



THE HeatRay TUBE RADIANT HEATING SYSTEM
OWNER'S MANUAL
INSTALLATION AND OPERATING INSTRUCTIONS

Publication TRH 160699-AU

This appliance shall be installed in accordance with:

- Manufacturer's Installation Instructions
- Local Gas Fitting Regulations
- Municipal Building Codes
- A.G.A. Installation Code AG.601 for Gas Burning Equipment
- Any other relevant Statutory Regulation

This appliance must be installed, commissioned and serviced by an authorised person.

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CELMEC INTERNATIONAL PTY LTD ACN 005 850 546

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REV 160699

HeatRay TUBE RADIANT HEATING INSTALLATION INSTRUCTIONS

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CELMEC INTERNATIONAL PTY. LTD.
ACN 005 850 546

HeatRay, GAS FIRED TUBE RADIANT HEATERS

WARRANTY

Celmec International warrants to the original owner-user that all Celmec products will be free from defects in materials and workmanship. This warranty is limited to twelve (12) months from the date of despatch, with the exception of Aluminised Steel Tubes and Reflectors which carry an additional four (4) year warranty.

Limitations and Exclusions

Celmec's obligation under this warranty is limited to repair or replacement at Celmec's factory, Moorabbin, of any parts of the product identified by model or serial number which shall be returned to Celmec with transportation charges prepaid and which Celmec's examination shall disclose to its satisfaction to be defective.

No parts will be supplied (in exchange for those defective or requiring repair) in advance of receipt and examination of the returned parts.

The manufacturer does not participate in any site related costs or labour expenses incidental to the replacement of parts, repairing, removing, installing, servicing, or handling of parts or complete products and assumes no liability on parts repaired or replaced without consent.

All warranty requests for repairs or replacements must be accompanied by an installation commissioning report and a written explanation, giving model, serial number of unit and details of fault.

There is no warranty expressed or implied with regard to capacity requirements. The selection of the appropriate unit or units depends entirely upon the system design and capacities as determined and specified by the purchaser.

This warranty does not apply to any unit or parts thereof which become inoperative due to accident, misapplication, abuse, misuse, unauthorized alterations, or operation contrary to Celmec's wiring diagrams and printed instructions, or if the serial number has been altered, defaced or removed.

Celmec shall not be liable for any default or delay in performance of its warranty obligations hereunder caused by any circumstances beyond its control, including but not limited to judicial or government restrictions or restraints, strikes, fires, floods, or delayed supplies of raw materials or parts.

All goods are thoroughly inspected and tested before despatch and are at the risk of the purchaser after shipment leaves Celmec's factory. Should the goods arrive damaged, make the transport company aware of their condition and have this noted on the freight bill. If damage is discovered after unpacking, demand immediate inspection by the transportation company and insist that a notation is made of the damage on the freight bill.

HeatRay TUBE RADIANT HEATING INSTALLATION INSTRUCTIONS

I. 'U' TUBE PANEL COMPONENTS (UP)

FORCED DRAUGHT (FD)

2400 - UP3	53 Mj/Hr	3 Mtrs long
2405 - UP4.5	79 Mj/Hr	4.5 Mtrs long
2410 - UP6	106 Mj/Hr	6 Mtrs long
2415 - UP7.5	127 Mj/Hr	7.5 Mtrs long
2700 - UP9	127 Mj/Hr	9 Mtrs long
2705 - UP12	127 Mj/Hr	12 Mtrs long
2710 - UP9	150 Mj/Hr	9 Mtrs long
2715 - UP12	170 Mj/Hr	12 Mtrs long

PROJECT: _____ SHEET NO.: _____

CLIENT: _____ GAS TYPE: _____

Components comprising each system:

PART NO.	DESCRIPTION	UP3 FD	Q	UP4.5 FD	Q	UP6 FD	Q	UP7.5 FD	Q	UP9 FD	Q	UP12 FD	Q
201/0	FD Burner/Fan Unit	1		1		1		1		1		1	
205	Draw Band Coupler	2		1		1		1		1		1	
206	Blast Tube 3050	1*		1		1		1		1		1	
402/14	Heatube Painted 1.400	n/a		2		n/a		2		n/a		n/a	
402/29	Heatube Painted 2.900	1		1		3		3		5		7	
403	Tube Coupler	n/a		1		1		3		3		5	
409/15	Reflector 1500	n/a		1		n/a		1		n/a		n/a	
409/30	Reflector 3000	1		1		2		2		3		4	
412	U Bend	1		1		1		1		1		1	
413/A	Reflector Front Cap Panel	1		1		1		1		1		1	
413/B	Reflector End Cap Panel	1		1		1		1		1		1	
414	End Panel Wing Nuts/Bolts	6		6		6		6		6		6	
415	Support Wire Hangers	2		3		3		4		4		5	
416	Installation Kit H/Temp Sealant	1		1		1		1		1		1	
425	Discharge Elbow	1		1		1		1		1		1	
600	Rivets	5		18		18		32		32		45	
703	Turbulator	1		1		1		1		1		1	
TRH1105 99-AU	Installation Manual	1		1		1		1		1		1	

1. Part No. 425 (Discharge Elbow) not required if discharge flues are required.
2. 1-Tube of sealant required for every three burners supplied.
3. 1-Installation Manual per every delivery.
4. * UP3 Blast Tube - 2860mm long (UP4.5 - UP12 - 3050mm long)

