Waters® Quattro Premier XE™

Site Preparation Guide

Waters

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Introduction

This document describes the environmental conditions, power supplies, and gas supplies that are required for the operation of the Quattro Premier XE™. Operating the instrument in conformance with these conditions will enable the instrument to achieve its optimum performance.

Responsibilities

A Waters engineer will be responsible for installing and commissioning the system to ensure that the instrument is properly installed and operational. The laboratory must be prepared in advance to allow the engineer to carry out the installation efficiently. A site preparation checklist is included at the end of this document for you to fill in and return to Waters when the laboratory is ready.

Important: The installation of the system cannot begin until the checklist has been completed and returned to the mass spectrometer sales support representative at your local Waters office.

The installation time may vary, depending on the instrument options being installed. The site preparation checklist must be completed as accurately as possible to help minimize installation time.

A major aspect of the system installation is the implementation of tests designed to evaluate the instrument functionality under specific operating conditions. At the completion of each test, the actual test result obtained is entered in the Installation Checklist or Instrument Qualification Workbook, whichever is appropriate.

Important: A user who has been designated to be responsible for the normal use and upkeep of the instrument must be present during the installation.

The user must be present during the functionality tests at installation; this allows the user to be trained in the basic system operation. If there are foreseen periods when the intended user cannot be present, please notify us in advance; this will enable us to schedule the installation for a more convenient time.

If you have questions regarding the information in this document or any specific site problems, contact your local Waters sales representative. If necessary, we will arrange a site survey.

Storage

The following storage conditions are required prior to installation:

- unopened shipping crates
- crates stored away from heavy machinery such as compressors or generators, which generate excessive floor vibration
- storage area temperature 0 to 40 °C (32 to 104 °F) and humidity <80%, non-condensing

Contact your local Waters representative if you need further advice regarding storage conditions.

Unpacking and Moving

The instrument is delivered in several crates. Crate sizes may vary dependent on instrument specification and optional accessories. Typical sizes for the largest crate are:

- Width 760 mm (30 in.)
- Length 1170 mm (46 in.)
- Height 1300 mm (51 in.)
- Weight 204 kg (450 lbs)

Typical sizes for the accessories case are:

- Width 1070 mm (42 in.)
- Length 1570 mm (62 in.)
- Height 1310 mm (52 in.)
- Weight 232 kg (511 lbs)

It is a warranty condition that the shipping crates are unpacked only when the Waters engineer is present.

At the end of the installation, it is the customer's responsibility to dispose of the crates and packaging.

It is essential that the instrument is not bumped or jolted during unpacking or any subsequent transport. If the instrument needs to be transported across an uneven surface, the instrument must be carried on a forklift truck or trolley.

Doorways must be at least 600 mm (24 in.) wide. Elevators and corridors (including corners) must be sufficiently wide for maneuvering of the instrument. Special handling arrangements may be necessary if access to the laboratory is via a staircase.

Lifting Equipment

Once unpacked, the instrument weights are approximately as shown in Table 1:

Table 1: Instrument Weights

Quattro Premier XE	150 kg (331 lbs)
Data system (computer, monitor, and optional printer)	<50 kg (110 lbs)
Rotary pump	40 kg (88 lbs)
Scroll pump (optional)	48 kg (105 lbs)

A forklift truck or A-frame hoist is recommended for lifting and transporting the instrument.

Important: It is essential that you provide suitable equipment for lifting the instrument. The installation cannot be implemented unless this equipment is made available. The engineer will require assistance lifting and positioning the instrument.

The instrument is fitted with a lifting harness, which must be used to lift the instrument from the shipping crate onto the bench (Figure 1).

Warning: The instrument must only be lifted using lifting equipment capable of raising 170 kg (375 lbs) safely. The instrument must not be lifted manually.

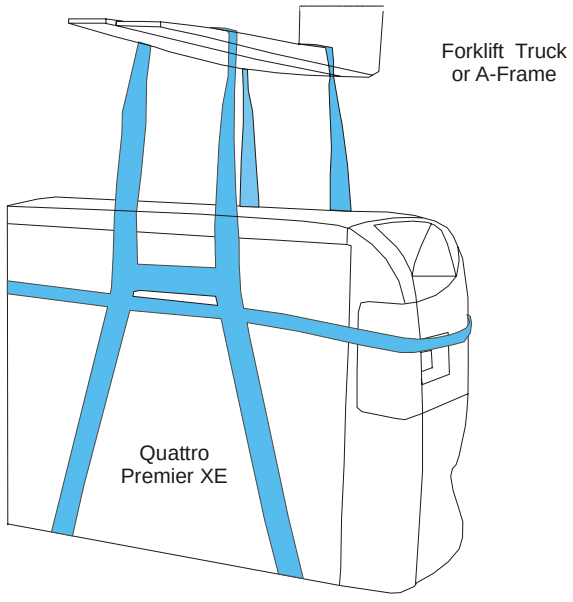

Figure 1 - The Quattro Premier XE Lifting Straps and Bars

The lifting bars that are fixed to the bottom of the instrument may be unscrewed and removed once the instrument has been lifted onto the bench. They must be retained by the customer to be used for any subsequent relocation of the instrument.

Bench Loading

The bench must be able to support the combined weight of the mass spectrometer, data system, and LC system. Nominal weights for the instrument and data system are shown in Table 1. Refer to the UPLC, HPLC, or GC system site preparation guide for specific weight information.

