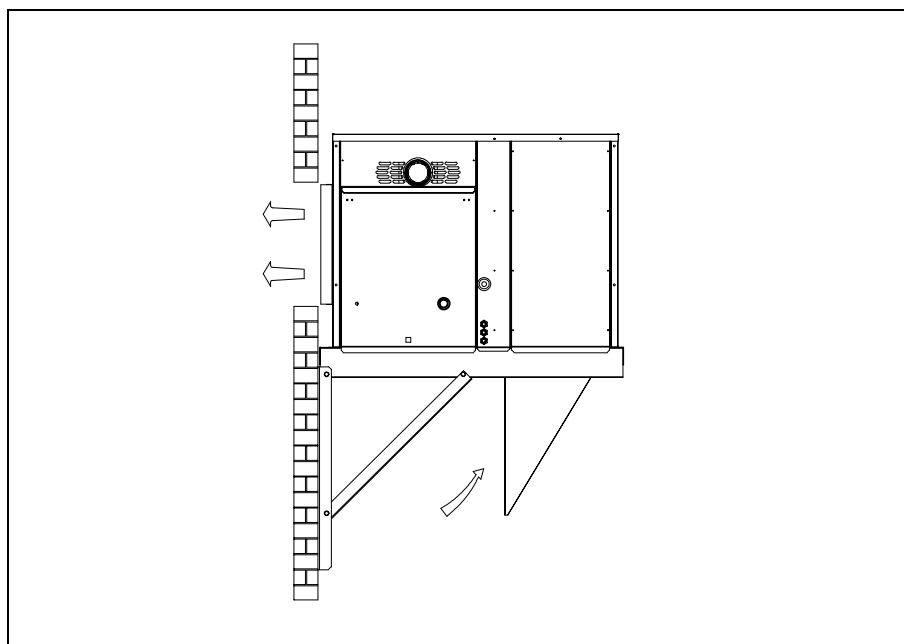


GAS FIRED AIR HEATERS TYPE

WALL MOUNTED (WM) RPVE 2000

Centrifugal Blown, Forced Convection Appliances with
Automatic Ignition and Flueless Fanned combustion circuit for outdoor use:

Installation, Commissioning, Servicing & User Instructions



These appliances meet the following EC Directives:

Dir. CE 90/396/EEC:	GAD
Dir. CE 89/336/EEC:	EMC
Dir. CE 89/392/EEC:	MD
Dir. CE 73/23 /EEC:	LVD

PLEASE READ THIS DOCUMENT CAREFULLY BEFORE COMMENCING THE INSTALLATION AND LEAVE IT WITH THE USER OR ATTACHED TO THE APPLIANCE OR GAS SERVICE AFTER INSTALLATION

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NB. If optional equipment was ordered and supplied with this heater, please refer to additional instructions for option(s)

SECTION 1 GENERAL

- 1.1 Before installation, check that the appliance as described on the packaging label is in accordance with the correct type and model as specified on the data plate and complies with your customer order.
- 1.2 Please read this document before commencing installation.
- 1.3 These instructions are only valid for the country of use as indicated on the appliance i.e. GB - IE. If these symbols are not shown, it is necessary to obtain appropriate technical instructions, which will provide information concerning the necessary modification of the appliance for the conditions of use in the country concerned. Such instructions may be obtained upon request from your supplier.
- 1.4 Check that the local distribution conditions of electricity supply, type of gas and pressure of the appliance are compatible.
- 1.5 When installed in Great Britain the total installation must comply with the requirements and recommendations of British Standard BS 6230 1991. " Installation of Gas Fired Forced Convection Air Heaters for Commercial and Industrial Space Heating". The installation must also be in accordance with the relevant requirements of "The Gas Safety (Installation and use Regulations) and (Amendment regulations 1990)" and The "Building" and "Electrical Regulations" (in GB the IEE Regulations). The requirements of the "Local Building Standards office", the premises "Insurance" undertaking and the "Fire Office 3 must also be observed.
- 1.6 Unauthorised modification of this appliance or departure from use in the manner for which it was intended by the manufacturer or installed in a manner contrary to these instructions, may constitute a hazard and jeopardise all warranties. Deviations should only be carried out after formal consent has been obtained from the manufacturer.
- 1.7 Ensure the environment in which the air heater will be installed will not create a hazard i.e. where excessive (volatile) dust, flammable or corrosive substances and/or vapours and combustible materials may be present.
- 1.8 This appliance has been tested and set according to the data plate before leaving the factory.
- 1.9 **Important** : Care must be taken when installing air heaters in outdoor locations to ensure that unauthorised access to the building cannot be gained via the appliance or its duct-work system.

SECTION 2. TECHNICAL DATA

Table 1a Appliance Data Standard Efficiency Models - Standard Fan Motor and Drives

Standard version Wall mounted RPVE			2045	2055	2075	2095
Low NO_x version Wall mounted RPVE..			2545	2555	2575	2595
Heat input GCV (H _s)		kW	49,9	63,2	86,5	115,4
Heat input NCV (H _i)		kW	45,0	57,0	78,0	104,0
Heat output normal rate 100 %		kW	39,4	49,9	68,3	91,0
Heat output low fire rate 50 %		kW	18,6	23,6	32,2	42,9
Number of gas jets			7	9	12	16
Jet size	natural gas	dia mm	2.4			
	propane/butane	dia mm	1.35			
Gas supply pressure 'P' ₁	natural gas G20	mbar	(GB) = 17,5 (IE) = 20,0			
	butane gas G30	mbar	37,0			
	propane gas G31	mbar	28,0			
Burner pressure ²	natural gas G20	mbar	8,5			
Gas consumption	NG ³ G20	m ³ /h	4,76	6,10	8,30	11,00
	Butane G30	kg/h	3,64	4,61	6,31	8,42
	Propane G31	kg/h	3,56	4,51	6,18	8,25
Gas connection (not supply line size)			Rc 3/4			
Air volumes ⁴ @ 15° C		m ³ /h	4000	5000	6800	9200
Fan motor rating	2000	kW	0,55	1.1	1.1	1,5
	2500	kW	0,55	1.1	1.1	2,2
External static pressure		Pa	60	60	60	60
Electrical service			230V 1N ~ 50 Hz	400V 3N ~ 50 Hz		
Total electrical rating ⁵		kW	0.93	1.53	1.53	2.0/2.96
Net weight approximate ⁶		kg	189	210	267	310

Table 2a Appliance Data Higher Efficiency Models

Standard version RPVE... WM		2046	2056	2076	2096
Low NO_x version RPVE... WM		2546	2556	2576	2596
Normal rate 100 %	kW	41,0	51,9	71,0	94,6
Low rate 50 %	kW	19,3	24,5	33,5	44,7
All other data is the same as the version with standard efficiency					

- 1 Maximum gas pressure at inlet to appliance = 50,0 mbar
- 2 All casing panels fitted service door open
- 3 Natural gas G20 calorific value 10,48 kWh/m³, @ 15° C 1013 mbar
Propane G31, calorific value 14,00 kW/h/kg.
Butane G30, calorific value 13,70 kW/h/kg
- 4 Isothermic @ 15° C Max Δ T 40 K if higher values are required consult Reznor or their distributor
- 5 During start up period (± 30 s) increased by 130 W not included in these ratings
- 6 Dependant upon options and motors fitted. Selection of motors and drives can be specified within the ranges given. Consult separate brochure for duties and performance.

Table 1b Appliance Data Standard Efficiency Models – with inlet sensing temperature (option 607.1)
(see section 10)

Standard version Wall mounted RPVE			₂ H ₃ +	2045	2055	2075	2095
Low NO_x version Wall mounted RPVE..				2545	2555	2575	2595
Heat input GCV (H _s)			kW	49,9	63,2	86,5	115,4
Heat input NCV (H _i)			kW	45,0	57,0	78,0	104,0
Heat output normal rate 100 %			kW	39,4	49,9	68,3	91,0
Heat output low fire rate 85 %			kW	33,6	41,7	58,2	77,0
Number of gas jets				7	9	12	16
Jet size	natural gas	dia mm	2.4				
	propane/butane	dia mm	1.35				
Gas supply pressure 'P' ¹	natural gas G20	mbar	(GB) = 17,5 (IE) = 20,0				
	butane gas G30	mbar	37,0				
	propane gas G31	mbar	28,0				
Burner pressure ²	natural gas G20	mbar	8,5				
Gas consumption	NG ³ G20	m ³ /h	4,76	6,10	8,30	11,00	
	Butane G30	kg/h	3,64	4,61	6,31	8,42	
	Propane G31	kg/h	3,56	4,51	6,18	8,25	
Gas connection (not supply line size)			Rc 3/4				
Air volumes ⁴ @ 15° C			m ³ /h	3400	4270	5800	7850
Fan motor rating	2000	kW	0,55	1.1	1.1	1,5	
	2500	kW	0,55	1.1	1.1	2,2	
External static pressure			Pa	60	60	60	60
Electrical service				230V 1N ~ 50 Hz	400V 3N ~ 50 Hz		
Total electrical rating ⁵			kW	0.93	1.53	1.53	2.0/2.96
Net weight approximate ⁶			kg	189	210	267	310

Table 2b Appliance Data Higher Efficiency Models

Standard version RPVE... WM		2046	2056	2076	2096
Low NO_x version RPVE... WM		2546	2556	2576	2596
Normal rate 100 %	kW	41,0	51,9	71,0	94,6
Low rate 85 %	kW	35,1	44,5	60,8	81,0
All other data is the same as the version with standard efficiency					

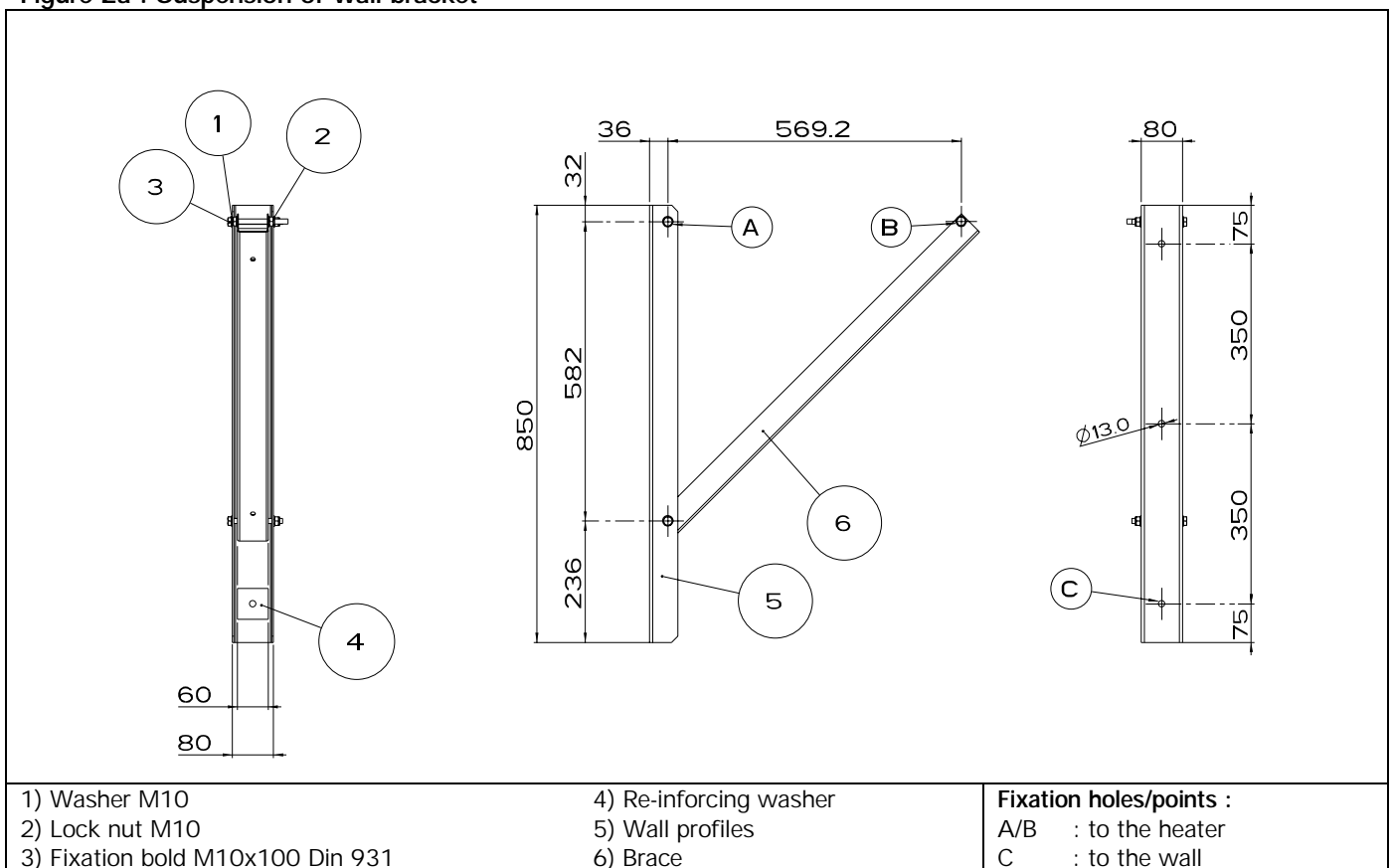
- 1 Maximum gas pressure at inlet to appliance = 50,0 mbar
- 2 All casing panels fitted service door open
- 3 Natural gas G20 calorific value 10,48 kWh/m³, @ 15° C 1013 mbar
Propane G31, calorific value 14,00 kW/h/kg.
Butane G30, calorific value 13,70 kW/h/kg
- 4 Isothermic @ 15° C Max Δ T 40 K if higher values are required consult Reznor or their distributor
- 5 During start up period (± 30 s) increased by 130 W not included in these ratings
- 6 Dependant upon options and motors fitted. Selection of motors and drives can be specified within the ranges given.
Consult separate brochure for duties and performance.