Goods checked for defects: _____

Quantities checked: _____

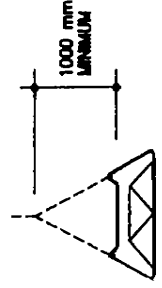
No. of packages: _____

HeatRay TUBE RADIANT HEATING INSTALLATION INSTRUCTIONS

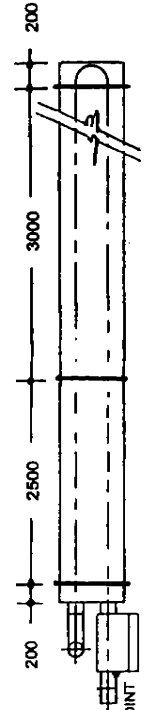
U TUBE PANEL INSTALLATION

(UP3 - UP12) Refer Drg. No. RP-1

1. Cross reference component check list and ensure all components are correct. Refer to Page 2.
2. Survey the area where the unit is to be installed and ensure that all clearances are obtained. See Page 9.
3. When positioning the unit, the burner should be located where the coldest conditions occur.
4.
 - a) Lay out the 89 dia. Heat Tube and Blast Tube on the ground, starting with the Blast Tube. Refer Drg. RP-1, Page 4.
 - b) Ensure all joints are round and free of burrs. Run high temp. sealer (supplied) prior to hanging, on the inside of the Heat Tube. When joining the Heat Tubes together butt the tube to the swage of the joiner. Fixing of all tubes are by stainless steel rivets (supplied). Tubes must be hung prior to joining.
 - c) Ensure that the end Wire Support Hangers are 200mm from each end. The blast tube section supports to be 2500mm apart, then approximately 3000mm apart thereafter, to coincide with reflector and heat tube joints.
 - d) Place the length of turbulator into the exhaust leg immediately after the U/Bend.
 - e) Suspend the chain from the ceiling/roof to form a coat hanger arrangement. Refer Drg RP-1. Lift up the tube sections and intermediate hangers and fix the hangers onto the chain with closed link coupling/clamps (snap hooks). Join the Heat Tubes and Blast Tubes together as described above in point 'b'.
 - f) Check and adjust to ensure the unit is perfectly level.
 - g) Once the Unit is level, slide in the reflector sections, with a 25mm overlap and rivet the joints at the outer edges only, to allow movement (hinge action). This will prevent distortion of the reflector should further leveling be required.
HINT: to achieve a neat overlap, notch a 30mm 'V' at the end of one reflector, in the centre, and insert the other reflector end, over and under.
 - h) Hang burner/fan unit and attach to the Blast Tube with the drawband coupler supplied. The drawband coupler to be Tek Screwed to burner tube and blast tube after tightening.
5. Fit optional inlet and/or discharge flue kits if applicable. Refer to Drawing RP1. Also consult your local gas authority.

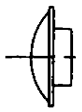


RECOMMENDED SUSPENSION DETAILS

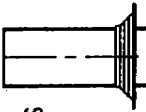


END WIRE SUPPORT HANGERS TO BE 200mm FROM EACH END. BLAST TUBE SECTION SUPPORTS TO BE 2500mm APART, THEN APPROX. 3000mm APART THEREAFTER. TO COINCIDE WITH REFLECTOR AND HEAT TUBE JOINTS.

RA003 DISCHARGE ASSEMBLY



104 - COWL



106 - DEKITE ROOF FLASHING

127 DIAMETER
VERTICAL DISCHARGE ASSEMBLY
ALSO AVAILABLE WITH 109 - HORIZONTAL DISCHARGE ASSEMBLY

RA001 INLET ASSEMBLY



104 - COWL



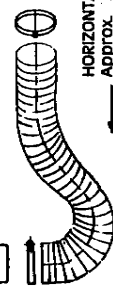
106 - DEKITE ROOF FLASHING

127 DIAMETER

105 - VERTICAL INLET ASSEMBLY FLEX DUCT & CLAMPS.

ALSO AVAILABLE WITH 101 & 102 HORIZONTAL INLET ASSEMBLY

107 - EXHAUST FLEX DUCT & CLAMPS 89 DIA.



HORIZONTAL OFFSET Approx. 50mm

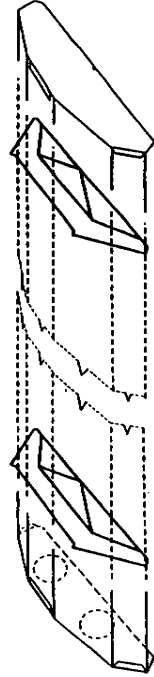
206 - BLAST TUBE 89 DIA.

205 - DRAWBAND COUPLER

FIX SELF TAPPING SCREWS INTO BURNER BLAST TUBE THROUGH DRAWBAND COUPLER

201 - BURNER ASSEMBLY

415 - REFLECTOR ASSEMBLY SUPPORTS:



413 - END CAP PANEL

DISCHARGE ELBOW — SUPPLIED WHEN SYSTEM IS NOT FLUED

403 - TUBE COUPLER

703 - TURBULATOR INSTALL COMMENCING FROM BEND

402 - HEAT TUBE 89 DIAMETER

412 - U BEND 89 DIAMETER

SEAL ALL JOINTS WITH HIGH-TEMPERATURE SEALER

NOTE: CLEARANCES FROM COMBUSTIBLES TO COMPLY WITH SPECIFICATIONS AS NOTED ON BURNER NAMEPLATE.

