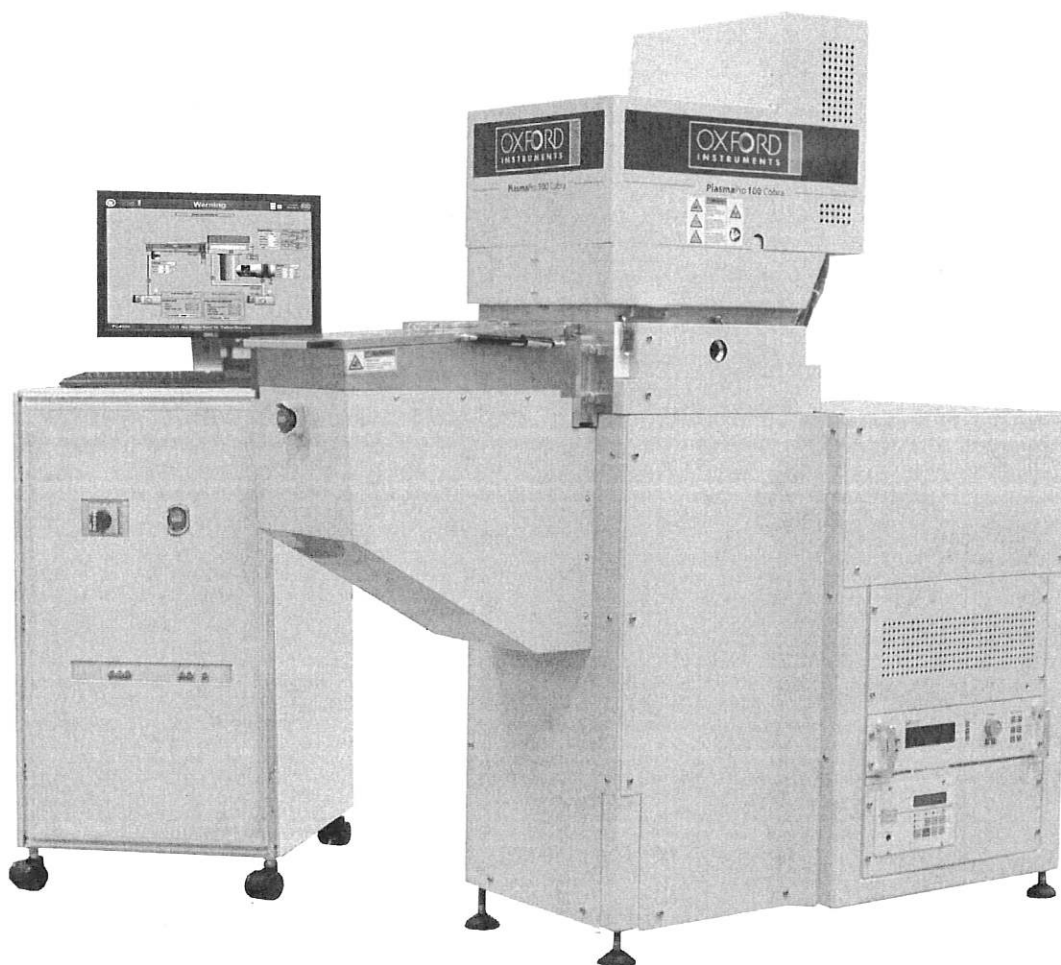


Oxford Instruments Plasma Technology PlasmaPro®100 Cobra

Issue: 01 Date: Jan 2021



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1.0 Facilities Interface Specification

1.1 Introduction

This Facilities Interface Specification (FIS) provides the data required to forward plan the facilitation of the **PlasmaPro®100 Cobra** tool. It contains SEMI E6-0914 compliant Facilities Data Sheets covering **PlasmaPro®100 Cobra** system installation and has been written to ensure compliance with all relevant SEMI standards, including but not limited to E6, E76, S10 & S13.

Note

The information contained within this manual is accurate at time of placement of order.

1.2 Customer Support

Oxford Instruments Plasma Technology has global customer support that provide a coordinated response to customer's queries. All queries are recorded on our support database and are dealt with as quickly as possible. If we are not able to answer the query immediately, we will contact you promptly.

Please direct all queries through your nearest support facility (see below), and have the following details available::

Tool type	PlasmaPro®100 Cobra
Works order number	94-816813
Contact information	Your name, the name of your company, and how we can contact you.
Details of your query	The nature of your problem, part numbers of spares required, etc.

You can contact us on the following telephone number:

Oxford Instruments Plasma Technology

EMEA

Tel: +44(0) 1934 837070

1.3 Preparing the site

The site where the tool is to be located must be surveyed and prepared before the tool is delivered. In particular, ensure that the following issues are resolved before commencing the installation:

- Ensure that the positions and fixing arrangements of all tool components are defined. Make sure that all parts of the tool are considered, including components that are mounted remotely.
- Ensure that the location of the tool allows easy access to the customer supplied isolation devices for all services (the electrical isolator; and the isolation valves for the cooling water, CDA, nitrogen, and process gas supplies).
- Assess loadings on the floor, and on any walls or support structures, to sure they are sufficient to support the weight of the various tool components.
- Make sure that all required safety features, such as gas detection equipment are installed and operational when the tool arrives.
- Make sure that the routing of interconnecting cables and pipework between the various tool components has been properly considered. Pipework or cables must not be routed where personnel are liable to walk or require regular access. Pipework and cabling must not impede access to tool safety features, such as emergency off buttons, circuit breakers or gas shut-off valves.
- Separate AC power cables from low voltage signal cables.
- Make sure the site allows sufficient clearance around all the main tool components (See Data Sheet 300).
- Make sure that the site is well ventilated and allows the free movement of air around the tool. The volume of the room must be at least 9 m³. The room must be ventilated with at least four air changes per hour, to keep the oxygen concentration high.
- Make sure that all the services required for tool operation are available and meet the required specifications (see Data Sheets 400-1000).
- Ensure that the procedures, personnel and equipment required for safely connecting the tool services have been planned. It may be necessary to shut down other equipment in the facility in order to connect exhausts, gas lines, water or electrical power to the tool.
- Check that the route, equipment and personnel required for safely transporting the equipment from the loading dock to the installation site are satisfactory. Care must be taken to consider floor loadings and access along the entire route.
- If the tool is to be installed in a clean room, consider the impact on other equipment and processes in the facility before commencing installation.

1.4 Installation

This section explains how to move the **PlasmaPro®100 Cobra** tool into position and connect to the customer supplied services.

1.4.1 Storage information

The **PlasmaPro®100 Cobra** is shipped in sealed, evacuated plastic bags within a wooden packing case. The bags contain silica gel to protect the tool from moisture. Store the tool in a facility that meets the following requirements.

- Temperature controlled between 0°C and 50°C (32°F to 122°F).
- A dry area that protects the crates from the weather (rain and dust).

1.4.2 Moving the tool into position

When transporting or moving the tool, ensure that it remains vertical at all times. The base unit can topple if tilted, causing severe injury. The main frame is fitted with wheels for use on flat surfaces.

1.4.3 Removing the tool's wheels

- Using a suitable spanner, lower the four feet until they support the weight of the frame.
- Remove the four screws that secure each of the two rear wheel assemblies to the frame. Remove the two wheel assemblies (see Fig 1).

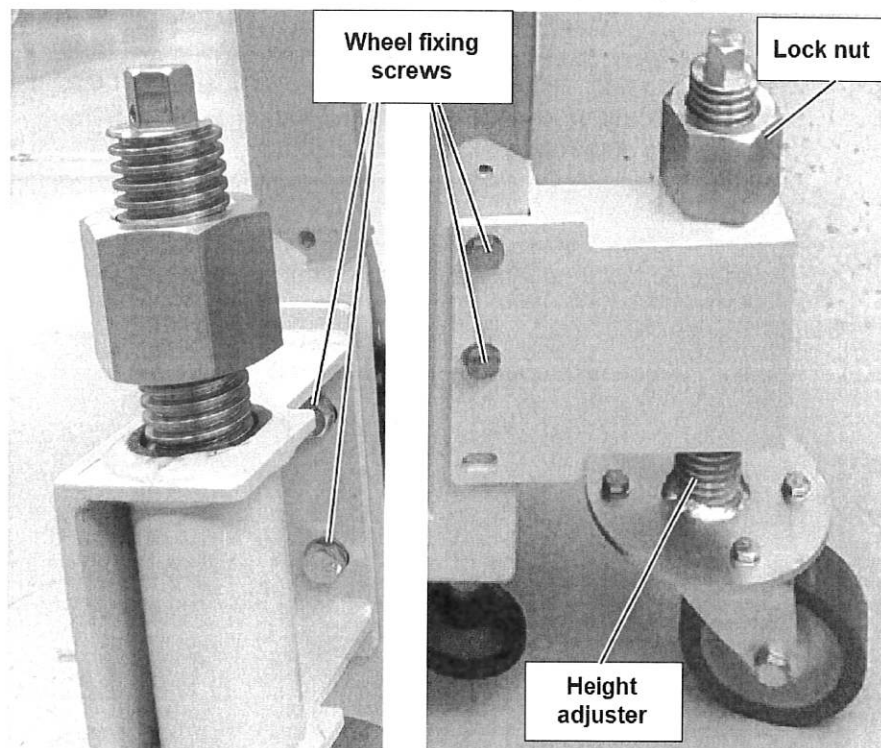


Fig 1 Tool wheels

- Remove the four screws that secure each of the two front wheel assemblies to the frame. Remove the two wheel assemblies.
- Place a spirit level or inclinometer on a horizontal part of the frame and adjust the four feet until the base unit is level.

Note

The tool is shipped with the process chamber under vacuum, so the chamber lid cannot be opened. During the commissioning process, an OIPT engineer will re-level the tool using the upper surface of the substrate table as the datum point.

- Lock the adjustable feet in place. Recheck that the frame is level.
- Attach the floor fixing brackets to the tool.
- Bolt the tool to the floor with six M10 x 40mm hexagonal headed screws through the floor fixing brackets.

1.4.4 Floor Fixing Points for the Process Module

OIPT supply floor fixing brackets for systems with a turbo equal to 1600 l/s or greater to make sure the system remains stable if there is a critical turbo failure. The system has two anchor points for these brackets on both sides of the frame as indicated with an arrow in Fig 2.

Note

The process module must be bolted to the floor to avoid a safety hazard caused by failure of the turbo pump and if located in a seismic region.

Note

Seismic rated floor fixing brackets are the responsibility of the customer. Seismic rated floor fixing brackets can use the same anchor points as the floor fixing brackets as indicated with an arrow in Fig 2.

The system must be attached to a solid floor using the supplied floor fixing brackets with eight 10mm hexagon headed screws through the fixing plates as indicated in Fig 3. If the PM is to be sited on a raised floor a suitable frame must be bolted to the solid floor below and the PM bolted through the raised floor into the frame.