SECTION 3. WALL BRACKETS

The wall brackets are standard delivered with the unit.

1. When leaving the factory the wall brackets are fixed to the unit (see front & back side of the control panel).
2. On the gas train located in the control department (accessible when opening the service panel) you will find a plastic bag containing following :
 - 6 fixation bolts M10x100 Din 931 (PN 60 62908)
 - 6 reinforcing washers (PN 90 52974)
 - 12 washers 10.5x2 Din RSA (PN 06 06593)
 - 6 lock nuts M10 Din 986 (PN 60 71028)
 - 1 tapit screw to fix flue outlet grill (PN 06 17631)
3. When leaving the factory, the flue outlet grill is fixed in the control department of the heater.

Figure 2a : Suspension of wall bracket



Fixation of wall brackets to the unit

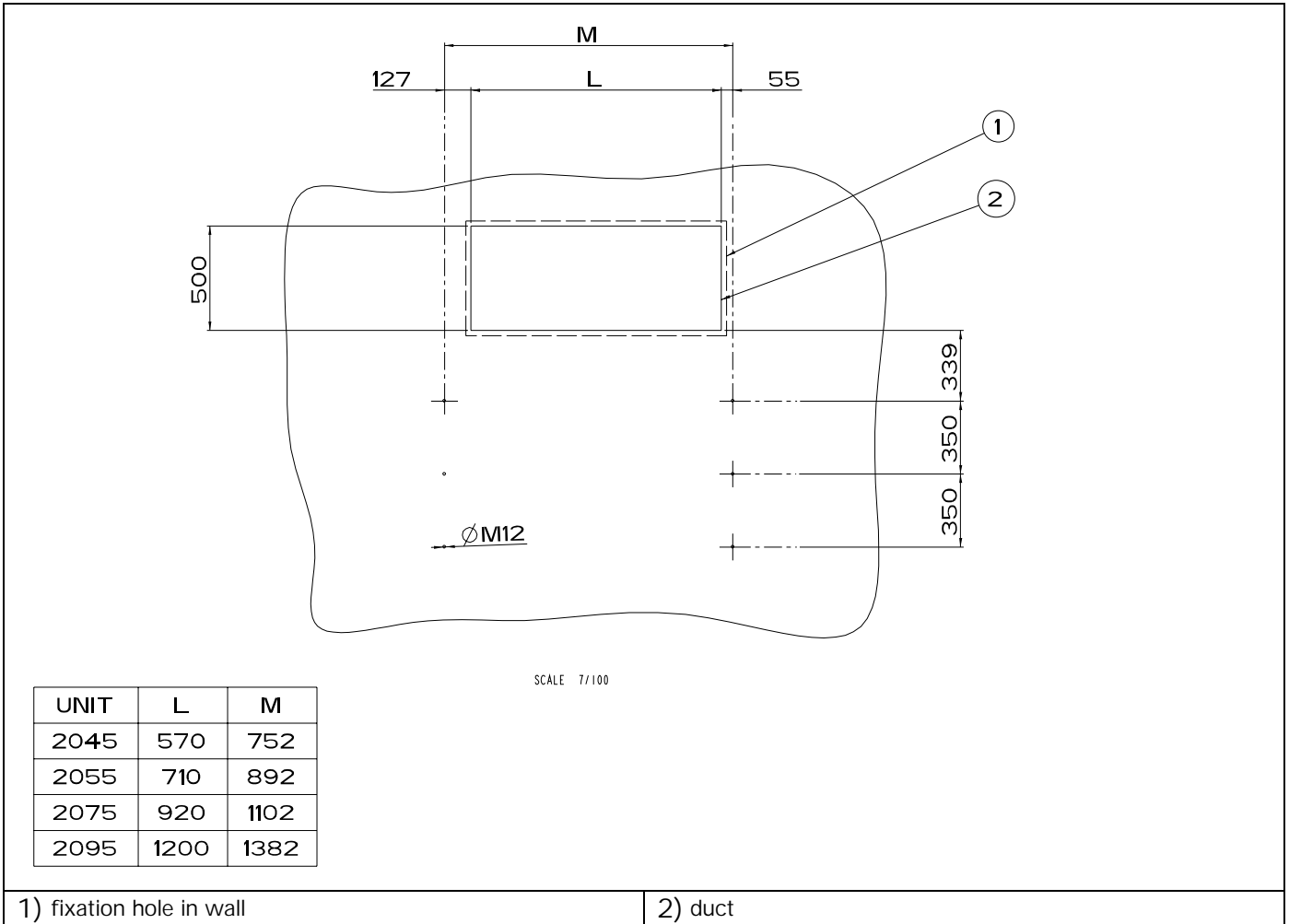
- Use a key 13 to unscrew the 4 fixation bolts and nuts on the front- & backside of the heater. Loosen the diagonal brace from the heater.
- Use a key 10 to unscrew the 4 fixation bolts and nuts on the front- & backside of the heater and loosen the 2 vertical wall profiles from the heater.

Attention : After removing these 2 vertical wall profiles screw up the 4 fixation bolts & nuts M6 to prevent water penetration in the heater once installed.

The mounting of the wall brackets must comply with the specifications as shown on figure 2a & 2b. It is strictly forbidden to use the brackets for other purposes or not to follow these instructions!

For the fixation of the wall brackets to the wall we recommend to use 12mm wall plugs or 12mm tread wires.

Figure 2b : Fixation of wall brackets

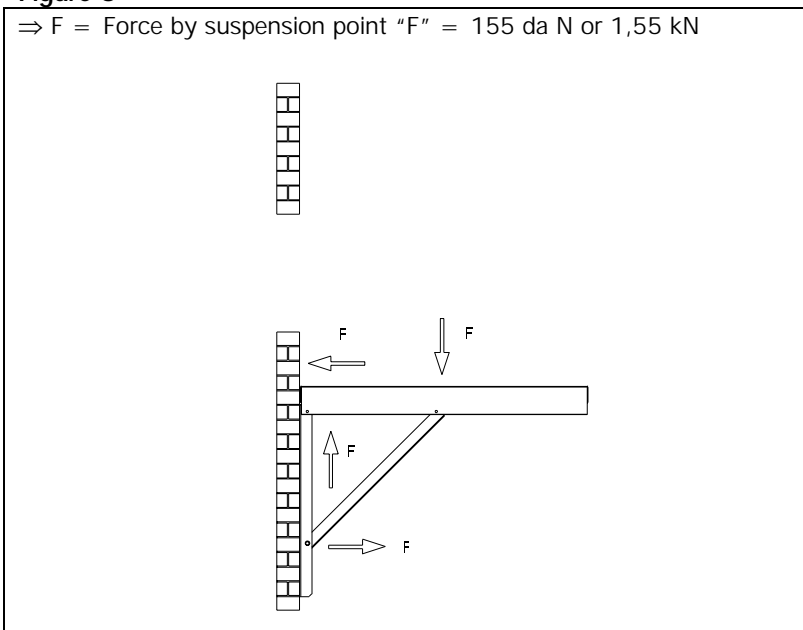


Attention:

When assessing the fixing method account should be made of the tensile strain and the load factors placed on the brickwork.

Figure 3

⇒ F = Force by suspension point "F" = 155 da N or 1,55 kN

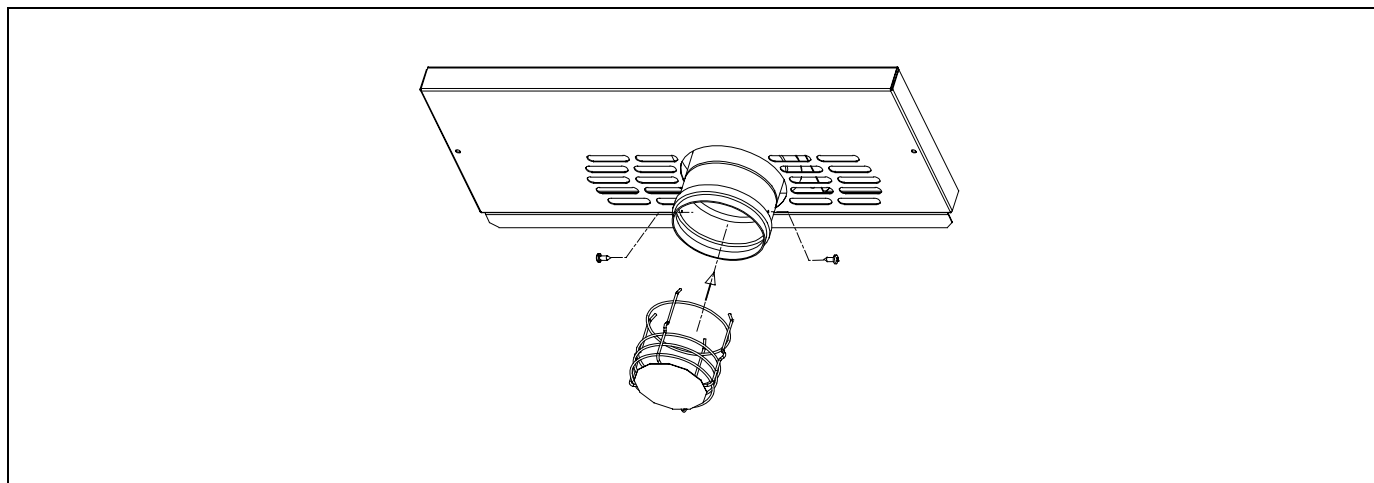


SECTION 4. FLUE OUTLET

When leaving the factory the flue outlet protection cap is fixed inside the control cabinet.

When installing the heater, the flue outlet protection cap must be installed in the combustion outlet pipe. We refer to figure 4 for the correct installation.

Figure 4 : Installation of flue outlet protection cap



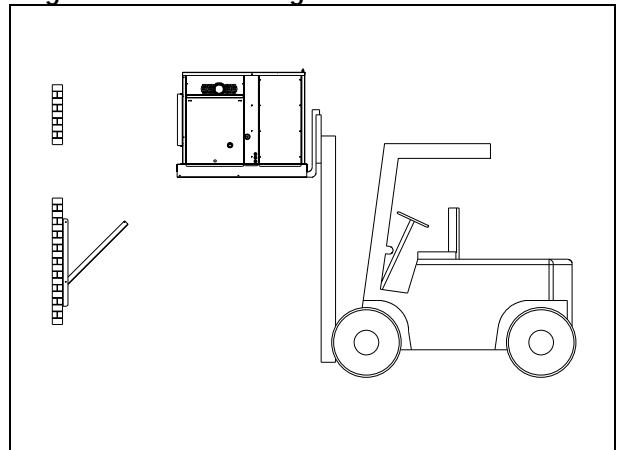
SECTION 5. INSTALLING THE UNIT

- 5.1 When installing outdoor appliances ensure the total outdoor elements of the installation will not jeopardise the integrity of the premises security.
- 5.2 Ensure that the structural elements, which will be used to support the appliance, are adequate to carry the weight of the appliance and its ancillary components i.e. the duct-work system.
- 5.3 When not using the wall brackets, a distance of 500 mm must be maintained between the deck on which the appliance is installed and any air inlet to the appliance.
- 5.4 Location where the air heater is to be installed must provide sufficient space around the heater for servicing and to allow the flue products to escape freely. Following minimum (and separated) distances must be maintained :
 - 1500 mm on the controls side of the appliance (see fig . 1b) and
 - 250mm above the unit.
- 5.5 When installed at ground level the entire installation should be protected by a fence to guard against damage and to protect the public from possible injury.
- 5.6 Ensure that the air heater is installed in a level plain and that the surface onto which it is installed is vibration free.
- 5.7 It is necessary to provide weatherproof seals between the appliance and the structural elements of the building.
- 5.8 Exposed ducting should be insulated and covered with a weatherproof membrane.
- 5.9 The duct connection to the appliance should be made using flexible connections to reduce noise transmission and allow for thermal expansion of the air heating module.

5.10 When siting the appliance and unloading, extreme care must be exercised to ensure that the forklift employed does not damage the casing. The weatherproofing will become unsealed should any damage be sustained.

The construction of the unit permits the handling with a forklift from the backside of the unit as illustrated by figure 5.

Figure 5 : The handling of the unit



5.11 DUCT CONNECTIONS

RPVE WM air heaters are designed to be used in conjunction with air intake and/or distribution ducting. Duct connection spigots are fitted to the air inlets and outlets. A positive seal must be made between duct sections and for the connection to the appliance.