HEATRAYS - U TUBE PANEL, FORCED DRAUGHT BURNER

DRAWING NO. RP-1

MODEL NO.	2400 -	UP3
	2405 -	UP4.5
	2410 -	UP6
	2415 -	UP7.5
	2700 & 2710 -	UP9
	2705 & 2715 -	UP12

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HeatRay TUBE RADIANT HEATING INSTALLATION INSTRUCTIONS

II. STRAIGHT PANEL (SP) & MULTI BURNER (MB) COMPONENTS FORCED DRAUGHT (FD)

2400 - SP6	53 Mj/Hr	6 Mtrs long
2405 - SP9	79 Mj/Hr	9 Mtrs long
2410 - SP12	106 Mj/Hr	12 Mtrs long
2415 - SP15	127 Mj/Hr	15 Mtrs long
2710 - SP18	150 Mj/Hr	18 Mtrs long

PROJECT: _____ SHEET NO.: _____

CLIENT: _____ GAS TYPE: _____

Components comprising each system

PART NO.	DESCRIPTION	SP6	Q	SP9	Q	SP12	Q	SP15	Q	SP18	Q	MB	Q
		FD		FD		FD		FD		FD		FD	
201/0 FD	Burner Fan Unit	1		1		1		1		1			
205	Draw Band Coupler	1		1		1		1		1			
206/A	Blast Tube 3050mm	1		1		1		1		1			
402/29	Heat Tube Painted 2900	1		2		3		4		5			
403	Tube Coupler	n/a		1		2		3		4			
409-5	Reflector 3000 Single	2		3		4		5		6			
413	End Cap Panel	2		2		2		2		2			
414	End Panel Wing Nuts/Bolts	6		6		6		6		6			
415/S	Support Wire Hangers	3		4		5		6		7			
416	Installation Kit H/T Sealer	1		1		1		1		1			
425	Discharge Elbow	1		1		1		1		1			
600	Rivets	10		15		20		25		30			
703	Turbulator	2		2		2		2		2			
TRH110599 -AU	Installation Manual	1		1		1		1		1			

1. Part No. 425 (Discharge Elbow), not required if discharge flues are required.
2. 1-Tube of sealant required for every three burners supplied.
3. 1-Installation Manual per every delivery.
4. ☐ On application