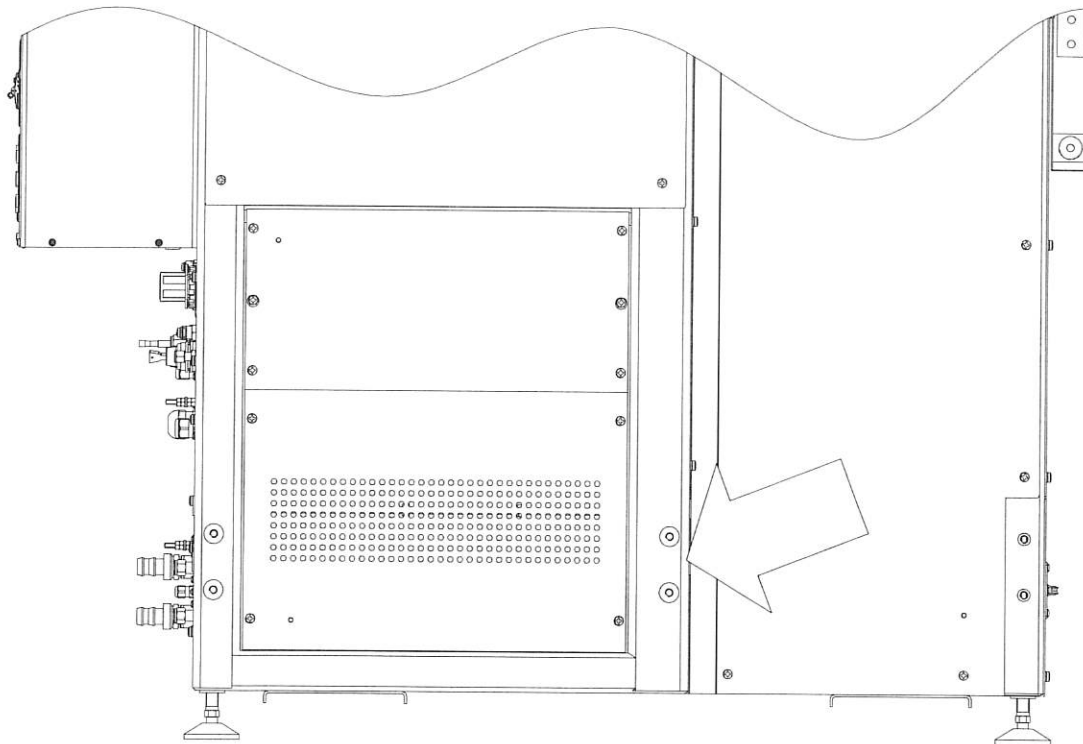


Fig 2 Process module floor fixing bracket mounting points

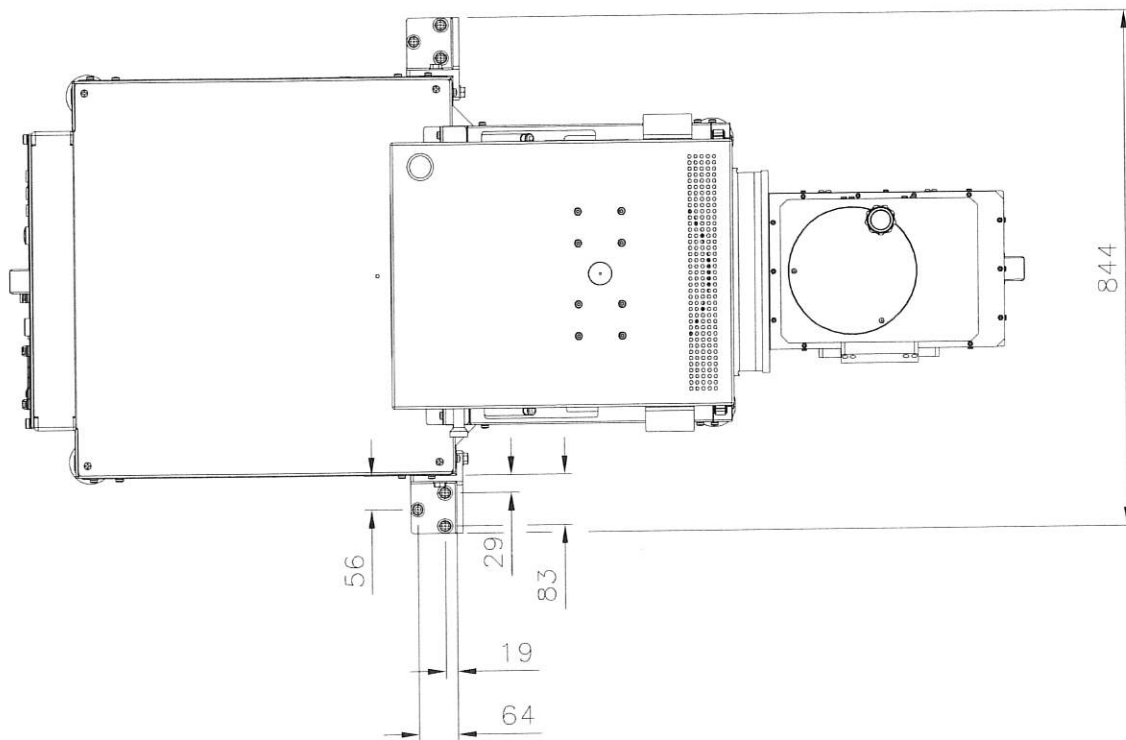


Fig 3 Typical System Fixing Positions

1.5 Data Sheet 100 - Equipment Identification

Table 1 Data Sheet 100 - Equipment Identification			
	Data Type	Units	
A	Install Data ID	text	System Facilities Data
B	Install Data Rev.	text	01
C	Data Rev. date	text	Jan 2021
D	SEMI Std.	text	SEMI E6-0914
E	Equip. Name	text	PlasmaPro®100 Cobra
F	Equip Model No.	text	
G	Process Type	text	Plasma Etch
H	Wafer Size	mm	75, 150
I	No. of Equip. Components	#	7
J	Equip. Comments	text	
K	Supplier Name	text	Oxford Instruments Plasma Technology
L	Supplier Address	text	North End, Yatton, Bristol, UK.
M	Supplier Mail Code	text	
N	Supplier Phone	text	+44 (0) 1934 837000
O	Admin. Interface Ref.	text	N/A
P	Customer Name	text	ML System S.A (Poland)
Q	Customer PO No.	text	
R		text	N/A
S		text	

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1.6 Data Sheet 200 - Environmental Conditions

Note

It should be noted that the environmental data in the following tables is based on installations carried out at altitudes between sea level and 3000 metres. For installations above 3000 metres specific approval should be sought from OIPT.

Table 2 Data Sheet 200 - Environmental Conditions (Sheet 1 of 3)

	Data Type	Units	Environmental Conditions			
A	Element ID.	text	Process Module	Control Rack	Loadlock Pump	Chamber Pump
B	Max. Distance	metre				
C	Min. Cleanroom Spec.	text	1000	1000	1000	1000
D	Cleanroom Classification Standard	text	Fed Std 209E or ISO 14644	Fed Std 209E or ISO 14644	Fed Std 209E or ISO 14644	Fed Std 209E or ISO 14644
E	Target Room Temp.	°C	20	20	20	20
F	Min. Room Temp	°C	15	15	5	5
G	Max. Room Temp.	°C	25	25	25	25
H	Room Temp. Fluctuation	%/hr	5	5	5	5
I	Heat Loading Idle	watts	1500			
J	Heat Loading Process	watts	3500			
K	Target Room Humidity	%	45	45	45	45
L	Min. Room Humidity	%	10	10	10	10
M	Max. Room Humidity	%	80	80	80	80
N	Humidity Fluctuation	%/hr	10	10	10	10
O	Vibration Sensitivity	text				
P	Vibration Generation	text				
Q	Other Vib. Req.	text				
R	Other Conditions	text	Min. Light Level 300 Lux	Min. Light Level 300 Lux	Min. Light Level 300 Lux	Min. Light Level 300 Lux

Table 2 Data Sheet 200 - Environmental Conditions (Sheet 2 of 3)

	Data Type	Units	Environmental Conditions			
S	Env. Cond. Comments	text				

Facilities Interface Specification

PlasmaPro®100 Cobra

Table 2 Data Sheet 200 - Environmental Conditions (Sheet 3 of 3)

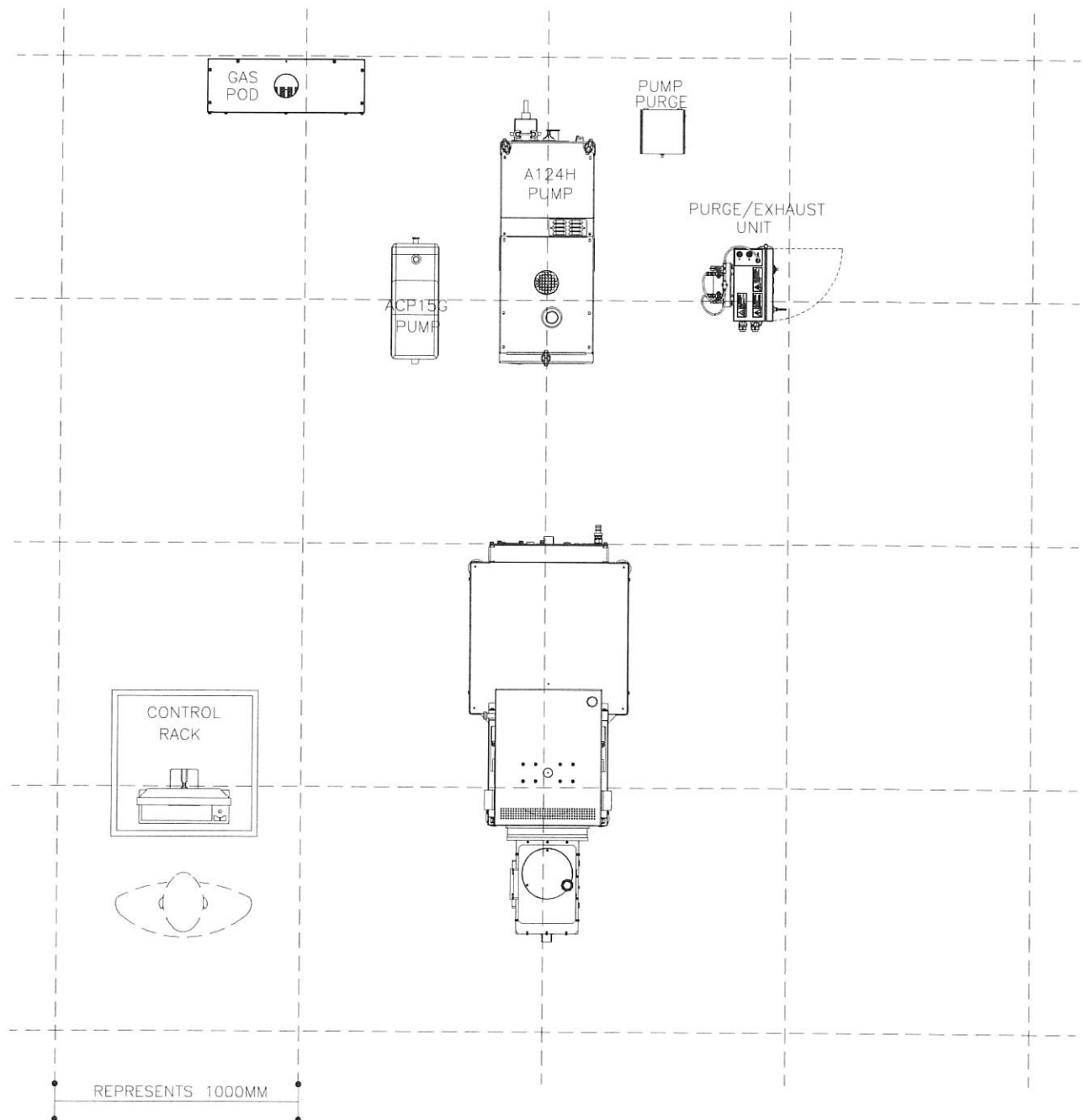
	Data Type	Units	Environmental Conditions			
A	Element ID.	text		Gas Pod		Pump Purge
B	Max. Distance	metre				10
C	Min. Cleanroom Spec.	text		1000		1000
D	Cleanroom Classification Standard	text		Fed Std 209E or ISO 14644		Fed Std 209E or ISO 14644
E	Target Room Temp.	°C		20		20
F	Min. Room Temp	°C		5		5
G	Max. Room Temp.	°C		25		25
H	Room Temp. Fluctuation	%/hr		5		5
I	Heat Loading Idle	watts				
J	Heat Loading Process	watts				
K	Target Humidity	%		45		45
L	Min. Humidity	%		10		10
M	Max. Humidity	%		80		80
N	Humidity Fluctuation	%/hr		10		10
O	Vibration Sensitivity	text				
P	Vibration Generation	text				
Q	Other Vibration Requirement	text				
R	Other Conditions	text		Min. Light Level 300 Lux		Min. Light Level 300 Lux
S	Env. Cond. Comments	text				