Space Requirements

Instrument

The instrument is mounted on six supporting feet and has the following dimensions:

- Width 480 mm (19 in.)
- Length 894 mm (35.2 in.)
- Height 705 mm (27.8 in.)

Note: A moveable workbench of suitable load rating is the preferred arrangement for the system setup, to provide ease of access for servicing.

Allow the following minimum clearances around the instrument for service access and ventilation (Figure 2 and Figure 3):

- 200 mm (8 in.) on the right hand side. If possible, leave 500 mm (20 in.), to allow the side panel to be lowered easily for servicing (Figure 3).
- 280 mm (11 in.) at the top.
- 100 mm (4 in.) at the back.

The instrument is fitted with a 2 m (6.5 ft) power cable.

A possible layout for the Quattro Premier XE, rotary/scroll pumps, data system and ancillary equipment is shown in Figure 2.

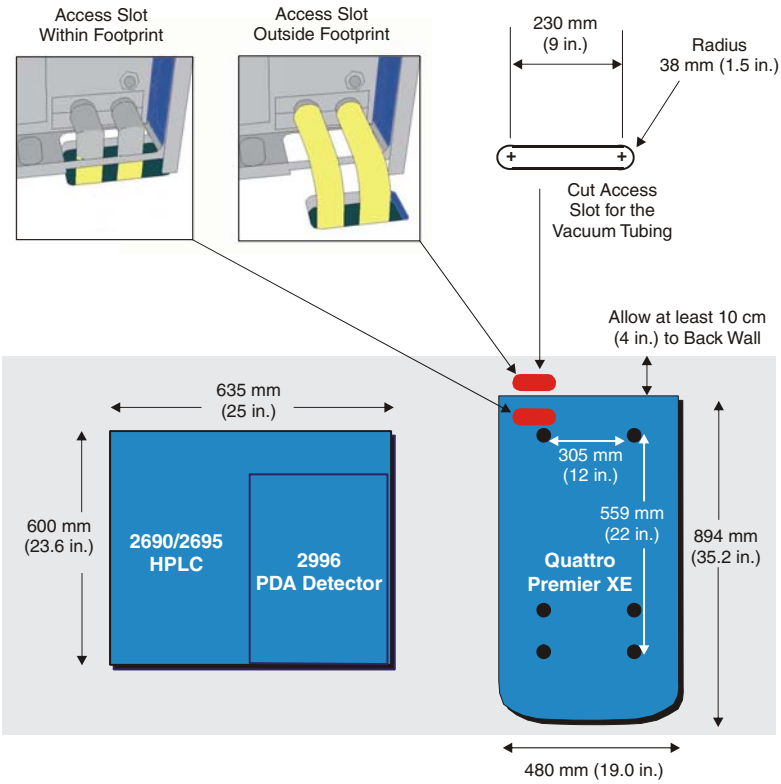

Figure 2 - Quattro Premier XE Space Requirements

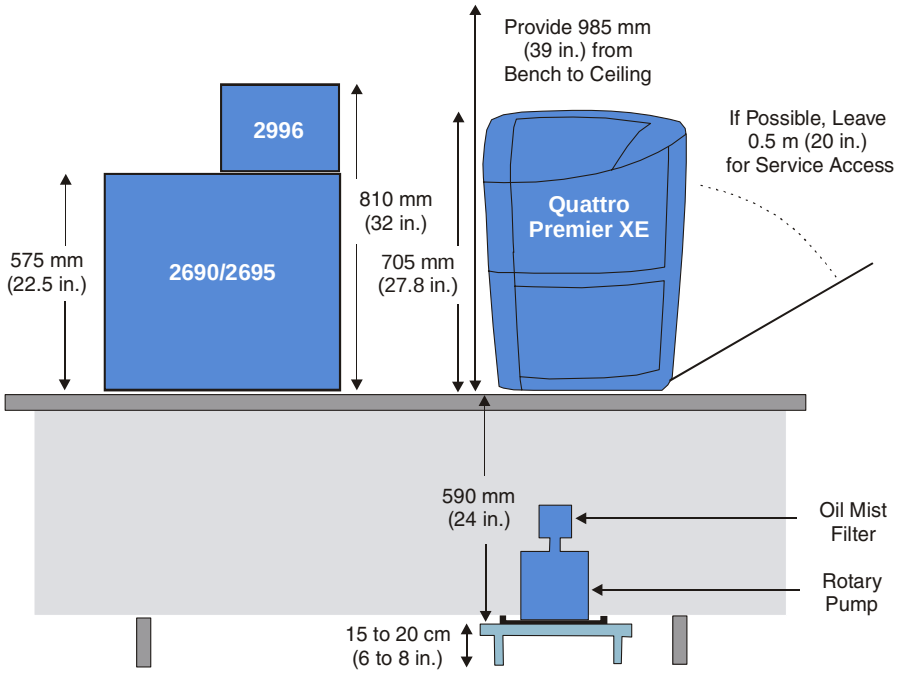

Figure 3 - Front View, Showing Space Requirements of a Typical System

Rotary / Scroll Pumps

The rotary pumps or optional scroll pumps must be positioned on the floor, either behind or underneath the instrument and within 1.5 m (5 ft) of the rear of the chassis. The pumps are powered via a dedicated pump switching-box fitted with two 2 m (6.5 ft) power cables.