Goods checked for defects: _____

Quantities checked: _____

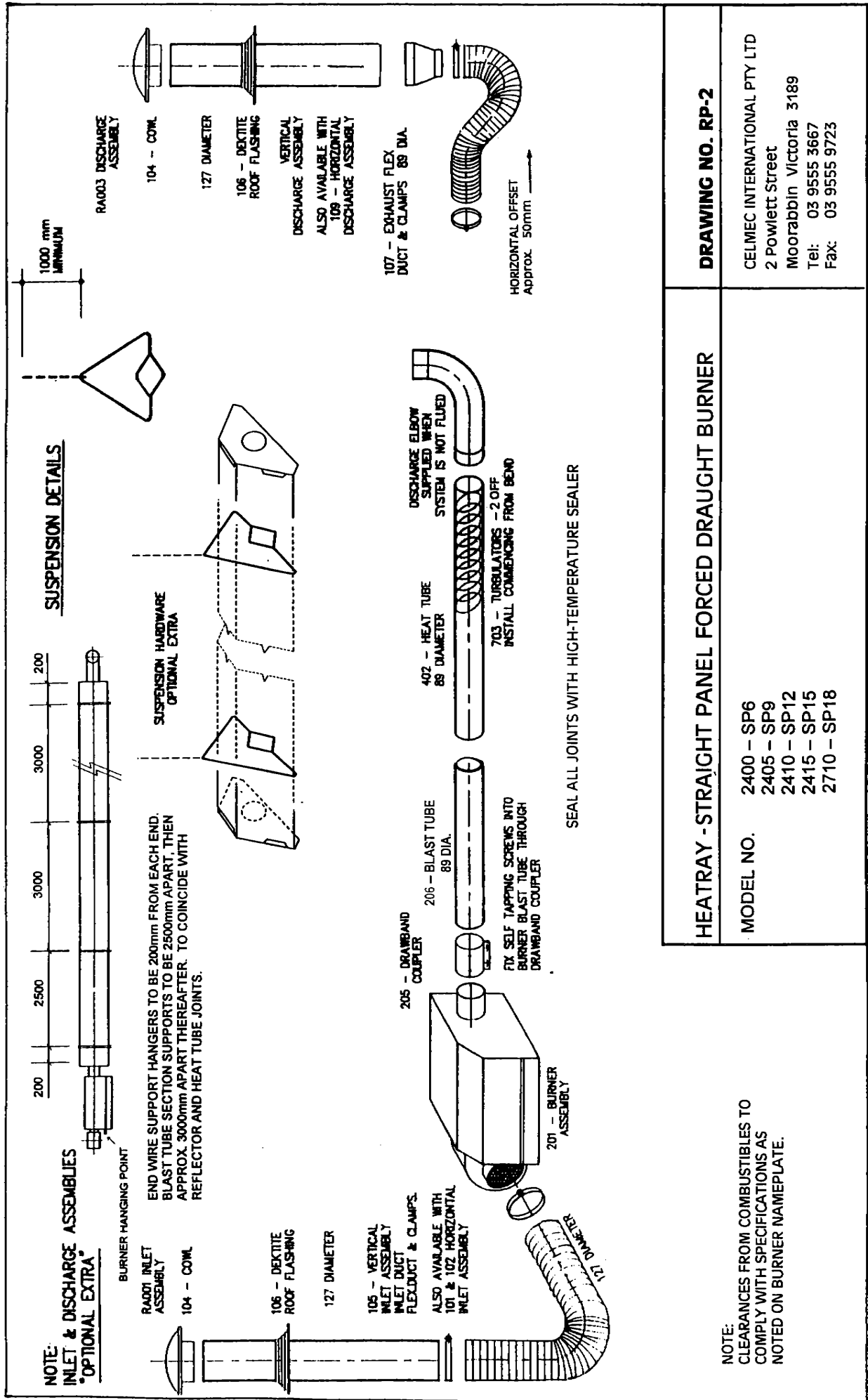
No. of packages: _____

HeatRay TUBE RADIANT HEATING INSTALLATION INSTRUCTIONS

STRAIGHT PANEL (SP), SINGLE BURNER (SB) AND MULTI BURNER (MB) SYSTEMS INSTALLATION

(SP6 - SP18) Refer Drg. No. RP-2 (MB) Refer Drg. No. RP-3

1. Cross reference component check list and ensure all components are correct. Refer to Page 5.
2. Survey the area where the unit is to be installed and ensure that all clearances are obtained. See Page 9.
3. When positioning the unit, the burner should be located where the coldest conditions occur.
4.
 - a) Lay out the 89 dia. Heat Tube and Blast Tube on the ground, starting with the Blast Tube. Refer Drg. RP-2, Page 7.
 - b) Ensure all joints are round and free of burrs. Run high temp. sealer (supplied) prior to hanging, on the inside of the Heat Tube. When joining the Heat Tubes together butt the tube to the swage of the joiner. Fixing of all tubes are by stainless steel rivets (supplied). Tubes must be hung prior to joining.
 - c) Ensure that the end Wire Support Hangers are 200mm from each end. The blast tube section wire supports to be 2500mm apart, then approximately 3000mm apart thereafter, to coincide with reflector and heat tube joints.
 - d) Place two lengths of turbulator into the discharge end of the tubing.
 - e) Suspend the chain from the ceiling/roof. Refer Drg RP-2. Lift up the tube sections and wire hangers and fix the hangers onto the chain with closed link coupling/clamps (snap hooks). Join the Heat Tubes and Blast Tubes together as described above in point 'b'.
 - f) Check and adjust to ensure the unit is perfectly level.
 - g) Once the Unit is level, slide in the reflector sections, with a 100mm overlap and rivet the joints at the outer edges only, to allow movement (hinge action). This will prevent distortion of the reflector should further leveling be required.
 - h) Hang burner/fan unit and attach to the Blast Tube with the drawband coupler supplied. The drawband coupler to be Tek Screwed to burner tube and blast tube after tightening.
5. Fit optional inlet and/or discharge flue kits if applicable. Refer to Drawing RP2. Also consult your local gas authority.



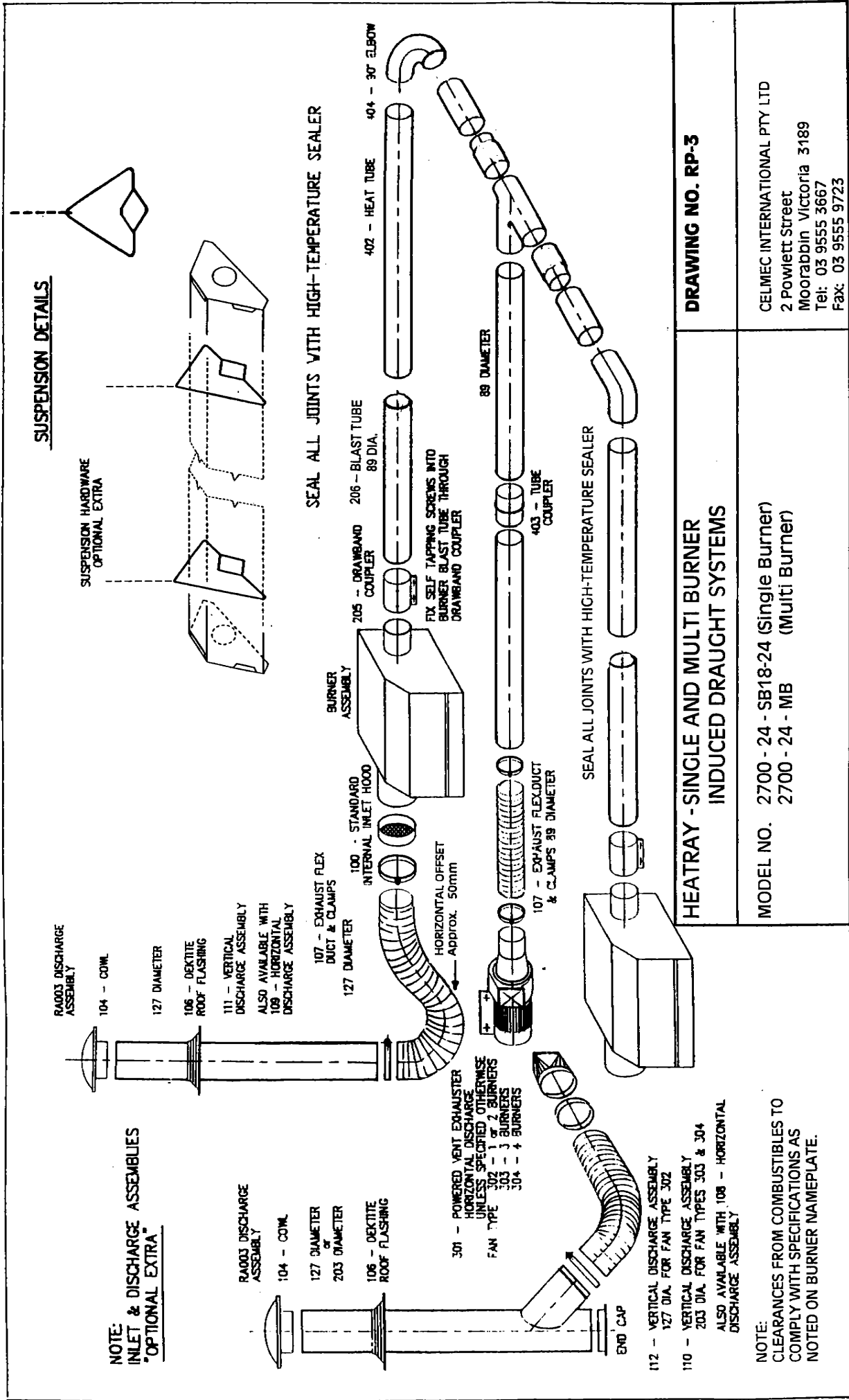
NOTE:
CLEARANCES FROM COMBUSTIBLES TO
COMPLY WITH SPECIFICATIONS AS
NOTED ON BURNER NAMEPLATE.

