

Illustrated Parts Catalogue

PlasmalabSystem100

Modular Cluster System – PECVD



Issue 2: November 2002

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Introduction

This Illustrated Parts Catalogue has been prepared to enable the rapid identification of components of the Oxford Instruments Plasma Technology **Plasmalab** System 100 (PECVD) machine.

The catalogue is not a comprehensive list of all machine components, for details of components not included, please contact Oxford Instruments Plasma Technology (OIPT).

Contact your local OIPT representative for prices; see the last page of this catalogue for addresses, phone/fax numbers and e-mail addresses.

Catalogue organisation

This catalogue is organised to mimic the OIPT Bill Of Materials and Price List numbering system for ease of component location. Each major system component is identified by a number of the form **AAA-BB-CC**:

AAA: 100 represents the **Plasmalab** System 100 product.

BB: System sections as follows (note that not all available numbers are used) :

- 0: Compulsory elements of the basic system, such as frame, power box, Programmable Logic Controllers etc.
- 1: Not applicable to the **Plasmalab** System 100
- 2: Not applicable to the **Plasmalab** System 100
- 3: Process chambers and their options.
- 4: Not applicable to the **Plasmalab** System 100
- 5: Lower electrode
- 6: Plasma generation, power supplies.
- 7: Vacuum measurement.
- 8: Pumping pipework.
- 9: Process gas lines
- 10: Wafer handling options, load locks and robotics
- 11: Spare series
- 12: Accessories, cover plates, chillers, end point detectors etc.

The sections in this catalogue are numbered to match these system sections. So for example, if you are looking for a process chamber component, you will find it in Section 3.

CC: Sub assembly numbering.

Using the Parts Lists

In this catalogue 'item number' refers to the reference number used on an illustration, 'part number' refers to the unique number used to identify the part in Oxford Instruments Plasma Technology'

To identify a part:

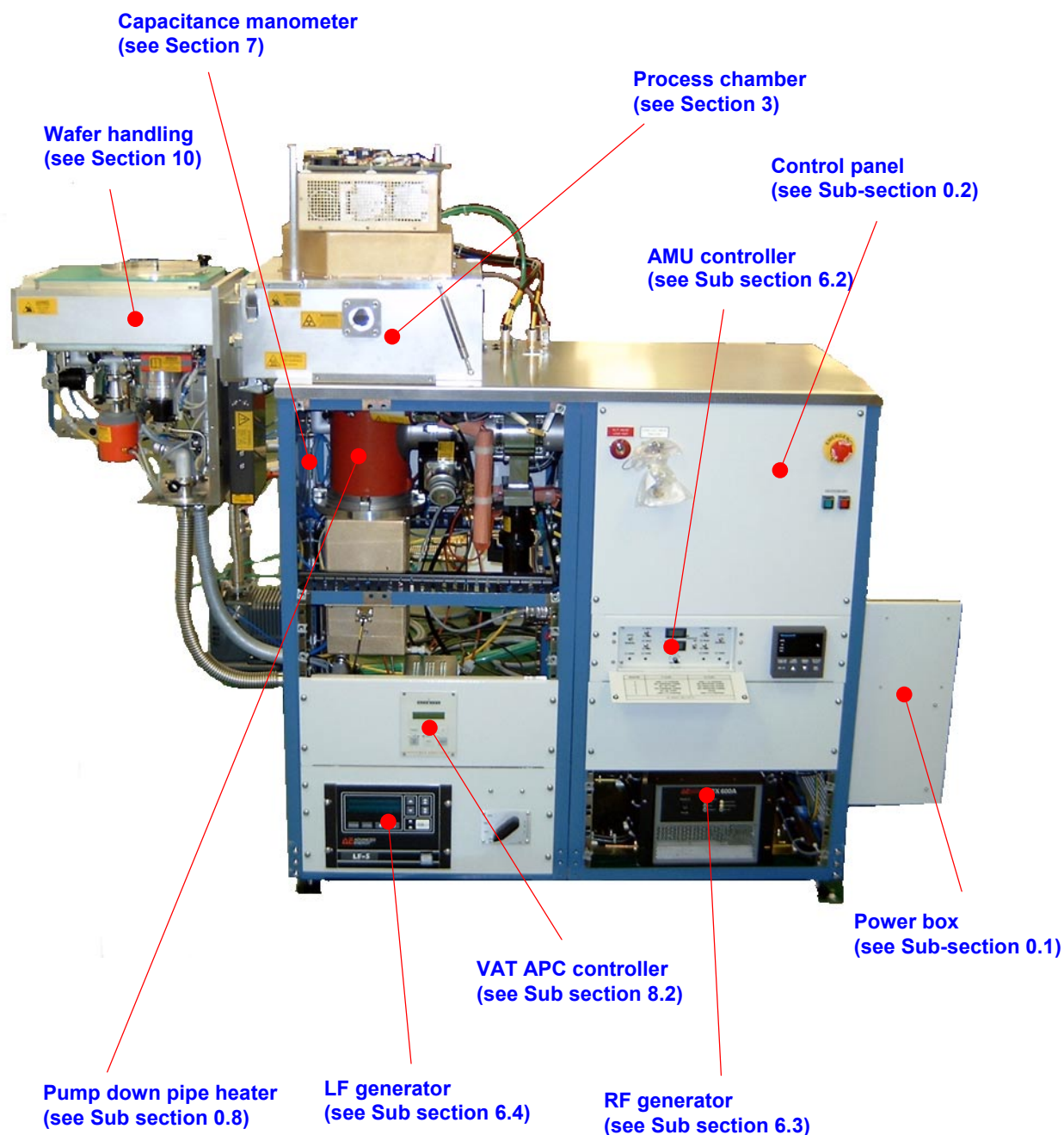
- 1) Locate the appropriate section from the contents list.
- 2) Find the required component on the relevant illustration and note its item number (see note (d) below).
- 4) Refer to the associated parts list table and find the item number.
- 5) Note the OPT part number and description.
- 6) Telephone or fax the part number and description to your local OIPT sales office or representative who can quickly locate the part on the spares database. See the last page of this catalogue for OIPT locations world-wide.

NOTES:

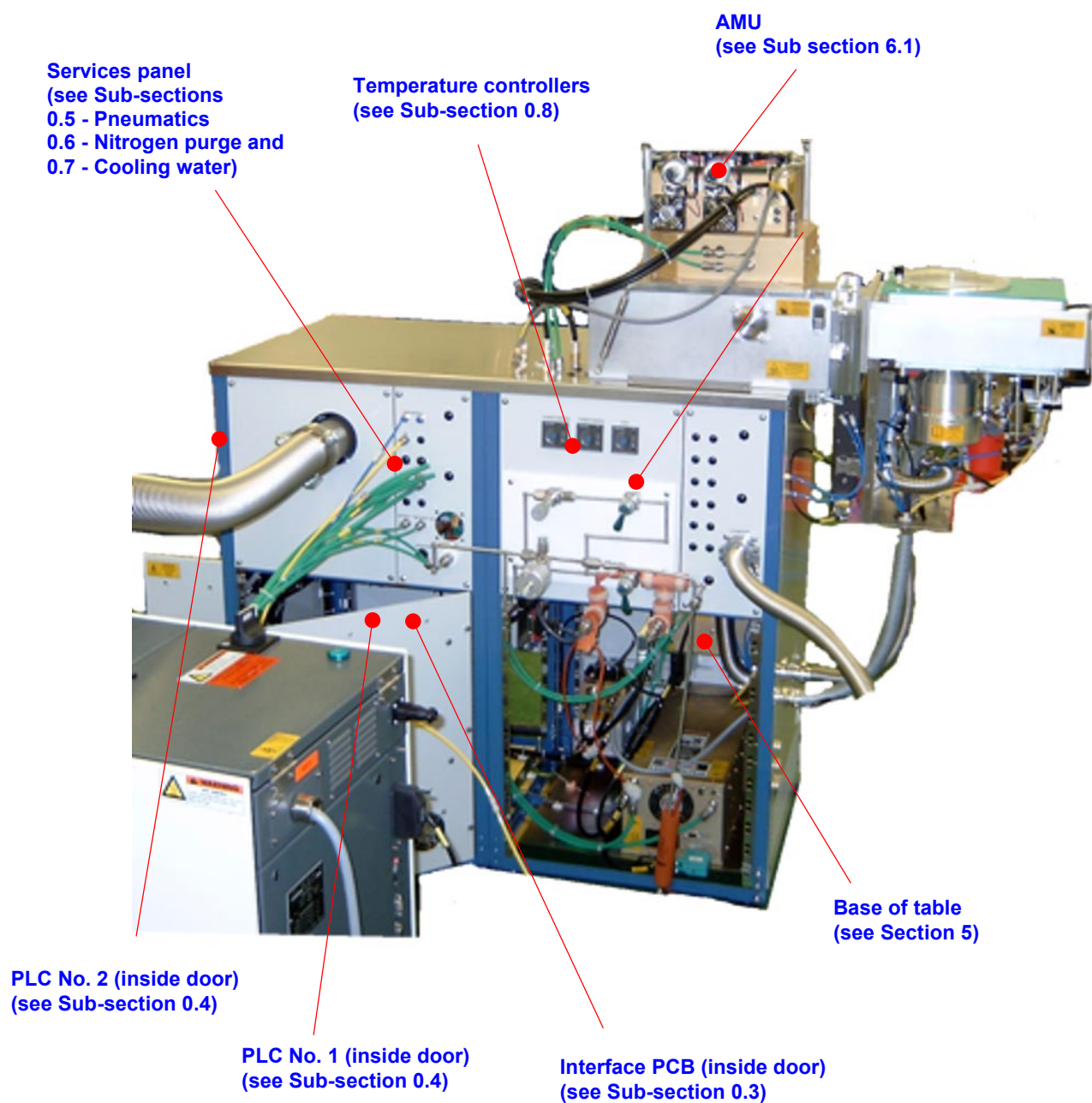
- (a) Where possible, the item number used in the illustrations is the same as that quoted on the OIPT Bill of Materials for the assembly. However, in some cases this has not been possible as more than one assembly may be shown in an illustration.
- (b) Where an item number has more than one part associated with it in a parts list table, this indicates component options which may vary according to the configuration of the machine: identify the component from the actual machine before selecting the correct option.
- (c) Items listed without item numbers in the parts list tables are not shown in the illustrations, but their OIPT Part Numbers and descriptions are listed to enable identification.
- (d) Printed Circuit Boards (PCBs) illustrated within this catalogue are assembled boards which include all integrated circuits and other components. To ensure the correct assembled board is supplied, read the PC number stamped on the PCB. This will read PC100xxxxxx. Check this with the OIPT spares department or include the number with your order, making sure to include any revision number printed on the circuit board.

Location of major components

FRONT VIEW



REAR VIEW

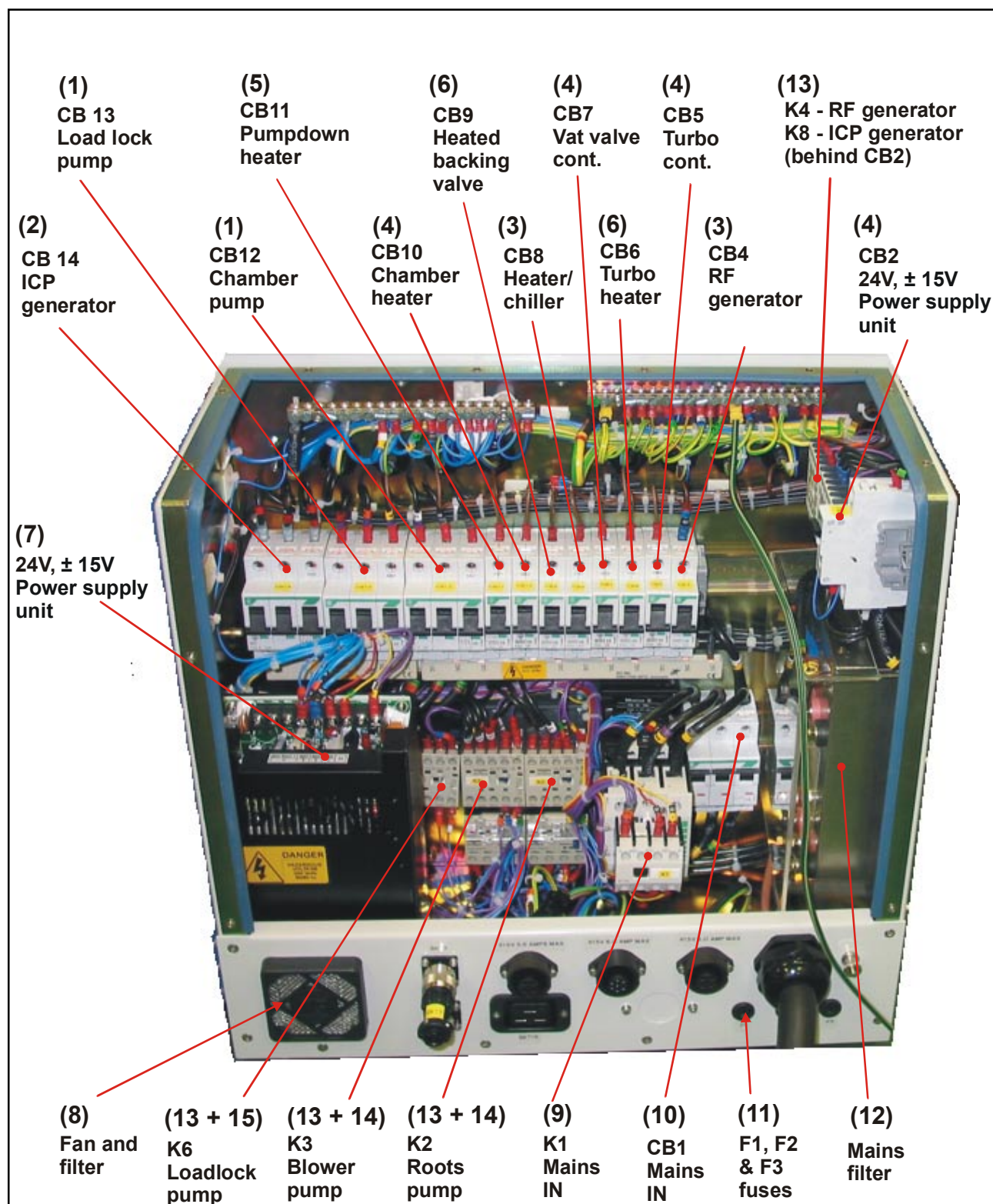


Section 0 - System Common Components

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100-0-RIE Base unit

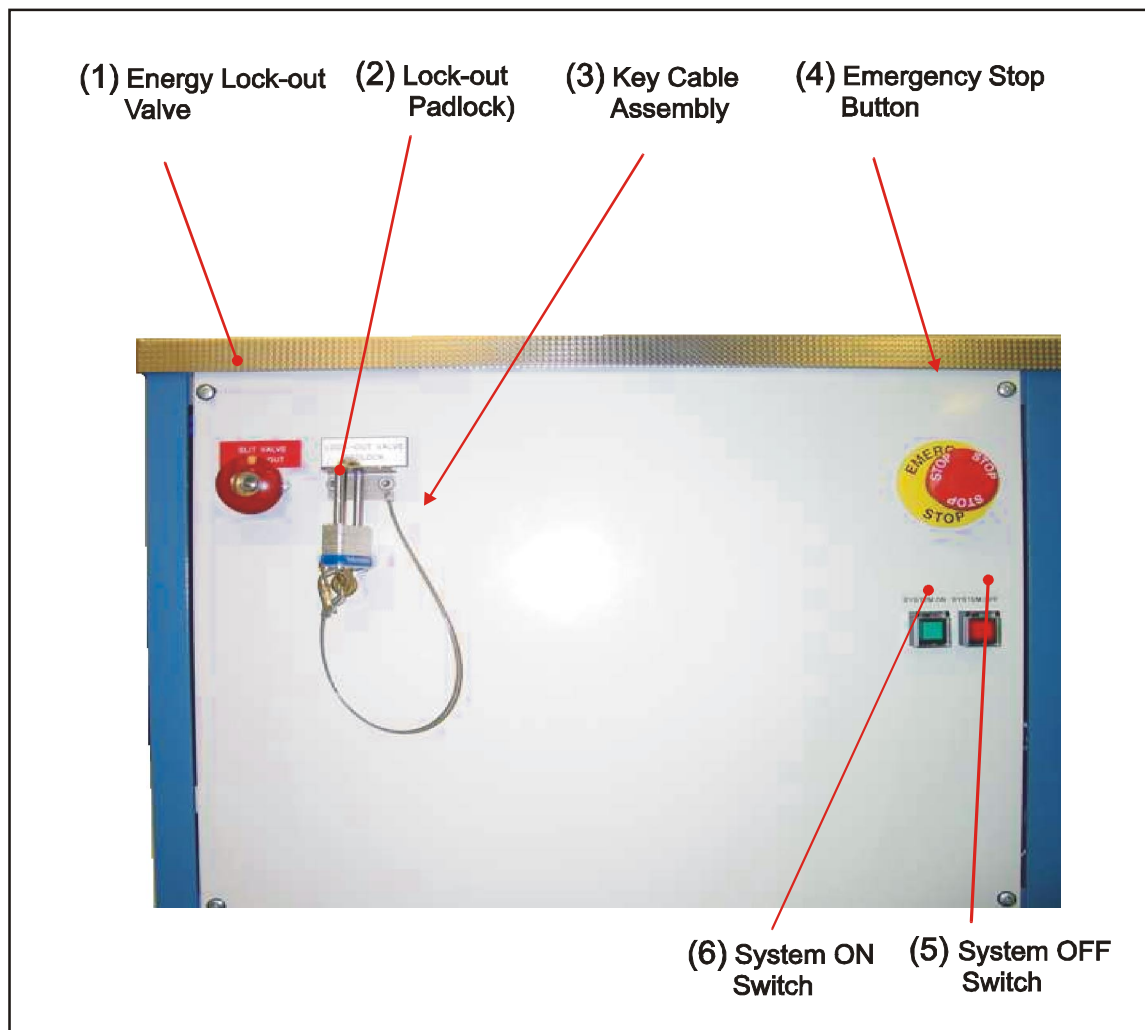
0.1 Power box



Note: The photograph above is a typical example of a PSU. MCBs (CB1, CB2 etc.) may vary between machines according to the voltage applied (415V or 208V) and the equipment supplied. When ordering MCBs, please quote the component number (e.g.CB6), the number of sections (e.g. 1, 2 or 3 phase) and the part number written on the component.