Note: The rotary pump dimensions are: width 600 mm (8 in.), depth 200 mm (23.6 in.). The optional scroll pump dimensions are: width 500 mm (19.7 in.), depth 400 mm (15.8 in.).

LC System

Ensure that there is sufficient space to the left of the mass spectrometer for the LC system. Refer to the UPLC or HPLC system site preparation guide for the relevant space requirements.

MUX System

The recommended accessories for MUX are the Sample Manager 2777 and the 1525 µ Binary HPLC Pump. Sufficient space must be provided in the laboratory for these accessories. The sample manager has a width of 980 mm (39 in.), a length of 600 mm (24 in.), and a height of 650 mm (26 in.). The Binary HPLC Pump has a width of 280 mm (11 in.), a length of 590 mm (23 in.), and a height of 420 mm (16 in.).

The typical layout of a MUX system is shown in Figure 4 and Figure 5. The system illustrated includes four Binary HPLC pumps, stacked on top of each other.

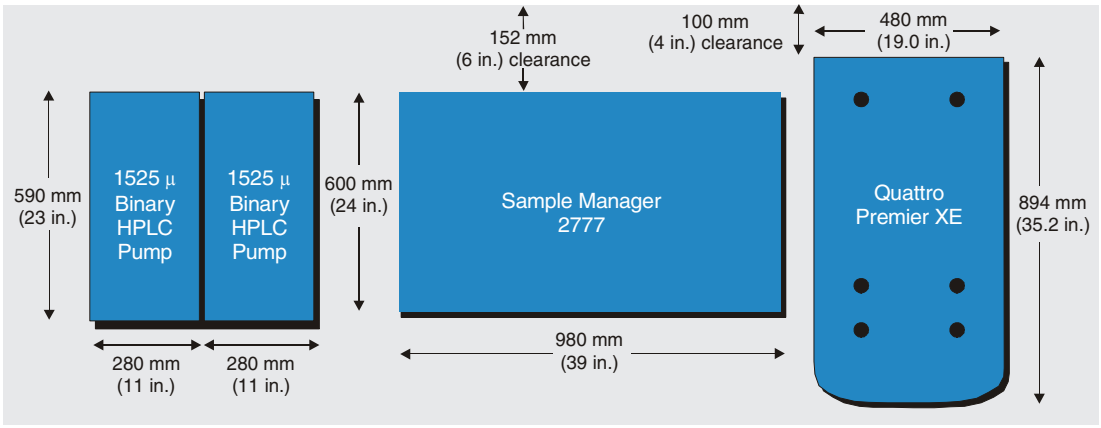

Figure 4 - Plan View of a Typical MUX System

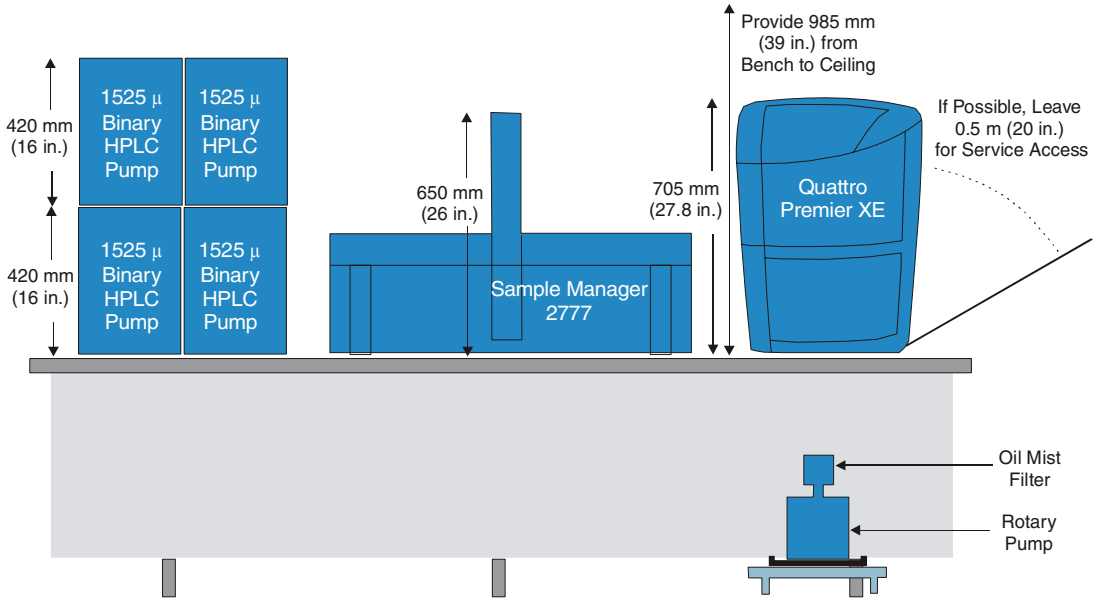

Figure 5 - Side View of a Typical MUX System

Data System

The data system can be positioned on the same bench as the mass spectrometer or on a separate desk (available as an option). A 3 m (10 ft) X-wire network cable connects the computer to the mass spectrometer. The two data system power cables for the PC and monitor are approximately 2 m (6.5 ft) in length. See Figure 6 for the dimensions of the data system.