HEATRAY - STRAIGHT PANEL FORCED DRAUGHT BURNER

DRAWING NO. RP-2

MODEL NO. 2400 - SP6
2405 - SP9
2410 - SP12
2415 - SP15
2710 - SP18

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HeatRay TUBE RADIANT HEATING INSTALLATION INSTRUCTIONS

III. CLEARANCES

During the installation check to ensure that the installed system components comply with the required minimum clearance from combustibles, as shown below.

REFLECTOR TYPE	RECOMMENDED MINIMUM CLEARANCE (mm)		
	BOTTOM	SIDE	TOP
Standard Reflector PN-409	1500	1000	300
Standard Reflector PN-409 with heat shield PN-418	1200	1000	300

IV. GAS PIPING AND CONNECTION

1. **Pipe Size and Routings**

This guide assumes that pipe size and routings have been determined as a part of the system design.

2. **Pipe Installation and Connection**

- All gas piping to be installed in accordance with local gas fitting regulations and installation code AG-601.
- Routing of gas pipe feed lines should contain no more than three 90 deg. elbows.
- All gas pipe feed lines to be securely anchored to building structural components so that there will be no possibility of movement when burner is attached.
- A manual gas shut-off valve must be installed in the input gas feed line at each burner and as close as possible to the burner.
- After installation, pipe joints in all gas pipe feed line systems must be tested for leaks with soap and water. It is recommended that this be done with air pressure before attaching line to main gas service facility.
- All pipe joint compounds used must be resistant to the effects of liquified petroleum gases. Provide enough unions to permit easy removal of accessories such as regulators, safety valves and burners.
- When welding pipe, take care to prevent weld spatter from getting into valves and regulators.
ENSURE ALL FILINGS, DUST, MOISTURE ETC. ARE REMOVED FROM WITHIN THE PIPEWORK TO PREVENT COSTLY DAMAGE TO BURNER GAS VALVE.
- To prevent piping stresses due to expansion and contraction approved flexible connections must be installed on gas lines to burners.
- When installing new equipment, make sure all thread protectors and shipping blocks are removed.

V. CONTROL BOX INSTALLATION

The control box contains 240v circuit breaking switches and, at the clients option, thermostat and time clock. Mounting of the control box (or boxes) should be onto an internal wall or onto an insulated board on the inside of an external wall. The box should not be shielded from the area being heated by any obstructions. Where the control box is to be mounted outside the area being heated, consideration should be given to installing the thermostat sensor remote from the box, into the area being heated.

VI. ELECTRICAL WIRING

1. **Circuit Diagram**

This guide assumes that a circuit diagram has been determined as part of the system design.

2. **Wiring Installation**

The electrical installation must comply with AS 3000-1981 and any additional requirements of the local Supply Authority.

In addition, line voltage wiring should be sized for maximum 5% voltage drop at the equipment under operating conditions.

Final wiring to burner socket connection must be flexible, to permit 75mm expansion movement.

VII. OPTIONAL ALARM

Alarm Output 240VAC, 0.5A.

Should the alarm option be exercised, J1 Terminal 4-6 circuit, the sequence is as follows:

Upon turning the unit power ON the circuit is live.

Once the gas burner operates the circuit becomes inactive.

Should the burner fail the circuit will reactivate.

HeatRay TUBE RADIANT HEATING INSTALLATION INSTRUCTIONS

VIII. PRELIMINARIES

This appliance is inoperable and requires Commissioning as per the following procedure.

1. Is system installed as recommended in the manual, including clearance to combustibles? ☐ YES ☐ NO
2. Has gas piping been installed and tested in accordance with local regulations and Section IV? ☐ YES ☐ NO
3. Has the gas line been purged of air and are all service valves open? ☐ YES ☐ NO
4. Is the inlet gas pressure correct at the burner isolating valve (natural gas 1.1Kpa-1.5Kpa, LPG 2.75Kpa-3.0Kpa). ☐ YES ☐ NO
5. Is electrical wiring installed in accordance with local regulations and Section VI and are fuses installed on the control panel? ☐ YES ☐ NO
6. Are all flexible connections and joints secure and air tight and building air intakes and discharges unobstructed? ☐ YES ☐ NO
7. Is the drawband coupler between burner body and blast tube, tightly clamped and making good electrical contact? That is, two (2) Tek screws should be fitted, one on each end of drawband coupler, to ensure positive electrical contact is made. ☐ YES ☐ NO

IX. START UP

1. Remove the two (2) Tek screws and lift cover over burner gas valve and controls. Check fan rotation by watching fan wheel at inlet.
2. Connect a U-tube manometer (to LHS and to RHS pressure test points at the top of the gas valve body (sealed by brass screws). Note: LHS test point - Inlet Line Pressure / RHS test point - Manifold pressure. (Refer Section XII – Page 13).
3. The air flow pressure switch is factory set. Should adjustment be required, consult Celme International first.
4. Check all wire connections for security.
5. Remove the seal screw on gas valve regulator (centre top of valve – refer Section XII).
6. Check that the gas isolating valves are open.
7. Turn the burner on and listen for the air flow switch to close circuit.
8. Before the gas valve opens (after 30 seconds approx.) observe a small reading on the Manifold manometer.
9. After 30 seconds pre-purge, the gas valve opens to a partial position, spark commences, flame lights (visible through sight glass) and burner light comes on.
10. Within a further 7 seconds of flame proving period, the main valve opens fully.
11. **The MANIFOLD PRESSURE manometer should now read 0.9KPa for NG or 2.5KPa for LPG. Adjust the setting screw of the gas valve regulator, if necessary, to achieve these pressures. CLOCKWISE raises the pressure, ANTI-CLOCKWISE lowers the pressure..**
12. **The INLET LINE PRESSURE manometer should read 1.1Kpa-1.5Kpa for NG or 2.75KPa for LPG. Adjust the setting of the Gas Line Regulator (provided by others), to achieve these pressures.**
13. Allow system to warm up for 5 minutes, and burn off residual oil on heat tubes and reflectors.
14. Turn off the burner, observe gas valve shuts and all lights go off. Wait for fan to stop and the pressure switch to reset then go through restart cycle, items 7 to 11.
15. Repeat Item 13.
16. Refit regulator seal screw.
17. Disconnect manometer and refit brass screw on gas valve tapping.
18. Close burner cover and secure with screws.
19. Set the thermostat to the desired level (if supplied).
20. Adjust the time clock (if fitted).