Care should be exercised when designing ducting systems especially with regard to the application of restriction and direction turning fittings, i.e. elbows directly on to the air heater, doing so can cause an uneven and turbulent air flow across the heat exchanger resulting in heat exchanger hot spots and nuisance shut down of the gas burner due to regional overheating, thus activating thermal over-heat controls.

5.12 DUCT SPIGOT

Figure 6a : Dimensions of the (standard) outlet spigot measured at the front of the heater

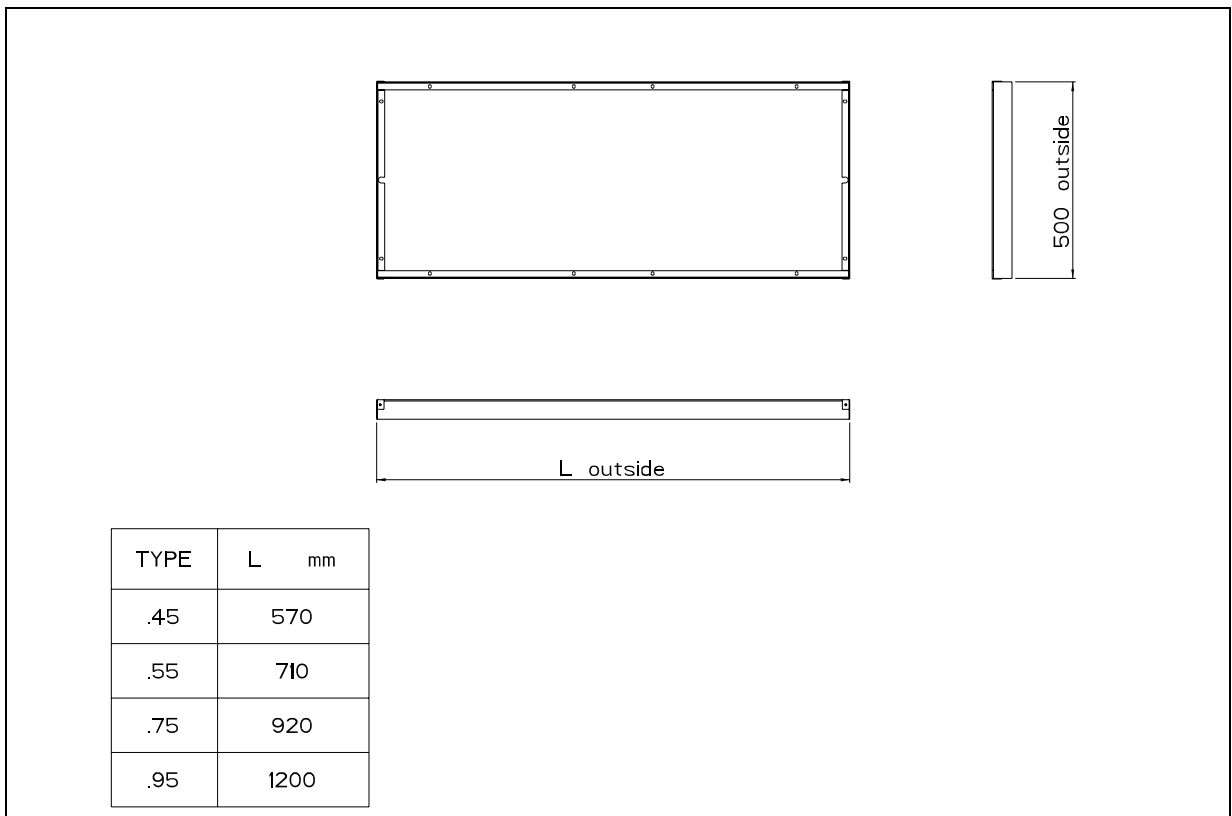
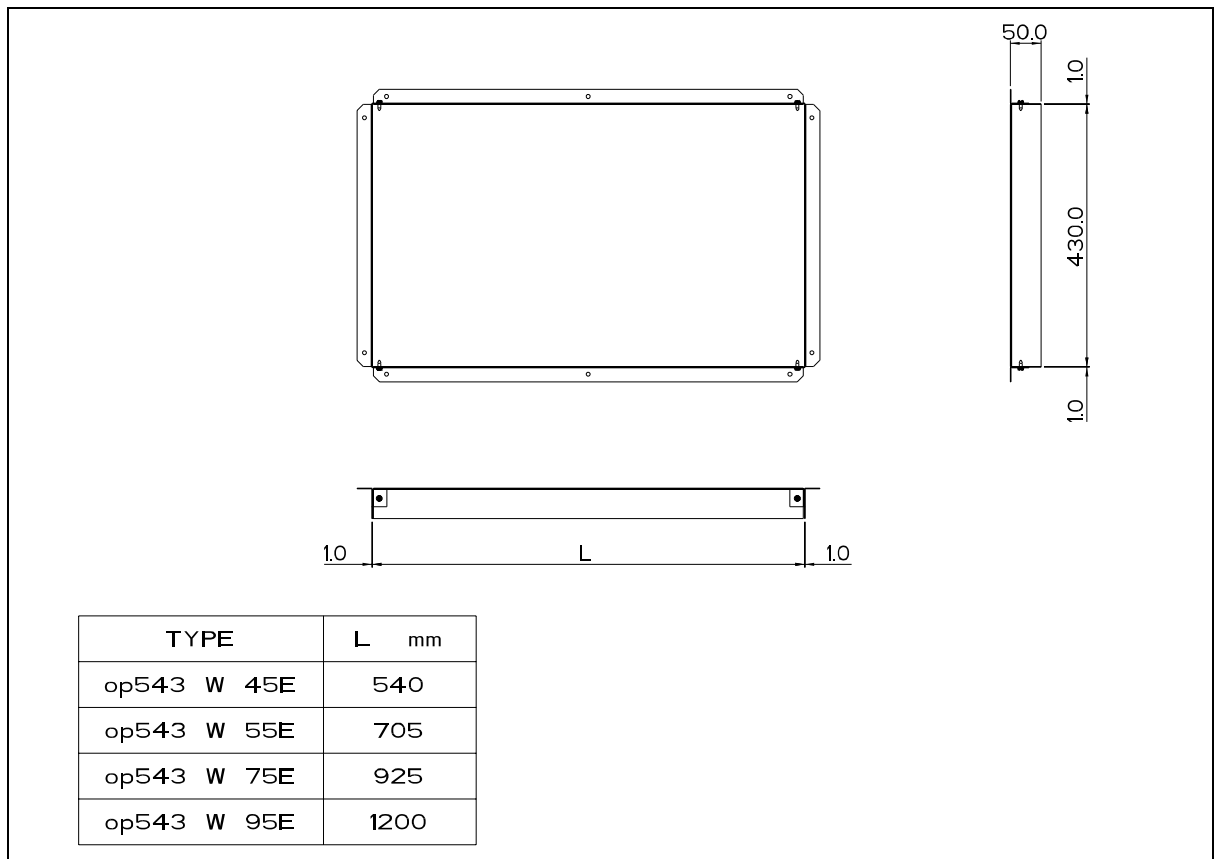


Figure 6b : Dimensions of the inlet spigot (option 543)
 (spigot is located at the inlet grill at the bottom side of the heater)



5.13 INTAKE HOOD

In case of ordering an RPVE WM air heater with the option 558, following 3 parts (2 side panels + 1 back panel) & a bag containing the required tapit screws to fix the intake hood, will accompany the unit when leaving the factory and are fixed inside the blower cabinet.

Ensure that, after taking out these parts, the blower cabinet is free of dirt and that all packing material has been removed.

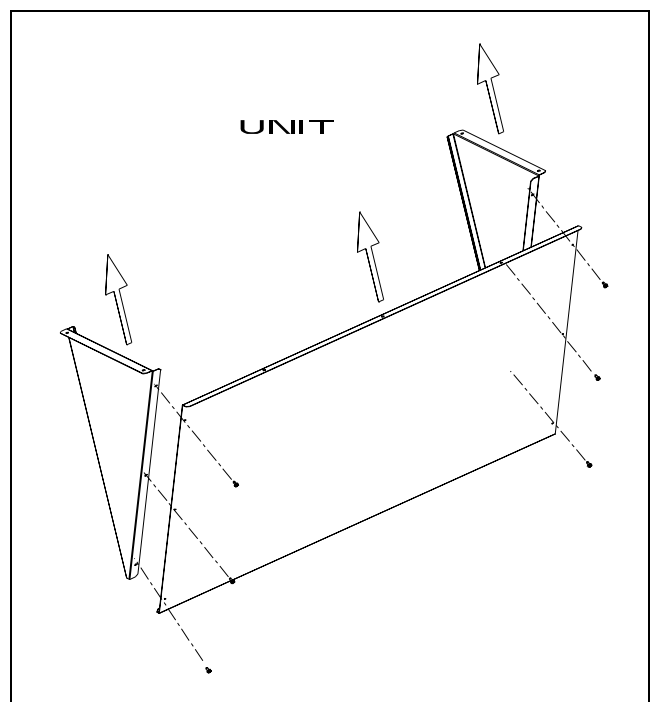
Figure 7 illustrates how the installer should proceed with the installation of the intake hood. Follow these instructions carefully.

P.S. :

There can only be started with the installation of the intake hood after the installation of the air heater

It is forbidden to let operate the heater in bad weather circumstances (e.g. strong wind, rain, ...).without the installation of the intake hood in bad weather circumstances

Figure 7 :

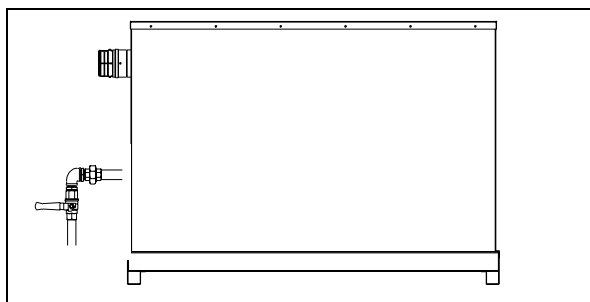


SECTION 6. GAS CONNECTION

- 6.1 Connection to a gas service may only be carried out by appropriately qualified persons. The gas installation must comply with the rules in force using materials appropriate for gas installations.
- 6.2 Check that the gas category is in accordance with the data described on the air heater.
- 6.3 An adequate gas supply sized to provide the dynamic pressure for the volume required for the air heater/s is essential to maintain the nominal heat input. Account of other gas fired plant using the same gas service must also be taken into account.
- 6.4 A 90° action, positive stopped gas service tap must be fitted adjacent to the appliance, fitted in a manner to facilitate appliance burner removal for servicing purposes, see figure 7.

Warning : never use a flame to test for gas soundness

- 6.5 Ensure that the gas service includes a filter and has been tested and purged in accordance with prescribed practice prior to commissioning and taking the appliance into service.
- 6.6 As a rule, gas service pipes should not be routed through air ducts. Should it be necessary to do so then pipe work joints must not be made within the air duct.



SECTION 7. ELECTRICAL CONNECTION

- 7.1 The electrical installation may only be carried out by appropriately qualified persons observing the rules in force.
- 7.2 Check the electrical specification is in accordance with the specification on the appliance data plate. A unique appliance wiring diagram is supplied as a separate document attached to this one plus an additional copy attached to the air heater.

NOTE:

During the burner ignition cycle the electrical current will exceed the values stated on the appliance data plate by 130W for a period of 45 seconds. Staged start up of burner modules may be necessary to accommodate this load on the appliance external wiring circuit.

- 7.3 RPVE air heaters must be earthed.
- 7.4 Ensure that when planning the controls circuitry, that power will be supplied at all time to the air heater, even when it is control switched in the "HEAT OFF" mode. This is necessary to ensure that the air circulating fan can operate independently of the heating control. Therefore, **NEVER** incorporate automatic controls that electrically isolate the appliance.
- 7.5 A separate lockable isolator for each air heater must be provided adjacent to the appliance and within the sight line of any person working on the appliance.

The isolator must have a contact separation of at least 3.0 mm on all poles. The isolator should be of the key operable type to prevent vandalism and to prevent switching by others thus placing anyone working on the appliance at safety risk.

- 7.6 Ancillary controls are required to provide timed heat cycles, room comfort temperature level, frost protection, override air circulation etc. These are not included with the air heater and must be ordered separately.
- 7.7 Dependent on the options fitted there may be a supplementary wiring box fitted within the blower section cabinet. Appliances with type 4.1 cabinets single phase electric's without a supplementary wiring box have the electrical connections made directly to the DIN rail terminals behind the burner compartment access panel.
- 7.8 Three phase appliances without the supplementary wiring box should be connected via the motor starter. The five wires fitted for the purpose of manufacturing testing and left installed must be removed and substituted for the supply line cables. In this case the wiring for the room thermostat and time control must be connected to the DIN rail terminals behind the burner compartment access panel.

7.9 If the supplementary wiring box is fitted then all of the wiring connections including the external controls are terminated in the box, whether it be a single or three phase appliance.

7.10 **NOTE:** When working on the appliance the electricity to the appliance must never be switched **OFF** before the room thermostat has been switched **OFF**, the gas valve has closed and the air circulation fan has stopped.