Item	Part No.	Description
(1)	EFM1606	K.M. SLOW MCB TRIPLE POLE 6A (CB12 & CB13)
(2)	EFM1620	K.M. SLOW MCB TRIPLE POLE 20A (CB14)
(3)	EFM1410	K.M. SLOW MCB SINGLE POLE 10A (CB4 & CB8)
(4)	EFM1406	K.M. SLOW MCB SINGLE POLE 6A (CB2, CB5, CB7 & CB10)
(5)	EFM1404	K.M. SLOW MCB SINGLE POLE 4A (CB11)
(6)	EFM1402	K.M. SLOW MCB SINGLE POLE 6A (CB6 & CB9)
(7)	EXP2415	MULTI O/P PSU 24V/4A,+/-15V/2.5A
(8)	EFA1060	FAN 62mm ULTRASLIM AXIAL 24Vdc
(8)	EFA1061	FAN FILTER RFI 60/62 mm
(9)	EGB2032	CONTACTOR 35A 24VDC DIL0AM KM (K1)
(9)	EGB2000	CONTACTOR DIODE MODULE (FOR K1)
(10)	EFM1632	K.M. SLOW MCB TRIPLE POLE 32A (CB1)
(11)	EFH2010C	FUSE HOLDER PANEL MTG 20mm (FS1 - FS3)
(11)	EFF2030	INS BOOT 200mm FUSE
(11)	EFB2030C	FUSE 20mm HBC ANTISURGET 3.15A (FS3)
(11)	EFF2120C	FUSE 20mm HBC ANTISURGET 2A (FS1 & FS2)
(12)	EFI0050	MAIN FILTER 3PHASE 50A
(13)	EGB3022	CONTACTOR 20A 24VDC MIN (K2, K3, K4, K6 & K8)
(14)	EGT0058	O/L RELAY 5.5-8A MIN (1 EACH FOR K2 & K3)
(15)	EGT0057	O/L RELAY 3.7-5.5A MIN (FOR K6)

0.2 Control panel

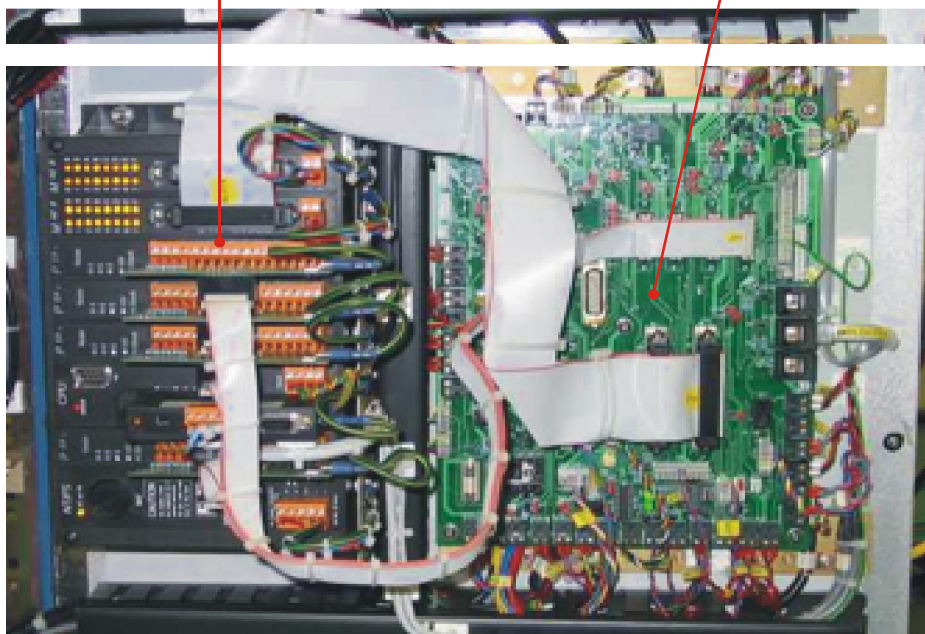


Item	Part No.	Description
(1)	G/AIR/VLV/559	LOCKOUT VALVE – 1/8 NPT
(2)		LOCKOUT VALVE PADLOCK
(3)	MA00D15883	KEY CABLE ASSEMBLY
(4)	ESM0201	EMERGENCY STOP BUTTON
(5)	ESM0200C	SYSTEM OFF SWITCH
(5a)	ESZ0000C	GREEN LENS FOR OFF SWITCH
(5b)	EPP0001C	CLEAR HINGED COVER
(5c)	EFL2002	BULB
(6)	ESM0200C	SYSTEM ON SWITCH
(6a)	ESZ0001	RED LENS FOR OFF SWITCH
(6b)	EPP0001C	CLEAR HINGED COVER
(6c)	EFL2002	BULB

0.3 PCBs

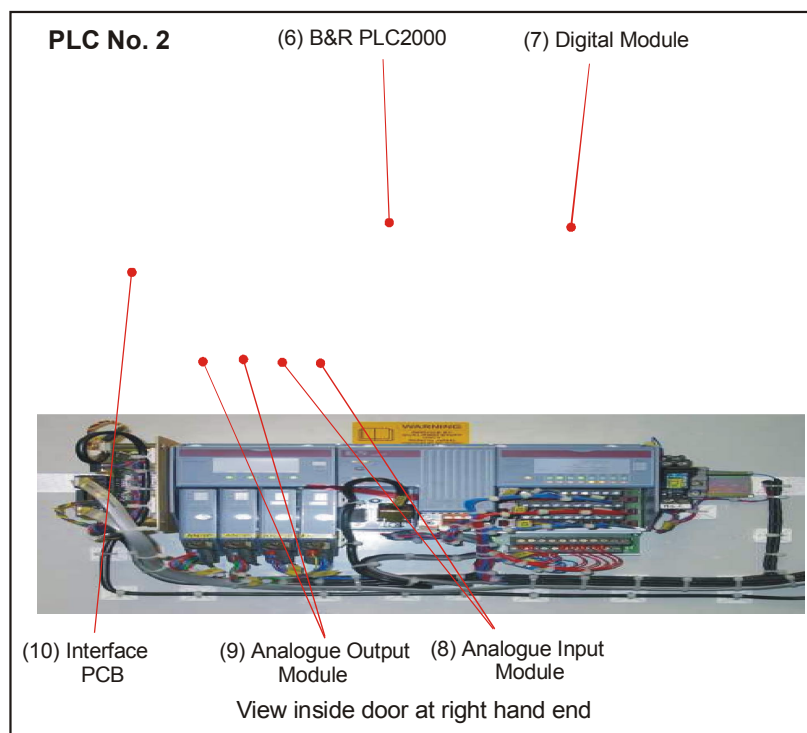
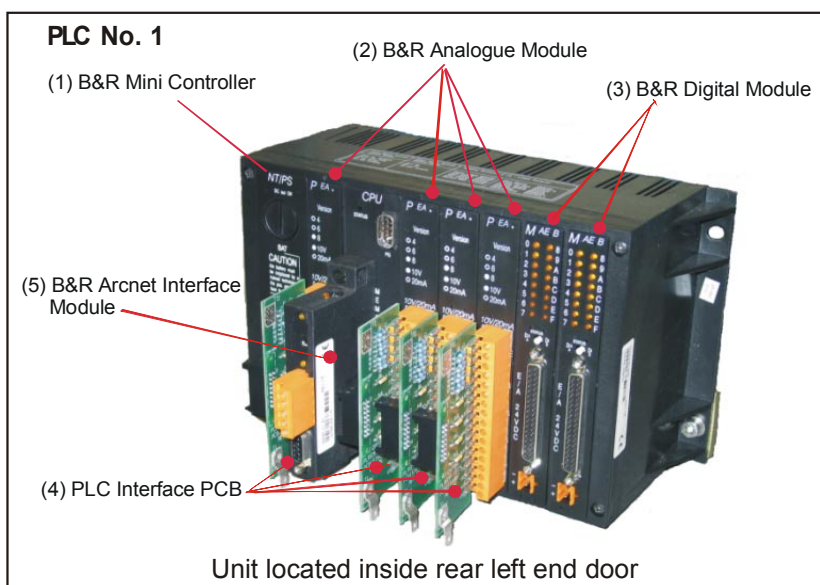
Programmable Logic Controller
(PLC)

System 100 Interface PCB
MA91Z21084



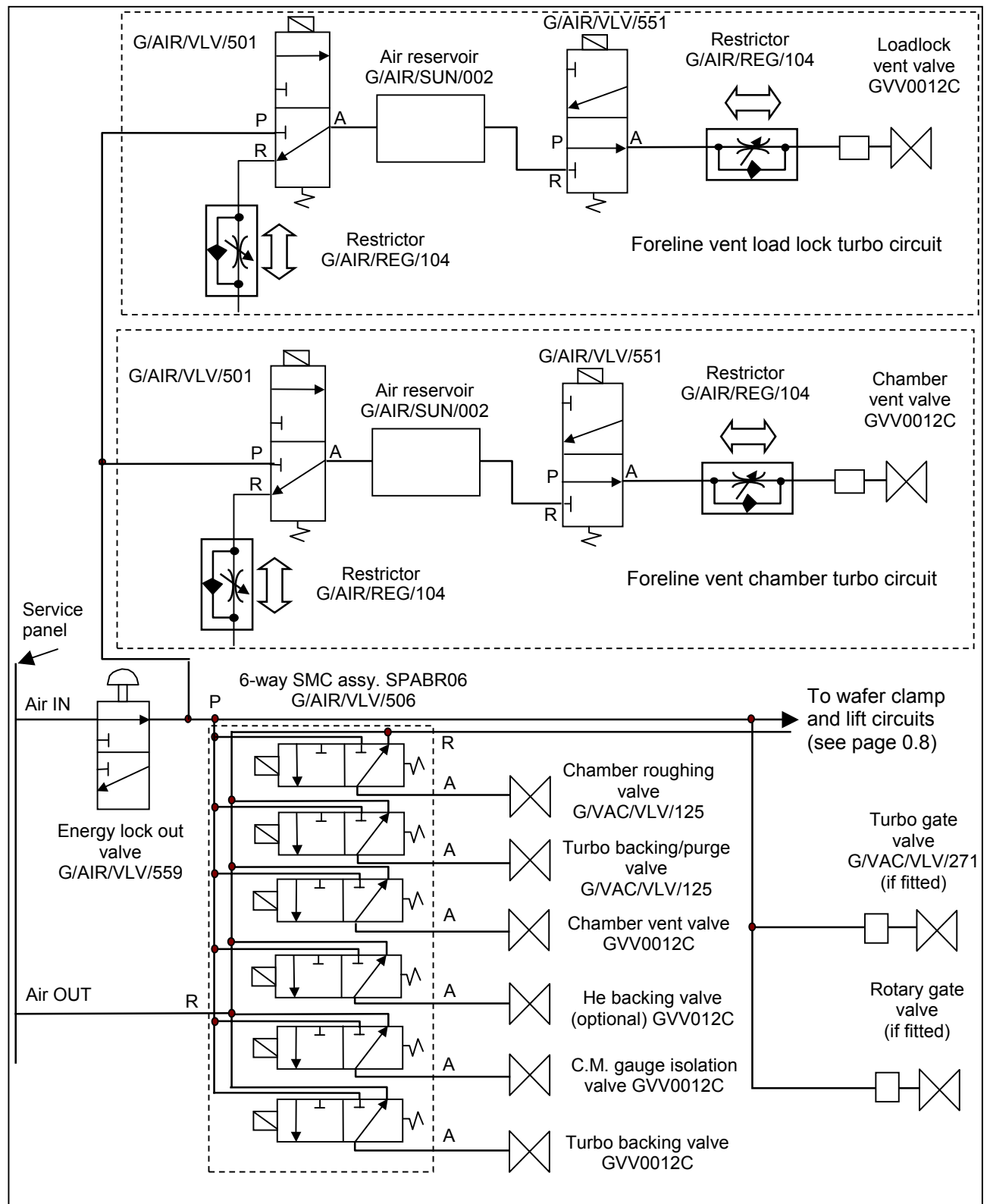
View of inside of door on rear left hand panel

0.4 Programmable Logic Controllers (PLCs)

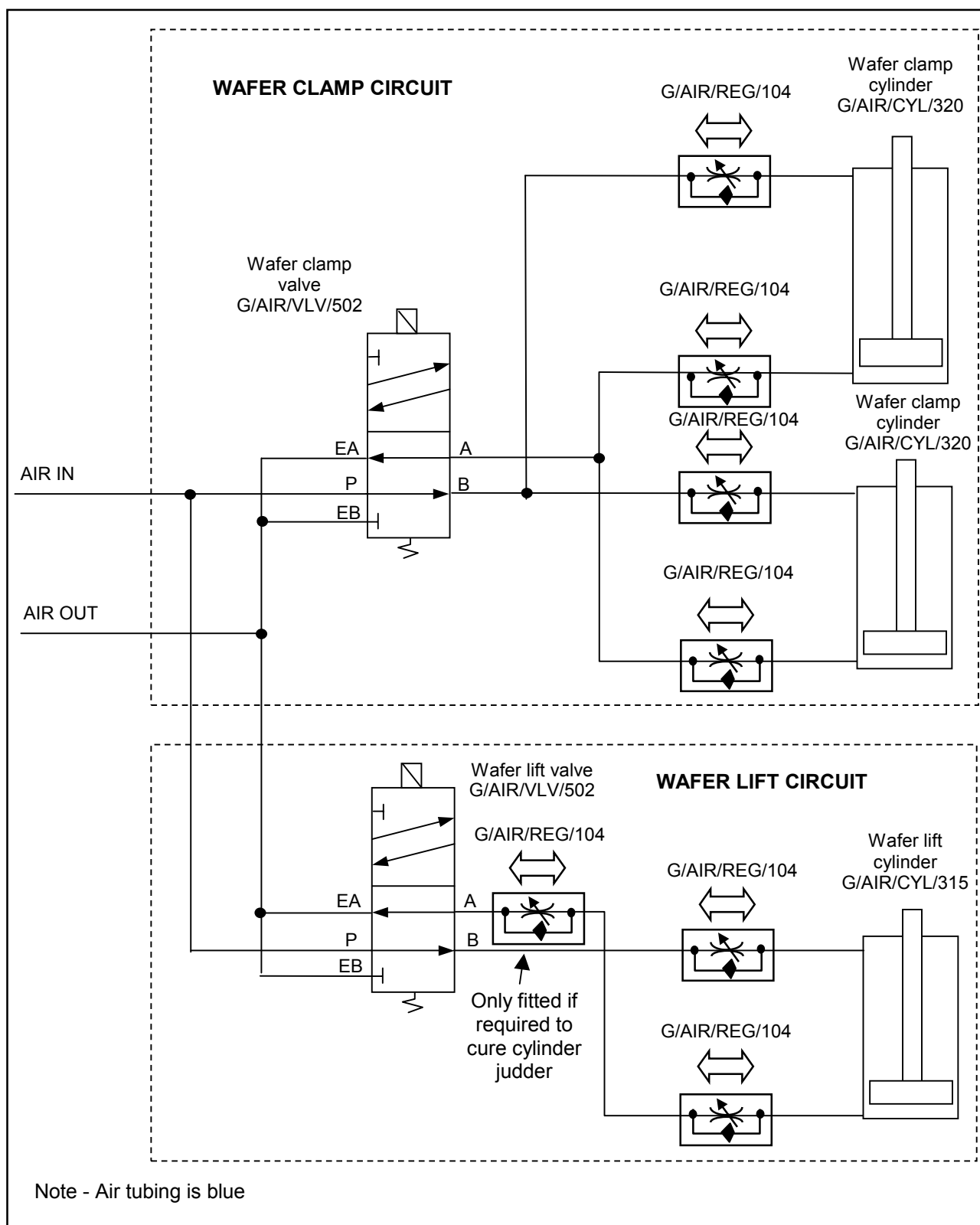


Item	Part No.	Description
(1)	EXP0699	B&R MINICONT WITH CARDS, NO MEM
(2)	EXP0725	B&R ANALOGUE MODULE 41/P 40/P
(3)	EXP0730	B&R DIGITAL MODULE 16I/P 16 O/P
(4)	MA81Z16005	PLC INTERFACE PCB FOR ANALOG C
(5)	EXP0750	B&R ARCNET INTERFACE TYPE- EE32-0
(6)	EXP0770	B&R PLC 2000 (PLC No. 2)
(7)	EXP0078	DIGITAL MODULE (PLC No. 2)
(8)	EXP0072	ANALOGUE INPUT MODULE (PLC No. 2)
(9)	EXP0074	ANALOGUE OUTPUT MODULE (PLC No. 2)
10	MA00Z24915	RS232/RJ68 BLUE PLC PCB (PLC No. 2)