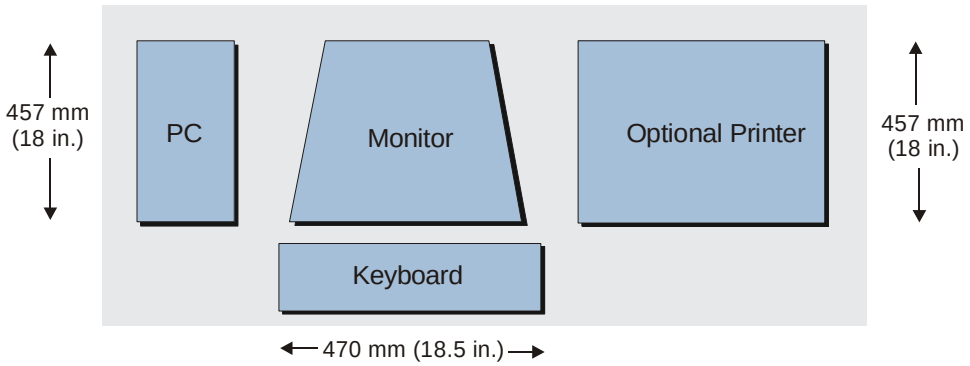

Figure 6 - Dimensions of the Data System

Electrical Safety

The Quattro Premier XE complies with the International Safety Standard IEC 61010-1 and the European Directive on electrical safety as defined by European Standard IEC 61010-1:2001.

For installations in Australia and New Zealand, the building installation must comply with AS3000: Electrical Installations for Australia and New Zealand.

The instrument is suitable for use in environments categorized as Pollution Degree 2 and Over-voltage Category 2.

Power Requirements

The Quattro Premier XE requires two power sockets, one for the Quattro Premier XE and one for the rotary or scroll pump. The power supply sockets must be located within 2 m (6.5 ft.) of the instrument. Do not position the equipment so that it is difficult to disconnect the mains cable.

The power requirements for the Quattro Premier XE, rotary pump, and optional scroll pump are summarized in Table 2.

Table 2: Summary of Power Requirements

	Nominal Rated Voltage	Supply Fuse / Circuit Breaker Rating	Power Consumption	Power Connection
Quattro Premier XE	200-240 V 50/60 Hz	13-16 A	2.0 kW (max) 1.0 kW (typical)	IEC 60320 C20 socket
Standard Rotary Pump (E2M28)	200-240 V, 50 Hz or 200-230 V, 60 Hz	13-16 A 13-16 A	750 W or 900 W	Hirschman CA socket
Optional Scroll Pump (XDS35i)	200-230 V 50/60 Hz	13-16 A	520 W	IEC 60320 C20 socket

Important: Mains voltage fluctuations must not exceed ±10%.

Important: Voltage supply stability is critical for instrument operation, the power supply voltage must fall within the ranges specified in Table 2 at all times to avoid the risk of instrument failure.

The supplies must be wired with a protective earth and fused or fitted with circuit-breakers of the specified ratings, in accordance with local regulations.

The mains supply must not have brown-outs/surges greater than ±10%, and must not exceed the specified maximum operating range for more than 0.3 sec. Transient voltage drops to half nominal voltage or less must have a duration of less than 20 ms. There must be less than 1.0 V RMS of ripple on the mains supply.

If there is a possibility that the supply voltages will not meet the specified operating range under all conditions, a transformer must be used to change the primary supply voltage to the specified range. Mains conditioners/stabilizers are also available as an optional accessory. Contact Waters with advance notification if power supply problems are likely to be experienced and for additional advice.

On pump start-up, currents of up to 32 A (200 to 240 V) may be drawn for several seconds, due to the initial pump loading. It is recommended that time delay fuses and circuit-breakers are used to prevent nuisance tripping.

It is also recommended that additional protection is provided for the instrument by means of:

- Residual Current Devices (RCD's) for UK and Europe
- Ground Fault Circuit Interrupters (GFCI's) for USA and Canada

In the case of instruments fitted with a transformer, the RCD/GFCI must be fitted on the primary (supply) side of the transformer.

Each instrument is shipped with plugs that are shown in Figure 7. The user must provide appropriate sockets for the relevant type of plug used. If the available sockets are incompatible with the plugs supplied, the customer must supply appropriate cord sets for the instrument and pumps. The cord sets must comply with local regulations.

		
UK 3-pin plug, fused at 13 A, BS1363	**EUROPE** 2-pin plug conforming to CEE7 Standards	**USA/Canada** 220 V, NEMA type L6-15P (conforms to UL817 and CSA C.22.2 standards)

Figure 7 – Plug Types Supplied with the Instrument

Additional power outlets are required for the data system. Typically, two outlets are required adjacent to the Quattro Premier XE for the MassLynx PC and monitor. Further outlets may be required for optional equipment, such as a printer.

Computer equipment is typically rated at 100 to 120 V / 220 to 240 V, 50/60 Hz. In some cases, it may be necessary to set the appropriate voltage using a voltage selector switch before connecting the equipment to the power supply. For full details, refer to the instructions provided with the equipment.

Note: If ancillary equipment is to be installed (for example, compressors) additional power outlets, possibly requiring 3-phase supplies, may be needed. Such supplemental needs must be confirmed with the local Waters agent prior to the start of the installation.