Table 3 Data Sheet 200 - Environmental Conditions

	Data Type	Units	Environmental Conditions			
A	Element ID.	text	Purge/ Exhaust Unit			
B	Max. Distance	metre				
C	Min. Cleanroom Spec.	text	1000			
D	Cleanroom Classification Standard	text	Fed Std 209E or ISO 14644			
E	Target Room Temp.	°C	20			
F	Min. Room Temp	°C	5			
G	Max. Room Temp.	°C	25			
H	Room Temp. Fluctuation	%/hr	5			
I	Heat Loading Idle	watts				
J	Heat Loading Process	watts				
K	Target Room Humidity	%	45			
L	Min. Room Humidity	%	10			
M	Max. Room Humidity	%	80			
N	Humidity Fluctuation	%/hr	10			
O	Vibration Sensitivity	text				
P	Vibration Generation	text				
Q	Other Vib. Req.	text				
R	Other Conditions	text	Min. Light Level 300 Lux			
S	Env. Cond. Comments	text				

1.6.1 Footprint Layout

The intention of this layout is to indicate what equipment is included in the system and not define the exact position of the components.



FOOTPRINT LAYOUT OF PLASMAPRO 100 PECVD

Fig 4 System Footprint

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1.7 Data Sheet 300 - Physical Characteristics

Table 4 Data Sheet 300 - Physical Characteristics (Sheet 1 of 2)						
	Data Type	Units	Physical Characteristics			
A	Element ID.	text	Process Module	Control Rack	Loadlock Pump	Chamber Pump
B	Shipping Data Ref.	text				
C	No. of Containers	#				
D	Installation Instructions Ref.	text				
E	No. of Cleanroom Items	#	1	1	1	1
F	Max Move-in Length	mm	1664	639	519	979
G	Max Move-in Width	mm	1000	612	195	388
H	Max Move-in Height	mm	1788	1091	270	658
I	Max Move-in Weight	kg	636	75	23	670
J	ESH Information Ref.	text	Refer to Operator Manual	Refer to Operator Manual	Refer to OEM Manual	Refer to OEM Manual
K	Assembled Length	mm	1664	639	519	979
L	Assembled Width	mm	653	612	195	388
M	Min. Assembled Height	mm	1728	1091	270	658
N	Max. Assembled Height	mm	1748	1102	270	660
O	Assembled Weight	kg	616	75	23	670
P	Clearance Front	mm	1000	1000	1000	1000
Q	Clearance Right	mm	1000	0	1000	1000
R	Clearance Left	mm	1000	0	1000	1000
S	Clearance Back	mm	1000	1000	1000	1000
T	Clearance Top	mm	1000	1000	1000	1000
U	Clearance Bottom	mm	N/A	N/A	N/A	N/A
V	Floor Loading Ref.	text	Refer to Section 1.7.1	Refer to Section 1.7.2	Refer to Section 1.7.3	Refer to Section 1.7.3
W	Drawing Refs.	text				
X	Comments	text				

Table 4 Data Sheet 300 - Physical Characteristics (Sheet 2 of 2)

	Data Type	Units	Physical Characteristics			
A	Element ID.	text		Gas Pod		Pump Purge
B	Shipping Data Ref.	text				
C	No. of Containers	#				
D	Inst. Instructions Ref.	text				
E	No of Cleanroom Items.	#		1		1
F	Max Move-in Length	mm		650		201
G	Max Move-in Width	mm		264		185
H	Max Move-in Height	mm		1146		70
I	Max Move-in Weight	kg		60		
J	ESH Info. Ref.	text		See the Operator Manual		See the Operator Manual
K	Assembled Length	mm		650		201
L	Assembled Width	mm		264500		185
M	Min. Assembled Height	mm		1146		70
N	Max. Assembled Height	mm		1146		70
O	Assembled Weight	kg		60		
P	Clearance Front	mm		1000		500
Q	Clearance Right	mm		1000		0
R	Clearance Left	mm		0		0
S	Clearance Back	mm		0		500
T	Clearance Top	mm		0		500
U	Clearance Bottom	mm		300		N/A
V	Floor Loading Ref.	text		Refer to Section 1.7.4		Refer to Section 1.7.5
W	Drawing Refs.	text				
X	Comments					

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Table 5 Data Sheet 300 - Physical Characteristics

	Data Type	Units	Physical Characteristics			
A	Element ID.	text	Purge/ Exhaust Unit			
B	Shipping Data Ref.	text				
C	No. of Containers	#				
D	Installation Instructions Ref.	text				
E	No. of Cleanroom Items	#	1			
F	Max Move-in Length	mm	318			
G	Max Move-in Width	mm	351			
H	Max Move-in Height	mm	468			
I	Max Move-in Weight	kg	13.5			
J	ESH Information Ref.	text	Refer to Operator Manual			
K	Assembled Length	mm	318			
L	Assembled Width	mm	351			
M	Min. Assembled Height	mm	468			
N	Max. Assembled Height	mm	468			
O	Assembled Weight	kg	13.5			
P	Clearance Front	mm	1000			
Q	Clearance Right	mm	1000			
R	Clearance Left	mm	1000			
S	Clearance Back	mm	1000			
T	Clearance Top	mm	1000			
U	Clearance Bottom	mm	N/A			
V	Floor Loading Ref.	text	Refer to section 1.7.7			
W	Drawing Refs.	text				
X	Comments	text				

1.7.1 PlasmaPro®100 Cobra Tool Positioning Data**Table 6 PlasmaPro®100 Tool Floor Loading Information**

Foot Ref.	X (mm)	Y (mm)	Weight (Kg)	Foot Diameter (mm)
A (Datum)	0	0	177	70
B	0	486	177	70
C	-1025	-82	141	70
D	-1025	518	141	70

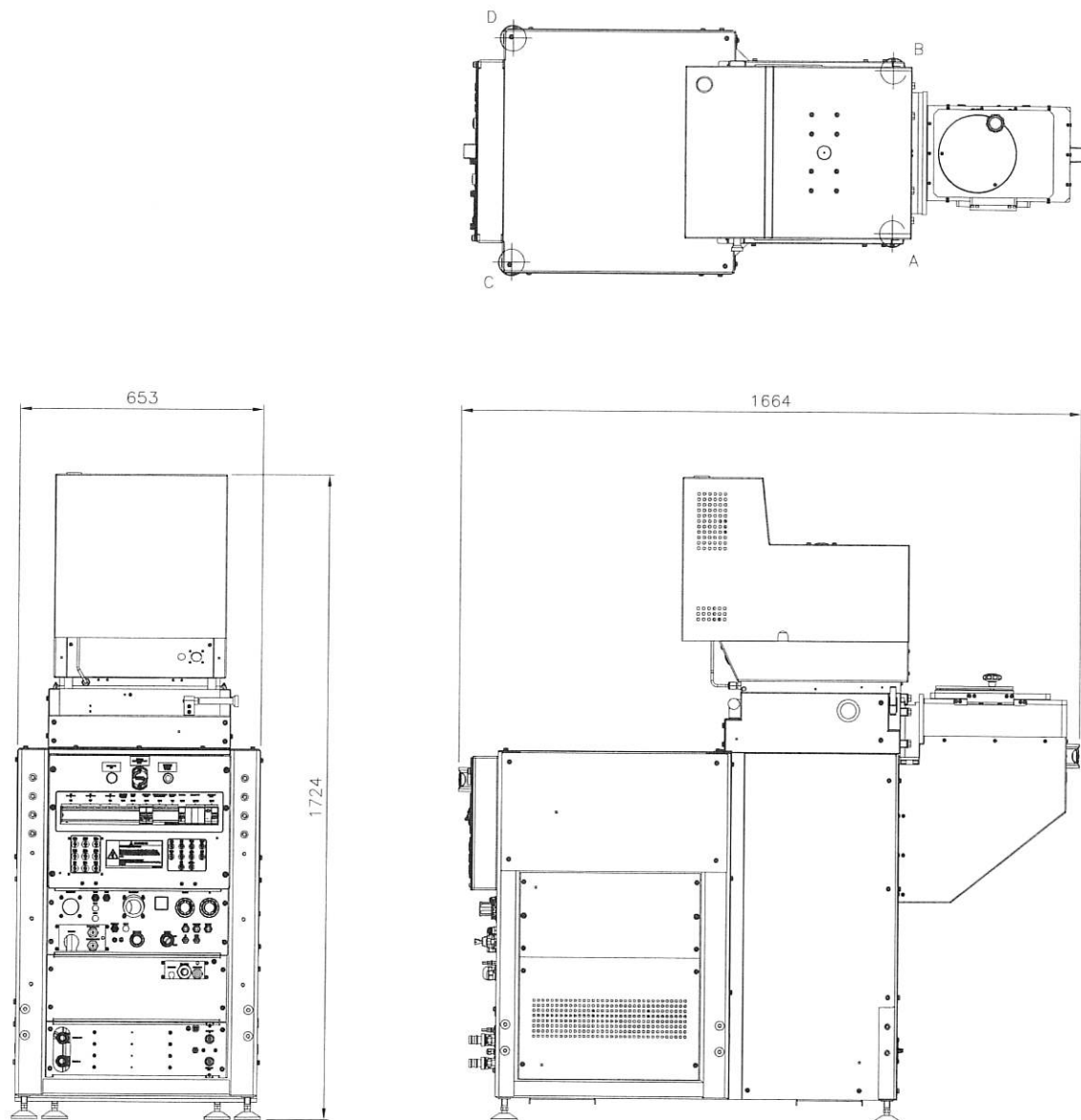


Fig 5 PlasmaPro®100 Cobra Tool Dimensions

1.7.2 Control Rack Positioning Data.**Table 7** Control Rack Floor Loading Information

Foot Ref.	X (mm)	Y (mm)	Weight (Kg)	Foot Diameter (mm)
A (Datum)	0	0		32
B	535	0		32
C	0	-535		32
D	535	-535		32