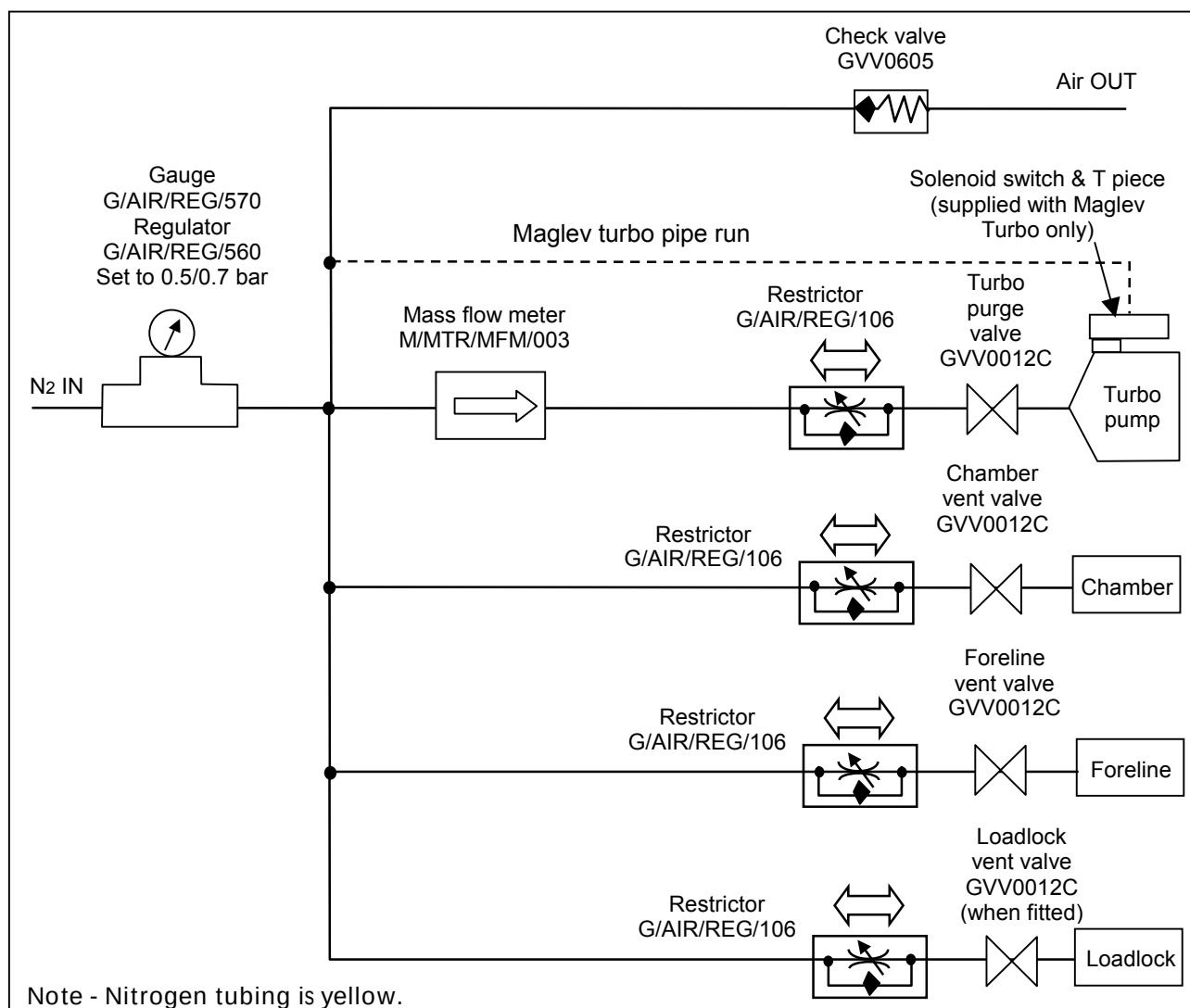
0.5 Pneumatic control components



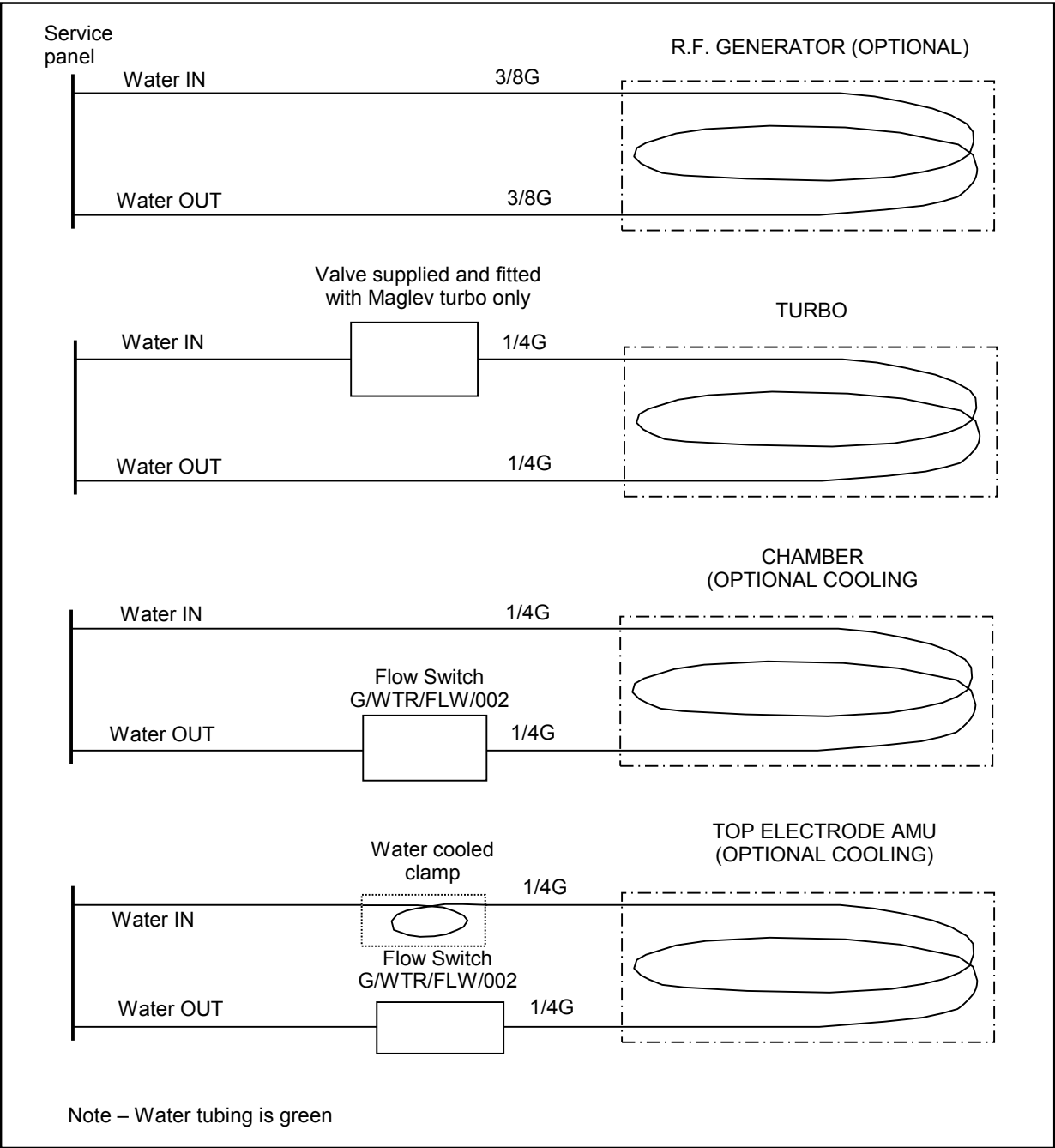
0.5 Pneumatic control components (continued)



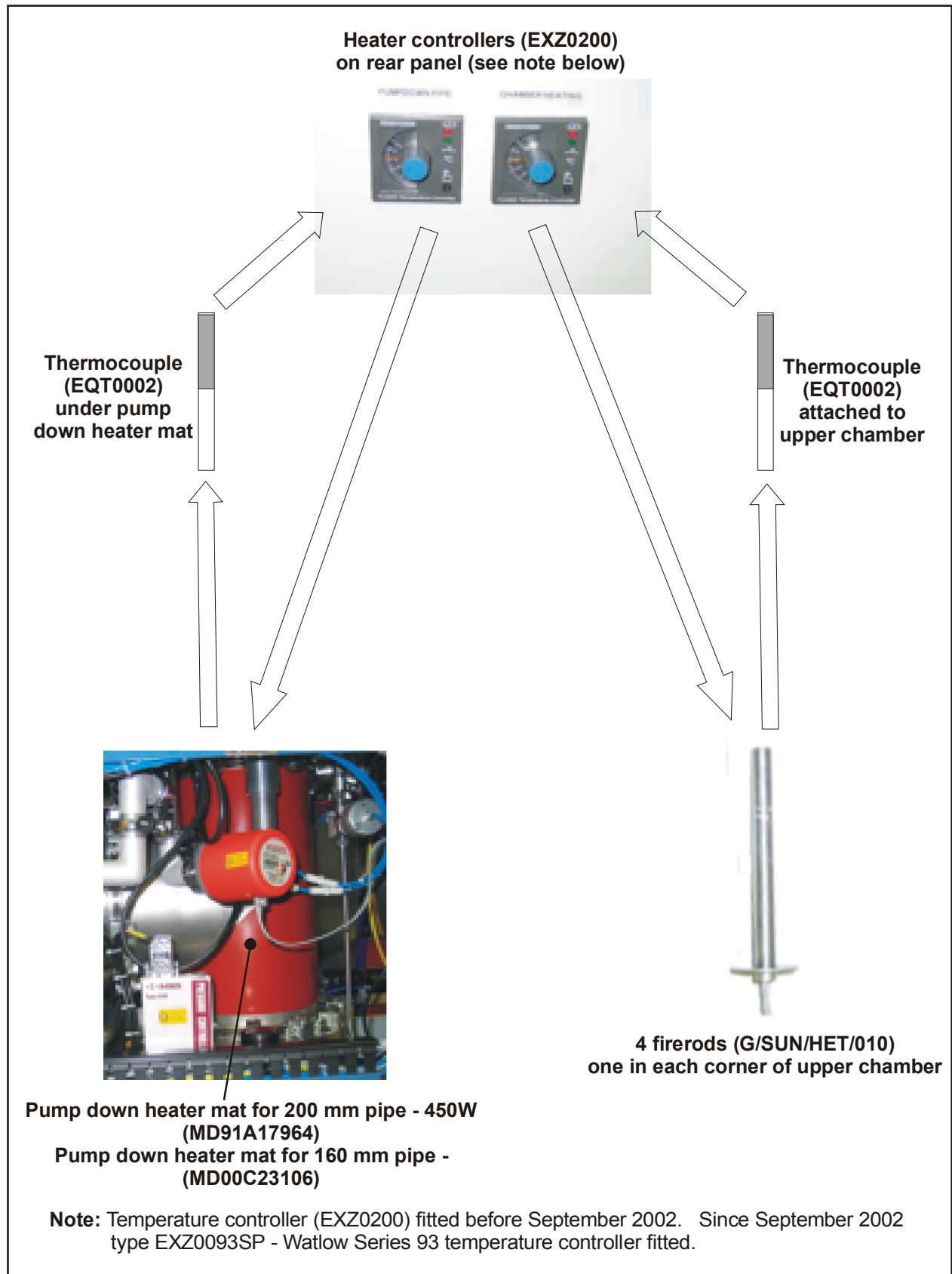
0.6 Nitrogen purge line



0.7 Water cooling circuits



0.8 Heating circuits



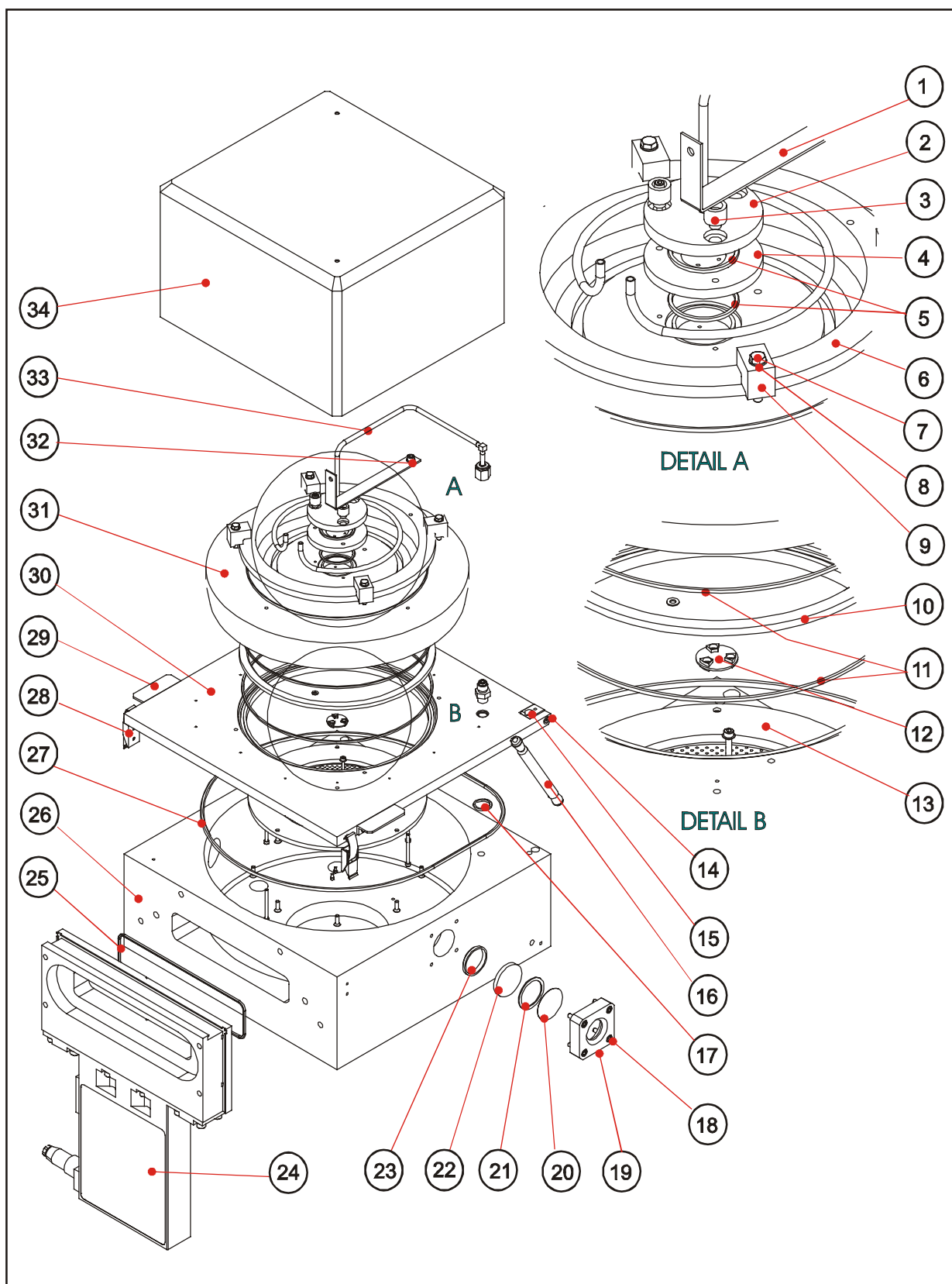
0.9 System common components option spares

OIPT Part No.	Qty	Description
100-S-CMP	1	Common 100 PM spares - See Sub-section 11.2
100-S-RIE	1	RIE 100 PM spares - See Sub-section 11.3
UNIVERSAL BASE CONSOLE WITH MODULE CONTROLLER (100-0-RIE)		
MA00Z22000	1	APC STEPPER MOTOR DRIVE ASSY
MA91Z21084	1	100 SYS PCB ASSY
POWER BOX ASSY - TOTAL (MA91Z18519)		
EGB2000	1	CONTACTOR DIODE MODULE KM
EGB3022	1	CONTACTOR 20A 24VDC MIN.KM
EGT0058	1	O/L RELAY ZE6 4-6A MIN. KM
EFM1606	1	K.M. SLOW MCB TRIPLE POLE 6A
EFB2010	3	INS BOOT 20 mm FUSE
EFF2120	3	FUSE 20 mm HBC ANTI-SURGE 2A
EFM1420	1	K.M. SLOW MCB SINGLE POLE 20A
ESM0201	1	EMERGENCY STOP BUTTON
ESZ8112	1	CONTACT BLOCK
EXP2415	1	MULTI O/P PSU 24V/4A +/- 15V/2.5A - Replaces EXP0012 and EXP0502
PLC UNIT		
EXP0700	1	B&R MINICONTROLLER 4 SLOT
EXO0725	1	B&R ANALOGUE MODULE.4
EXP0730	1	B&R DIGITAL MODULE 16 I/P
EXP0750	1	B&R ARCNET INTERF. EE32-0
EXP0272	1	PC ARCNET INTERFACE CARD (EXP0270 obsolete)
EXP0751	1	B&R MINICONTROLLER - Basic system consists; 4 off Analogue cards EXP0725, 2 off Digital cards EXP0730, 1 off Arcnet memory card EXP0750 and 1 off mini controller base EXP0700.
BASIC VACUUM KIT		
GVV0503	1	PTR PAUL SERIES 50 N/C
G/VAC/SEL/025	1	NW25 CENTERING RING

Section 3 - Process chambers

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3.1 PECVD chamber kit (100-3-11C)	2
3.2 Common process chamber option spares	4