Uninterruptible Power Supply

To avoid data loss, system hang-ups and system shutdowns where local mains power may be problematic, Waters recommends the use of an uninterruptible power supply (UPS). UPS systems have been configured and evaluated specifically for use with Waters MS systems. These units are available through Waters to provide power conditioning and protection for the mass spectrometer. Contact your local Waters field sales representative to request further details.

The UPS system plugs into a standard wall socket and utilizes a transformer to increase mains voltage to a stable 230 V AC. The power supply cords for all other system components (with the exception of nitrogen generators, water chillers, and gas chromatographs) can be connected directly to the UPS without the need for additional wall sockets.

For North America, the UPS system requires one L6-30 (30 amp) wall socket. In other areas, the UPS system will typically connect to your laboratory mains power using the standard MS instrument power cord and wall socket as indicated in Figure 7.

The dimensions of the UPS system are shown in Figure 8.

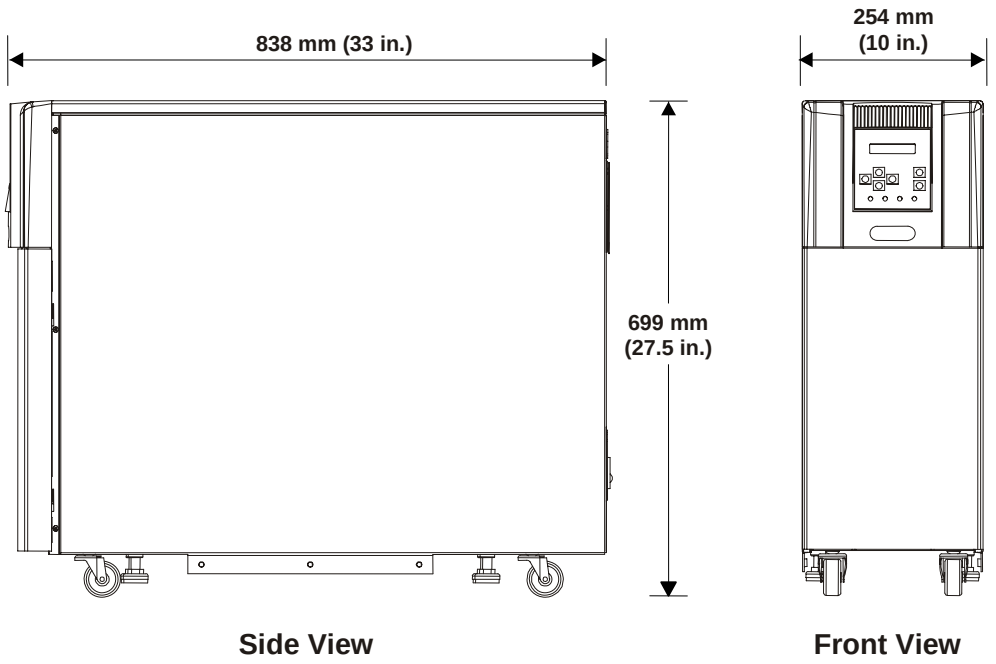

Figure 8 - Dimensions of the Uninterruptible Power Supply

Environment Requirements

Safety Recommendations

Due to the operation of atmospheric pressure sources, the user must be aware of potential chemical hazards. In particular, the user must assess the risks associated with nitrogen gas (oxygen deficiency) and solvents vented into the laboratory. Note that due to the fluidic nature of the sample inlet, ionization and exhaust system, there is a potential for gas/liquid leaks to occur. The user must give due consideration to the laboratory environment (including volume and air changes) before installation and during operation of the system.

Warning: The active exhaust vent must provide a minimum vacuum of 2 millibar below atmospheric pressure (negative pressure). It must be capable of supporting a maximum instrument exhaust gas load of 2500 L/hour.

Warning: Exhaust venting must comply with all local safety and environmental regulations. The ANSI/AIHA Z9.2-2001 standard for "Fundamentals governing the design and operation of local exhaust ventilation systems" provides guidance on compliant exhaust systems.

Positioning

The Quattro Premier XE mass spectrometer is designed for indoor use only.

It is recommended that the instrument is installed in an air-conditioned laboratory, in a draft free position, away from excessive amounts of dust. Air conditioning units must not be positioned directly above the mass spectrometer. To avoid adverse operation, do not locate the instrument in direct sunlight.

Ventilation

The maximum overall heat dissipation into the room from the instrument and pumps is approximately 4 kW. This figure does not take into account ancillary equipment such as LC systems. Air conditioning systems may have to be installed or upgraded to accommodate additional heat load into the room when these systems are installed.

Temperature

The ambient temperature range required for normal operation is 15 to 28 °C (59 to 82 °F).

The optimum temperature range is 19 to 22 °C (66 to 72 °F).

Short-term (1.5 h) variations must be no more than ±2 °C (3.5 °F).

Humidity

The relative humidity in which the instrument and pumps are to operate must be in the range of 20 to 80%, non-condensing.

Altitude

The maximum operating altitude is 2000 m (6500 ft).

Vibration

The instrument must not be placed close to heavy machinery such as compressors and generators, which may generate excessive floor vibration.

Magnetic Fields

The instrument must be positioned away from magnetic fields of greater than 10 Gauss, such as those generated by NMR spectrometers and magnetic sector mass spectrometers.

Radio Emissions

The instrument must not be placed within a Radio Frequency (RF) field of greater than 1.0 V/m.

