type="checkbox"/> The Customer assumes responsibility for any damage that occurs when the instrument is moved by someone other than a trained TA Instruments Service Representative.</li> </ul>
	<ul style="list-style-type: none"> <li><input type="checkbox"/> Computer meets all hardware requirements</li> <li><input type="checkbox"/> Computer meets all software requirements</li> <li><input type="checkbox"/> Customer's IT personnel has provided Administrative privileges on the controller computer</li> <li><input type="checkbox"/> The Customer's IT personnel will be on site the day of installation</li> </ul>

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\_\_\_\_\_  
*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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