3.1 PECVD chamber kit (100-3-11C)



Item No.	OIPT Part No.	Qty	Description
	MA91A17248		ELECTRODE TOP DP ASSEMBLY
1	MD81C21093	1	RF STRAP
2	MD81D14624	1	GAS INLET FLANGE
3	MD80D16537	4	INSULATING CAP
4	MD91D17247	1	ISOLATOR DISC
5	G/SEL/O-V/224C	2	3.4 x 44.1 mm VITON 'O' RING BS224
6	MA91B17246	1	ELECTRODE TOP ASSEMBLY (W/C TUBE)
7	G/FIX/S21/635	4	M6 x 35 mm HEX HD. S/S. SETS
8	G/FIX/WSH/106	4	M6 S/S. PLAIN WASHER
9	MD91D17237	4	CLAMP (TOP ELECTRODE)
10	MD91C17236	1	ISOLATING RING (TOP ELECTRODE)
11	G/SEL/O-V/275C	2	3.5 x 266.3 mm VITON 'O' RING 200-275
12	MD91D20081	1	GAS SPREADER - NOT SHOWN - UNDER ITEM 12
13	MD91C22160	1	GAS INLET PLATE (5 mm GRID HOLES)
14	MD91D17198	2	HINGE PIN
15	MD91D17197	2	HINGE
16	G/SUN/SPG/923	2	GAS SPRING 6-60-220-MB-MB-RV400N
17	G/SEL/O-V/211C	2	3.5 x 20.2 mm VITON 'O' RING BS211
18*	G/FIX/S32/625	4	M6 x 25 mm S/S CAPHEAD SCREW
19*	MD81D16140	1	WINDOW FLANGE
20*	MD81D14211	1	UV/RF FILTER
21*	M/4175D/01	1	WINDOW GASKET
22*	M/0651D/01	1	WINDOW GLASS (6 mm PYREX)
23*	MA00D14711	1	NW40 CENTRING RING MOD
24	G/VAC/VLV/930	1	MONVAT VLV 46 x 236 02010-BA24
25	G/SEL/O-V/263C	1	3.5 x 196.4 mm VITON 'O' RING BS263 (PART OF ITEM 24 AND MOUNTED ON ITEM 24)
26	MD91A20351	1	CHAMBER 160LF STANDARD
27	G/SEL/O-V/384C	1	5.3 x 380.37 mm VITON 'O' RING 200-384
28	G/SUN/CAB/850	2	OVER-CENTRE DRAW LATCH
29	MD91D17199	2	HANDLE
30	MD91A17187	1	LID (D.P. CHAMBER)
31	MD91B20079	1	DARK SPACE SHIELD RING
32	G/FIX/S32/610	1	M6 x 10 mm S/S CAPHEAD SCREW
33	MA91D17359	1	GAS INLET ASSEMBLY (DP)
34	MD91A17244	1	COVER
* 18 to 23	MA91Z17161		CHAMBER VIEWPORT KIT

3.2 Common process chamber option spares

OIPT Part No.	Qty	Description
G/SUN/DWL/920	2	S/S DOWEL 10.006/10
G/VAC/SUN/032	1	EDWARDS VACUUM INTERLOCK SWITCH
ESZ91007	1	MICRO SWITCH 331-45
G/VAC/SEL/040	1	NW40 CENTERING RING
G/SEL/O-V/269	1	3.5 x 221.85 mm VITON 'O' RING 200-269
G/VAC/VLV/930	1	46 x 236 MESC VALVE (ALUMINIUM)
CHAMBER AND HEATER PUMP DOWN KITS		
EXZ0200	1	SERIES 2 ON/OFF HEATER CONTROL
EQT0002	1	TH'COUPLE TYPE K 200/C (replaces EQF0100)
G/SUN/HET/010	1	FIREROD ½" x 101LG 240V 250W

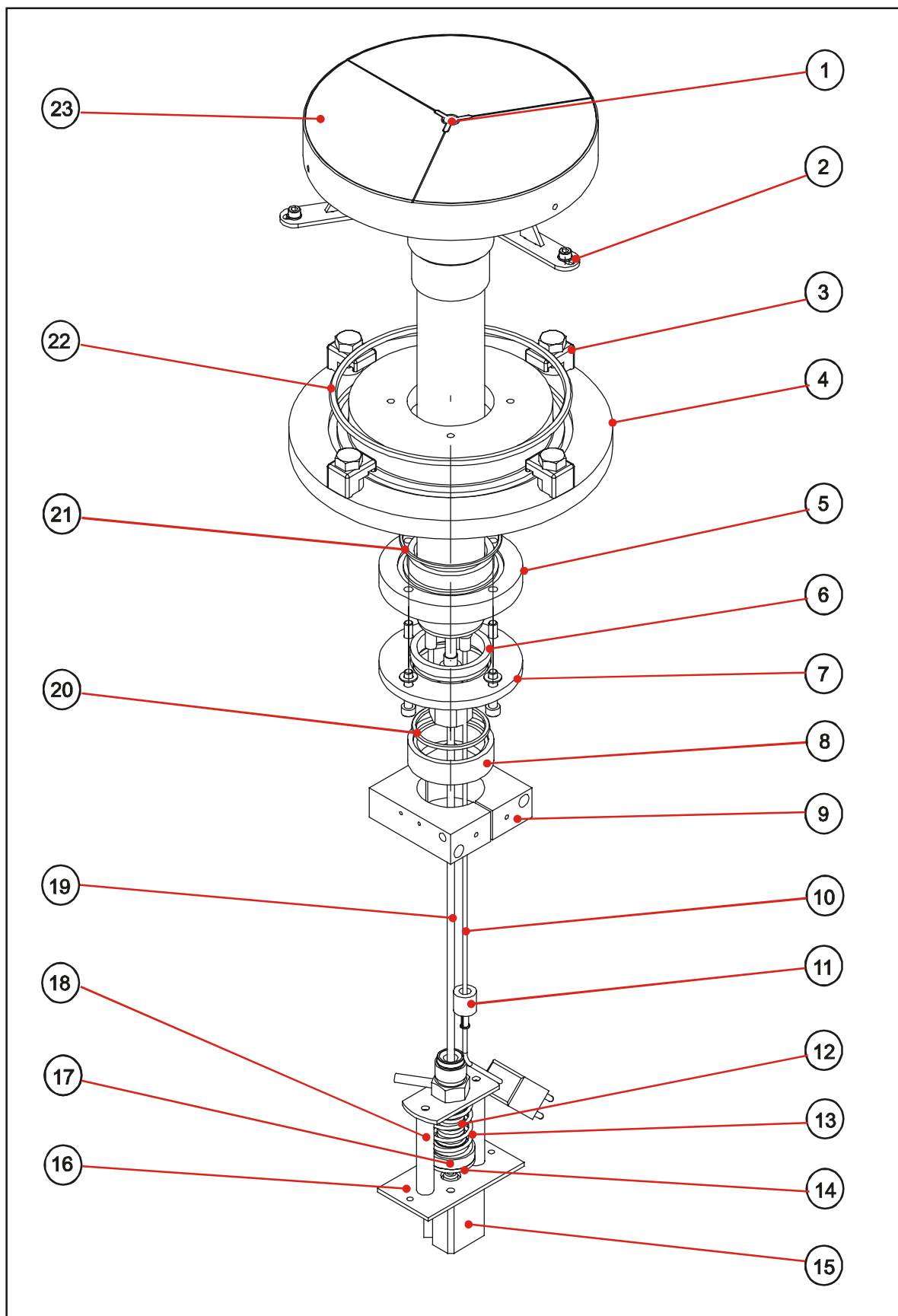
Section 5 - Lower electrode

Section 5 - Lower electrode1

5.1 DP 400C 200mm lower electrode (100-5-03A).....2

5.3 Lower electrode option spares.....4

5.1 DP 400C 200mm lower electrode (100-5-03A)



Item No. in illustration	OIPT Part Number	Description
	MA91A20099	ELECTRODE DP GA C'TRE PIN LIFT
1	MD91C24579	WAFER LIFTING PEDESTAL
2	MD91C25818	ELECTRODE STEADY
3	G/VAC/CLP/312C	CLAW GRIPS M10
4	MD91D19694	TABLE MOUNTING FLANGE (RECESSED)
5	MD81C14107	TABLE FEEDTHROUGH
6	MD81D14110	COMPRESSION RING
7	MD81D14109	CLAMPING FLANGE
8	MD81D14111	SPACER
9	MD81C14104	WATER COOLED CLAMP
10	MA91C25835	THERMOCOUPLE ASSEMBLY
11	MD91D19687	THERMOCOUPLE LOCKING COLLAR
12	MA91C19809	BELLOWS WELDED ASSEMBLY
13	G/SUN/SPG/008	SPRING COMP. O/D 31.75 x 50.8 x 2.6
14	MD91D21407	SPRING SHOULDER
15	G/AIR/CYL/315	AIR CYL. CDQ2B20-15D(SMC)
16	MD91D23589	CYLINDER MOUNTING BRACKET
17	MD91D21408	SPRING SPACER
18	MD91D19679	CYLINDER SPACER
19	MD91D19828	PUSH ROD
20	G/SEL/O-V/829C	3.5 x 47.6 mm VITON 'O' RING BS829
21	G/SEL/O-V/146C	2.6 x 66.3 mm VITON 'O' RING BS146
22	G/SEL/O-V/362C	5.34 x 158.12 mm VITON 'O' RING BS362
23	MA91A20116	TABLE FINAL M/C CENTRE WAFER LIFT
	G/AIR/VLV/502	SMC ASSY. VZ3140/5MNZ/001
	G/AIR/REG/104	INLINE FLOW REG. AS1001F-04
	G/AIR/CYL/807	REED SWITCH SMC No. D-A73L
	EXZ0014	TEMP. CONTROLLER UDC3000.L
	ESR1732	REL. SOLID STATE ZRA 6025A
	G/AIR/FIT/381	4 x 5 mm BANJO 3118-04-19

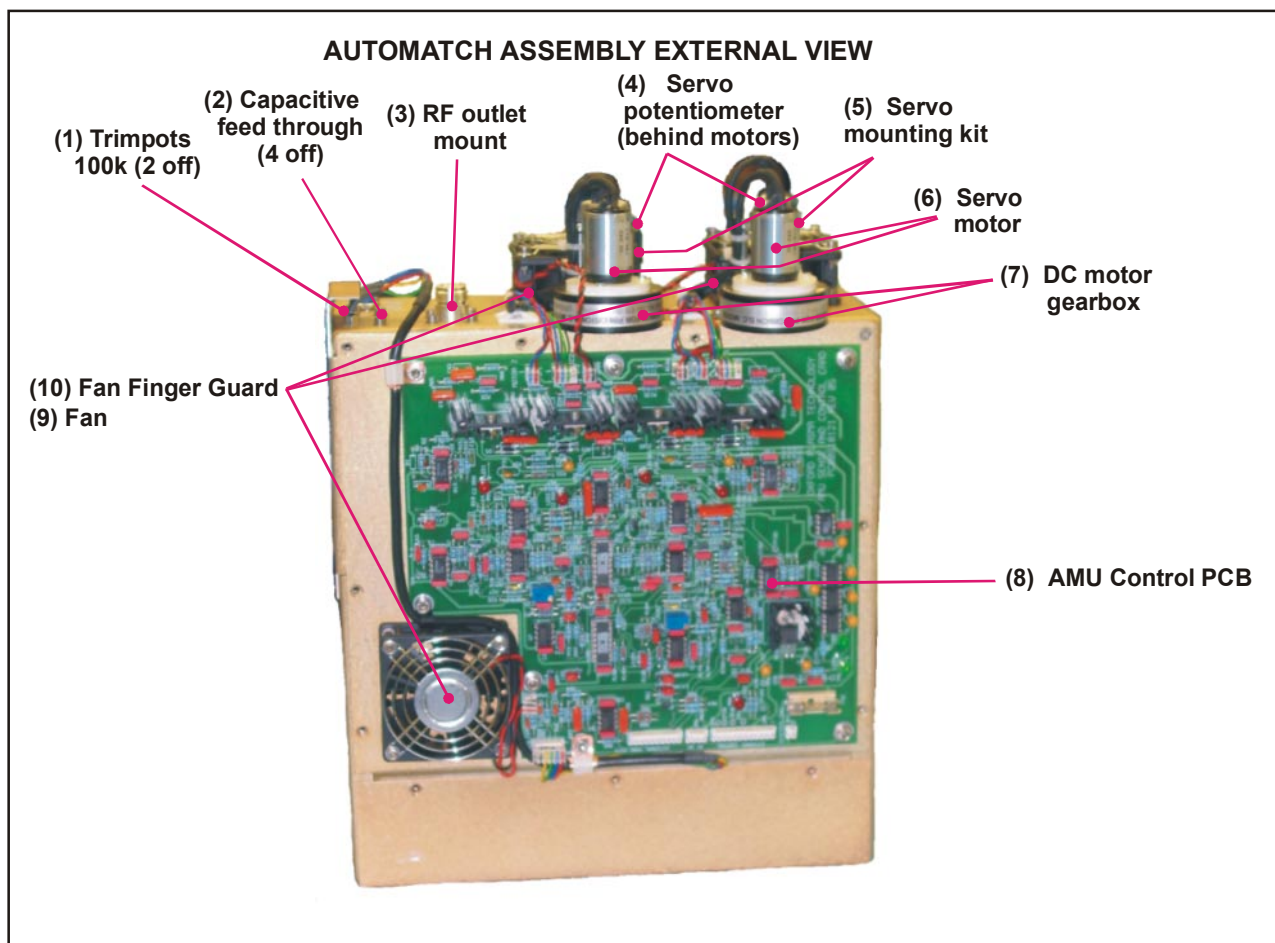
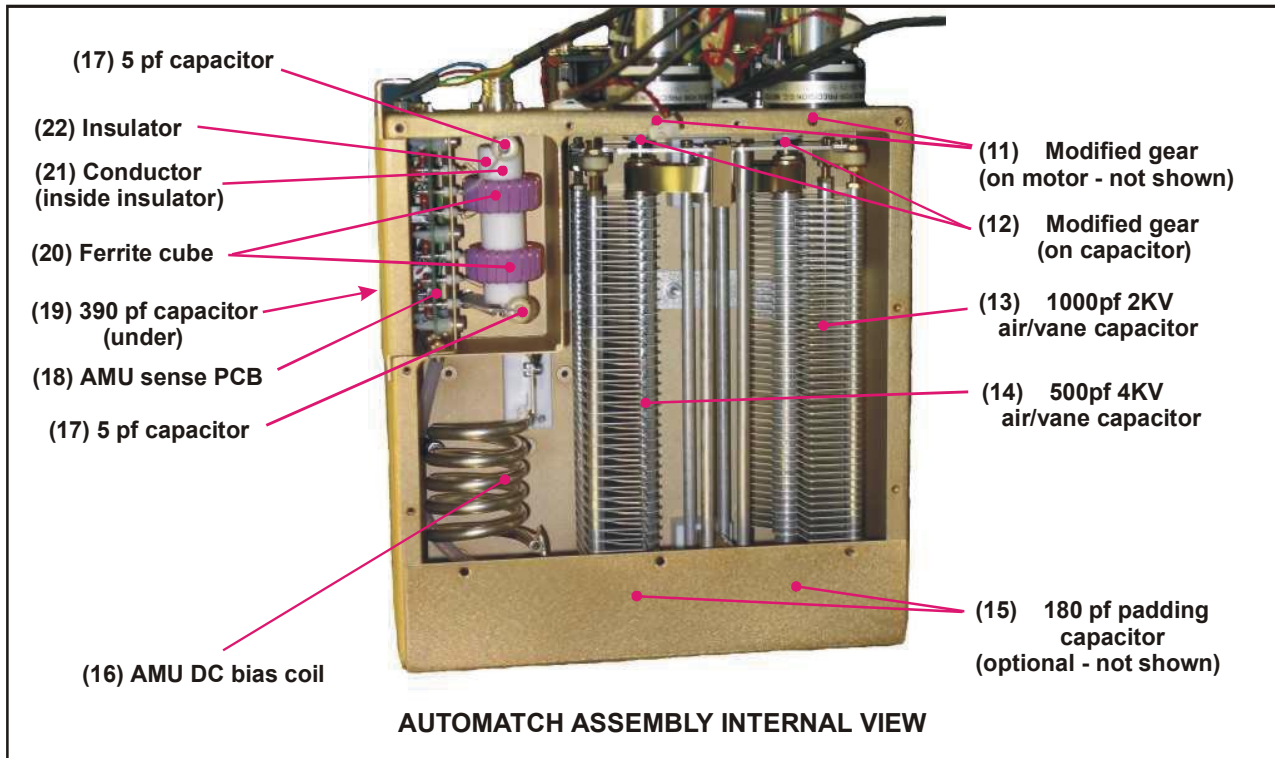
Note: See sub [Section 0.5](#) for hydraulic components.

