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PREINSTALLATION INSTRUCTIONS FOR YOUR NEW CD SPECTROMETER

If you are going to receive soon a new spectrometer it may pay to consider well in advance a few simple points:

Space
modern CD instruments are lighter and more compact than earlier models, so they can easily be installed in any place, we however recommend the use of a good table, ideally on wheels (rather than a laboratory bench) with a lower plane to fit the PC and eventually the cryogenic thermostat or other accessories. A table will be best choice even considering addition of accessories (such as fluorescence) which are typically fitted on the back. Some accessories (such as a stopped-flow cell) will call for extra space free access.

Electrical supply
No problem here, modern units with 150W lamp drain little power. No need of specific voltage stabilizers either. But pls be sure that number of plugs is enough: you'd need one for the main unit, three for PC (CPU, video and printer) and virtually one for any extra accessory you'll fit, so number may be quite high.

Water supply
150W lamp units do not require water cooling, but low flow water cooling is a must for Peltier accessories. If it's not convenient to use tap water you may use a cheap cryostat or a separate tank with circulating pump.

Nitrogen
Purging with dry nitrogen is an absolute must. Relatively low flow rates (3 l/min or so) are always necessary to keep optics relatively oxygen/ozone free for durability and higher flow rates are necessary for low UV operation.
The grade of nitrogen must be very high (99.99% or better) and it must be particularly water free.
Choices are many:
-*Gas Cylinders*
are the simplest choice, but they may expensive in a long run, in many labs they are no more accepted for safety considerations. Due to high consumption cylinders must be replaced frequently.
-*Central supply*
many labs have nitrogen as normal supply, in this case it's mandatory to check the quality, often distribution system is the main source of contamination
-*Liquid nitrogen dewar + evaporator*
this is probably the most attractive solution: you can rely on the quality and renting costs from suppliers are often convenient, they call however for a sizeable space
-*Nitrogen generators*
High purity nitrogen gas generators are commercially available, they may be noisy and very large, by sure they are very expensive to purchase
If quality of nitrogen is not sure filters and oxygen scrubbers can be used, they tend to be bulky (due to high flow rate) and not so cheap to run. Consider also a separate outlet to fit a Pasteur tip to dry your cells.
Last …. you NEED a flow meter, since this is typically not supplied as standard (at least with Jasco). Today you have choice between simple and more elaborate units (even with feedback for the PC allowing flow rate setting from screen and switching off the lamp in case of low flow ….) these facilities are nice, but probably do not pay for the investment, since no dramatic damage has to be expected even running system without nitrogen for a while. Users education is typically enough!

PC
If PC is supplied from you, select the minimum configuration running with current Windows™, but in Jasco case consider that you need 1 COM port for the unit + 1 for Peltier accessory/bath + 1 for stopped-flow …., so better to equip the PC from the beginning with the number of COMs you'll require in the future.

Cells
Typically no cuvette is supplied with new instruments, be sure to have on hands proper fused silica cells to run your samples!

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