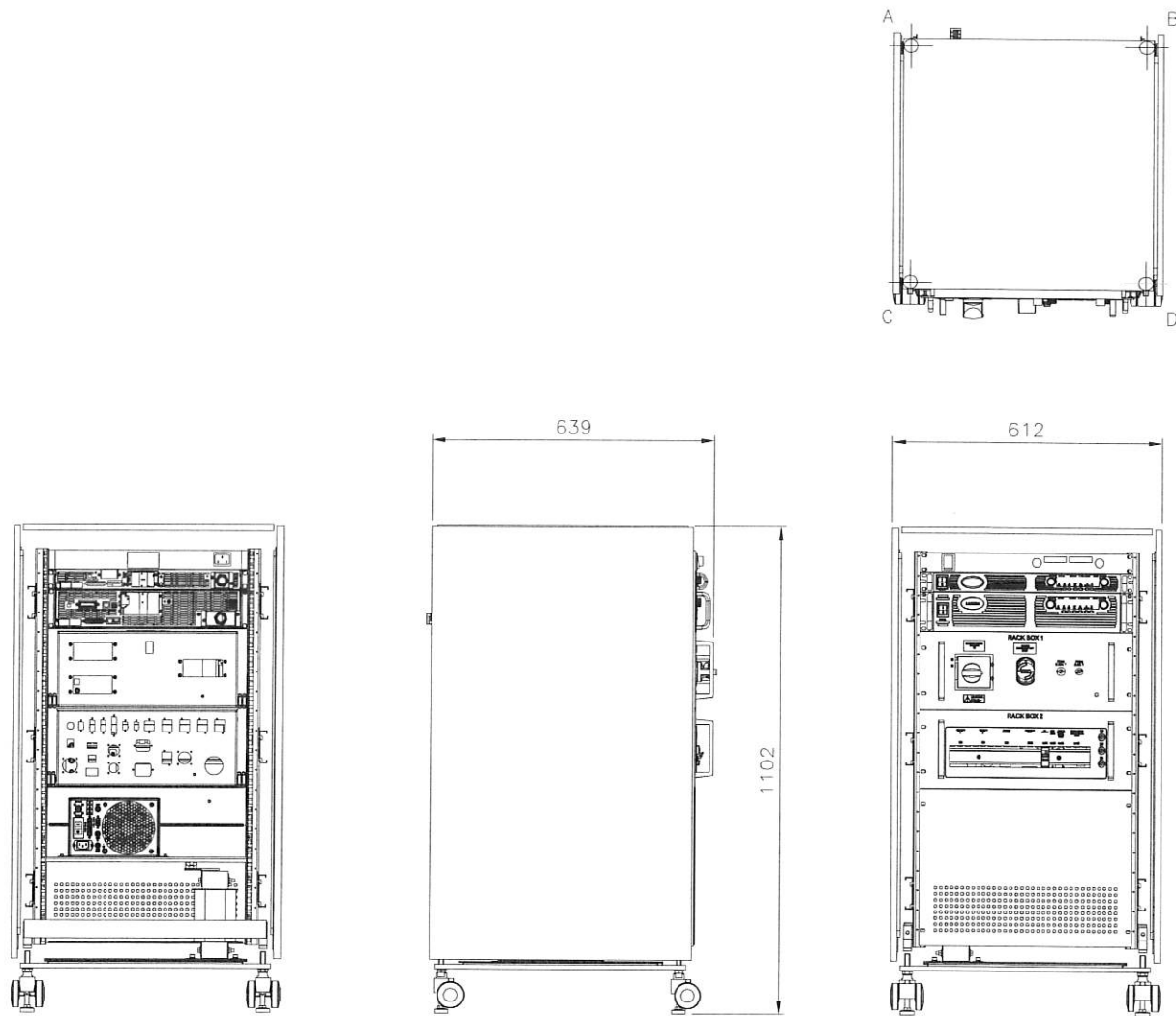


Fig 6 Control Rack Dimensions

1.7.3 Pump Positioning Data

Table 8 Process Module Pump Floor Loading Information

Foot Ref.	X (mm)	Y (mm)	Weight (Kg)	Foot Diameter (mm)
A (Datum)	0	0		52
B	0	-290		52
C	668	0		52
D	668	-290		52

Table 9 Loadlock Pump Floor Loading Information

Foot Ref.	X (mm)	Y (mm)	Weight (Kg)	Foot Diameter (mm)
A (Datum)	0	0		19
B	0	-133		19
C	486	0		19
D	486	-133		19

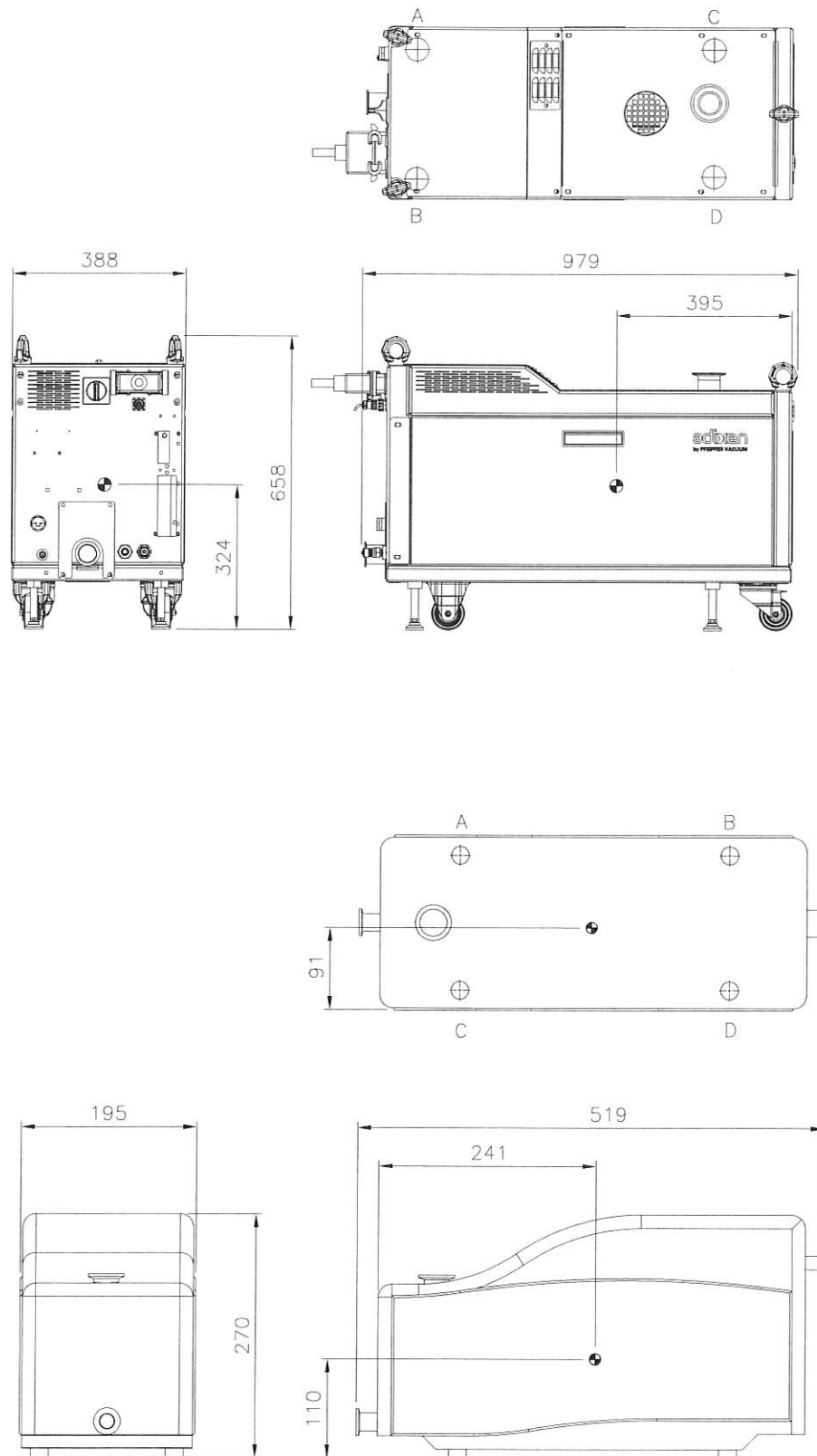


Fig 7 Pump Dimensions

1.7.4 Gas Pod Positioning Data.**Table 10** Gas Pod Loading Information

Foot Ref.	X (mm)	Y (mm)	Weight (Kg)	Foot Diameter (mm)
No feet for this component. Overall maximum weight 60 kgs.				

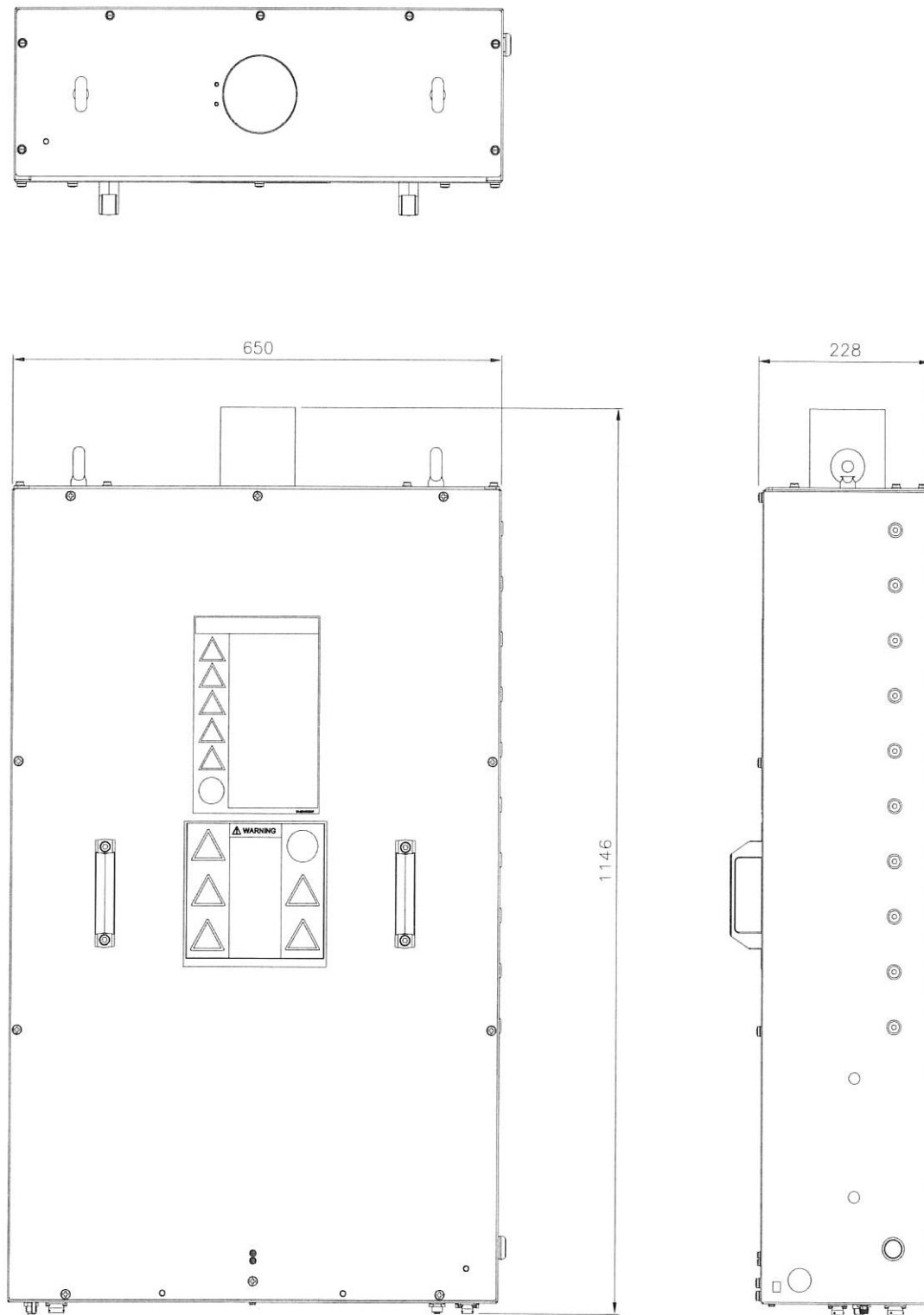


Fig 8 Gas Pod Dimensions

1.7.5 Pump Purge Positioning Data**Table 11** Pump Purge Box Floor Loading Information

Foot Ref.	X (mm)	Y (mm)	Weight (Kg)	Foot Diameter (mm)
A (Datum)	0	0		9
B	115	0		9
C	0	-130		9
D	115	-130		9