5.3 Lower electrode option spares

OIPT Part No.	Qty	Description
MA91Z21747	1	RIE TABLE ASSY. (3 PIN LIFT)
MA91C19809	1	BELLOWS WELDED ASSEMBLY
G/SUN/SPG/008	1	SPRING COMP. O/D 31.75 x 50.8 x 2.6
G/AIR/CYL/315	1	AIR CYLINDER CDW2820-15D
MD91D21723	4	TABLE TOP PLUG
MD91C21712	1	TABLE UPPER SURFACE

Section 6 - RF supplies and automatch

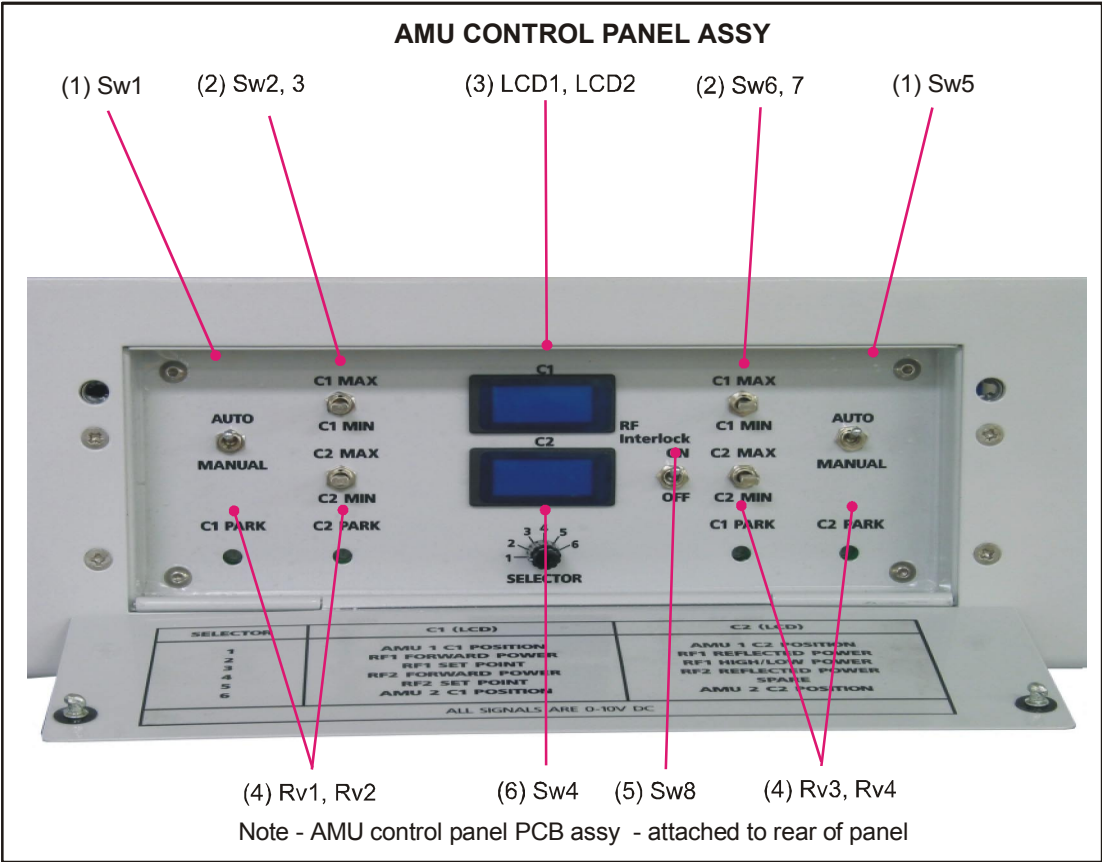
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6.1 Automatch assembly – PECVD 6-turn coil (MA00Z25747)	3
6.2 AMU control panel	4
6.3 RF generator	5
6.5 500W LF generator 50 kHz-460 kHz (100-6-LF5)	5
6.6 RF supplies and automatch option spares	6



PECVD 600W RF Generator + OPT AMU (100-6-101D)**OIPT Part No.**L/GEN/RFG/101
MA00Z25747
MA00B23328
MA00Z23216**Description**AE RFX600A 230V(PASSIVE PANEL) RF GENERATOR
AUTOMATCH ASSEMBLY
AMU CONTROL PANEL ASSY
AE RFGEN ADAPTER 60/600W ASSEMBLY**6.1 Automatch assembly – PECVD 6-turn coil (MA00Z25747)**

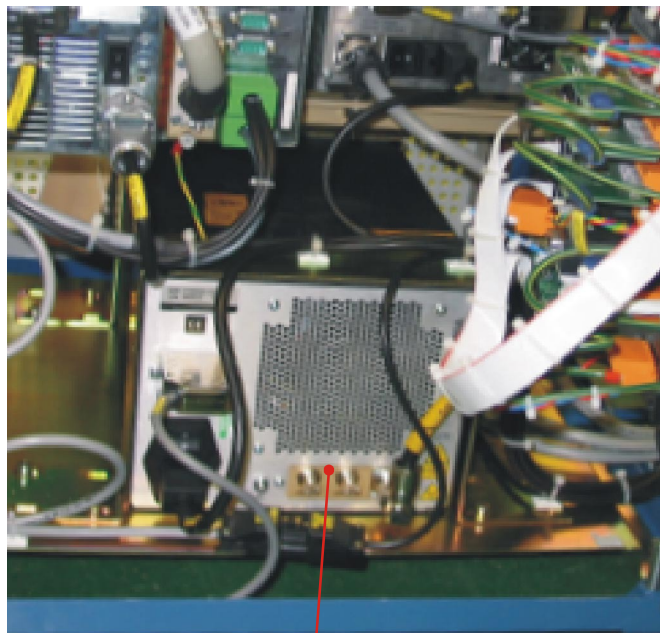
Item	OIPT Part No.	Qty	Description
1	ERU0511	2	TRIMPOT 100K (3006) SERIES
2	ECC0001	4	CAPACITIVE FEED THRU 10,000 pf
3	MD00D19398	1	RF OUTLET MOUNT
4	ERV0411C	2	SERVO POTENTIOMETER 10K OHMS
5	G/SUN/GER/010	2	SERVO MOUNTING KIT
6	G/SUN/GER/009C	2	SERVO MOTOR 24 VDC RS718.981
7	G/SUN/GER/008	2	SERVO MOTOR GEARBOX 1250:1
8	MA00Z20138	1	AMU CONTROL PCB ASSY
9	EFA0460C	3	FAN AXIAL 60 x 60 x 25.4 24 VDC
10	EFA1062	3	FAN FINGER GUARD 60/62
11	MA00D22225	2	MODIFIED GEAR (MOTOR O/P)
12	MA00D22226	2	MODIFIED GEAR (CAPACITOR I/P)
13	MD00D22051	1	1000 pf 2KW AIR/VANE CAPACITOR
14	MD00D22052	1	500 pf 4KW AIR/VANE CAPACITOR
15	ECC1218	2	CAP CER. 1KV 180 pf 20% (PADDING - OPTIONAL)
16	MA00D20107	1	AMU DC BIAS COIL (6-TURN)
17	ECC0050	2	CAPACITOR TYPE 10 4KV
18	MA00Z18209	1	AMU SENSE PCB ASSY
19	ECC0290	2	CAPACITOR 390 pf CER 20% 1KV
20	ELZ0051C	2	FERRITE CUBE FX-3854
21	MD00D21243	1	CONDUCTOR
22	MD00D21242	1	INSULATOR

6.2 AMU control panel



Item	OIPT Part No.	Qty	Description
1	EST3102C	2	SW1, SW5
2	EST1122C	4	SW2, SW3, SW6, SW7
3	EDM0200	2	LCD1, LCD2
4	ERU0417C	4	RV1, RV2, RV3, RV4
5	ESM0111	1	SW4
6	EST3204	1	SW8
7	MA00Z23250	1	OPT AMU CONTROL PANEL PCB ASSY

6.3 RF generator



L/GEN/RFG/101
AE RFX600A 230V (PASSIVE PANEL) RF GENERATOR

6.4 500W LF generator 50 kHz-460 kHz (100-6-LF5)



(1) LF GENERATOR

Item	OIPT Part No.	Qty	Description
1	L/GEN/LF./500	1	LF5 500W, 50 kHz to 460 kHz GENERATOR
2	MA84D16581	2	LOW FREQ. PROTECTION COIL ASSEMBLY
3	ECC0051	1	CAP TYPE 838 220 pf 20% at 5 kV
4	MA00A25430	1	LOW FREQUENCY INDUCTOR ASSEMBLY

6.5 RF supplies and automatch option spares

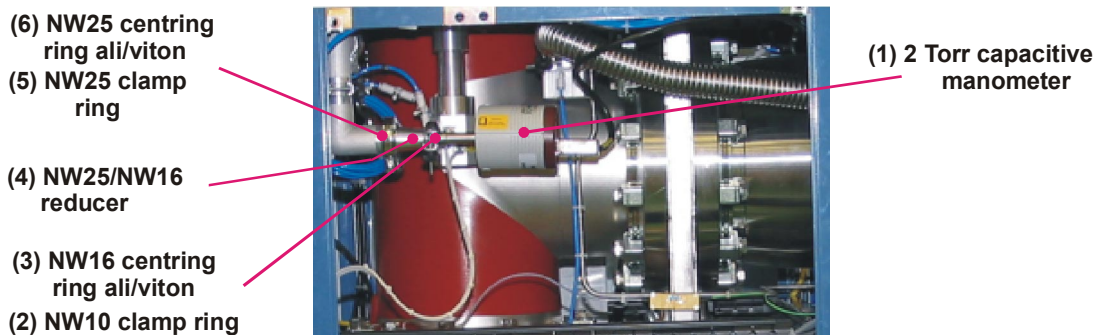
OIPT Part No.	Qty	Description
MA00Z25747	1	OPT AUTOMATCH UNIT
MA00Z20138	1	AMU CONTROL PCB ASSY
MA00Z18209	1	AMU SENSE PCB ASSY
MD00D22051	1	1000pf 2KV AIR/VANE CAPACITOR
MD00D22052	1	500pf 4KV AIR/VANE CAPACITOR
MA00D20107	1	OPT AMU DC BIAS COIL (6 TURN)
G/SUN/GER/008	1	DC MOTOR GEARBOX 1250:1
G/SUN/GER/009	1	SERVO MOTOR 24 VDC RS.440-559
ERV0411	1	SERVO POTENTIOMETER 10K OHMS
ECC0001	1	CAPACITOR F/T 10,000 pf
ECC0290	2	CAPACITOR PADDING CER 20% 1 KV
MA00B23328	1	OPT AMU CONTROL PANEL ASSY
100-6-LF5	1	500W LF GEN 50 kHz-460 kHz KIT
L/GEN/RFG/101	1	AE RFX600A 230V (PASSIVE PANEL) RF GENERATOR

Section 7 - Vacuum Measurement

Section 7 - Vacuum Measurement	1
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7.1 2 Torr capacitive manometer and penning gauge (81-7-05/1)

2 TORR CAPACITIVE MANOMETER



ACT. INVERT. MAG



Item	OIPT Part No.	Qty	Description
1	G/VAC/GGE/420	1	2 TORR CAPACITIVE MANOMETER
2	G/VAC/CLP/010C	1	NW10 CLAMP RING
3	G/VAC/SEL/015C	1	NW16 CENTRING RING ALI/VITON
4	G/VAC/FIT/004C	1	NW25/NW16 REDUCER C105-14-447
5	G/VAC/CPL/025C	2	NW25 CLAMP RING
6	G/VAC/SEL/025C	2	NW25 CENTRING RING ALI/VITON
7	G/VAC/GGE/004	1	ACT.INVERT.MAG.GGE.AIM-S-NW25 (PENNING UNIT)
8	EWM9307	1	LINE CORD PLG/SPADE TEL.PLUG

7.2 Vacuum measurement option spares

OIPT Part No.	Qty	Description
2 TORR CAPACITANCE MANOMETER + PENNING GAUGE (81-7-05/1)		
G/VAC/GGE/420	1	2 TORR CAPACITANCE MANOMETER
G/VAC/GGE/004	1	ACT INVERT MAG GGE AIM-V-NW25 (PENNING)
G/VAC/SEL/015C	1	NW16 CENTRING RING ALI/VITON
G/VAC/SEL/025	1	NW25 CENTRING RING ALI/VITON

Section 8 - Pumping pipework

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8.1 63 mm branch APC & gate valve (100-8-03V).....3

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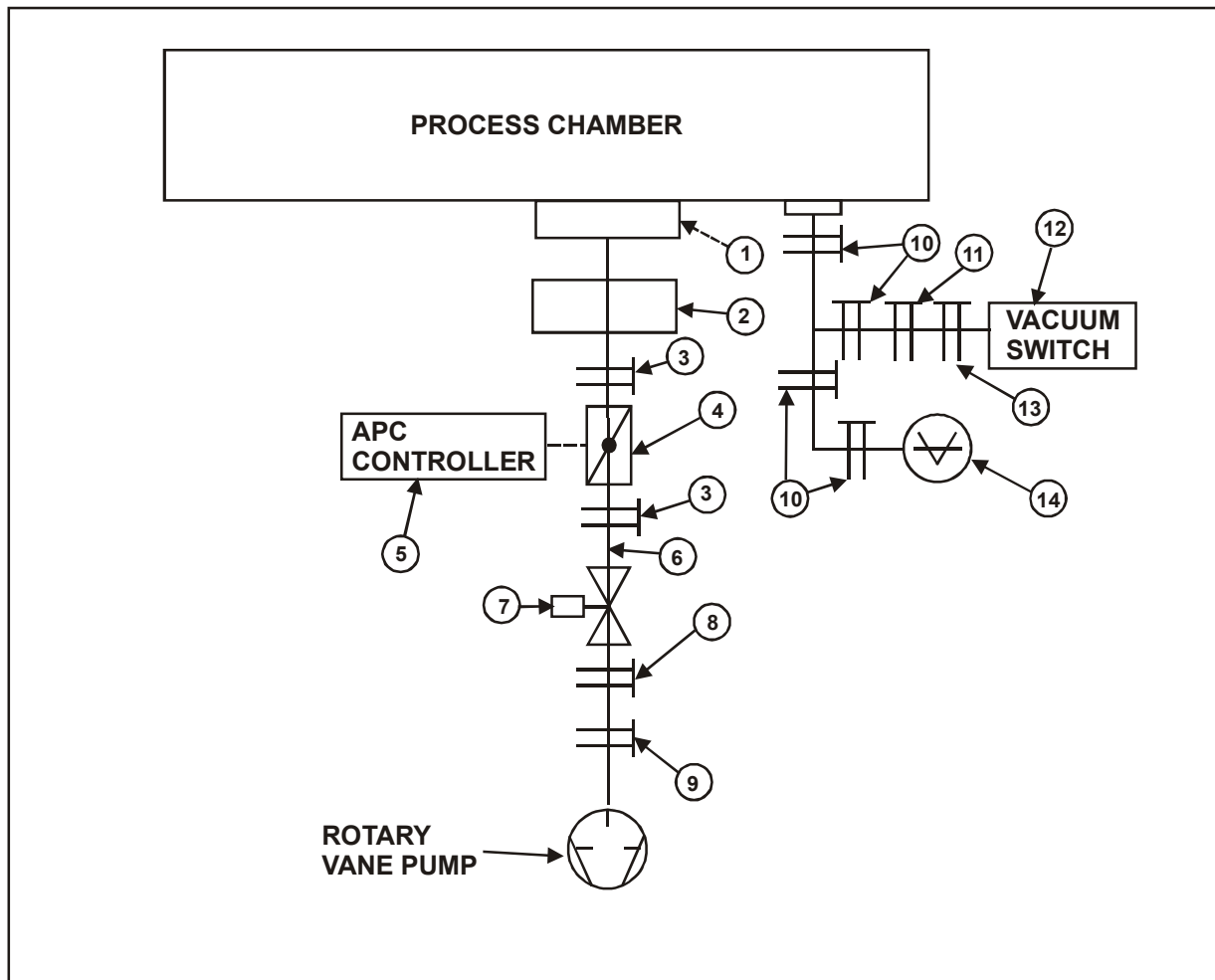
8.1 General

A key to the symbols used to represent vacuum system components in the following illustrations is shown in the following key; where no symbol exists for a component, it is either labelled or can be identified from the associated table.