HeatRay TUBE RADIANT HEATING INSTALLATION INSTRUCTIONS

X. COMMISSIONING REPORT AND CHECKLIST

CLIENT:		DATE:
INSTALLER:		REF NO.
1. SERIAL NO.	10. AIR FLOW SWITCH	
2. TYPE OF SYSTEM	CORRECT OPERATION <input type="checkbox"/>	
A U TUBE PANEL - FORCED DRAUGHT - UP <input type="checkbox"/>	NOT MAKING <input type="checkbox"/>	
B STRAIGHT PANEL - FORCED DRAUGHT - SP <input type="checkbox"/>	NOT HOLDING <input type="checkbox"/>	
C MULTIBURNER <input type="checkbox"/>	OTHER OBSERVATIONS:	
NO. OF BURNERS: _____		
3. CLEARANCE TO COMBUSTIBLES:	11. AIR PRESSURE AT BURNER GAS VALVE MANIFOLD TEST POINT: (FAN ONLY) _____	
4. DUCTING FITTED TO:	12. CORRECT FAN ROTATION: <input type="checkbox"/>	
(a) BURNER INLET <input type="checkbox"/>	13. EXHAUST TEMPERATURE AFTER 10 MIN. OPERATION: _____	
(b) FAN DISCHARGE <input type="checkbox"/>	AIR TEMPERATURE AT BURNER INLET: _____	
5. GAS TYPE	COMMISSIONING PERSONNEL:	
(a) N.G. <input type="checkbox"/>	(a) CLIENT: <input type="checkbox"/>	
(b) L.P.G. <input type="checkbox"/>	(b) INSTALLER: <input type="checkbox"/>	
6. L.P. GAS TANK	(c) OTHER: _____	
(a) CAPACITY: _____	PERSONNEL NOTIFIED OF COMPLETION OF COMMISSIONING AND GENERAL OPERATION OF SYSTEM:	
(b) PRESSURE: _____		
7. IS A REGULATOR FITTED TO MAIN GAS LINE? <input type="checkbox"/> YES <input type="checkbox"/> NO MAIN PRESSURE _____		
8. GAS LINE PRESSURE SUPPLIED AT BURNER (N.G. 1.1 - 1.5KPa), (L.P.G. 2.75 - 3.0KPa) _____ NOTE! Inlet gas pressure must be Measured and achieved when all burners including burner under test and all other gas appliances are running.		
9. GAS PRESSURE AT BURNER GAS VALVE MANIFOLD TEST POINT: N.G. (REQUIRED 0.9 KPa) <input type="checkbox"/> YES <input type="checkbox"/> NO _____ LPG (REQUIRED 2.5KPa) <input type="checkbox"/> YES <input type="checkbox"/> NO _____ NOTE! Manifold gas pressure must be Measured and adjusted when all Systems are running.	ITEMS FOUND AT COMMISSIONING:	

IMPORTANT

The above commissioning report must be submitted to CELMEC to register and validate the warranty.

HeatRay TUBE RADIANT HEATING INSTALLATION INSTRUCTIONS

XI. FIELD SERVICE REPORT

IMPORTANT

This Field Service Report must be submitted to CELMEC, together with the Commissioning Report (Page 11) before assistance can be given under warranty.

DATE: FAX NO. (.....).....

PROJECT NAME: INSTALLED BY:

INSTALLATION ADDRESS:

CONTACT NAME: TEL. NO. (.....).....

DATE OF PURCHASE: COMMISSIONED BY:

UNIT SERIAL NOS.

Please circle the following fault numbers applicable.

BRIEF DESCRIPTION:

1. Transportation damage
2. Installation problem
3. Missing components
4. Burner sequence not working
5. Condensation
6. Electrical installed incorrectly
7. Other

PREVENTIVE MAINTENANCE:

1. 12 months annual service required
2. Unit is not working after summer period
3. Accessibility - off ladder, scissor lift required, boom lift required

OTHER COMMENTS:

CELMEC INTERNATIONAL PTY LTD ABN 66514 732 689

Head Office & Export Enquiries: 2 Powlett Street, Moorabbin, P O Box 3093, Moorabbin East LPO, Vic. 3189 Australia.
Phone: 61 3 9555 3667 Fax: 61 3 9555 9723