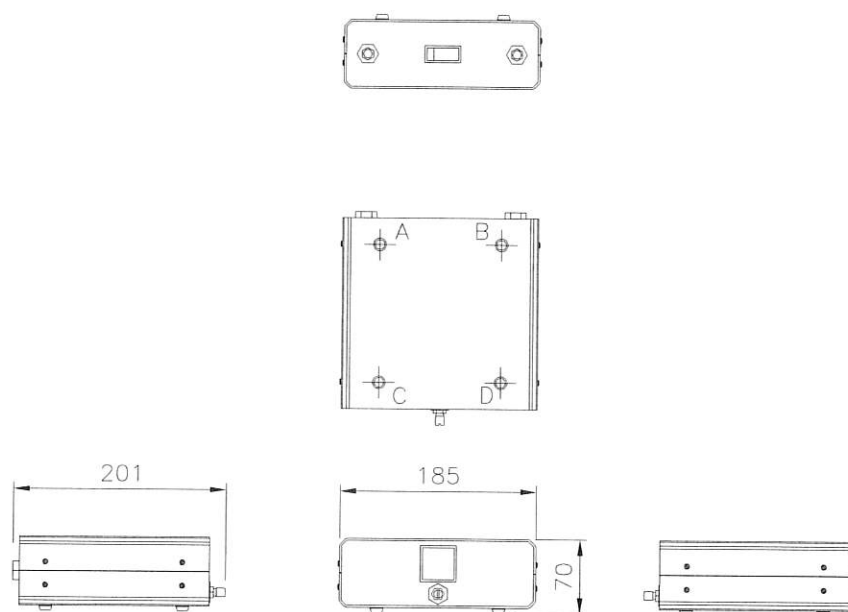


Fig 9 Pump Purge Box Dimensions

1.7.6 Purge/Exhaust Unit Positioning Data**Table 12** Purge/Exhaust Unit Floor Loading Information

Foot Ref.	X (mm)	Y (mm)	Weight (Kg)	Foot Diameter (mm)
A (Datum)	No feet for this component.			
B				
C				
D				

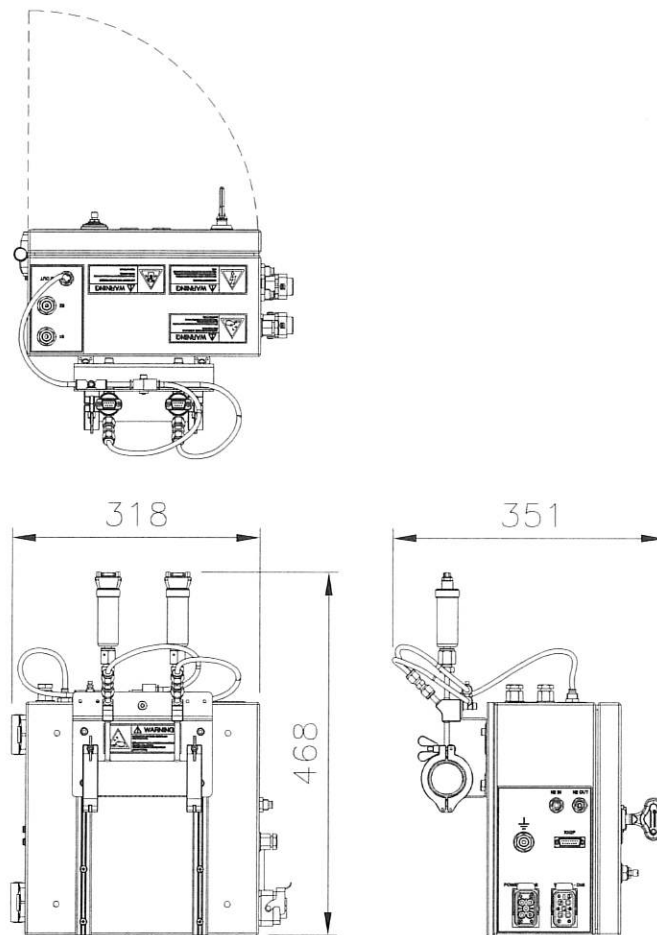


Fig 10 Purge//Exhaust Unit Dimensions

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1.8 Data Sheet 400 - Electrical Power

Note

A suitably rated circuit breaker must be installed as part of the electrical supply to the tool before the main circuit breaker on the OIPT supplied electrical rack.

Note

The electrical supply cable must be rated to carry more than the tools incoming circuit breaker value in accordance with local electrical rules and regulations. It is the responsibility of the customer to make sure it is suitably rated prior to installation of the tool.

Note

The control rack is supplied with ten metres of interconnecting cables as standard, which allowing for cable drops, leaves eight metres between the rack and other system parts. However, the effective distance between parts may be further reduced to avoid obstructions or if cables are routed via cable trays.

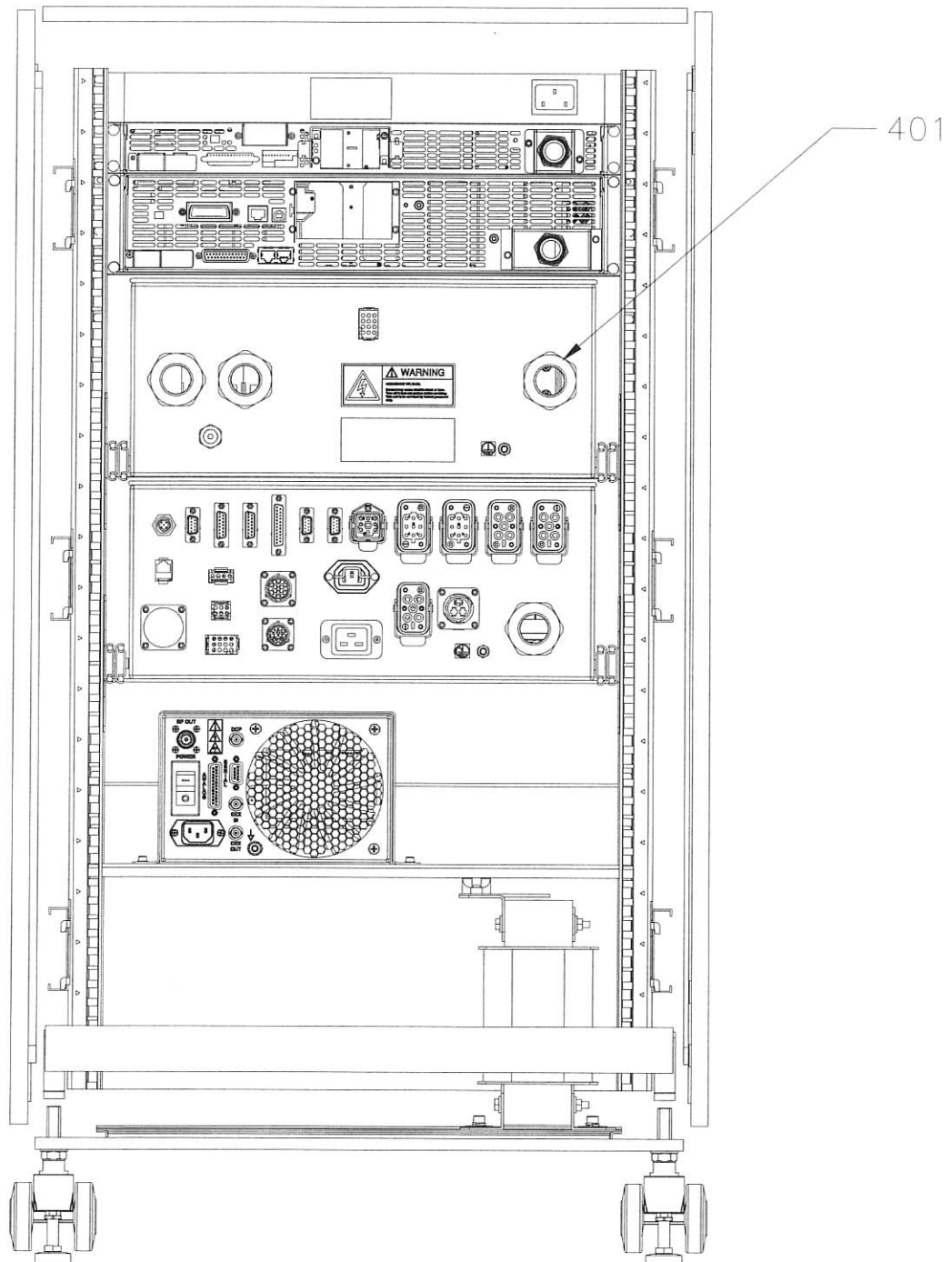
Note

An input from a fire alarm system can be linked in to the OIPT EMO circuit if required.

Table 13 Data Sheet 400 - Electrical Power

	Data Type	Units	Electrical Power			
A	Element ID.	text	Control Rack			
B	Connection Number	text	401			
C	Connection Label	text	XEP100			
D	Utility Type	text	Normal Power			
E	Line Source	text	Facilities			
F	Voltage/Phase/ Wire ^a	volts	400V 3 Phase, Neutral + Ground (5 wire)			
G	Frequency	Hz	50			
H	Equipment Component Connection Type	text	Isolator			
I	Interrupting Capacity	kA	5			
J	MCCB	amp	25			
K	Electrical Connection Positioning Data	text	Refer to Fig 11			

a. The customer supplied electrical cable to the system must be suitably rated to meet the local regulations, considering full load current, supply voltage and environmental factors.