7.11 All cable and gas service entry points to the appliance must be sealed to prevent ingress of water.

7.12 If it is necessary to change the rotation of the blower to match the direction indicated on the blower housing then three phase motors can be altered by switching two phases of the line supply to the motor.

7.13 The centrifugal blower/s that are fitted to the RPVE appliances are of the forward curved type

therefore, the speed setting for the static pressure imposed by the air distribution system will govern the motor loading. All RPVE air heaters leave the factory with the drives set for the duty specified on the order. Table 4 provides the motor characteristics for the various sizes within the product range & table 5 shows the drives and motor selection for each unit.

7.14 Refer to section 8 to learn how to carry out adjustments necessary to alter the fan speed and motor load factors.

NOTE: RPVE's ARE SUPPLIED WITH THE EXTERNAL CONTROL CIRCUITS BRIDGED. THE AIR HEATER/S WILL OPERATE CONTINUOUSLY UNLESS THESE ARE REMOVED AND THE TIME AND TEMPERATURE CONTROLS SUBSTITUTED FOR THEM.

Table 4a Maximum load ratings for 4 pole motors: Single phase

Motor rating	kW	0.55	0.75
Phase	~	1	1
Voltage	V	230	230
Load rating	A	3.9	4.7

Table 4b : Maximum load ratings for 4 pole motors: Three phase

Motor rating	kW	0,55		0,75		1,1		1,5		2,2	
Phase	~	3	3	3	3	3	3	3	3	3	3
Voltage	V	230	400	230	400	230	400	230	400	230	400
Load rating	A	2,4	1,4	3,1	1,8	4,5	2,6	5,0	2,9	9,0	5,2

Table 5a : Drives & motor selection for standard units

Type	RPVE 2000				RPVE 2500 (low NOx)			
	2045	2055	2075	2095	2545	2555	2575	2595
Motor power (kW)	0.55	1.1	1.1	1.5	0.55	1.1	1.1	2.2
Motor pulley	VL40	VL44	VL44	VL44	VL40	VL44	VL44	R147
Blower pulley	SPA 160	SPA 125	SPA 140	SPA 140	SPA 160	SPA 125	SPA 140	SPA 125
Speed range (rpm)	550-800	820-1150	725-1025	825-1025	550-800	820-1150	725-1025	1075-1250
Nominal speed (rpm)	700	1025	950	900	700	1025	950	1100

Table 5b : Drives & motor selection per unit with inlet temperature sensing (see section 10)

Type	RPVE 2000				RPVE 2500 (low NOx)			
	2045	2055	2075	2095	2545	2555	2575	2595
Motor power (kW)	0.55	1.1	1.1	1.5	0.55	1.1	1.1	2.2
Motor pulley	VL40	VL44	VL44	VL44	VL40	VL44	VL44	R147
Blower pulley	SPA 160	SPA 140	SPA 150	SPA 160	SPA 160	SPA 140	SPA 150	SPA 150
Speed range (rpm)	550-800	730-1020	630-900	640-900	550-800	730-1020	690-960	880-1090
Nominal speed (rpm)	650	900	850	800	650	900	850	975

SECTION 8. COMMISSIONING, LIGHTING AND OPERATION

COMMISSIONING

8.1 Normally Reznor RPVE air heaters do not require commissioning. Final testing after production ensures that: **If installation has been carried out strictly in accordance with this document**, the appliance is ready to be taken into service.

NOTE: Outdoor commissioning work on RPVE appliances should not be undertaken during wet conditions, a second person must be available to provide assistance in the event of an emergency.

- 8.2 Checks to ensure;
- earth continuity
 - resistance to earth
 - phase supply to correct terminals
 - current rating and fuse value
 - correct supply gas pressure
 - correct burner gas pressure
 - satisfactory & smooth ignition

8.3 In addition to the above requirements checks to ensure that the fan performance and motor load factors are correct for the application and in accordance with the appliance data plate.

8.4 Drives general and adjustments

8.4.1 Wall-mounted RPVE air heaters are delivered with an adjustable motor pulley, whose adjustment is set following the 'nominal speed' line in table 5a/5b.

This setting assures the air volumes as shown in table 1, but only in case of a free-blowing unit with a standard air directing louvre mounted or another low resistance outlet/inlet device.

If the pressure drop is higher than 60Pa, the drive speed can be adjusted within the speed range limits of table 5. For the standard units fig. 9a to 9e can be used as a guidance for selecting the correct blower speed for the application. For units with option 607 (2 stage burner control with inlet air temperature sensor) fig. 10a to 10e can be used.

Every adjustment must be controlled by measurement of the motor current/load rating. This value must not be exceeded !

Attention: When changing the airflow to obtain a higher ΔT , the values mentioned in the table below must be respected, if not, damage can occur to the heat exchanger.

Type	..45	..55	..75	..95
min m ³ /h	2800	3600	4900	6500
max ΔT	41	41	41	41

8.4.2 The drive assembly of RPVE air heaters is guard protected to class IP20. Adjustment may be necessary to set the fan duty for the static pressure and motor load requirements. It is therefore, necessary to remove the access panels prior to making adjustments. Before commencing work on the fan assembly:

- Set external controls to off or their lowest setting.
- Turn **OFF** the gas supply to the air heater.
- Switch **OFF** the electricity supply to the air heater **after the air circulating fan has stopped**.
- Remove protection panels as necessary and carry out adjustments as appropriate.
- Before placing the appliance back into service or switching the fan on ensure that all protection access panels are replaced and secured.

N.B. Rotational speed checks should be carried out using an infra red tachometer or stroboscope.

A temporary panel is necessary to ensure that reliable readings are taken with the blower cabinet access panel fitted in position.

Be aware that clean and dirty filters will influence readings.

8.4.3 Adjusting the fan speed can be carried out by altering the diameter of the adjustable drive pulley.

- loosen the belt tension device and remove the drive belt.
- refer to figure 8 and note that the outer section of the drive pulley is secured by a hexagon socket grub screw to a flat on the pulley hub, this is positioned by loosening the grub screw sufficiently to enable the pulley to be either opened or closed by turning it on the thread on which it is engaged.
- it should be noted that one complete turn of the pulley half is equal to approximately 8% of the fan speed. Closing the pulley increases the speed and opening decreases the speed.

- after making speed adjustments tension belt in accordance with the dimensions given in figure 8 and check pulley alignment to ensure the belt runs correctly.

N.B.

Always ensure that the pulley is tightened onto a flat of the hub before switching on the fan, even when testing a reset condition.

8.4.4 Caution!

Opening the pulley too far will cause the belt to touch the bottom of the V groove resulting in greatly reduced belt life and loss of grip.

8.5 LIGHTING

- Ensure that air discharge grilles dampers etc. are set to open.
 - Turn on gas supply.
 - Switch on electrical supply.
 - Set time switch (if fitted) to an 'ON' cycle.
 - Set room thermostat to 'ON' position.
 - If reset button on remote control glows, press reset button.
 - Heater should now light automatically within 1 minutes. after a further period the air circulation fan should run, (see also below: "operation" point 8.6.6).
 - For a new installation or if the appliance has been turned off for an extended period then up to 3 attempts to light the air heater may be necessary.
- If the heater still does not light, consult the fault finding guide section 11.

8.6 OPERATION Refer to figure 16.

- 8.6.1 At the dictates of the external controls, an electrical circuit is made and the combustion air fan ("venter") runs.
- 8.6.2 Provided adequate air flow is proved, the fan will continue to run approximately 30 sec. (pre-purge period).

8.6.3 RPVE air heaters employ the direct burner ignition principle. A hot surface igniter will glow for about 15 seconds, after which time the gas valve(s) will open and the burner will be lit.

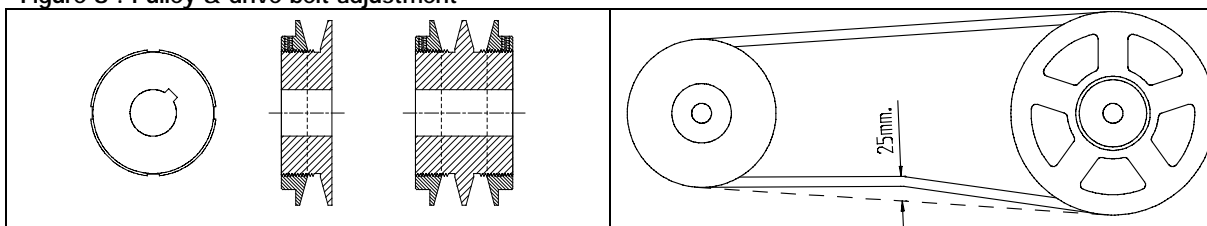
8.6.4 If the burner has not lit within 5 seconds, the electronic flame relay will switch off and lockout will occur. This will cause the signal lamp to glow in remote control. After 10 seconds the reset button on the remote control can be operated in order to reset the appliance.

8.6.5 Flame failure protection is by the ionisation principle i.e. the ability of a suitable flame to pass an electrical current between the igniter and the earthed burner assembly. To check the flame current is adequate, remove jumper between terminal 17 and 18 on the automatic burner control, connect a DC micro ammeter between the terminals. Ionisation current should be $\geq 2\mu\text{A}$.
Note: The terminals carry mains voltage when energised.

8.6.6 Simultaneously to the ignition circuit and gas valve circuit being energised, electrical power is supplied to an anticipator within the air circulation thermal fan control. The air circulation fan will start after about 2 minutes and warm air at a temperature of approximately 40°C is now discharged from the appliance. RPVE models can be fitted with a constant running fan feature therefore, the fan will run continuously throughout an appliance **ON** period at the dictates of a time switch.

8.6.7 In the event of the combustion air volume falling below a safe level, the burner will be extinguished a re-start cycle will commence after adequate combustion air volume has been restored.

Figure 8 : Pulley & drive belt adjustment



- 8.6.8 If the burner flame is extinguished for any reason during a run cycle, an automatic attempt for re-ignition will take place, if the burner does not relight then safety shut down and lockout will occur. Manual intervention to reset is necessary to put the air heater back into service.
- 8.6.9 In the event of overheating for any reason, thermally activated fail safe overheat controls operate to switch off the burner. The first control (LC1) switches off the burner and upon its cooling, automatically resets and the lighting sequence starts automatically. The second control (LC3) which operates at a higher temperature setting, will switch off the burner and itself set to a lockout condition which also requires manual intervention to reset to restore the heater to operational condition. A cooling time of about 1 minute is necessary before thermal re-setting can be carried out
- 8.6.10 When the set temperature or the heating time period has been reached, electrical power to the burner relay will be switched off and the burner will extinguish. The air fan will continue to run until the heat exchanger has been cooled down to a safe level, except for RPVE models fitted with constant run fan feature.
- 8.6.11 To turn off the air heater for a short period,
 a. turn room thermostat to lowest setting.
 To relight reset thermostat.
- For prolonged period;
 a. turn room thermostat to low setting,
 b. turn gas supply to the appliance off.
 c. switch off electricity supply to the air heater **after air circulation fan has stopped.**
- To relight follow lighting instructions.
- NOTE:** Air circulation fan will continue to run on RPVE models fitted with constant running fan until a timed cycle period expires. If it is required to turn **OFF** the fan then wait 5 minutes after the burner has been switched **OFF** then turn **OFF** at the electrical isolator to the appliance.
- 8.6.12 The gas service tap must only be operated in emergencies, for servicing or prolonged periods of shutdown of the air heater.
- 8.6.13 The model RPVE can be fitted with a two stage burner and duct thermostat. If the set point of the duct thermostat is reached the air heater will automatically switch to low fire 50% rate. If the low temperature set point is reached the burner will automatically be switched **OFF** the fan will continue to run see point 8.6.11 above.
- 8.6.14 When heat is called for the burner will always start at high fire rate regardless of the dictates of the control thermostat, this is to ensure that burner cross lighting takes place quickly and smoothly. If demanded to do so, switching to low fire will occur after approximately 3 seconds controlled by the delay relay K 1.2.