HeatRay TUBE RADIANT HEATING INSTALLATION INSTRUCTIONS

X. COMMISSIONING REPORT AND CHECKLIST

CLIENT:		DATE:
INSTALLER:		REF NO.
1. SERIAL NO.	10. AIR FLOW SWITCH	
2. TYPE OF SYSTEM	CORRECT OPERATION <input type="checkbox"/>	
A U TUBE PANEL - FORCED DRAUGHT - UP <input type="checkbox"/>	NOT MAKING <input type="checkbox"/>	
B STRAIGHT PANEL - FORCED DRAUGHT - SP <input type="checkbox"/>	NOT HOLDING <input type="checkbox"/>	
C MULTIBURNER <input type="checkbox"/>	OTHER OBSERVATIONS:	
NO. OF BURNERS: _____		
3. CLEARANCE TO COMBUSTIBLES:	11. AIR PRESSURE AT BURNER GAS VALVE MANIFOLD TEST POINT: (FAN ONLY) _____	
4. DUCTING FITTED TO:	12. CORRECT FAN ROTATION: <input type="checkbox"/>	
(a) BURNER INLET <input type="checkbox"/>	13. EXHAUST TEMPERATURE AFTER 10 MIN. OPERATION: _____	
(b) FAN DISCHARGE <input type="checkbox"/>	AIR TEMPERATURE AT BURNER INLET: _____	
5. GAS TYPE	COMMISSIONING PERSONNEL:	
(a) N.G. <input type="checkbox"/>	(a) CLIENT: <input type="checkbox"/>	
(b) L.P.G. <input type="checkbox"/>	(b) INSTALLER: <input type="checkbox"/>	
6. L.P. GAS TANK	(c) OTHER: _____	
(a) CAPACITY: _____		
(b) PRESSURE: _____		
7. IS A REGULATOR FITTED TO MAIN GAS LINE? <input type="checkbox"/> YES <input type="checkbox"/> NO MAIN PRESSURE _____	PERSONNEL NOTIFIED OF COMPLETION OF COMMISSIONING AND GENERAL OPERATION OF SYSTEM:	
8. GAS LINE PRESSURE SUPPLIED AT BURNER (N.G. 1.1 - 1.5KPa), (L.P.G. 2.75 - 3.0KPa) _____ NOTE! Inlet gas pressure must be Measured and achieved when all burners including burner under test and all other gas appliances are running.		
9. GAS PRESSURE AT BURNER GAS VALVE MANIFOLD TEST POINT: N.G. (REQUIRED 0.9 KPa) <input type="checkbox"/> YES <input type="checkbox"/> NO _____ LPG (REQUIRED 2.5KPa) <input type="checkbox"/> YES <input type="checkbox"/> NO _____ NOTE! Manifold gas pressure must be Measured and adjusted when all Systems are running.	ITEMS FOUND AT COMMISSIONING:	

IMPORTANT

The above commissioning report must be submitted to CELMEC to register and validate the warranty.

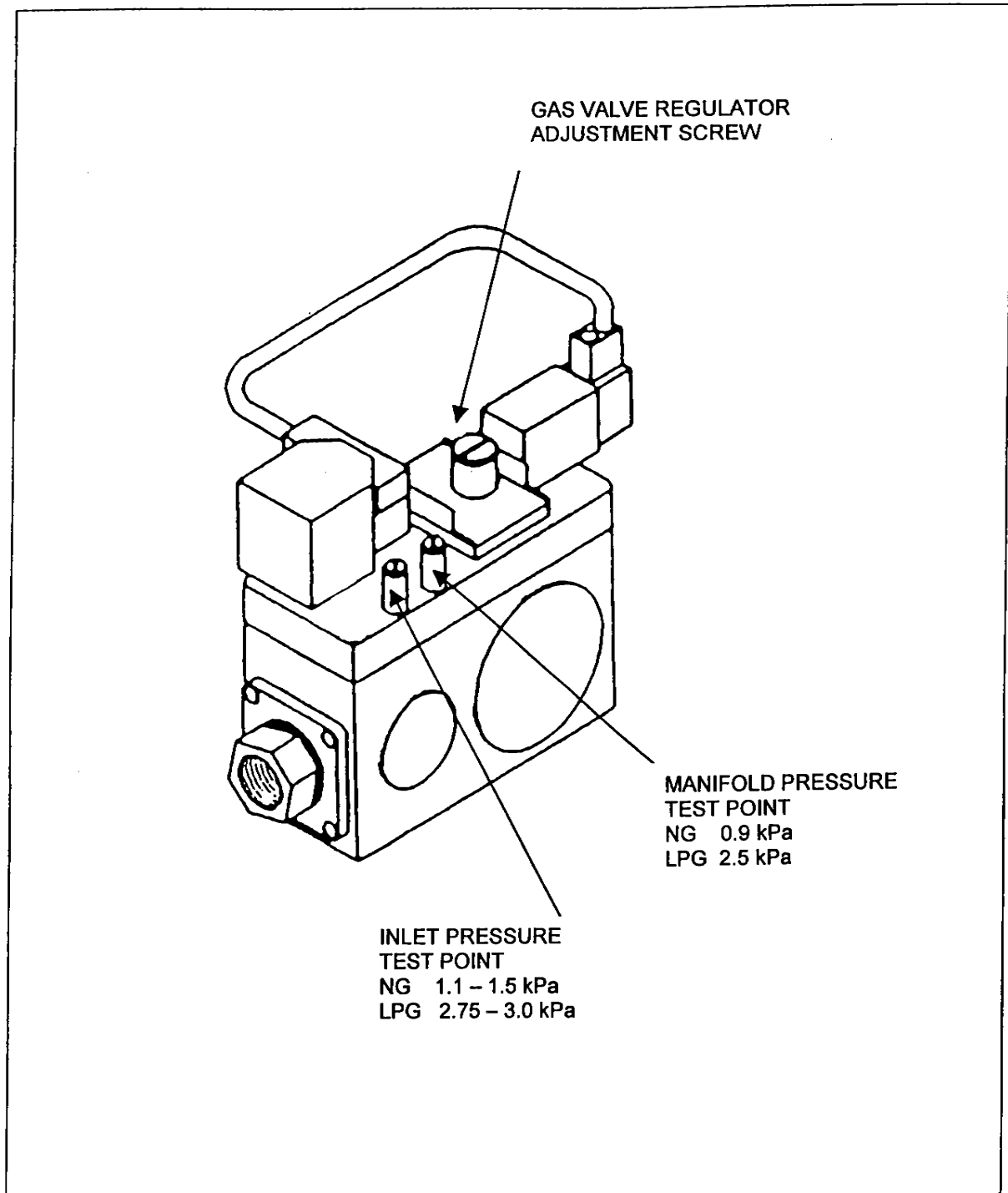
CELMEC INTERNATIONAL PTY LTD ABN 66514 732 689