CONTROL RACK
WITH REAR PANEL
REMOVED

Fig 11 Electrical Connection Point

1.9 Data Sheet 500 - Water

Table 14 Data Sheet 500 - Water

	Data Type	Units	Water				
A	Element ID.	text	Cobra PM	Chamber Pump			
B	Connection Number	text	501/502	503/504			
C	Connection Label	text	Water In/Out	In/Out			
D	Utility Type	text	PCW	PCW			
E	Line Source	text	Facilities	Facilities			
F	Purity	text	100 microns	100 microns			
G	Contaminants	text	30 ppm ph 6 - 8	30 ppm ph 6 - 8			
H	Minimum Pressure	kPa	200	200			
I	Maximum Pressure	kPa	300	300			
J	Max. Pressure Fluctuation	kPa	30	30			
K	Min. Pressure Differential	kPa					
L	Avg. Flow Idle	lpm	23	3			
M	Avg Flow Proc.	lpm	23	3			
N	Max. Flow.	lpm	23	3			
O	Max Temperature	°C	25	25			
P	Min. Temperature	°C	15	15			
Q	Equip. Comp. Fitting Size	inches	3/4	3/8			
R	Equip. Comp. Fitting Matl.	text	Stainless Steel	Stainless Steel			
S	Equip. Comp. Fitting Type	text	Barbed	NPT			
T	Drawing Reference	text					
U	Comments	text					

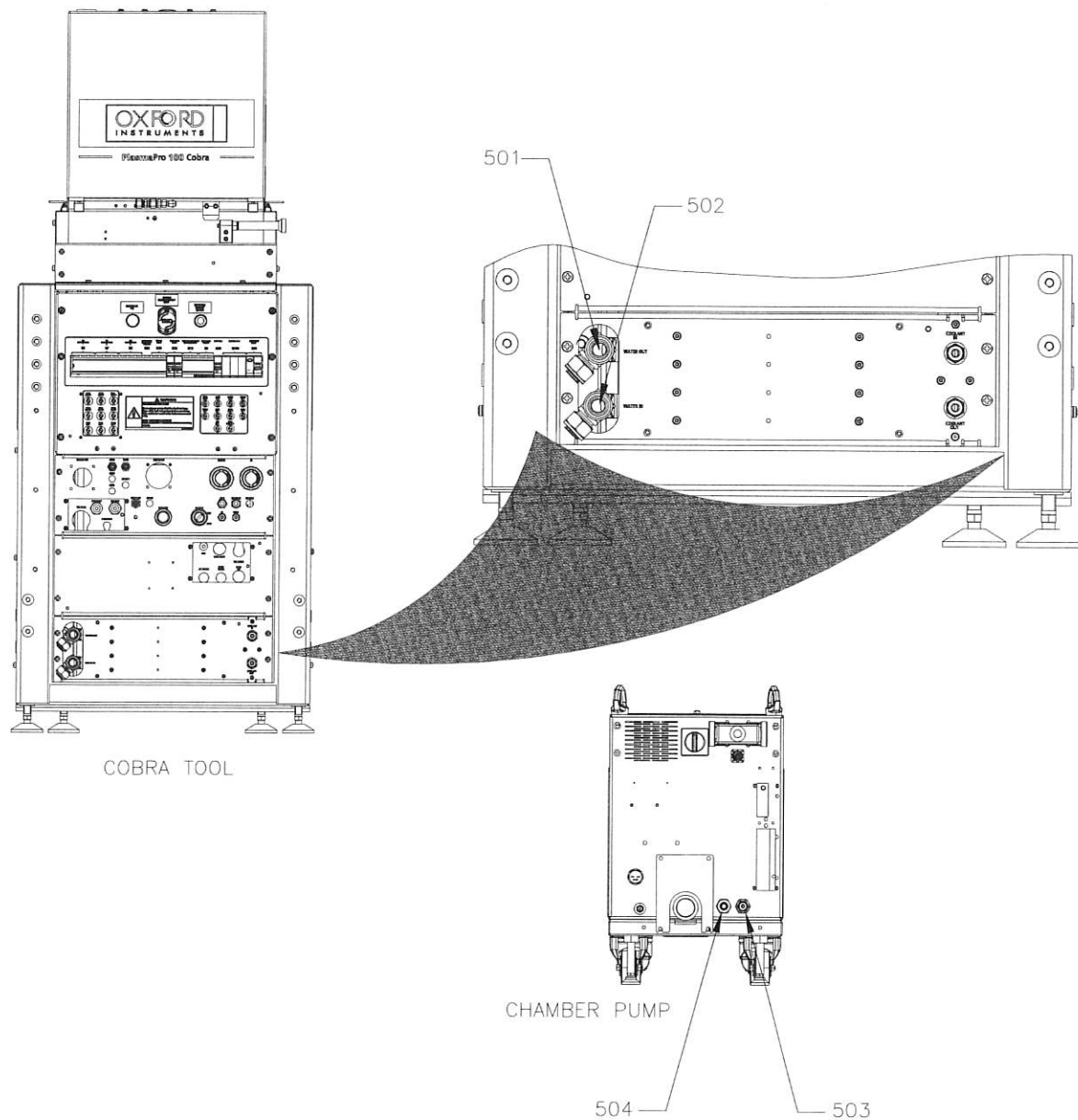


Fig 12 Water Connection Points

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1.10 Data Sheet 600 - Bulk Chemicals

No bulk chemicals are used on the Cobra System; therefore, Data Sheet 600 is not applicable.

1.11 Data Sheet 700 - Drains

No drains are used on the Cobra System; therefore, Data Sheet 700 is not applicable.

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Facilities Interface Specification

PlasmaPro®100 Cobra

1.12 Data Sheet 800 - Gases

1.12.1 General Gases

Table 15 Data Sheet 800 - General Gases								
	Data Type	Units	Gas Data					
A	Element ID.	text	Cobra Tool	Cobra Tool	Cobra Tool	Cobra Tool	Pump Purge	
B	Connection Number	text	801	802	803	804	805	
C	Connection Label	text	Air In	PSM Air In	N2	Helium	In	
D	Utility Type	text	CDA	CDA	N2	He	N2	
E	Line Source	text	Facilities	Facilities	Facilities	Facilities	Facilities	
F	Gas State	text	Pure Gas	Pure Gas	Pure Gas	Pure Gas	Pure Gas	
G	Purity	text	CDA	CDA	99.99%	99.99%	99.99%	
H	Contaminants	text						
I	Filtration	microns	0.3	0.3	2.0	2.0	2.0	
J	Min. Pressure	KPa	500	500	200	200	200	
K	Max. Pressure	KPa	600	600	300	300	300	
L	External Regulator	text	Not Required	Not Required	Required	Required	Required	
M	Idle Avg. Flow	lpm					4.0	
N	Process Avg. Flow	lpm					4.0	
O	Max. Flow	lpm		60	7.5	0.05		
P	Equip. Comp. Fitting Size	mm/ inch	8mm	8mm	1/4"	1/4"	1/4"	
Q	Equip. Comp. Fitting Matl.	text	Plastic	Plastic	Stainless Steel	Stainless Steel	Stainless Steel	
R	Equip. Comp. Fitting Type	text	Push Fit	Push Fit	Double Ferrule	Double Ferrule	Double Ferrule	
S	Double Containment	Y/N	N	N	N	N	N	
T	Equip. Comp. Double Containment Size	mm/ inch	N/A	N/A	N/A	N/A	N/A	

Table 15 Data Sheet 800 - General Gases

	Data Type	Units	Gas Data					
U	Equip. Comp. Double Containment Matl.	text	N/A	N/A	N/A	N/A	N/A	
V	Equip. Comp. Double Containment Type	text	N/A	N/A	N/A	N/A	N/A	
W	Drawing Refs	text						
X	Comments	text						

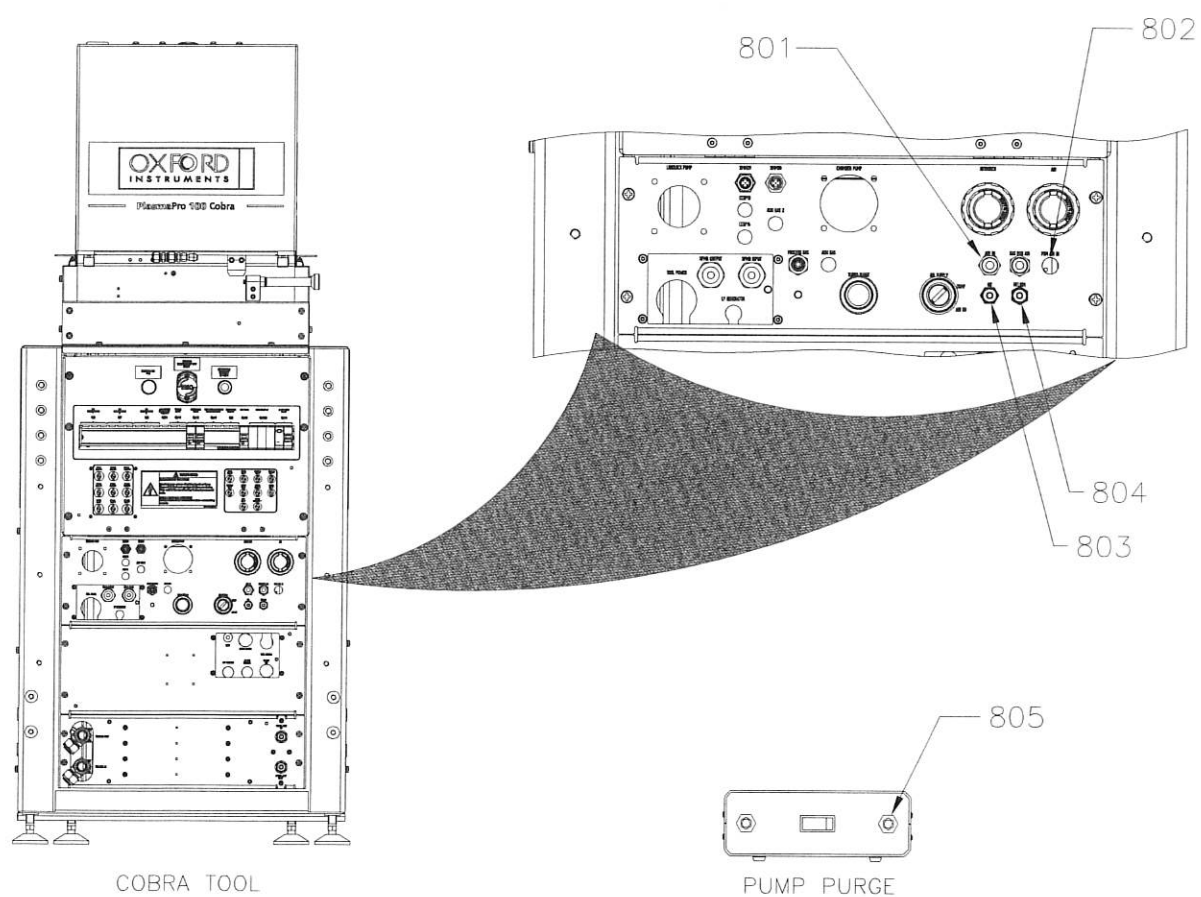


Fig 13 General Gas Connection Points

1.12.2 Process Gas Data Sheet

Note

OIPT recommend the use of electro-polished 316 stainless steel pipework, orbitally welded and VCR fittings for all gas line installations from source to gas pod.

Note

Only fit correctly rated regulators. It is also recommended a wall-mounted isolation valve and high-flow valve to be fitted in each gas line. Failure to provide this equipment may result in unnecessary delays in the commissioning of the system.