EXTERNAL PRESSURE versus AIRFLOW

Figure 9a : Wall Mounted RPVE 2045/2545

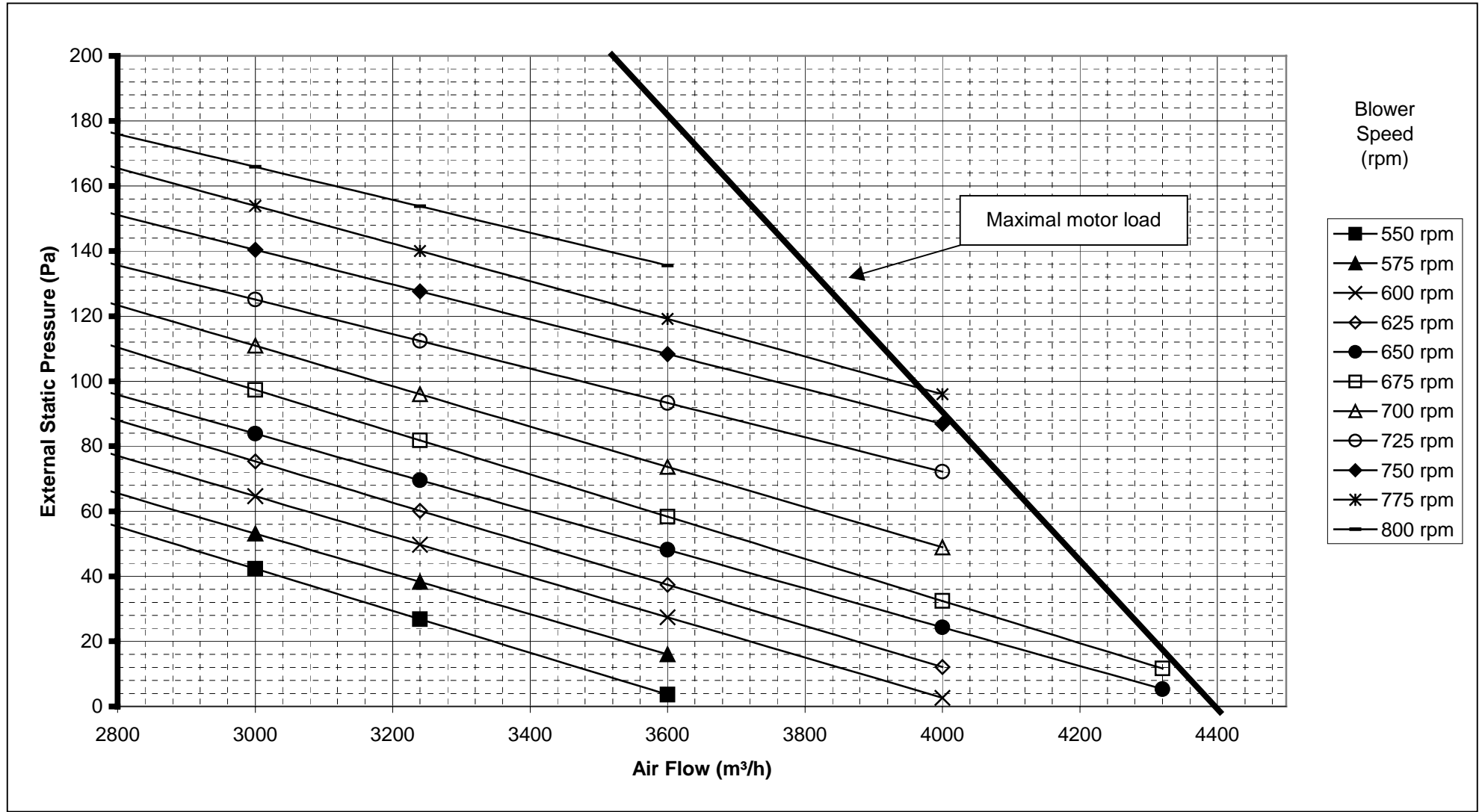


Figure 9b : Wall Mounted RPVE 2055/2555

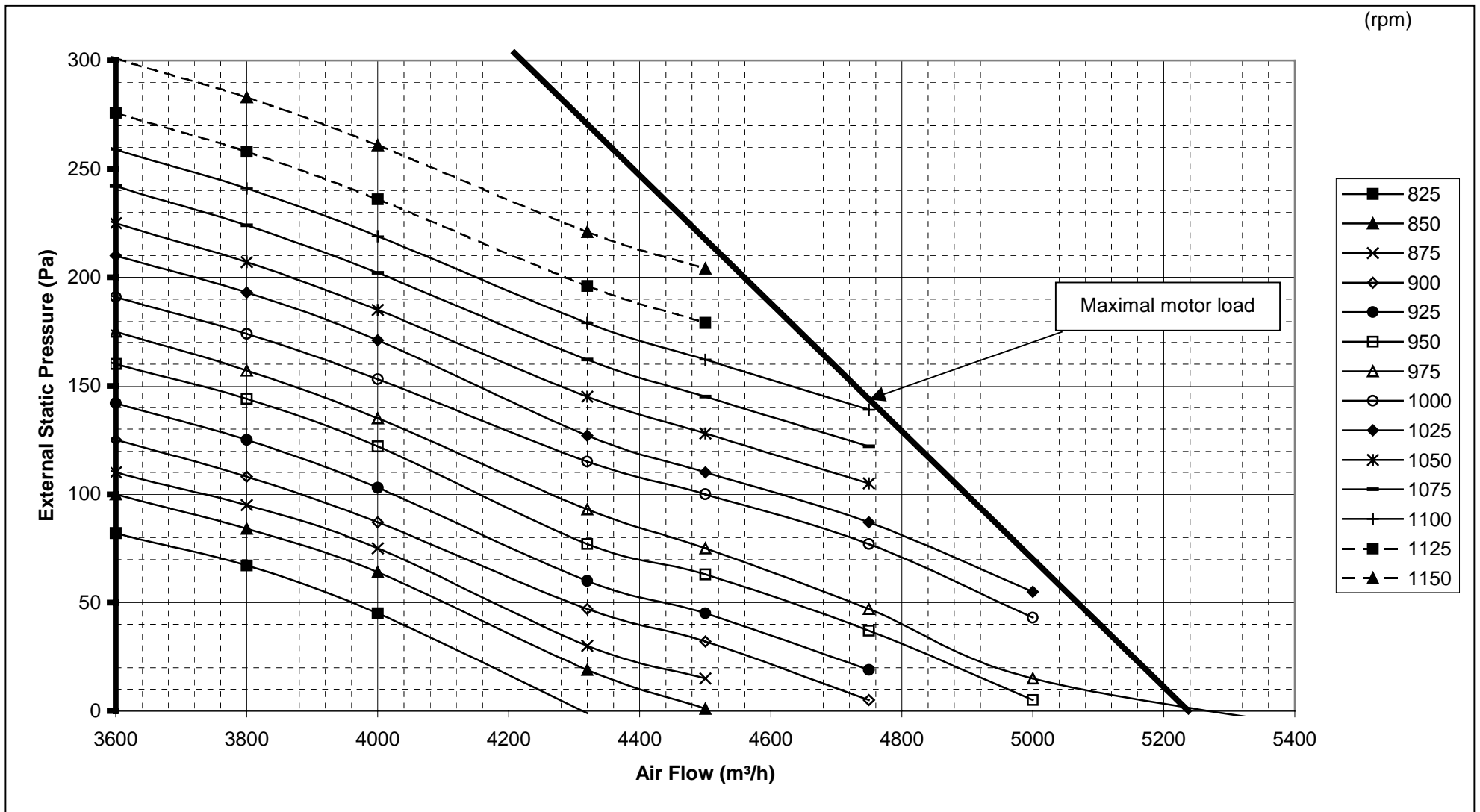


Figure 9c : Wall Mounted RPVE 2075/2575

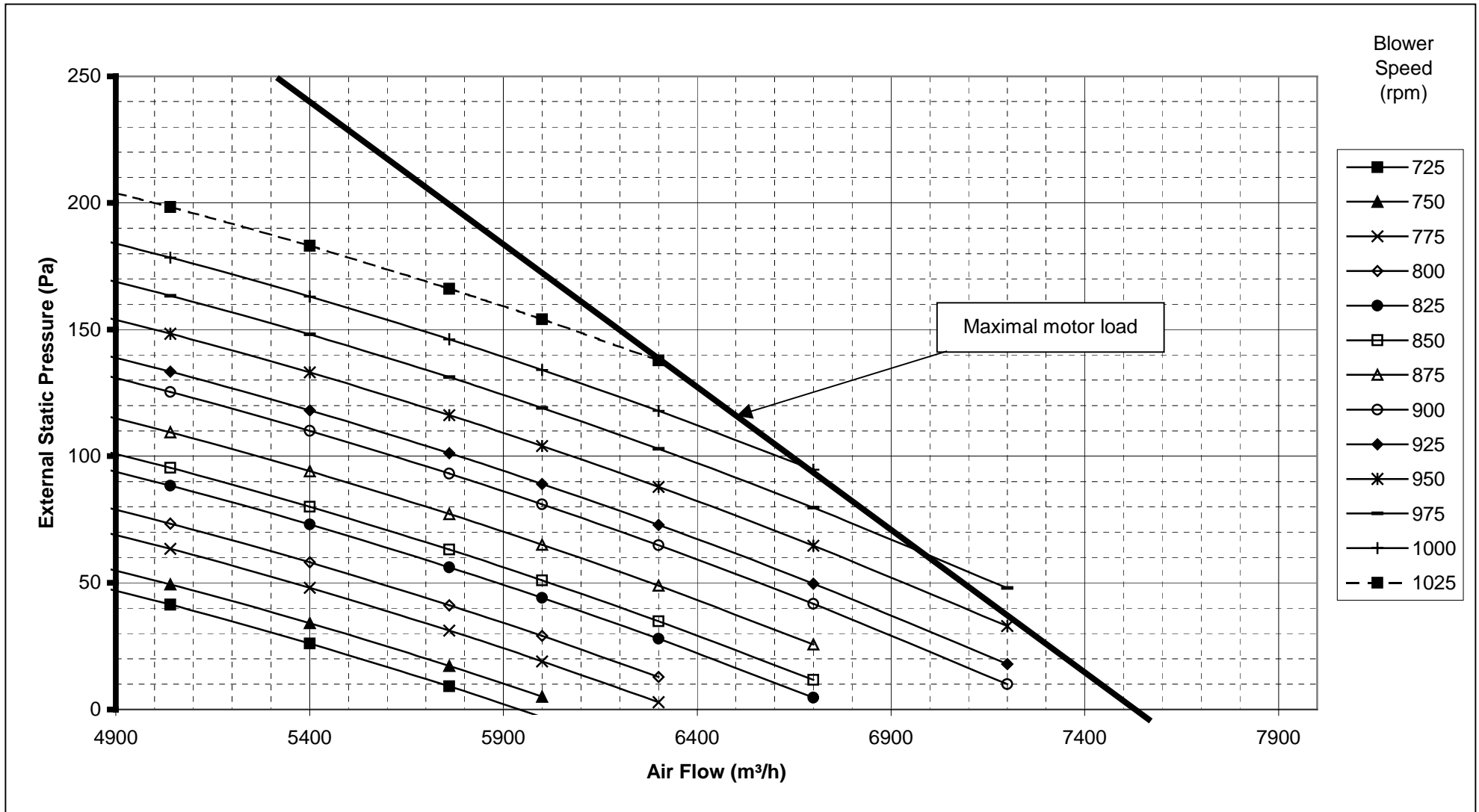


Figure 9d : Wall Mounted RPVE 2095

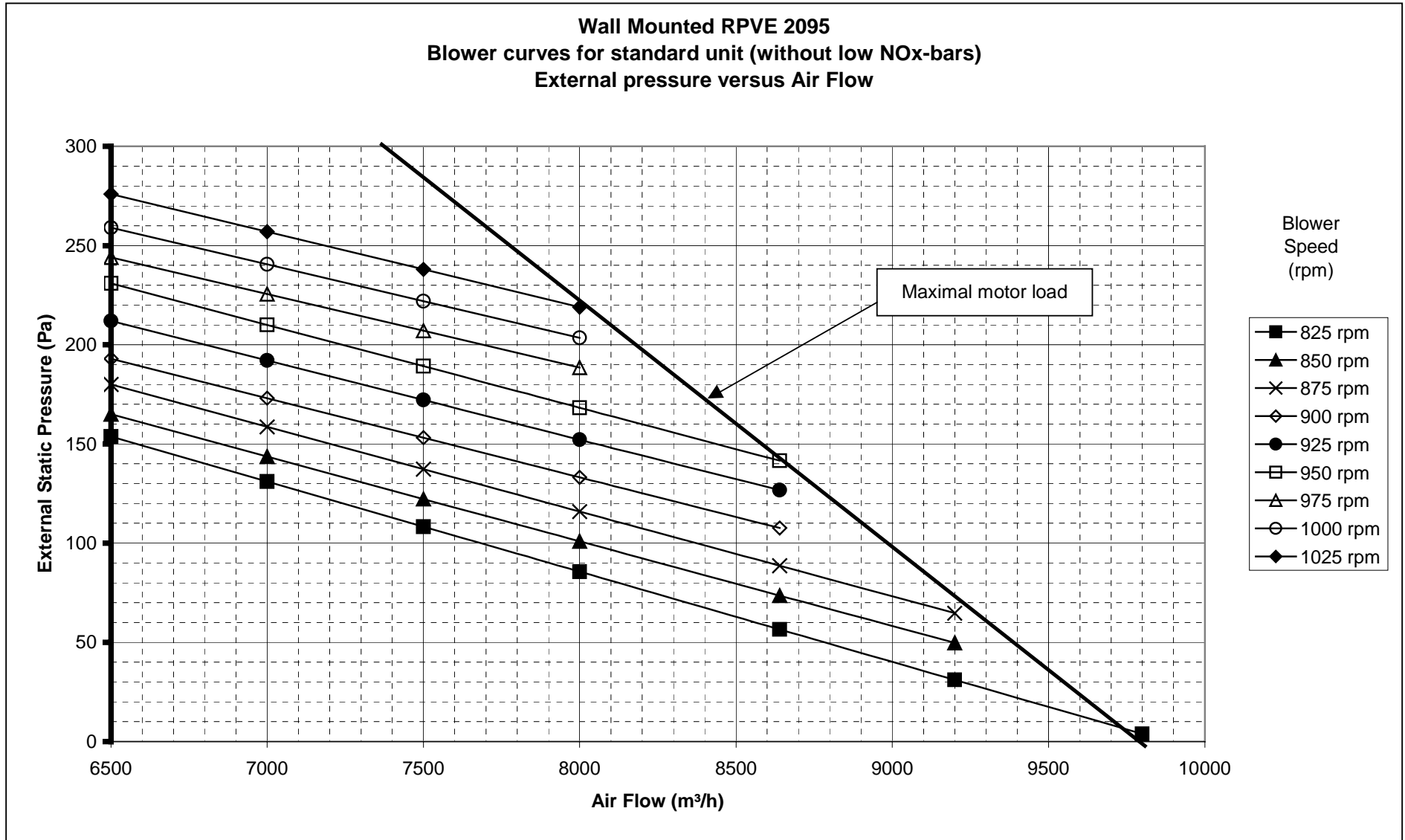


Figure 9e : Wall Mounted RPVE 2595

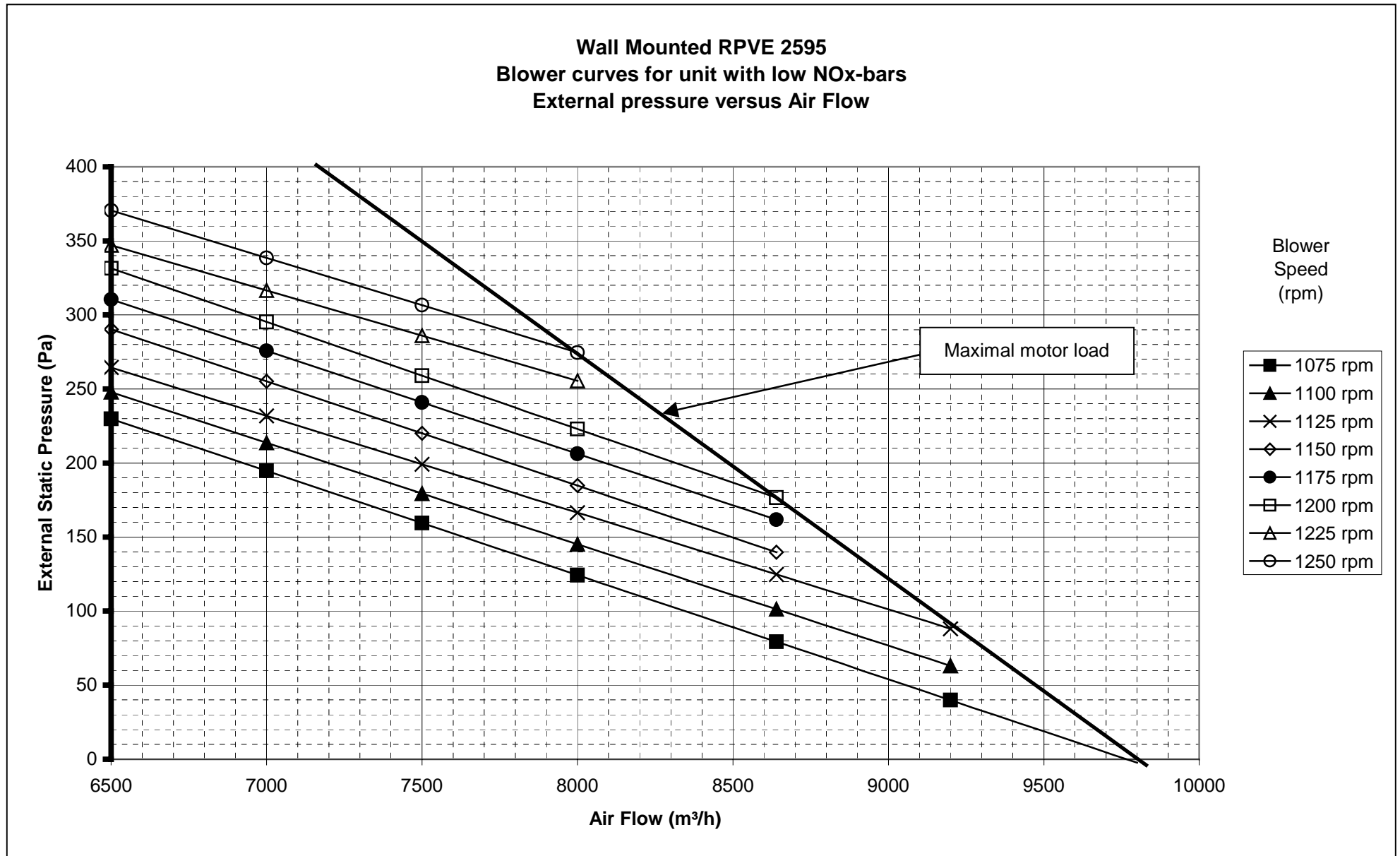


Figure 10a : Wall Mounted RPVE 2045/2545 with option 607.1

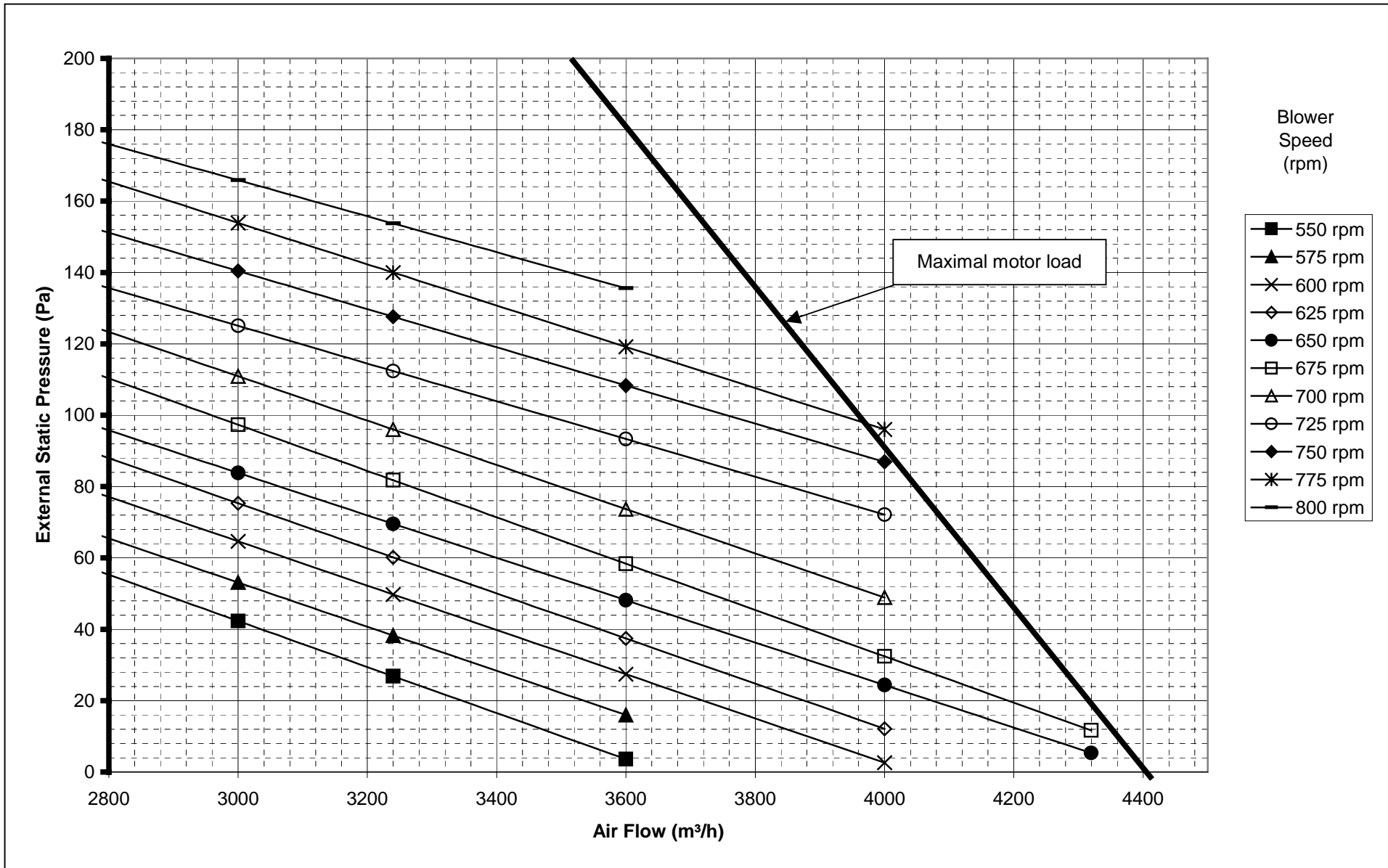


Figure 10b : Wall Mounted RPVE 2055/2555 with option 607.1

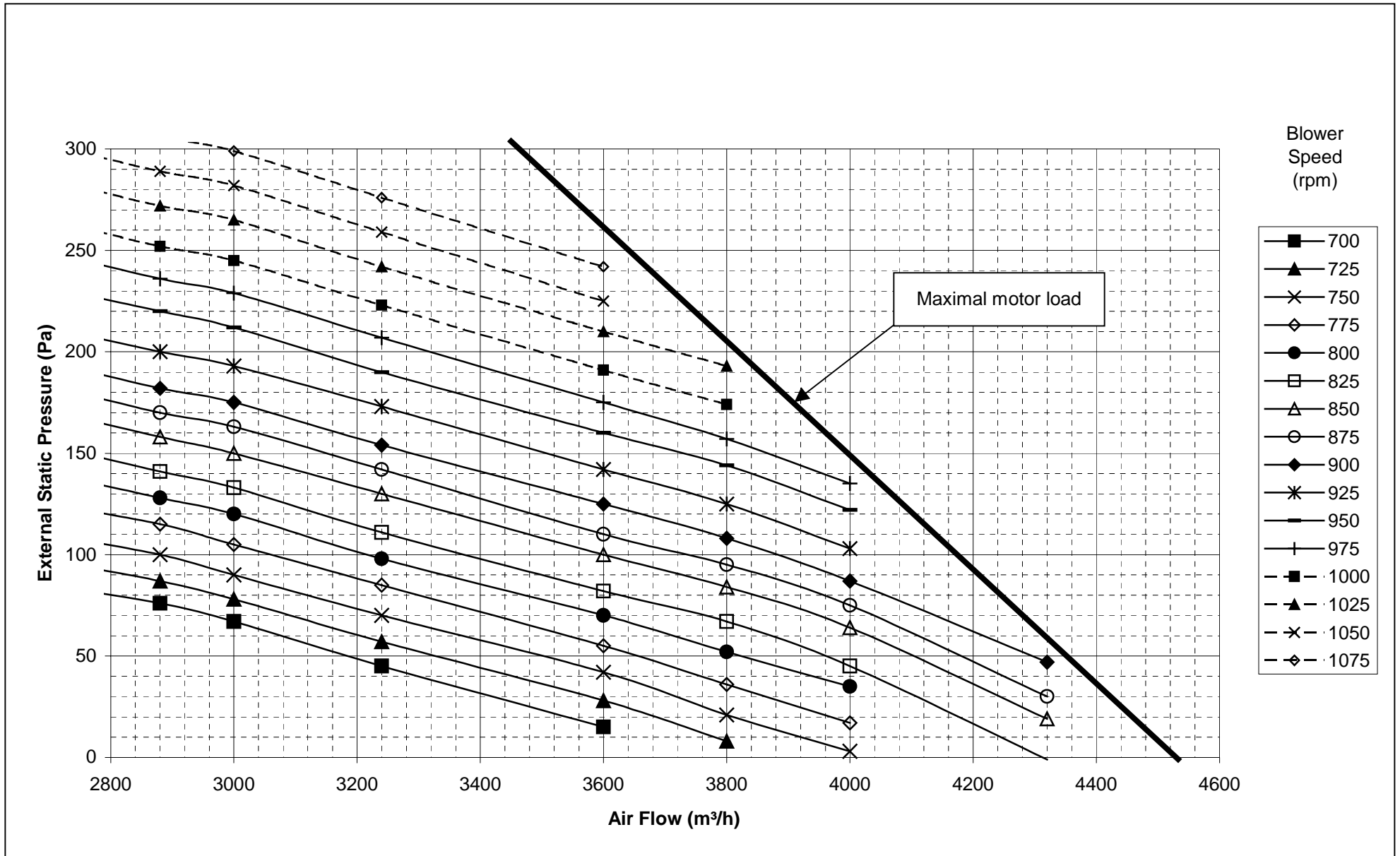


Figure 10c : Wall Mounted RPVE 2075/2575 with option 607.1

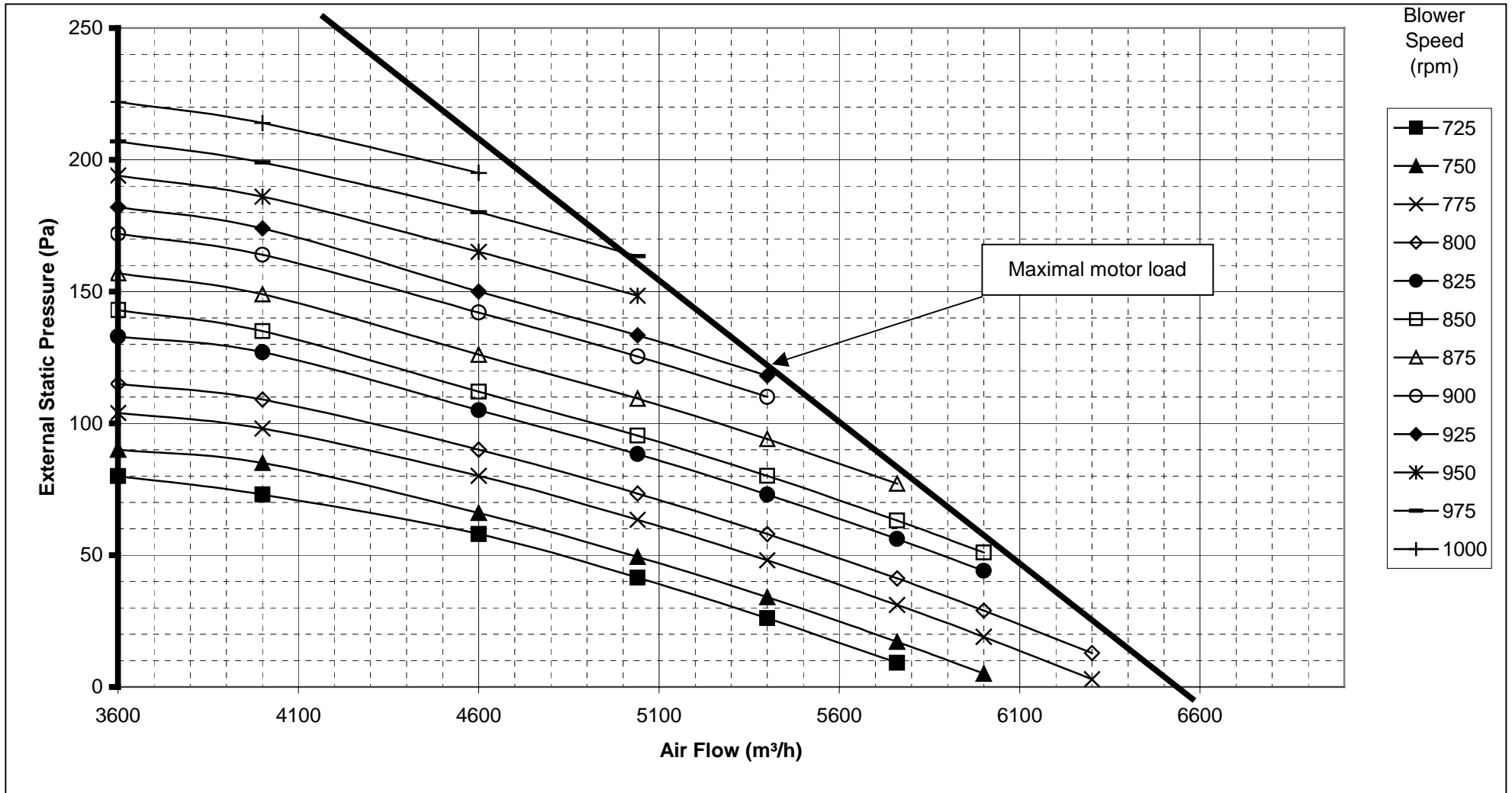


Figure 10d : Wall Mounted RPVE 2095 with option 607.1

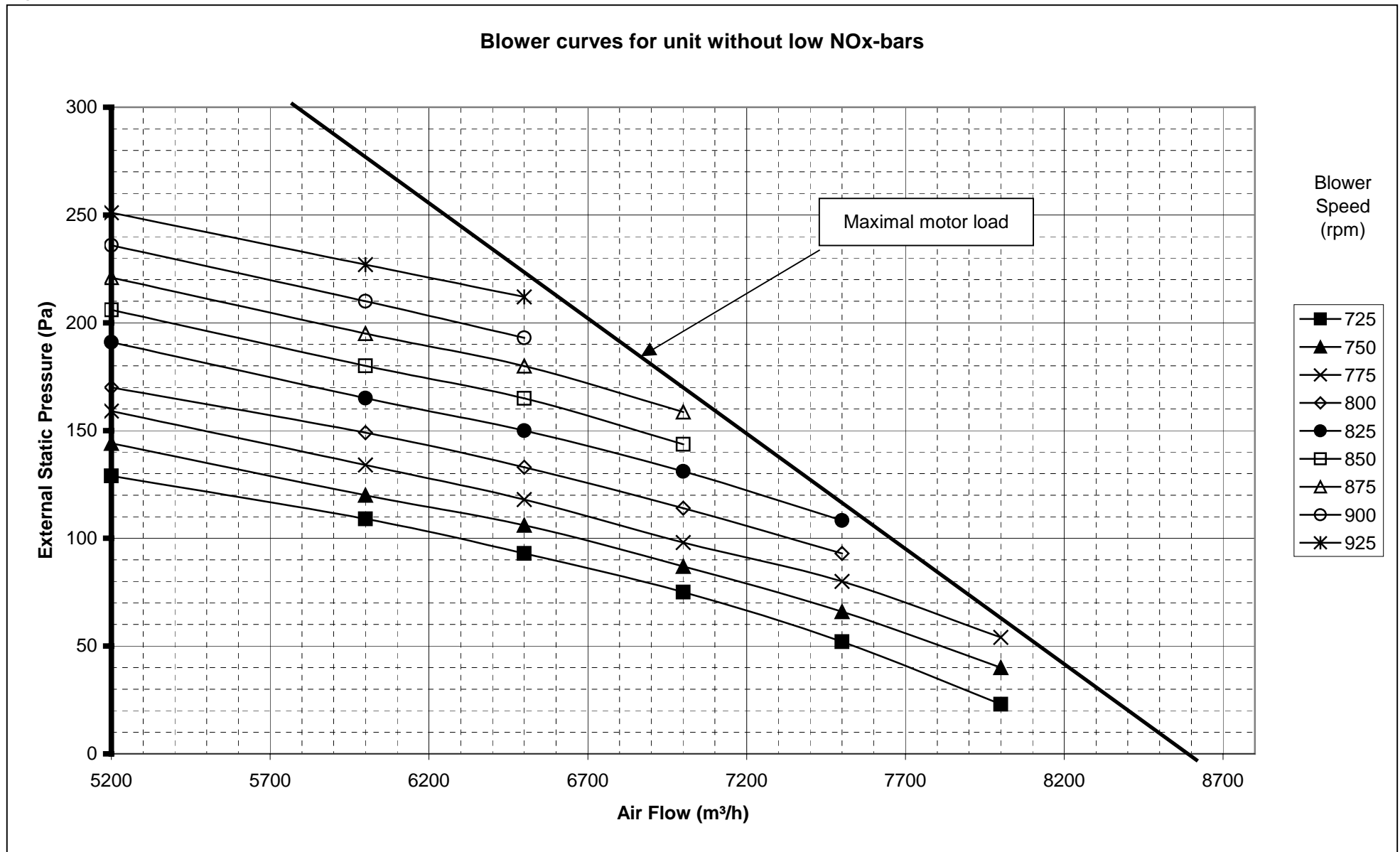
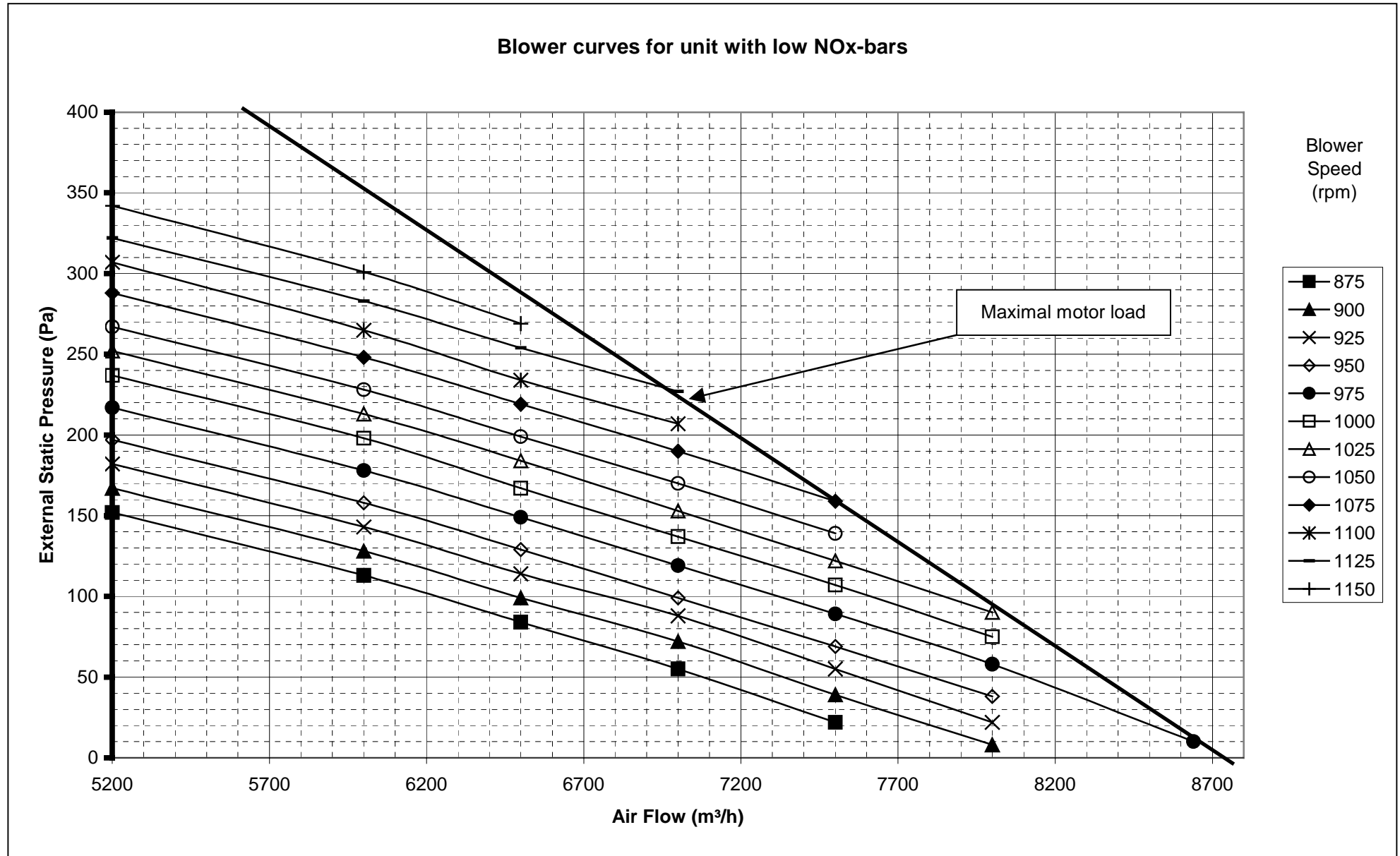


Figure 10e : Wall Mounted RPVE 2595 with option 607.1



SECTION 9 TWO STAGE BURNERS SETTING AND ADJUSTMENT