Possible sources of RF emission include RF-linked alarm systems, Local Area Networks (LANs), mobile telephones, and hand-held transmitters.

Gases and Regulators

Nitrogen Gas

The Quattro Premier XE requires a supply of dry, oil-free nitrogen with a purity of at least 95%. The nitrogen must be regulated at 6 to 7 bar (90 to 100 psi) outlet pressure.

Note: The use of nitrogen cylinders is not recommended. Due to high consumption, a cylinder is likely to empty during long sample runs. The supply must be constant in case venting occurs.

Caution: If copper tubing is used for the nitrogen line, the copper must be chemically cleaned; if stainless steel tubing is used, the stainless steel must be medical grade. Ensure that there are no soldered or brazed joints in the line, as these may result in contamination of the instrument with tin or lead oxide. Any joints in the nitrogen line must be compression fittings.

The nitrogen must be connected using the 5 m (16 ft) of 6 mm ($^1/_4$ in.) OD PTFE tubing supplied. The nitrogen line must be checked for leaks under pressure.

During API operation, typical nitrogen usage varies from 600 to 1200 L/h (at atmospheric pressure). This equates approximately to the consumption of a large cylinder of compressed nitrogen each day. You may prefer to use a liquid nitrogen Dewar, which will last for several weeks, consult your local gas supplier for an ideal gas supply configuration.

The MUX (Multiplexed electrospray) and APCI options typically require a nitrogen flow rate of up to 1800 L/hr.

Collision Gas

Argon is required for the collision cell. The argon must be dry, high purity (99.997%) and regulated at a pressure of 0.5 bar (7 psi).

Caution: Ensure that there are no soldered or brazed joints in the argon line, as these may result in contamination of the instrument with tin or lead oxide. Any joints in the collision gas line must be compression fittings.

The gas supply must be connected using the clean, 1/8-inch OD, medical-grade stainless steel tubing supplied and checked for leaks under pressure.

Exhaust Outlets

Rotary / Scroll Pump Exhaust

The rotary/scroll pump exhaust gases must be vented to the atmosphere outside the laboratory via a user-supplied fume hood or industrial vent. The exhaust may be connected to an existing laboratory vent carrying gases from other sources.

Five meters (16 ft) of 12.7 mm (1/2 in.) PVC tubing is supplied. If this length is insufficient, the user must supply an adapter and tubing with an internal diameter of at least 51 mm (2 in.) for the extra distance to the vent point.

Note: The fume hood/industrial vent must be equipped with an extraction fan system to enable adequate displacement of the exhaust gases.

Source Exhaust (Nitrogen)

The source exhaust line must be connected to either a laboratory fume hood, or to an active exhaust system using an open connection type as shown in Figure . Where a shared exhaust system is used, the source exhaust must be connected via its own exhaust spur.

Refer to the exhaust warnings in the Environment Requirements section on page 16 for additional source exhaust information.

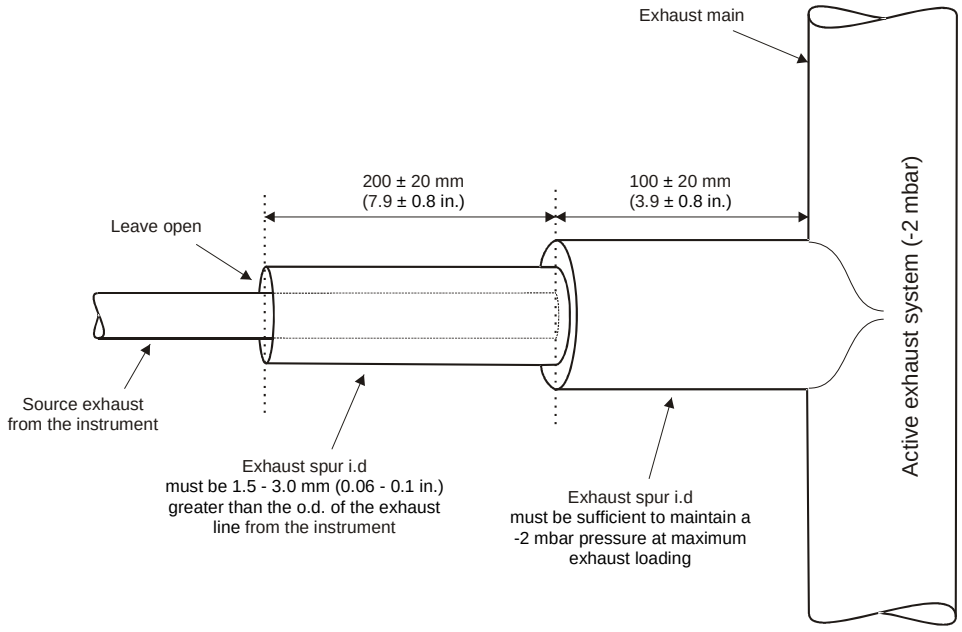

Figure 9 - Source Exhaust Connection

Caution: Severe contamination of the instrument may result if the source exhaust line is connected to the rotary pump exhaust line. The damage will occur when the nitrogen supply is turned off, or when the nitrogen runs out, as any rotary pump oil vapor will migrate via the source exhaust to the ion source and then through the sample cone into the analyzer.