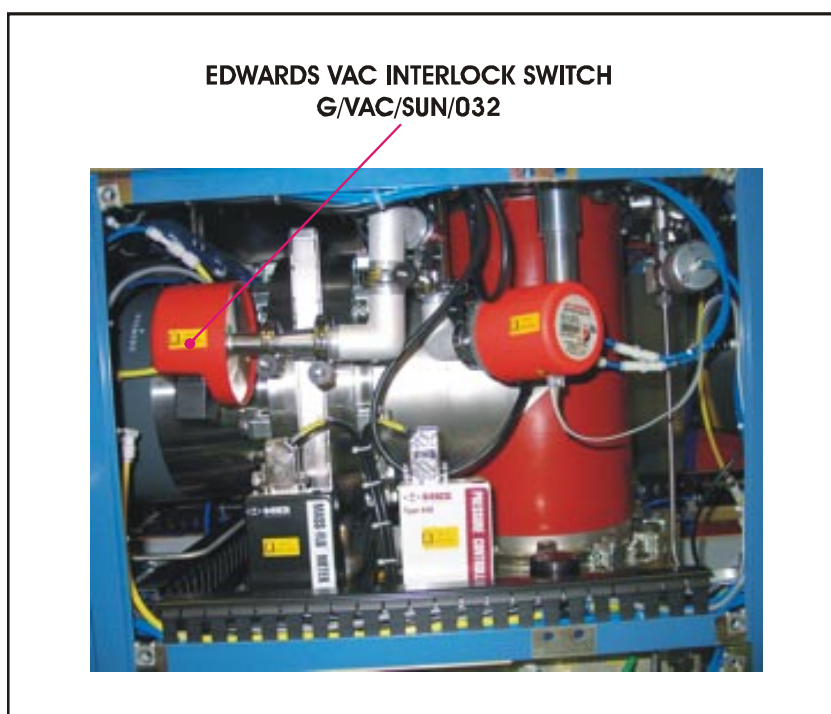
	Electromagnetically operated shut-off valve		Vacuum gauge head
	Pneumatically operated shut-off valve		Turbomolecular pump
	Manually operated variable-leak valve		Sliding vane rotary vacuum pump
	Gate valve		Cryogenic pump
	Butterfly valve e.g. APC		Reducer
	Vacuum flange / adapter		Flexible pipe
	Combination of flanges / adapters		Pressure relief valve

Key to vacuum schematic symbols

8.1 63 mm branch APC & gate valve (100-8-03V)



Item No. in illustration	OIPT Part Number	Description
1	G/SEL/O-V/362	5.34 x 158.12 mm VITON 'O' RING BS 362
2	G/VAC/FIT/282	160-63 REDUCING TEE
3	G/VAC/SEL/063C	63ISO-K CENTRING RING ALI/VITON
4	G/VAC/MLV/663	63 mm AUTO THROTTLE 253-60-63-2
5	MA00Z22000	APC STEPPER MOTOR DRIVE ASSEMBLY
6	M/0377C/02	ADAPTOR 65LF
7	G/VAC/MLV/262	63 mm GATE VALVE VAT SERIES 12
8	G/VAC/FLX/065	DN ISO-K 63 BELLOWS
9	MD00C20324	BULKHEAD ADAPTOR (LF65-LF65)
10	G/VAC/SEL/025C	NW25 CENTRING RING ALI/VITON
10a	G/VAC/CLP/025C	NW25 CLAMP RING
11	G/VAC/FIT/004C	NW25/NW16 REDUCER C105-14-447
12	G/VAC/SUN/032	EDWARDS VAC INTERLOCK SWITCH
13	G/VAC/SEL/010C	NW10 CENTRING RING ALI/VITON
14	G/VAC/GGE/420	2 TORR CAPACITIVE MANOMETER



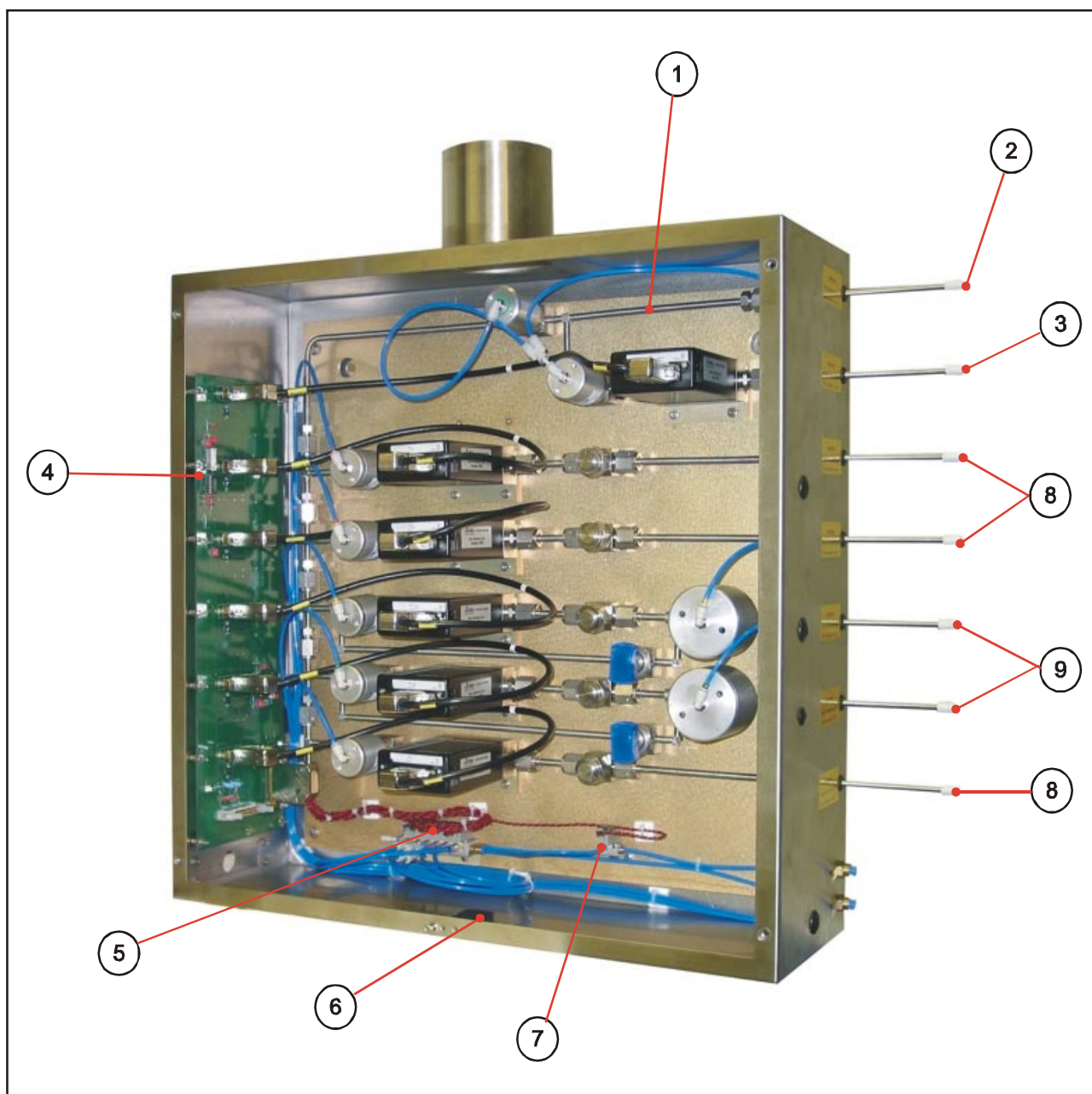
8.2 Pumping pipework option spares

OIPT Part No.	Qty	Description
200 mm VAT APC VACUUM KIT		
G/VAC/NLV/245	1	200 ISO STEPGATE VALVE 640046-PE52
G/VAC/NLV/246	1	VAT CONTROLLER 641PM-16PM
G/VAC/SEL/080	4	200 ISO CENTERING RING
G/VAC/SEL/025	2	NW25 CENTRING RING
G/VAC/SEL/040	2	NW40 CENTRING RING
G/VAC/SEL/010	2	NW10 CENTRING RING 08C10511395
G/VAC/SEL/068	1	DN 250 ISO-K CENTRING RING

Section 9 - Gas handling

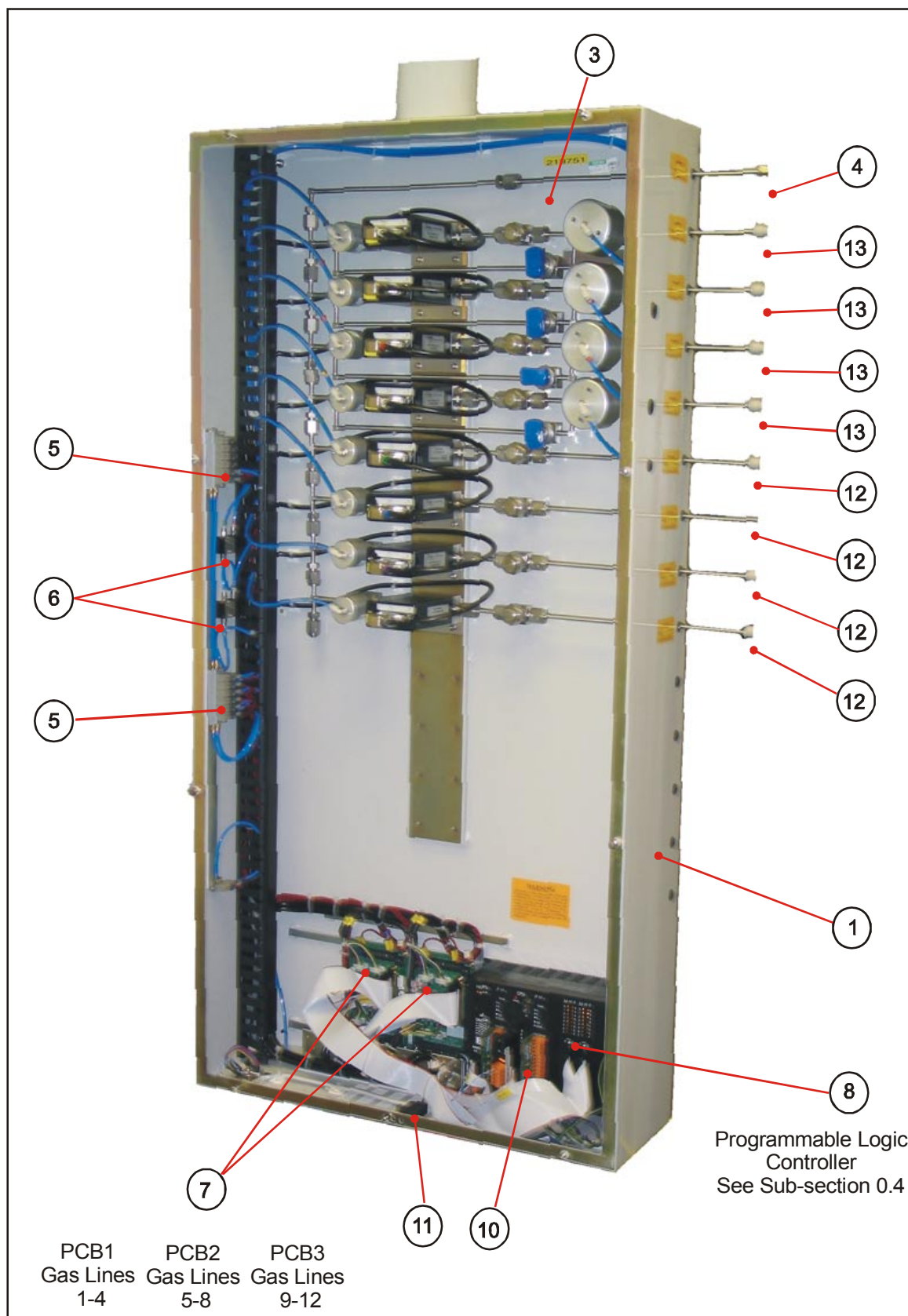
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9.1 6-line gas pod (81-9-51)



Item No.	OIPT Part No.	Qty	Description
1	MA81D15070	1	MANIFOLD GAS OUT PIPE
2	MA81D14783	1	GAS CONNECTION LINE
3	81-9-31	1	CLEAN GAS LINE (SEE SUB-SECTION 9.5)
4	MA81Z16003	1	GAS POD CHAMBER A OR B INTERFACE PCB
5	G/AIR/VLV/506	1	6 WAY SMC ASSY. SPASBR06
6	ESZ9102	1	DOOR INTERLOCK MICRO-SW SPDT
7	G/AIR/VLV/501	1	SINGLE SMC ASSY. SPASBR01
8	81-9-11	1	NON-TOXIC GAS LINE (SEE SUB-SECTION 9.3)
9	81-9-21	1	TOXIC GAS LINE (SEE SUB-SECTION 9.4)

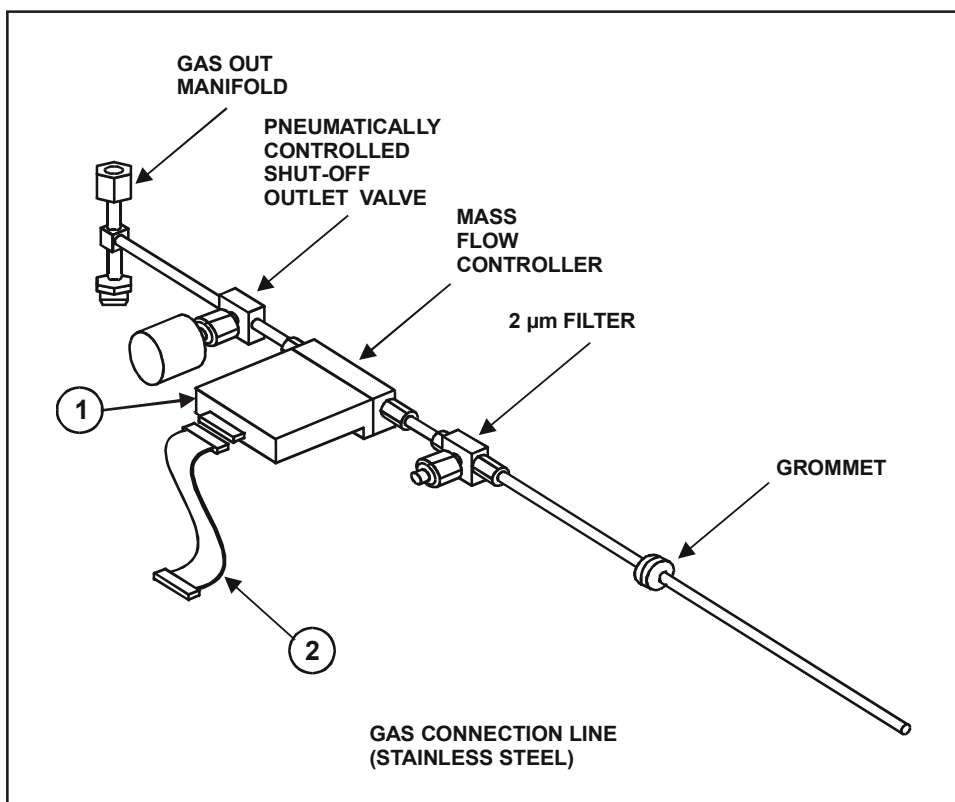
9.2 12-line gas pod (81-9-61)



Item	OIPT Part No.	Qty	Description
1	MD81A22487	1	GAS POD BOX
2	MD31B18526	1	GAS POD LID
3	MA81D14783	1	GAS CONNECTION LINE
4	MA81D15070	1	MANIFOLD GAS OUT PIPE
5	G/AIR/VLV/506	2	6 WAY SMC ASSY.SPASBR10
6	G/AIR/VLV/501	2	SINGLE SMC ASSEMBLY. SPASBR01
7	MA31Z18421	3	300 PLUS GASES PCB2 ASSY
8	EXP0701	1	B&R MINICONTROLLER
	EXP0730	1	B&R DIGITAL MODULE 16 I/P
	EXP0725	1	B&R ANALOGUE MODULE.4
	EXP0750	3	B&R ARCNET INTERF. EE32-0
10	MA81Z16005	3	PLC INTERFACE PCB
11	ESZ9102	1	DOOR INTERLOCK MICRO-SW SPDT
12	81-9-11		NON-TOXIC GAS LINE (SEE SUB-SECTION 9.3)
13	81-9-21		TOXIC GAS LINE (SEE SUB-SECTION 9.4)
14	81-9-31	1	CLEAN GAS LINE (SEE SUB-SECTION 9.5)

Note - For PLC components, see [Sub-section 0.4](#).

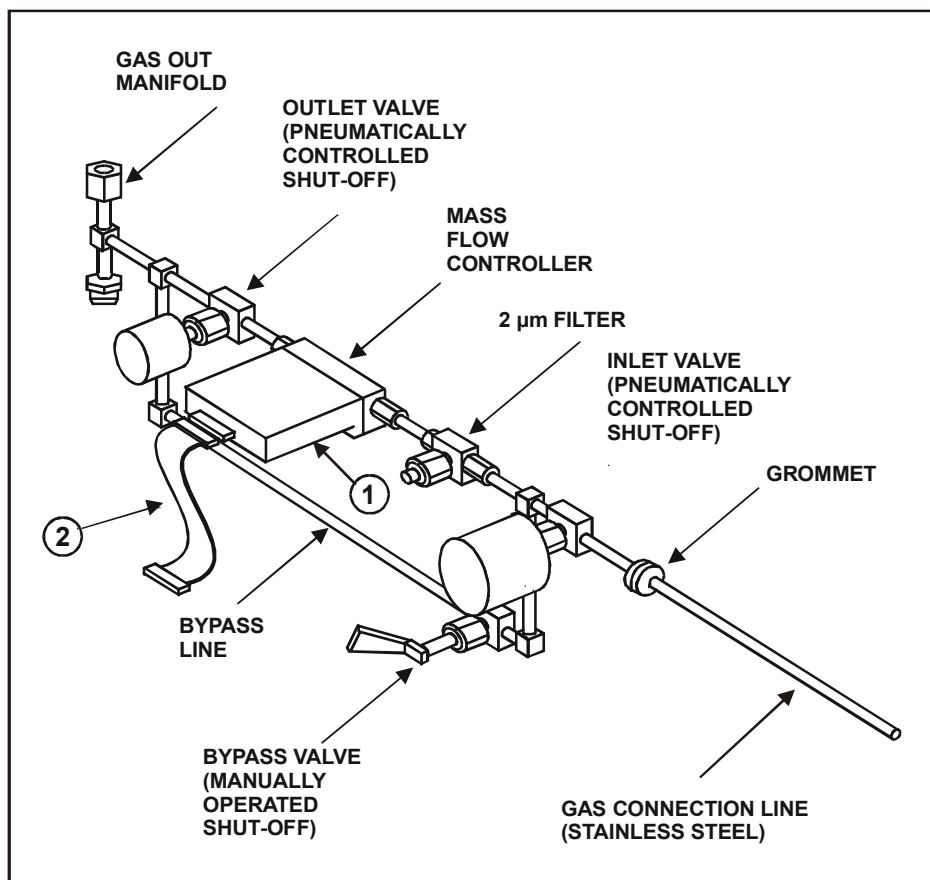
9.3 Non-toxic gas line (81-9-11)



Item No. in Illustration	Part Number	Description
	MA81D15065	NON-TOXIC GAS KIT TYPE 'A' (all welded pipework including filter and control valve but excluding MFC and MFC cable)
	G/GAS/FIT/614C	1/4 GASKET. RETAIN SS4VCR2GR (USED IN ALL VCR FITTINGS)
1	*	MASS FLOW CONTROLLER
2	MA00Z21746	MKS MASS FLOW CABLE ASSY

- * Mass Flow Controllers are not supplied with the gas line, they vary in type according to each customer's requirement. Please quote the part number on the unit if spares are required.