9.1 The RPVE series air heaters are equipped with two stage burners as standard specification. This feature is an option for the E version the type of gas control fitted is the "Honeywell" VR 4601P/B with V 4336A 2 stage regulating governor a two-stage pressure governor. Regulation is possible for the pressure range 2 - 20 mbar for natural gas and 4 - 37 mbar for propane/butane gas. The appliances are fitted with a relay to ensure that during burner start-up the initial firing rate is 100% to ensure good burner cross-lighting (see 6.6.14 above).

9.2 **Setting.** Refer to figure 11.

N.B. Allow time for pressure to stabilise before and during making adjustments.

- Lever off the plastic cover cap
- Maximum high rate setting **must** be adjusted first after which the minimum low rate setting can be adjusted. Any adjustment of the maximum setting influences the minimum setting.
- Do not adjust maximum or minimum settings above or below the pressures stated on the air heater data plate or table 6a/6b.
- Before commencing an adjustment connect a manometer to the burner pressure test point.
- Remove cover-cap from pressure governor

Adjusting maximum pressure setting

- Energise high/low regulator, set gas control in operation and wait until an outlet pressure is recorded on pressure gauge.
- Use a 6 mm hexagon wrench or a 10mm screwdriver to turn adjustment screw for **maximum** pressure setting clockwise to increase and counter-clockwise to decrease pressure until desired maximum pressure is obtained.
- Check maximum pressure setting several times.

Adjusting minimum pressure setting

- Disconnect electrical connection of high/low regulator.
- Set gas control in operation and wait until an outlet pressure is recorded on pressure gauge.
- If minimum pressure setting needs adjustment then use a 3.5 mm screwdriver to turn adjustment screw for **minimum** pressure setting, clockwise to increase or counter-clockwise to decrease pressure, until desired minimum pressure setting is obtained.
- Re-connect high/low regulator in circuit.
- Check **maximum** pressure setting, re-adjust if necessary and check minimum pressure again replace governor cap when finished.
- It is necessary to recheck pressure settings during the annual service of the appliance.
- Do not adjust maximum or minimum settings above or below the pressures stated on the air heater data plate or table 6a/6b.