Five meters (16 ft) of 10 mm (⅜ in.) OD hose is supplied for the source exhaust. If this length is insufficient, the user must supply an adapter and tubing with an ID of at least 12.7 mm (½ in.) for the extra distance to the vent point.

The instrument software can be configured to switch the LC system off if it detects that the nitrogen gas supply has failed. In the event that the nitrogen gas is switched off (or runs out) and the LC system continues to operate, excess solvent is drained from the source via the source exhaust line.

Solvent Delivery System

The instrument includes an integral syringe pump for direct injection. A gas-tight, 250 µL Hamilton syringe with silica capillary and fittings is included. The instrument is also supplied with an electrically driven Rheodyne® RV700-135 inject/divert valve, which is fitted with a 5 µL sample loop.

For electrospray, an HPLC pump giving a stable, pulse-free flow of 50 to 1000 µL/min is required. For APCI, the pump must provide a stable, pulse-free flow of 50 to 2000 µL/min.

Before returning the checklist at the end of this document, please ensure that any locally supplied solvent delivery system has either already been commissioned or that a commissioning date has been scheduled.

Test Samples

Warning: Hazardous samples must be handled with care and in a manner that conforms to the manufacturers' guidelines.

Test samples are required for verifying the performance of instruments at the time of installation; they are also used for routine operations such as tuning and mass calibration. The compounds that are used for performance testing of the Quattro Premier XE are listed in Table 3.

Note: A Test Sample Kit is supplied with the instrument for the installation setup. It is the customer's responsibility, in conjunction with the local Waters sales representative, to ensure that any additional samples required for customer-specific tests and post-installation testing are available.

Note: The Waters engineer will not carry test samples to the installation.

Important: Storage instructions provided with the test samples must be adhered to; the use of inferior quality test chemicals caused by adverse storage conditions could impair the instrument installation.

Table 3: Samples Required for the Performance Tests

Sample	Supplier	Code
Chloramphenicol	Sigma	C-0378
PPG 1000	Aldrich	202320
PPG 2000	Aldrich	20,233-9
Ammonium Acetate	Sigma	A-7262
17-alpha-Hydroxyprogesterone	Sigma	H-5752
PEG 1000	Sigma	P-3515
Reserpine	Sigma	R-0875
Verapamil Hydrochloride	Sigma	V-4629
TA-β Cyclodextrin	Aldrich	33,262-3
Naphthalene (for the ApcI/APPI option)	Aldrich	185604
Raffinose (for the MUX option)	Sigma	R-0514

Note: If your laboratory practices require full sample certification documentation, we recommend that you obtain samples from a supplier that can provide such documentation.

Solvents and Reagents

High-purity solvents (i.e. HPLC-grade or better) are required, as shown in the following list; these are used for making up standard solutions for performance tests and for cleaning instrument components. For detail on controlling contamination, and information on solvent brands, refer to the document *Controlling Contamination in Ultra Performance LC®/MS and HPLC/MS Systems*, part number 715001307, located in the Waters Support Center on the Web (www.waters.com).

- Water
- Acetonitrile
- Methanol
- Ammonium acetate

Note: It is recommended that water purification systems are regularly maintained.

Sample Preparation Equipment

Facilities for making up test samples must be available at site. Typical equipment required for sample preparation includes (but is not limited to):

- Calibrated syringes - Eppendorf (or equivalent)
- Measuring cylinders
- Volumetric flasks
- Calibrated analytical balance
- Nitrile gloves
- Lint-free tissue

Cleaning Test Sample Glassware

For detailed information on properly cleaning laboratory glassware, refer to the document *Controlling Contamination in Ultra Performance LC®/MS and HPLC/MS Systems*, part number 715001307, located in the Waters Support Center on the Web (www.waters.com).

Cleaning Equipment

An ultrasonic bath is required for the routine cleaning of instrument parts. The bath must be at least 300 mm x 150 mm x 100 mm deep (12 in. x 6 in. x 4 in.).

Caution: Surfactants must not be used for cleaning glassware or other components. Refer to the document *Controlling Contamination in Ultra Performance LC®/MS and HPLC/MS Systems*, part number 715001307, located in the Waters Support Center on the Web (www.waters.com).

Surfactant-free glass vessels are required in which to place instrument components for cleaning. These vessels must be made available for use at the time of installation. The vessels must have a diameter of at least 120 mm (5 in.) and be approximately 120 mm (5 in.) high.

Summary of Fittings

Table 4 shows a summary of the waste and gas connections for the installation of the Quattro Premier XE.

Table 4: Summary of Instrument Fittings Required

	Fittings on System	Items supplied with the system	Items to be supplied by the customer
Backing Pump Exhaust	KF25 Flange with 12.7 mm ($^1/_2$ in.) tail pipe	5 m (16 ft) of 12.7 mm ($^1/_2$ in.) ID x 19.2 mm ($^3/_4$ in.) OD PVC exhaust tubing	Fume hood or industrial vent
Source Exhaust (nitrogen)	10 mm ($^3/_8$ in.) push-in fitting ("Legris" type)	Bottle trap assembly with 5 m (16 ft) of 8 mm ($^5/_{16}$ in.) ID x 10 mm ($^3/_8$ in.) OD nylon tube	Industrial vent, within 5 m (16 ft) of the instrument
Liquid waste	10 mm ($^3/_8$ in.)	Trap bottle with 2 m (6.5 ft) of 8 mm ($^5/_{16}$ in.) ID tubing	-
API Gas Supply	6 mm ($^1/_4$ in.) push-in fitting ("Legris" type)	5 m (16 ft) of 4 mm ($^5/_{32}$ in.) ID x 6 mm ($^1/_4$ in.) OD hose	N_2 supply, regulated to 90 to 100 psi via a 6 mm ($^1/_4$ in.) connector
Collision Gas Connection	$^1/_8$ inch Swagelok	-	$^1/_8$ inch OD stainless steel tubing to a regulated argon gas supply. Regulator adapter should be $^1/_8$ inch
Inject/Divert System	Rheodyne RV700-135	Tubing and Rheodyne nuts and ferrules	-