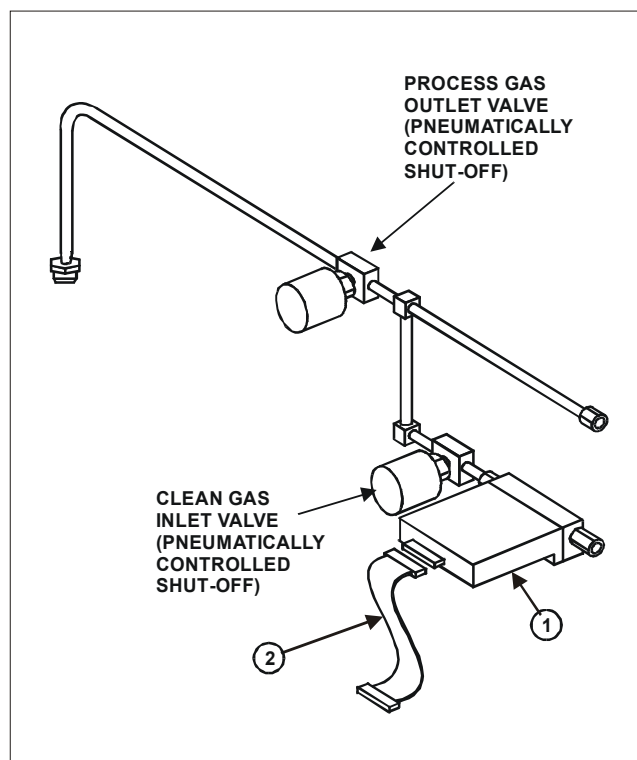
9.4 Toxic gas line (81-9-21)



Item No. in Illustration	Part Number	Description
	MA81B15064	AUTO TOXIC GAS LINE SNGL TYPE 'C' (all welded pipework including filter and valves but excluding MFC and MFC cable)
	G/GAS/FIT/614C	1/4 GASKET. RETAIN SS4VCR2GR (USED IN ALL VCR FITTINGS)
1	*	MASS FLOW CONTROLLER
2	MA00Z21746	MKS MASS FLOW CABLE ASSY

- * Mass Flow Controllers are not supplied with the gas line, they vary in type according to each customer's requirement. Please quote the part number on the unit if spares are required.

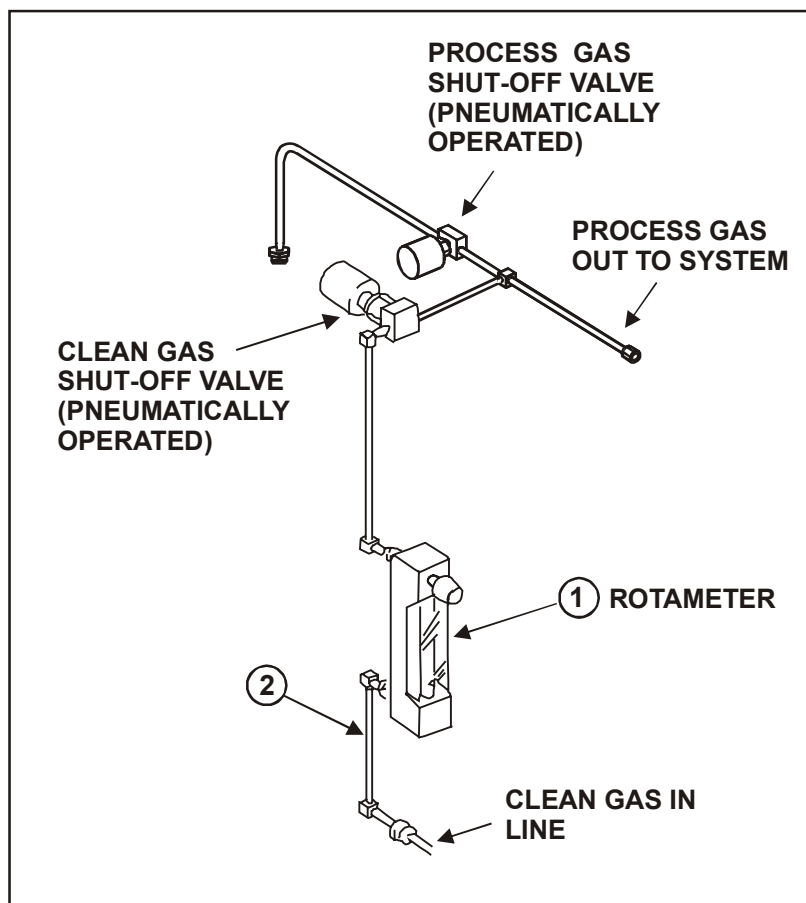
9.5 Clean gas line with MFC (81-9-31)



Item No. in Illustration	Part Number	Description
	MA81C15916	CLEAN GAS LINE (MFC CONTROLLED) (all welded pipework including valves but excluding MFC and MFC cable)
	G/GAS/FIT/614C	1/4 GASKET. RETAIN SS4VCR2GR (USED IN ALL VCR FITTINGS)
1	*	MASS FLOW CONTROLLER
2	MA00Z21746	MKS MASS FLOW CABLE ASSY

- * Mass Flow Controllers are not supplied with the gas line, they vary in type according to each customer's requirement. Please quote the part number on the unit if spares are required.

9.6 Clean gas line with rotameter (81-9-07)



Item No. in Illustration	Part Number	Description
	MA81B15081	CLEAN GAS LINE (ROTAMETER) (all welded pipework including valves but excluding rotameter)
	G/GAS/FIT/614C	1/4 GASKET. RETAIN SS4VCR2GR (USED IN ALL VCR FITTINGS)
1	G/GAS/ROT/800	ROTAMETER 800 CCM F65-SAHR3-A125-7SS
2	MA81D14784	INLET PIPE (ROTAMETER)

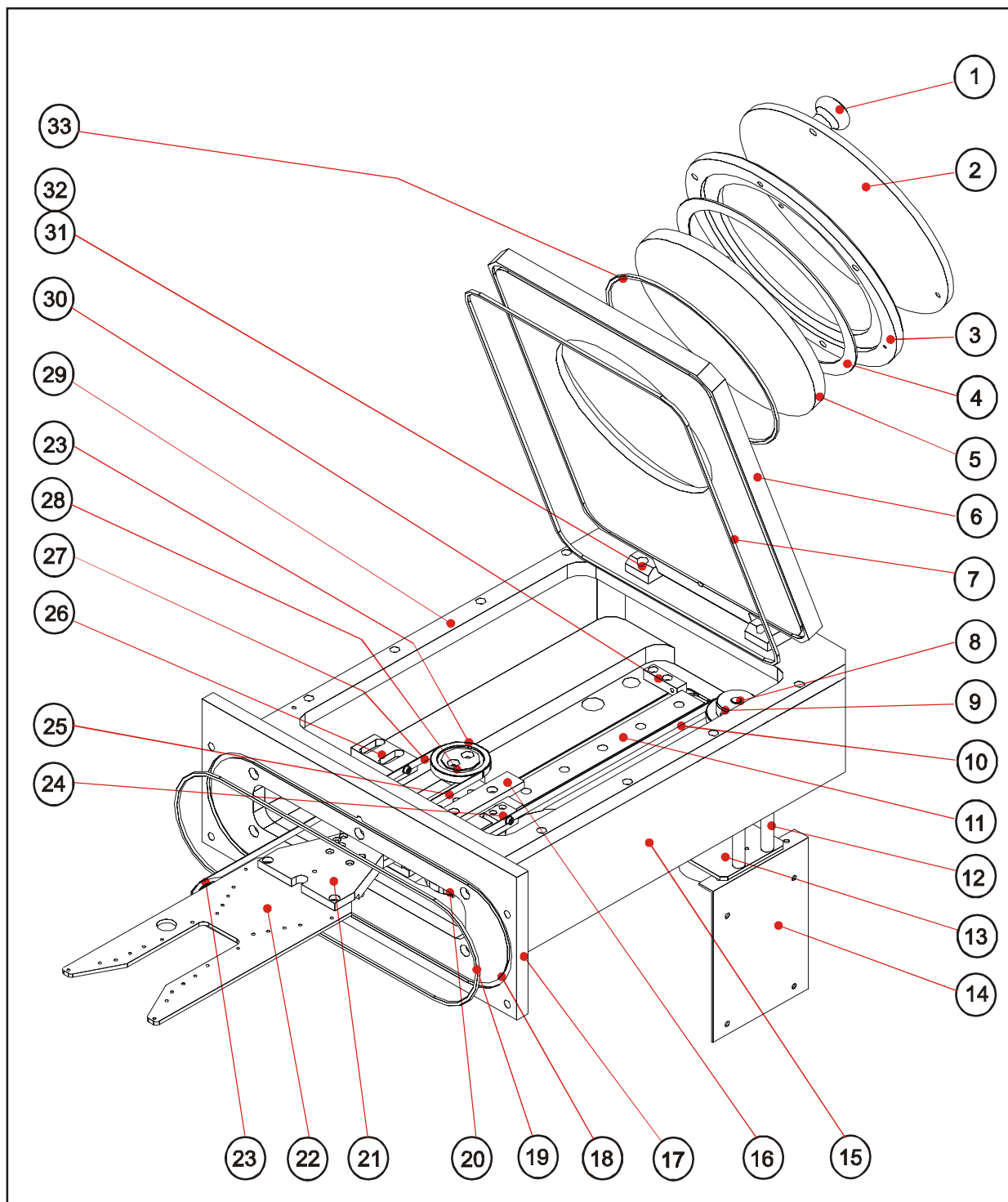
9.7 Gas handling option spares

OIPT Part No.	Qty	Description
81-9-51 - Externally mounted gas pod for up to six MFC lines + one rotameter or MFC control line		
MA81Z16003	1	GAS POD CHAMBER A or B PCB
G/AIR/VLV/506	1	6 WAY SMC ASSEMBLY SPASBR06
ESZ9102	1	DOOR INTERLOCK MICRO-SW SPDT
G/AIR/VLV/501	1	SINGLE SMC ASSEMBLY SPASBR01
G/GAS/FIT/614	1	¼ RETAINING GASKET
81-9-11	1	Non-toxic gas line excluding mass flow controller
G/GAS/FIT/614	10	¼ RETAINING GASKET
81-9-21	1	Toxic gas line with MFC bypass, excluding mass flow controller
G/GAS/FIT/614	10	¼ RETAINING GASKET

Section 10 - Wafer handling options, load locks and robotics

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10.1 Automatic load lock (100-10-05C)



Item	OIPT Part No.	Qty	Description
	MA00A20102	1	LOADLOCK ASSY. 46 x 236 mm VAT VALVE
1	G/SUN/CAB/942	1	HAND KNOB (M6) DIA. 30 mm
2	MD00D20785	1	LOADLOCK PROTECTIVE WINDOW
3	MD00C17683	1	VIEW PORT CLAMP PLATE
4	MD90D12788	1	WINDOW GASKET
5	MD90D12789	1	WINDOW GLASS
6	MD00A21658	1	LOADLOCK HINGED LID
7	G/SEL/O-V/279C	1	3.5 x 329.8 mm VITON 'O' RING BS279C
8	G/VAC/FIT//927	1	ROTARY FEEDTHRO. (8 mm SHAFT)
9	MD00C17699	1	DRIVE PULLEY
10	G/SUN/BEL/013	1	S/S BELT 6.35W x 0.075THK x 731LG
11	G/SUN/BRG/904	1	MINIATURE LM GUIDE TYPE HRW 14
12	MD00D20183	4	PILLAR
13	MD91C17754	1	SUPPORT PLATE
14	MD00D180027	1	LOADLOCK PCB MOUNT
15	MD00A20103	1	LOADLOCK CHAMBER 46 x 236 mm VAT VALVE
16	G/SUN/BRG/903	1	MINIATURE LM GUIDE TYPE HRW 12
17	MD00B20814	1	LOADLOCK/VALVE INTERFACE 2-RINGS
18	G/SEL/O-V/263C	1	3.5 x 196.4 mm VITON 'O' RING BS263
19	G/SEL/O-V/269C	1	3.5 x 221.85 mm VITON 'O' RING 200-269
20	MD00D17695	1	LOWER FRONT PULLEY MOUNT
21	MD00D20146	1	END EFFECTOR PLATE 2.2. Kg S/ST
22	MD00C20145	1	END EFFECTOR 2.2. Kg S/ST RATE
23	MD00D17698	3	DRIVEN PULLEY
24	MD00D17744	1	LOWER CARRIAGE BELT CLAMP
25	MD00C20253	1	UPPER RAIL SUPPORT
26	MD00D17693	1	UPPER REAR PULLY MOUNT
27	G/SUN/BEL/012	1	S/S BELT 6.35W x 0.075THK x 641LG
28	MD00D17696	3	PULLEY BEARING CLAMP
29	MD00B21657	1	LOADLOCK TOP COVER
30	MD00D17701	1	LOWER CARRIAGE END STOP
31	MD00D23696	2	HINGE BLOCK
32	MD00C23711	2	LID - HINGE PIN FIXING
33	G/SEL/O-V/260C	1	3.5 x 164.7 mm VITON 'O' RING BS260C
*	MA00Z17834	1	LOADLOCK MOTOR CONTROL ASSEMBLY
*	G/SUN/GER/009C	1	SERVO MOTOR 24VDC RS.718-981
*	EMM0025	1	PRECISION DC M/GEARBOX 640:1
*	G/VAC/GGE//005	1	ACT. PIRANI GGE APG-L-NW16
*	G/VAC/GGE/004	1	ACT. INVERT MAG GGE AIM-V-NW25
	G/SEL/O-V/280C	1	3.5 x 355.2 mm VITON 'O' RING BS280 - NOT SHOWN - FITS BETWEEN ITEMS 15 AND 28
	G/SEL/O-V/264C	1	3.5. x 190.1 mm VITON 'O' RING BS264 - NOT SHOWN - FITS BETWEEN ITEMS 15 AND 17
	G/SUN/BRG/050	3	4 PNT CONT'T BRG 1" 'ID x 1.375' O/D - NOT SHOWN - FITS ON EACH ITEM 22
	MD00D17674	1	10 PIN SEAL BODY - NOT SHOWN
	MD00D17702	1	UPPER CARRIAGE END STOP - NOT SHOWN
	MD00D17745	1	UPPER CARRIAGE BELT CLAMP - NOT SHOWN
	ESZ9017	1	MICROSWITCH 331-405 - NOT SHOWN
	EIQ0055C	1	OPTO SENSOR SLOTTED TRW - NOT SHOWN
	MD00D18027	1	MICROSWITCH PLUNGER - NOT SHOWN
	MD00D18042	1	MICROSWITCH ACTUATOR - NOT SHOWN
	MD91D17505	4	LOCATION PIN - NOT SHOWN
*			SEE PHOTOGRAPH ON FOLLOWING PAGE

LOAD LOCK
(underside view)

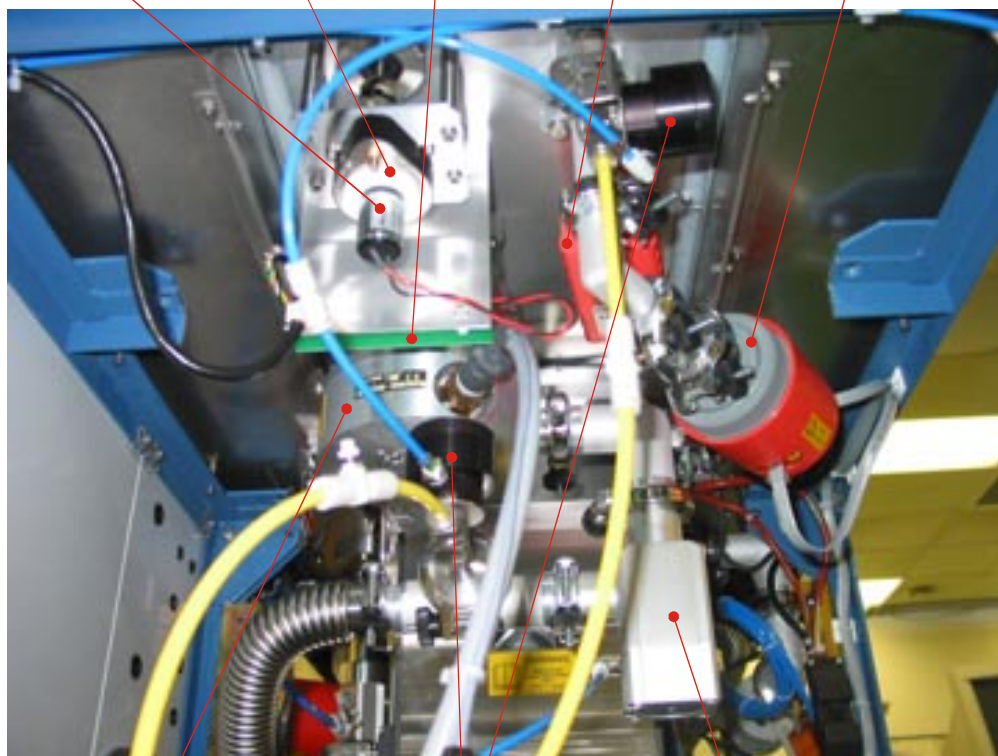
Precision motor gearbox 640:1
(EMM0025)

Act. Pirani GGE APG-L-NW16
(G/VAC/GGE/005)

Servo motor 24VDC RS.718-981
(MA00Z17834)

Load lock motor control assy
(MA00Z17834)

Act. invert mag GGE AIM-V-NW25
(Penning) (G/VAC/GGE/004)



ATP 80 Turbo kit
(ATP80)

Nitrogen purge valves
(GVV0012)

Turbo vent valve
(G/VAC/MLV/125)

10.2 Wafer handling option spares

OIPT Part No.	Qty	Description
COMMON SPARES, SINGLE WAFER AUTOMATIC INSERTION LOAD LOCK FOR USE WITH ISOLATED PROCESS CHAMBER, INCLUDING SUPPORT FRAME AND ACTIVE PIRANI GAUGE (100-10-5xxx)		
G/SUN/BEL/012	1	S/S BELT 6.35W x 0.075THK x 641LG
ESZ9107	1	MICRO SWITCH 331-405
G/VAC/FIT/927	1	ROTARY FEEDTHROUGH (8 mm SHAFT)
G/SUN/GER/009	1	SERVO MOTOR 24 VDC
EMM0025	1	PRECISION DC M/GEAR
MA00Z17834	1	LOADLOCK MOTOR CONTROLLER PCB
G/SUN/BEL/013	1	S/S BELT 6.35W x 0.075THK x 731LG
EIQ055	1	OPTO SENSOR SLOTTED
G/VAC/GGE/005	1	ACTIVE PIRANI GAUGE APG
G/SUN/BRG/050	1	4 PNT CONT'T BRG 1" I/D x 1.375" O/D
AS ABOVE WITH LARGE MESC VALVE (100-10-05C)		
G//SUN/BRG/903	1	MINIATURE LM GUIDE BEARING TYPE HRW12
G//SUN/BRG/904	1	MINIATURE LM GUIDE BEARING TYPE HRW14
G/SEL/O-V/269	1	3.5 x 221.85 mm VITON 'O' RING 200-269
PM KIT LOADLOCK HANDLER - STANDARD QUARTZ CLAMP TOOLING (100-10-05CS)		
MD91B22328SP	1	4" DIA WAFER CLAMP QUARTZ
MD91B22277SP	1	3" DIA WAFER CLAMP QUARTZ
MD91B22327SP	1	2" DIA WAFER CLAMP QUARTZ
MD91B24693SP	1	5" DIA WAFER CLAMP QUARTZ
MD91B22329SP	1	6" DIA WAFER CLAMP QUARTZ
MD91B23036SP	1	8" DIA WAFER CLAMP QUARTZ

NOTES:

Section 11 - Spares

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11.1 Standard spare parts kits

This section covers a commonly sold consumable parts list (100-S-PM DP) for the **Plasamalab** System 100 (**PECVD**) exchanged as part of a Planned Annual Maintenance visit.