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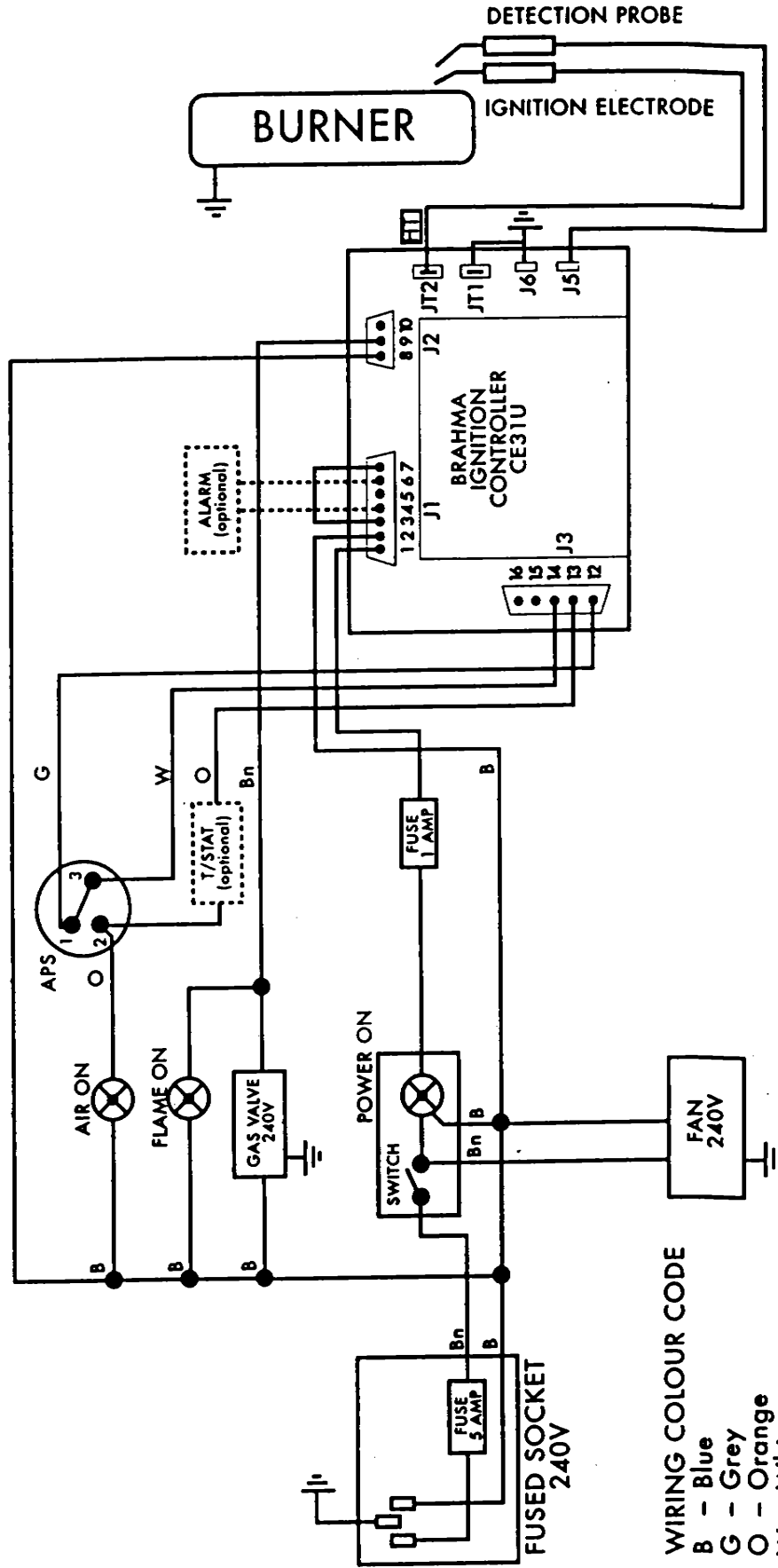
HeatRay TUBE RADIANT HEATING INSTALLATION INSTRUCTIONS

XIII. GAS VALVE TEST POINTS (SCHEMATIC)

(Refer Section IX. - Page 10, START-UP)



Gas Fired Tube Radiant Heating WIRING DIAGRAM, BURNER CONTROL & FLAME SAFEGUARD



HeatRay TUBE RADIANT HEATING INSTALLATION INSTRUCTIONS

XII. ACCESSORIES

PART NO.	DESCRIPTION	FD	QTY
	DISCHARGE FLUE KIT - RA003		
101	High Temp Flex, 500mm long - 89 Dia.	1	
104	Cowl - 127 Dia.	1	
105	Flue 3000mm. long - 127 Dia.	1	
106	High Temp Dektite - 127 Dia.	1	
107	Worm Drive Clamps - 89 Dia.	2	
108	Flue Adaptor 89 to 127 Dia.	1	
	INLET DUCT KIT - RA001		
101	Low Temp Flex, 500mm long - 127 Dia.	1	
104	Cowl - 127 Dia.	1	
105	Flue 3000mm long - 127 Dia.	1	
106A	Low Temp Dektite - 127 Dia.	1	
107A	Worm Drive Clamps - 127 Dia.	2	
	OTHER OPTIONS		
414	Suspension Chain		
418	Heat Shield		
420	Side Shield		
501	Control Panel		

Goods checked for defects

Quantities checked

No. of packages