Quattro Premier XE Site Preparation Checklist

This checklist must be completed and returned to Waters when all the amenities are available.

Note: If any items are on order, please indicate this on the checklist and include the anticipated arrival date.

Note: It is the customer's responsibility to ensure that all the correct laboratory supplies are present. If you need any additional information or have difficulties acquiring parts or samples, please contact your local Waters Sales representative.

Lifting Equipment (see page 6)
Suitable equipment is available to lift the instrument onto the laboratory bench ..... ❑

Access (see page 5)
The instrument is located on the ground floor/basement/___ floor (delete as appropriate) ..... ❑

All elevators, staircases, corridors and doorways through which the instrument must pass are adequate to allow easy access to the laboratory ..... ❑

Bench/Floor Space (see page 8)
Adequate bench or floor space is available for the system ..... ❑

Power Supply (see page 13)
An appropriate number of outlets are available and they meet the stipulated power requirements .. ❑

Positioning / Ventilation (see page 16)
There is no direct air conditioning flow onto the instrument ..... ❑

Temperature (see page 16)
The room temperature is as specified in this document ..... ❑

Humidity (see page 16)
The humidity is as specified in this document ..... ❑

Floor Vibration (see page 17)
The site is free from known vibration ..... ❑

Magnetic Fields (see page 17)
The site is free from magnetic fields of greater than 10 Gauss ..... ❑

Radio Emissions (see page 17)
The RF field strength is less than 1 V/m ..... ❑

Gases and Regulators (see page 17)
Dry, oil-free nitrogen ≥95% purity is available supplied at 6 to 7 bar (90 to 100 psi) with a 6 mm ($^1/_4$ in.) fitting ..... ❑

High purity ≥99.997% argon gas regulated at 0.5 bar (7 psi) is available with a 3 mm (⅛ in.) adaptor ..... ❑

Rotary/Scroll Pump Exhaust (see page 19)
A suitable outlet is available for the rotary/scroll pump exhaust ..... ❑

Source Exhaust (see page 19)
A separate exhaust, 2 mbar below atmospheric pressure is available ..... ❑

Solvent Delivery System (see page 20)

Make and model of system to be used:

Make _____

Model _____

Flow rate capability of the system _____

Delivery system is already on site and commissioned ..... ❑

or

Delivery system is scheduled to be commissioned on: _____

A second (customer-supplied) syringe pump is available ..... ❑

Ancillary Equipment

If you plan to use any other equipment with the system (e.g., Gilson Autosampler; UV Detector), please give details below.

Make / Type	Model	Already commissioned	To be commissioned on

Test Samples (see page 21)
All samples required for the installation are available ..... ❑

Solvents / Reagents (see page 22)
Solvents are available ..... ❑

Sample Preparation Equipment (see page 22)
Sample preparation equipment, as specified in this document, is available ..... ❑

Cleaning (see page 23)
An ultrasonic bath is available ..... ❑

Vessels for cleaning components are available ..... ❑

I confirm all supplies are now available and all specified environmental conditions have been met*.

During the installation, the user intends to be available for demonstration and training by the Waters engineer:

At all times ..... ❑

Approximately _____% of the time ..... ❑

Not at all ..... ❑

During the likely period of installation, the following dates are NOT convenient:

_____

Signed: _____

***Important:** If an authorized Waters service engineer arrives on site to begin installation work and can not complete the installation due to lack of facilities (i.e. lifting equipment, power, water, test samples, laboratory readiness), costs incurred will be charged to the customer.

Please complete the following sections in block letters:

Name _____

Position _____

Organization _____

Street _____

City _____

ZIP/Postcode _____

Country _____

Telephone _____

Fax _____

E Mail _____

Important: The installation of your system cannot begin until pages 24 through 28 of this document have been fully completed and returned to the Mass Spectrometer Sales Support Representative at your local Waters office.

Applications Survey

As part of our commitment to provide greater customer service, we have found it necessary to obtain a little more information concerning our user base.

We would be grateful if you could take the time to complete the following questions to provide us with some information about how the instrument will be used.

This information will enable us to inform you of relevant current application notes and seminars and allows us to identify common interest groups so that we can promote cross transfer of information between customers.

What is your scientific field?
(for example, pharmaceutical, environmental, general, etc.)

_____

_____

Which classes of compounds will be analyzed?
(for example, carbohydrate, peptides, pesticides, etc.)

_____

_____

What is your application area?
(for example, quantitation, purity analysis, structural determination, etc.)

_____

_____

Our sales team often requires reference sites for specific applications.
Would you be willing to be used as a contact reference site for prospective customers?

_____

_____