11.2 Common system 100 base unit standard spares kit

A kit containing recommended parts for a System 100 base module including window components, table components, general fixings etc.

Spares kit Part Number 100-S-CMP

OIPT Part No.	Qty	Description
G/SEL/O-V/384	1	5.3 mm x 380.37 mm VITON 'O' RING 200-384 (Top electrode lid - chamber seal)
G/SEL/O-V/211	1	3.5 mm x 20.2 mm VITON 'O' RING BS211
G/SEL/O-V/829	1	3.5 mm x 47.6 mm VITON 'O' RING BS829 (Table feedthrough 'O' ring)
G/SEL/O-V/146	1	2.6 mm x 66.3 mm VITON 'O' RING BS146 (Table feedthrough 'O' ring)
G/SEL/O-V/362	2	5.34 mm x 158.12 mm VITON 'O' RING BS362 (A - Pump down pipe to baseplate) (B - Table to baseplate)
G/VAC/SEL/040C	1	NW40 CENTERING RING ALI/VITON
G/GAS/FIT/614C	1	¼ RETAINING GASKET (GIM vcr gasket)
M/0651D/01	1	WINDOW GLASS (6 MM PYREX)
M/4175D/01	1	WINDOW GASKET
MA00D14711	1	NW40 CENTERING RING MOD (Viewport seal)
MD81D14211	1	UV/RF FILTER (Viewport filter)
MD81D14110	1	COMPRESSION RING (Table FT seal)
MD81C14107	1	TABLE FEEDTHROUGH (Table FT)
G/FIX/S32/630	4	M6 x 30 mm S/S CAPHEAD SCREW (Fixing 100 RIE)
G/FIX/S32/616	4	M6 x 16 mm S/S CAPHEAD SCREW (Fixing 100 RIE)
G/FIX/S54/516	4	M5 x 16 mm S/S CSK HEAD SCREW (Fixing 100 RIE)
G/FIX/S21/930	4	M10 x 30 mm HEX HD S/S SCREW (Fixing 100 PECVD)
G/FIX/S32/630	4	M6 x 30 mm S/S CAPHEAD SCREW (Fixing 100 PECVD)
G/FIX/S32/640	4	M6 x 40 mm S/S CAPHEAD SCREW (Fixing 100 PECVD)
G/FIX/S21/520	4	M5 x 20 mm HEX HD S/S SCREW (Fixing 100 PECVD)
G/FIX/S31/508	2	M5 x 8 mm CAPHEAD SKT SCREW (Fixing 100 PECVD)
G/FIX/S35/535	4	M5 x 35 mm S/S CAPHEAD SCREW (Fixing 100 PECVD)

11.3 Common 100 PM spares kit

The list below contains additional spares that are limited to PECVD machines:

Spares kit Part Number 100-S-DP

OIPT Part No.	Qty	Description
G/SUN/BSH/008	3	CERAMIC BUSH, MALE, No. 8 (Gas inlet manifold isolators)
MD80D16537	4	INSULATING CAP (Top electrode to upper chamber isolator)
MD91D17247	1	ISOLATOR DISC (Gas inlet manifold PTFE isolator)
G/SEL/O-V/224	2	3.5 mm x 44.1 mm VITON 'O' RING BS224 (Gas inlet manifold seals)
G/SEL/O-V/275	2	3.5 mm x 266.3 mm VITON 'O' RING 200-275 (Top electrode to chamber lid seals)
MD91C17236	1	ISOLATING RING - TOP ELECTRODE (Top electrode isolator)

11.4 Single wafer OIPT load lock spares kit

The kit in the table below applies if a Single Wafer OIPT load lock is attached and consists of the following components:

Spares kit Part Number 100-10-05CS

OIPT Part No.	Qty	Description
MD90D12788	1	WINDOW GASKET (Single wafer OIPT loadlock)
G/SEL/O-V/280C	1	3.5 mm x 355.2 mm VITON 'O' RING BS280 (Single wafer OIPT loadlock)
G/SEL/O-V/260C	1	3.5 mm x 164.7 mm VITON 'O' RING 200-260 (Single wafer OIPT loadlock)
G/VAC/SEL/015C	1	NW16 CENT. RING ALI/VITON (Single wafer OIPT loadlock)
G/SEL/O-V/015	1	1.8 mm x 13.99 mm VITON 'O' RING BS015 (Single wafer OIPT loadlock)
G/SEL/O-V/263C	1	3.5 mm x 196.4 mm VITON 'O' RING BS263 (Single wafer OIPT loadlock)
G/SEL/O-V/269C	1	3.5 mm x 221.85 mm VITON 'O' RING 200-269 (Single wafer OIPT loadlock)
G/SEL/O-V/279C	1	3.5 mm x 329.8 mm VITON 'O' RING BS279 (Single wafer OIPT loadlock)

Section 12 - Accessories

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12.3.3 Verity EP200 end point kit (100-12-72/01).....	5
12.3.4 Verity EP200 optional spares.....	5

12.1 Heaters/chillers

Heater chiller various options

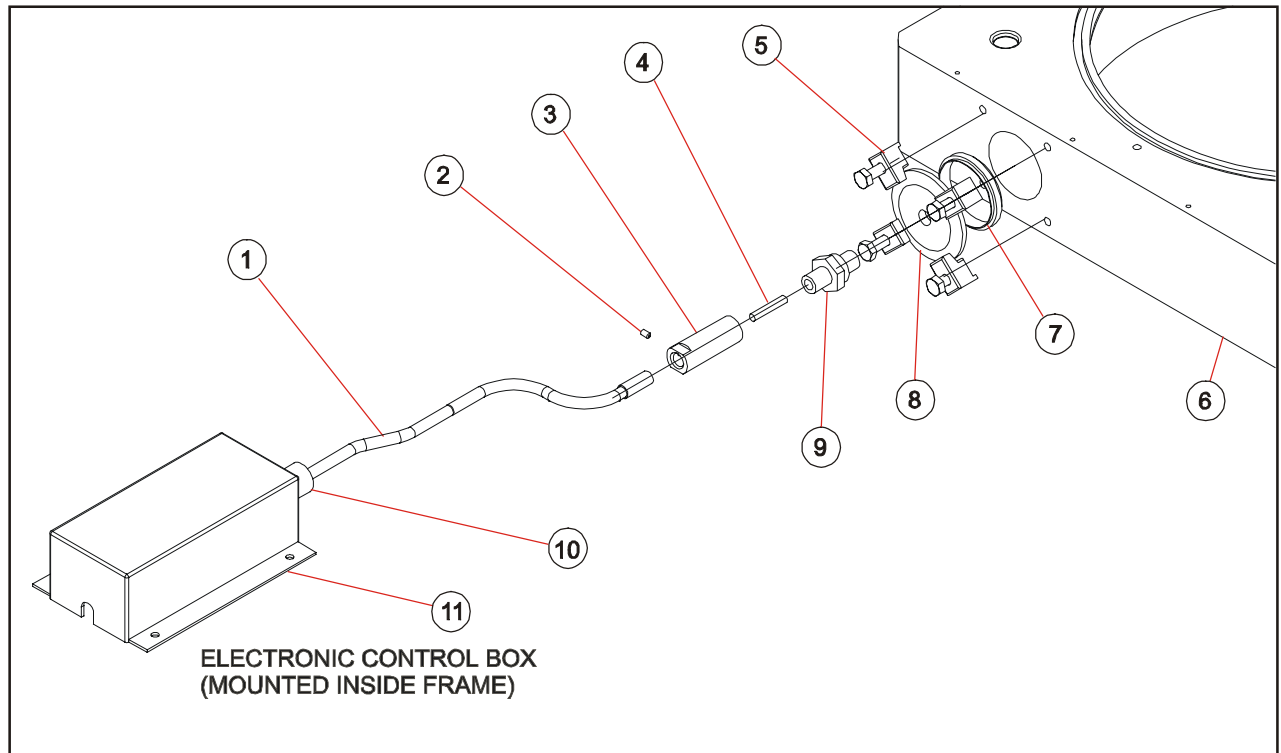
OIPT Part No.	Description
81-12-18	CU500 HEATER CHILLER 240V 50Hz
81-12-18/1	CU500 HEATER CHILLER 208V 60Hz
81-12-19	CU500 DIGITAL HEATER/CHILLER 240V 50Hz
81-12-19/1	CU500 DIGITAL HEATER/CHILLER 208V 60Hz
81-3-18/1	CU500 HEATER CHILLER 208V 60Hz
G/WTR/SUN/520	CU500 818S DIGITAL + FILTER KIT 240V 50Hz
G/WTR/SUN/521	CU500 818S DIGITAL + FILTER KIT 208V 60Hz
G/WTR/SUN/550	CU500 HEATER/CHILLER (+ACU006)
G/WTR/SUN/551	CU500 FAN MOTOR PT. No. 500-5

12.2 Heater/chiller option spares

OIPT Part No.	Qty	Description
G/WTR/SUN/502	1	PUMP HEAD FOR CU500
G/WTR/SUN/503	1	PUMP MOTOR FOR CU500
G/WTR/SUN/007		CORROSION INHIBITOR 3 x 5 LTR PACK
G/VAC/OIL/905	1	VAC GREASE SILICONE
G/WTR/SUN/801	1	WATER FILTER UNIT MCY4463EG

12.3 End point detectors

12.3.1 PRS end point for DP clean (PRS-12-10/1) and PRS900 optical end point kit (PRS-12-10)

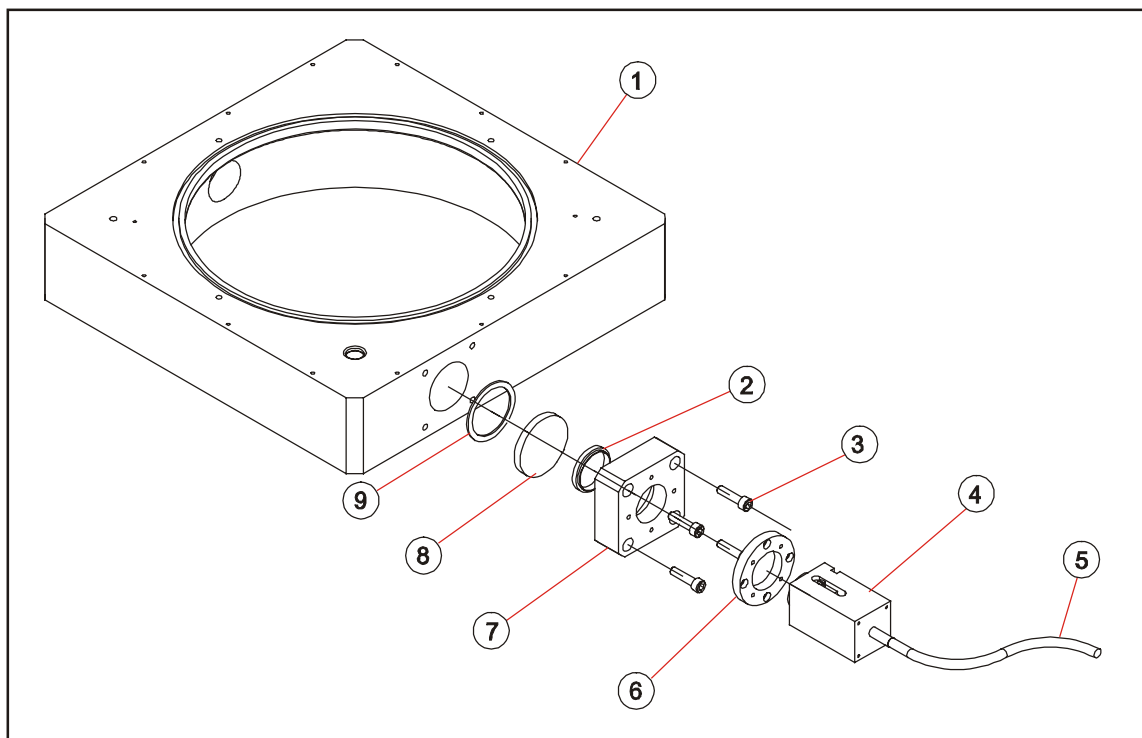


Item	Part No.	Description
1	EXZ0235	FIBRE OPTIC LEAD 0.6 mm x 600 mm
2	G/FIX/S39/304	M3 x 4 mm SKT. GRUB SCREW
3	MD83D20149	END POINT ASSEMBLY
4	M/2137D	QUARTZ ROD
5	G/VAC/CPL/311C	CLAWS DN25 ISO-KF.BP220366-T
6	MD81A21373	UPPER CHAMBER (WIN)
7	G/VAC/SEL/040C	NW40 CENTERING RING ALI/VITON
8	PRS-12-10-P2	40KF BLANK FLANGE TAPPED FOR CONNECTOR
9	GFT0234	FIBRE OPTIC END FITTING
10	M/2117D	FIBRE OPTIC HOLDER
11	M/2334D	ELECTRONIC CONTROL BOX
ITEMS INSIDE END POINT ASSEMBLY (ITEM 3)		
	M/2116D	HOLDER FOR FIBRE OPTIC
	G/SEL/O-V/010	1.8 x 6.1 mm VITON 'O' RING 200-010
	G/GAS/FIT/202C	1/4 x 1/8 MALE CONNECTOR
ITEMS INSIDE ELECTRONIC CONTROL BOX (ITEM 11)		
	G/SUN/OPT/033	OPTIC FILTER 704nm 12.5nm O/D (USED ON PRS-12-10/1)
	G/SUN//OPT/031	OPTIC FILTER 483.5nm (USED ON PRS-12-10)
	M/2118D/02	FILTER HOLDER
	MA00Z17850	END POINT PCB ASSY.

12.3.2 PRS end point optional spares

OIPT Part No.	Qty	Description
MA00Z17850	1	END POINT PCB ASSY.
G/SUN/OPT/033	1	OPTIC FILTER 704nm 12.5nm O/D (USED ON PRS-12-10/1)
G/SUN//OPT/031	1	OPTIC FILTER 483.5nm (USED ON PRS-12-10)
EXZ0235	1	FIBRE OPTIC LEAD 0.6 mm x 600 mm
M/2137D	1	QUARTZ ROD
G/SEL/O-V/010	1	1.8 x 6.1mm VITON 'O' RING 200-010

12.3.3 Verity EP200 end point kit (100-12-72/01)



Item	Part No.	Description
1		CHAMBER
2	MA90D13116	CENTRING RING
3	G/FIXS32625	M6 x 25 mm S/S CAPHEAD SCREW
4	G/SUN/END/021	VERITY EP200SCR ADAPTOR
5	G/SUN/END/023	VERITY SL-UV10 FIBRE OPTIC 1M
6	MD91D17811	END POINT ADAPTOR RING
7	MD91C17809	END POINT ADAPTOR FLANGE (EP200)
8	M/4078D/01	WINDOW GLASS (6 mm QUARTZ)
9	M/4175D/01	WINDOW GASKET
	G/SUN/END/022	VERITY LC10 LIGHT COUPLER (LOCATED IN ADAPTOR - ITEM 5)
	G/SUN/END/020	VERITY EP200MD 200 mm MON/DET (LOCATED ON FRONT PANEL - ABOVE RF GENERATOR)

12.3.4 Verity EP200 optional spares

OIPT Part No.	Qty	Description
MA90D13116	1	CENTRING RING
M/4175D/01	1	WINDOW GASKET
M/4078D/01	1	WINDOW GLASS (6 mm QUARTZ)

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