Table 16 Data Sheet 800 - Process Gas Data Sheet (Sheet 1 of 2)

	Data Type	Units	Process Gas Data				
A	Element ID.	text	Gas Pod	Gas Pod	Gas Pod	Gas Pod	Gas Pod
B	Connection Number	text	806	807	808	809	810
C	Connection Label	text	O2	Ar	N2	SF6	
D	Utility Type	text	O2	Ar	N2	SF6	
E	Line Source	text	Facilities	Facilities	Facilities	Facilities	
F	Gas State	text	Pure Gas	Pure Gas	Pure Gas	Pure Gas	
G	Purity	text	99.999%	99.999%	99.999%	99.999%	
H	Contaminants	text					
I	Filtration	microns	2.0	2.0	2.0	2.0	
J	Min. Pressure	KPa	200	200	200	200	
K	Max. Pressure	KPa	300	300	300	300	
L	External Regulator	text	Required	Required	Required	Required	
M	Idle Avg. Flow	lpm	0	0	0	0	
N	Process Avg. Flow	lpm	Process Dependant	Process Dependant	Process Dependant	Process Dependant	
O	Max. Flow	lpm	0.1	0.1	0.05	0.2	
P	Equip. Comp. Fitting Size	inch	1/4	1/4	1/4	1/4	
Q	Equip. Comp. Fitting Matl.	text	316 Stainless Steel	316 Stainless Steel	316 Stainless Steel	316 Stainless Steel	
R	Equip. Comp. Fitting Type ^a	text	Orbitally Welded	Orbitally Welded	Orbitally Welded	Orbitally Welded	

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Table 16 Data Sheet 800 - Process Gas Data Sheet (Sheet 2 of 2)

	Data Type	Units	Process Gas Data				
S	Double Containment	Y/N	N	N	N	N	
T	Equip. Comp. Double Cont. Size	inch	N/A	N/A	N/A	N/A	
U	Equip. Comp. Double Cont. Matl.	text	N/A	N/A	N/A	N/A	
V	Equip. Comp. Double Cont. Type	text	N/A	N/A	N/A	N/A	
W	Drawing Refs.	text					
X	Comments	text					

- a. Incoming gas line to be orbitally welded to fitted gas line tail.

Table 17 Data Sheet 800 - Process Gas Data Sheet (Sheet 1 of 2)

	Data Type	Units	Process Gas Data				
A	Element ID.	text	Gas Pod	Gas Pod	Gas Pod	Gas Pod	Gas Pod
B	Connection Number	text	811	812	813		
C	Connection Label	text		Cl2	BCI3		
D	Utility Type	text		Cl2	BCI3		
E	Line Source	text		Facilities	Facilities		
F	Gas State	text		Pure Gas	Pure Gas		
G	Purity	text		99.999%	99.999%		
H	Contaminants	text					
I	Filtration	microns		2.0	2.0		
J	Min. Pressure	KPa		200	200		
K	Max. Pressure	KPa		300	300		
L	External Regulator	text		Required	Required		
M	Idle Avg. Flow	lpm		0	0		
N	Process Avg. Flow	lpm		Process Dependant	Process Dependant		
O	Max. Flow	lpm		0.1	0.1		
P	Equip. Comp. Fitting Size	inch		1/4	1/4		
Q	Equip. Comp. Fitting Matl.	text		316 Stainless Steel	316 Stainless Steel		
R	Equip. Comp. Fitting Type ^a	text		Orbitally Welded	Orbitally Welded		
S	Double Containment	Y/N		N	N		
T	Equip. Comp. Double Cont. Size	inch		N/A	N/A		
U	Equip. Comp. Double Cont. Matl.	text		N/A	N/A		
V	Equip. Comp. Double Cont. Type	text		N/A	N/A		

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Table 17 Data Sheet 800 - Process Gas Data Sheet (Sheet 2 of 2)

	Data Type	Units	Process Gas Data				
W	Drawing Refs.	text					
X	Comments	text			Gas line to be heated from gas bottle to gas pod		

- a. Incoming gas line to be orbitally welded to fitted gas line tail.

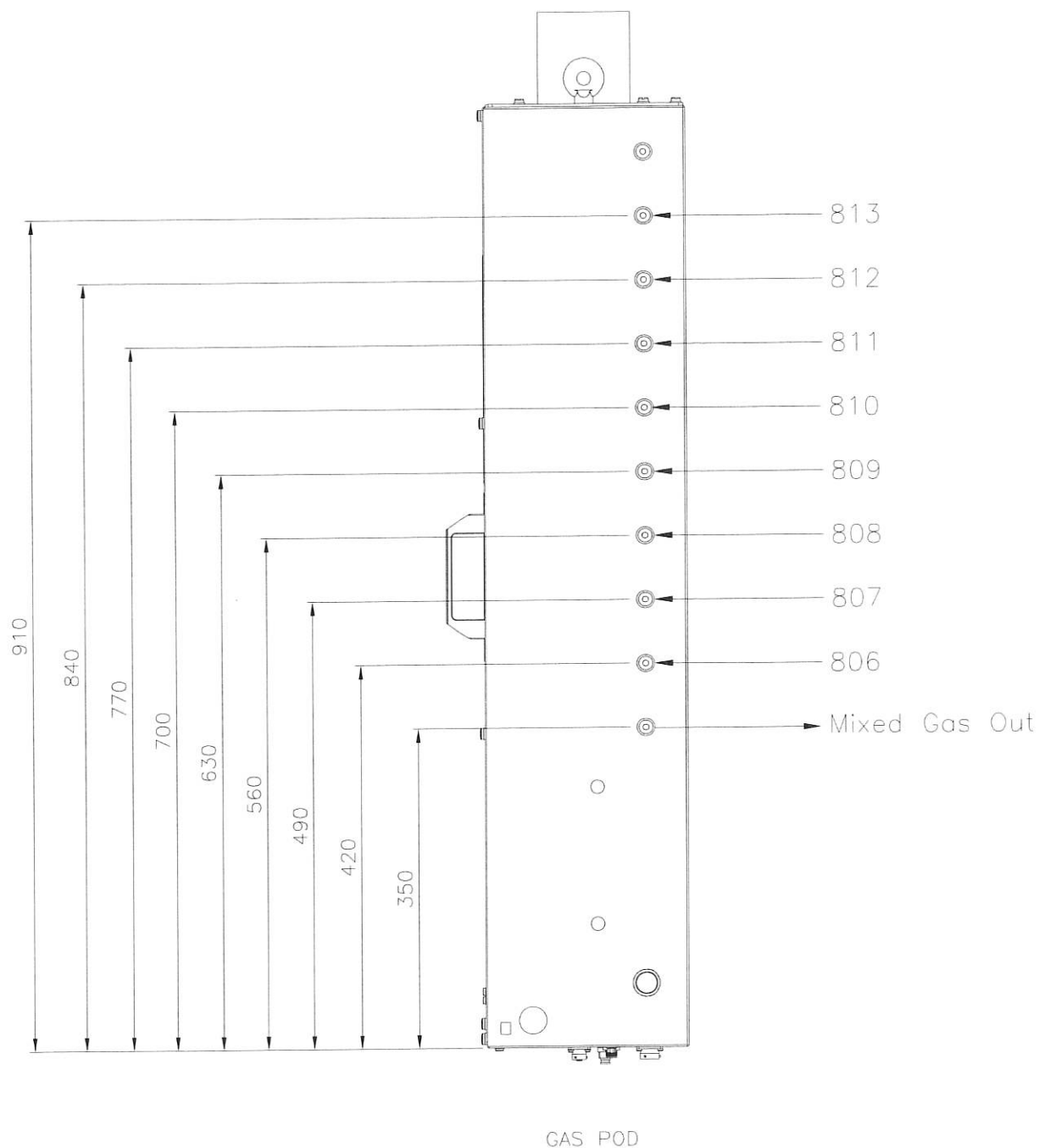


Fig 14 Gas connection points

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1.13 Data Sheet 900 - Vacuum

Table 18 Data Sheet 900 - Vacuum

	Data Type	Units	Vacuum Connection Data			
A	Element ID.	text	Cobra Tool	Cobra Tool		
B	Connection Number	text	901	902		
C	Connection Label	text	Loadlock Pump	Chamber Pump		
D	Utility Type	text	Loadlock Vacuum	Process Vacuum		
E	Line Source	text	Loadlock Pump	Chamber Pump		
F	Vacuum Conveyed Process Wastes	text	N/A	N/A		
G	Min. Vacuum	Pa				
H	Max. Vacuum	Pa				
I	Max. Vacuum Fluctuation	Pa				
J	Max. Flow	cmh				
K	Heating/ Insulating	text	No	No		
L	Equip. Comp. Fitting Size	mm	25	40 (adapter required to connect to NW50 fitting)		
M	Equip. Comp. Fitting Matl.	text	Stainless Steel	Stainless Steel		
N	Equip. Comp. Fitting Type	text	NW	NW		
O	Drawing Refs.	text				
P	Comments	text				

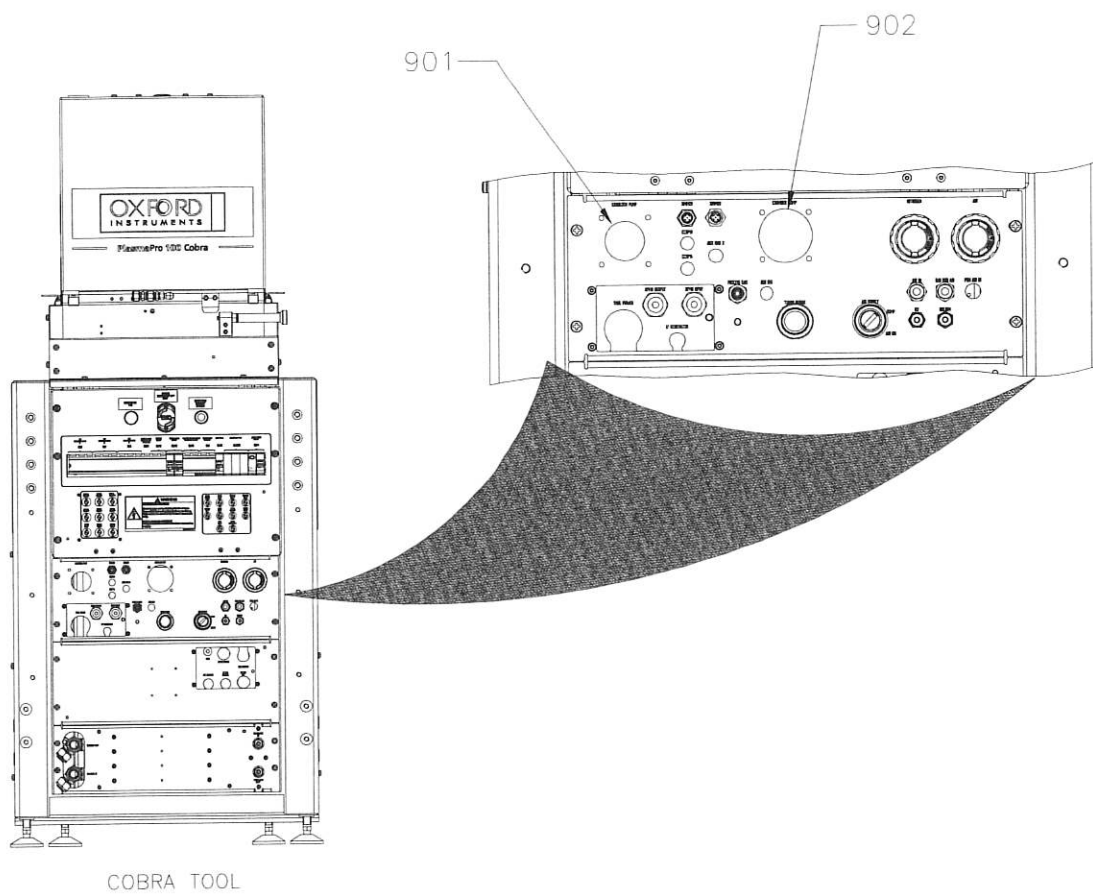


Fig 15 Vacuum Connection Points

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1.14 Data Sheet 1000 - Exhaust

Table 19 Data Sheet 1000 - Exhaust						
	Data Type	Units	Exhaust Connection Data			
A	Element ID.	text	Loadlock Pump	Chamber Pump	Gas Pod	
B	Connection Number	text	1001	1002	1003	
C	Connection Label	text				
D	Utility Type	text	Loadlock Pump Exhaust	Process Pump Exhaust	Gas Pod Extraction	
E	Line Source	text	Facilities	Facilities	Facilities	
F	Process Wastes	text	N/A	Process Dependant	N/A	
G	Min. Static Pressure	Pa				
H	Max Static Pressure	Pa	Refer to OEM manual	Refer to OEM manual	-375	
I	Max. Pressure Fluctuation	Pa	LEV Dependant	LEV Dependant	LEV Dependant	
J	Avg. Idle Flow	cmh				
K	Avg. Process Flow	cmh	Refer to OEM manual	Refer to OEM manual	180	
L	Max. Temperature	°C	Ambient	Ambient	Ambient	
M	Equip. Comp. Fitting Size	mm	16 (use adapter to connect to NW40 pipe)	NW40	100	
N	Equip. Comp. Fitting Size Dimension	ID/OD				
O	Equip. Comp. Fitting Matl.	text	Stainless Steel	Stainless Steel	Customer Dependant	
P	Equip. Comp. Fitting Type	text	NW	NW	Pipe Clamp	
Q	Flow Loss Coefficient					
R	External Damper Required	Y/N				
S	Drawing Refs.	text				
T	Comments	text				

Table 20 Data Sheet 1000 - Exhaust

	Data Type	Units	Exhaust Connection Data			
A	Element ID.	text		Purge/ Exhaust Unit	Purge/ Exhaust Unit	
B	Connection Number	text		1006	1007	
C	Connection Label	text				
D	Utility Type	text		Exhaust In	Exhaust Out	
E	Line Source	text		1002	To LEV	
F	Process Wastes	text		Process Dependent	Process Dependent	
G	Min. Static Pressure	Pa				
H	Max Static Pressure	Pa				
I	Max. Pressure Fluctuation	Pa		LEV Dependent	LEV Dependent	
J	Avg. Idle Flow	cmh				
K	Avg. Process Flow	cmh				
L	Max. Temperature	°C		Ambient	Ambient	
M	Equip. Comp. Fitting Size	inches		40	40	
N	Equip. Comp. Fitting Size Dimension	ID/OD				
O	Equip. Comp. Fitting Matl.	text		Stainless Steel	Stainless Steel	
P	Equip. Comp. Fitting Type	text		NW	NW	
Q	Flow Loss Coefficient					
R	External Damper Required	Y/N				
S	Drawing Refs.	text				
T	Comments	text				

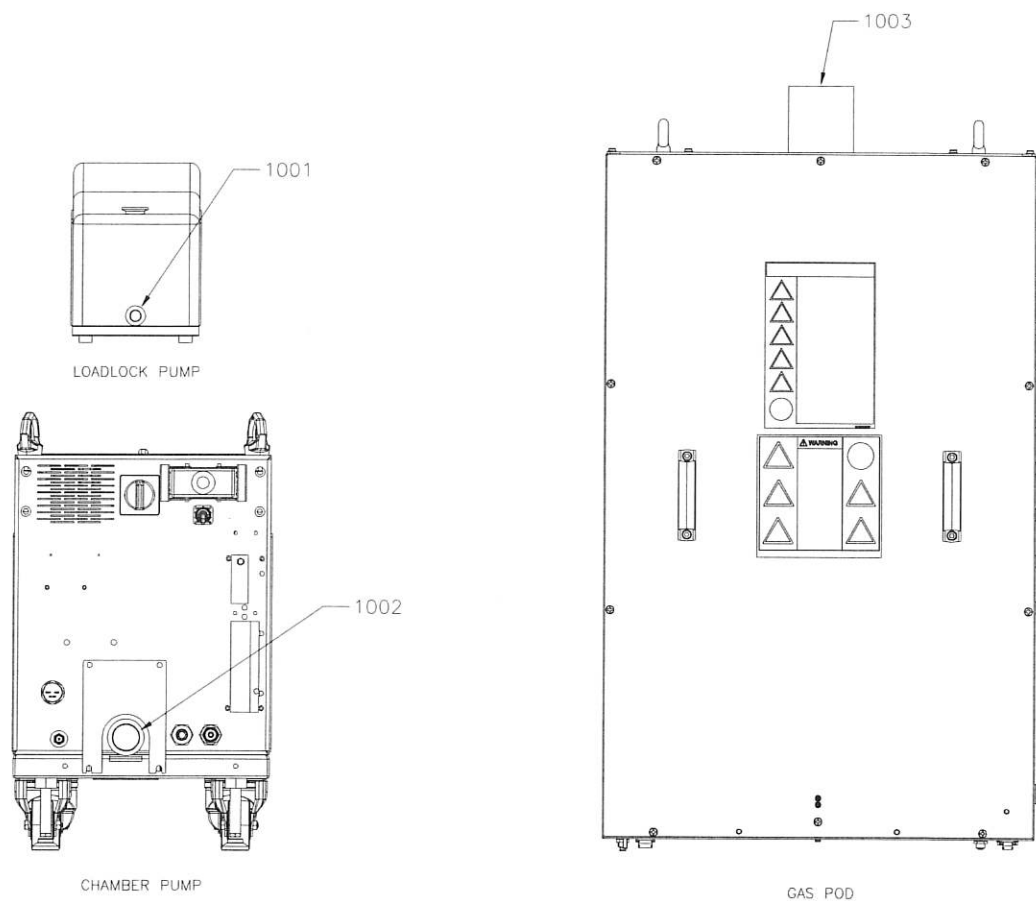


Fig 16 Exhaust Connection Points

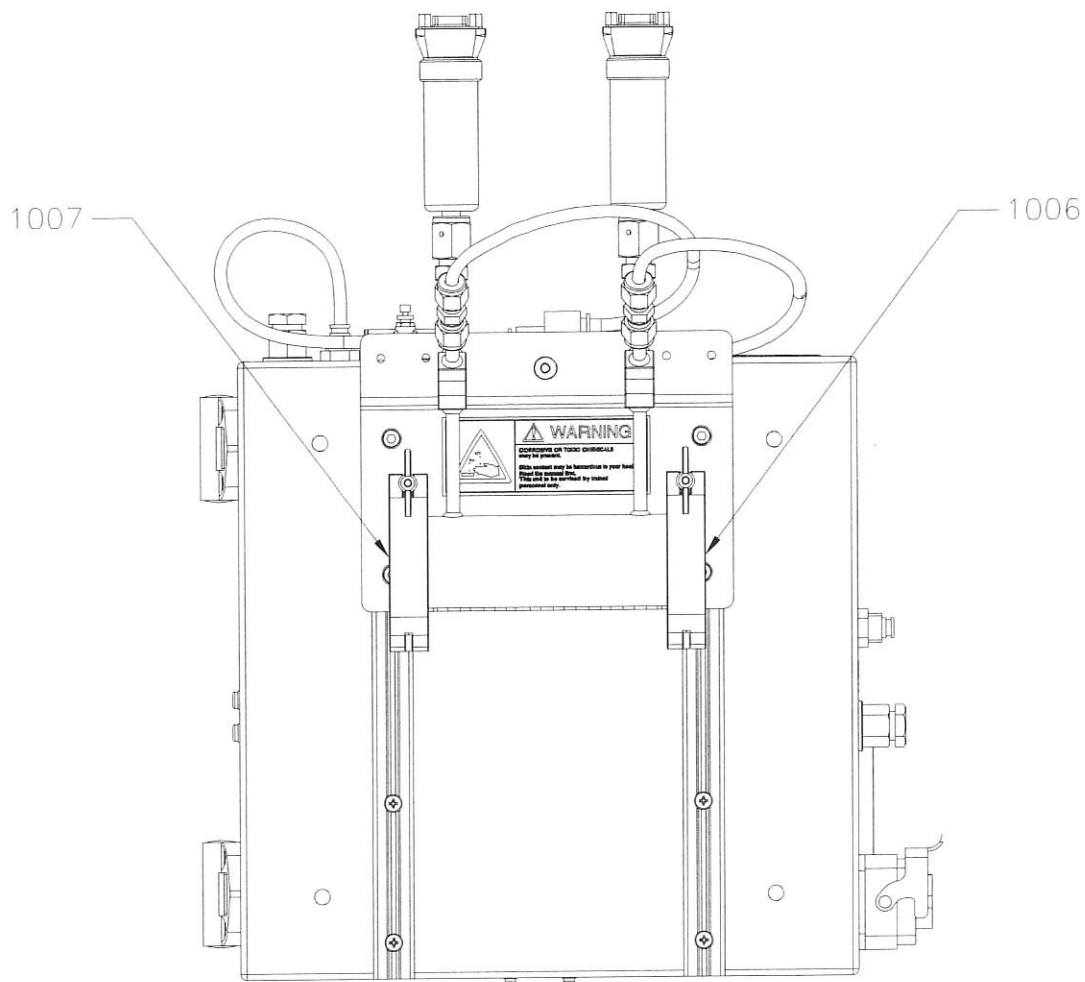


Fig 17 Exhaust Connection Point

1.15 Document History

Issue 01 24/01/2021

First issue

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GLOSSARY

This glossary explains the acronyms and abbreviations used in this Facilities Interface Specification. The entries are presented in alphanumeric order.

Acronyms and abbreviations

ACU	Automatic Changeover Unit
Admin	Administrative
Avg	Average
C	Centigrade
CDA	Clean Dry Air (compressed air)
scfm	standard cubic feet per minute
cmh	standard cubic metre per hour
CoG	Centre of Gravity
Comp	Component
Cond	Condition
Env	Environment
Equip	Equipment
E-Off	Emergency off
Equip	Equipment
ESH	Environment, Safety and Health
Fed	Federal
FIS	Facilities Interface Specification
He	Helium
hr	Hour
Hz	Hertz
ID	Identification
ISO	International Organisation for Standardisation
kg	Kilograms
kPa	Kilopascal
LEV	Local Exhaust Ventilation
lpm	litres per minute
Matl	Material
Max	Maximum
MCCB	Moulded Case Circuit Breaker
Min	Minimum
mm	Millimetre
MTP	Material Transfer Plane
N/A	Not applicable
N	No
No	Number
OEM	Other equipment manufacturer
OIPT	Oxford Instruments Plasma Technology
Pa	Pascal
PCW	Process Cooling Water
pH	power of hydrogen

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PO	Purchase Order
Proc	Process
Ref	Reference
Rev	Revision
sccm	Standard Cubic Centimetres per Minute
SEMI	Semiconductors Equipment and Materials International
Spec	Specification
Std	Standard
TBD	To be determined
Temp	Temperature
V	Volt
VCR	A trademark of the Swagelok company. In this manual, the term VCR refers to a vacuum connection system using a metal gasket as the seal
Y	Yes