Figure 11 : Two stage pressure adjustment

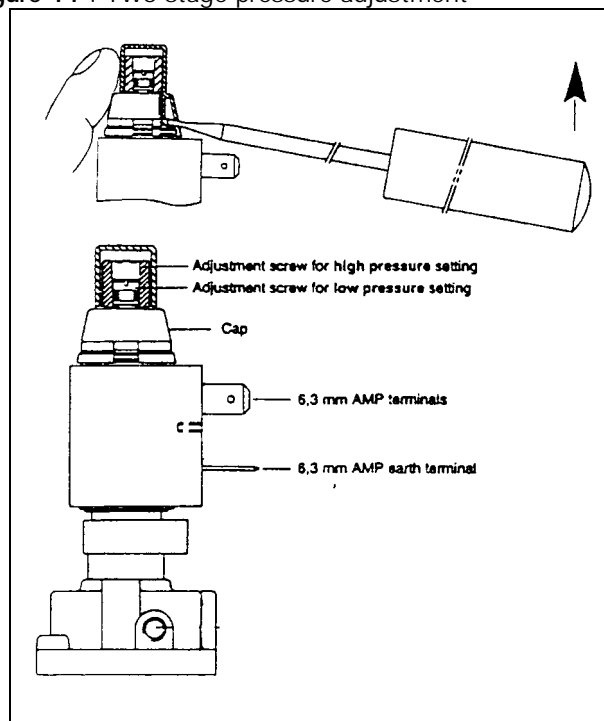


Table 6a. RPVE Models. High/Low burner gas pressures and low rate consumption values for standard units

RPVE				2045/46 2545/46	2055/56 2555/56	2075/76 2575/76	2095/96 2595/96
Burner Pressure	Pressure @ 100%	Nat. G 20	mbar	8,5			
	Pressure @ 100%	Bu. G 30	mbar	≈27	≈26.5	≈26	≈25.5
	Pressure @ 100%	Pro. G 31	mbar	≈36	≈35.5	≈35	≈34.5
	Pressure @ 50%	Nat. G 20	mbar	≈ 2,2			
	Pressure @ 50%	Bu. G 30	mbar	≈7,0			
	Pressure @ 50%	Pro. G 31	mbar	≈ 9,0			
Gas consumption @ 50% Reference 15° C, 1013 mbar	Nat. G 20 (1)	m³/h	2,38	3,05	4,15	5,50	
	But. G 30 (1)	kg/h	1,82	2,31	3,16	4,21	
	Prop. G 31 (1)	kg/h	1,78	2,26	3,09	4,13	

- 1 Natural gas G 20 calorific value 10.48 kWh/m³ @ 15° C & 1013 mbar
 Butane gas G 30 calorific value 13.70 kg/h
 Propane gas G 31 calorific value 14.0 kg/h

Note: Burner pressures for Butane/Propane gasses are approximate based on regulated supply pressure.
 Low fire rate must not be reduced below the values stated above for 50% rating.

Table 6b. RPVE Models. High/Low burner gas pressures and low rate consumption values for units with air temperature sensing (see section 10)

RPVE				2045/46 2545/46	2055/56 2555/56	2075/76 2575/76	2095/96 2595/96
Burner Pressure	Pressure @ 100%	Nat. G 20	mbar	8,5			
	Pressure @ 100%	Bu. G 30	mbar	≈27	≈26.5	≈26	≈25.5
	Pressure @ 100%	Pro. G 31	mbar	≈36	≈35.5	≈35	≈34.5
	Pressure @ 85%	Nat. G 20	mbar	≈ 6,0			
	Pressure @ 85%	Bu. G 30	mbar	≈18,5			
	Pressure @ 85%	Pro. G 31	mbar	≈ 25,0			
Gas consumption @ 85% Reference 15° C, 1013 mbar	Nat. G 20 (1)	m³/h	4,05	5,19	7,06	9,35	
	But. G 30 (1)	kg/h	3,09	3,92	5,36	3,58	
	Prop. G 31 (1)	kg/h	3,03	3,83	5,25	7,01	

- 1 Natural gas G 20 calorific value 10.48 kWh/m³ @ 15° C & 1013 mbar
 Butane gas G 30 calorific value 13.70 kg/h
 Propane gas G 31 calorific value 14.0 kg/h

Note: Burner pressures for Butane/Propane gasses are approximate based on regulated supply pressure.
 Low fire rate must not be reduced below the values stated above for 85% rating.

SECTION 10. RPVE MODELS WITH INLET AIR TEMPERATURE SENSING for 2 STAGE BURNER CONTROL (option 607.1)

- 10.1 RPVE wall mounted units with inlet air temperature sensing for 2 stage burner control are provided with a thermostat placed at the entrance of the blower cabinet. This thermostat controls the 2 stage function of the burner.
- 10.2 If the air inlet temperature exceeds the set point temperature of the thermostat, the 2 stage burner goes to low fire. In this case low fire stands for 85% of the maximum heat output (i.s. of the normal 50%).
- 10.3 When the air inlet temperature drops below the set point temperature of the thermostat, the burner goes to high fire (100% of the heat output) in order to achieve a higher temperature rise over the heat exchanger.
- 10.4 This higher temperature rise (according to the standard units built without option 607.1) is made possible by a reduced airflow (according to the standard units) as can be seen in the technical data listed in tables 1b/2b.
- 10.5 The drives and motors installed on RPVE wall mounted units with option 607.1 are listed in table 5b – the corresponding fan curves are shown in figures 9a to 9e.

SECTION 11. SERVICING

- 11.1 **For safety it is not recommended to carry our service work in wet weather conditions.**
- 11.2 **General**
Before commencing servicing, turn off the main gas supply and switch off the main electricity supply **after the air circulation fan has stopped.**
- 11.3 It is recommended that maintenance is carried out at least once a year. More frequent servicing may be required dependent upon the environmental circumstances where the air heater is installed. Regular inspection is necessary, especially in dirty environments, to assess the servicing frequency.
- 11.4 Check for security and worthiness of the appliance mounting system, gas service and electrical service.
- 11.5 To gain access to the controls and flue gas fan assembly refer to figure 11.
- remove screw securing the gas inlet seal plate key 5;
 - unlatch cam fastener key 3, 3 turn counter clockwise, remove burner access panel;
 - remove screw securing seal plate around the flue outlet on the upper panel key 2;
 - remove screws in the outlet pipe behind the above referred cover;
 - push panel downwards to remove.
All controls, electrical and flue gas components are now accessible.
- 11.6 Clean both panels thoroughly and ensure that water drain holes, combustion air inlet and flue are unblocked.
- 11.7 Remove all dust and dirt from combustion air fan (venter) see figures, 13 & 15. If dismantling venter observe critical dimension from figure 14 when re-assembling. Note that the venter motor is lubricated for life and does not require greasing.

11.8 Inspect hot surface igniter fig.16 replace if in doubt about its condition.

Note: The igniter device is fragile, therefore, handle carefully.

11.9 Inspect and clean the burner assembly, refer to fig.15 for how to remove the burner.

11.10 Inspect heat exchanger and clean as necessary. This can only be done after removing the burner assembly. The inside of each element of the heat exchanger can be cleaned by use of a soft brush and compressed air.

11.11 Clean burners and gas jets with soft brush and compressed air. To prevent damage, do not use hard objects for cleaning the gas injectors. Solid and/or sticky deposits should be removed using acetone as a solvent.

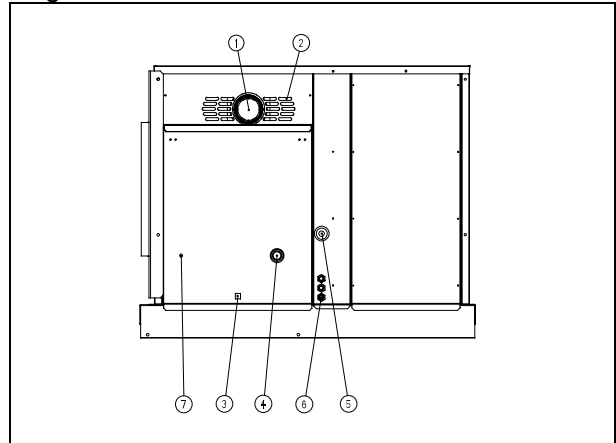
11.12 Upon completion of any service work it is necessary to recommission the appliance in accordance with the step procedure described in section 6.2 of this document.

11.13 To remove the combustion air fan;

- disconnect electrical connections to fan motor;
- remove motor and fan wheel 3 screws;
- withdraw motor/fan impeller assembly sideways;

- clean fan housing;
- check, clean or replace motor and/or fan wheel;
- replace parts in reverse order after checking dimensions given in figure 14.

Figure 12. CONTROLS ACCESS KEYS



Legend

1. Flue outlet
2. Combustion air inlet
3. Burner access panel fastener
4. Burner inspection port
5. Inlet gas connection
6. Inlet electrical connection
7. Combustion air inlet sample point (DE + AT)

N.B. RPVE APPLIANCES WILL ONLY OPERATE WITH ALL PANELS CORRECTLY FITTED

FIGURE 13. FLUE GAS FAN (VENTER) ASSEMBLY DETAILS

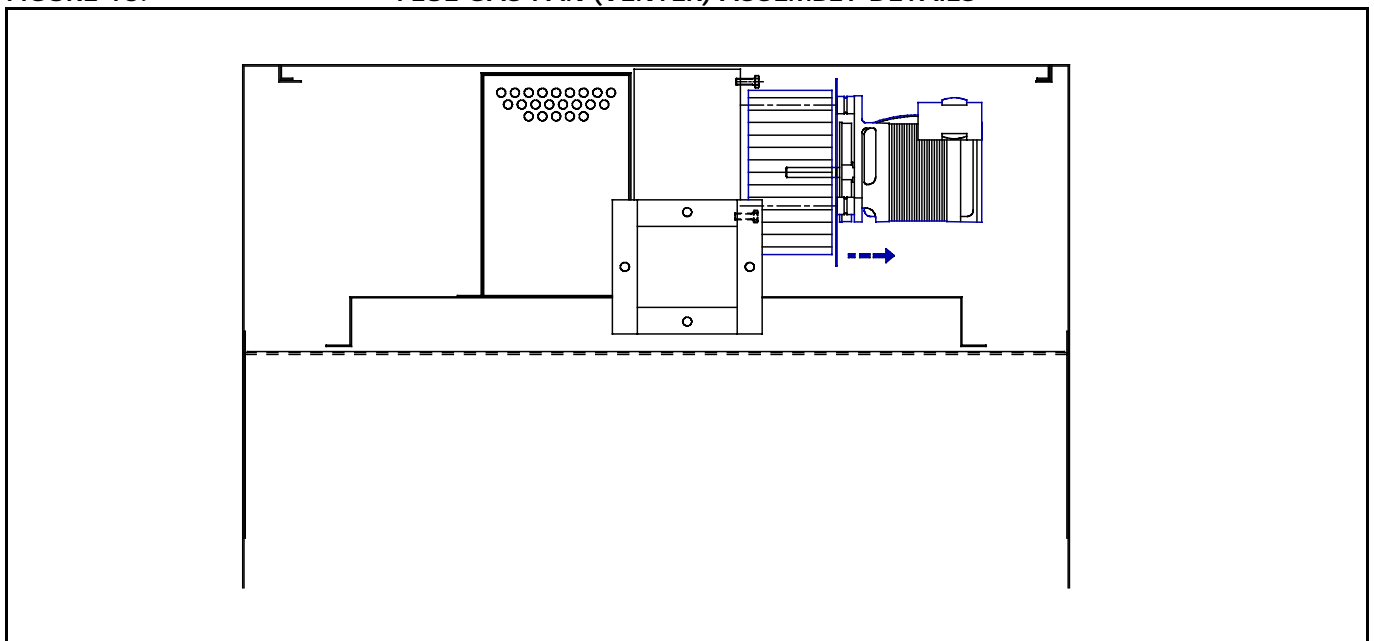


FIGURE 14. VENTER CRITICAL DIMENSIONS

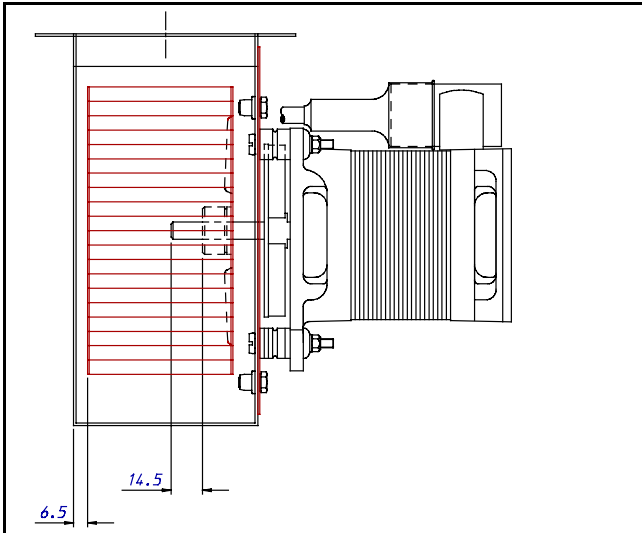


FIGURE 15. BURNER REMOVAL DETAILS

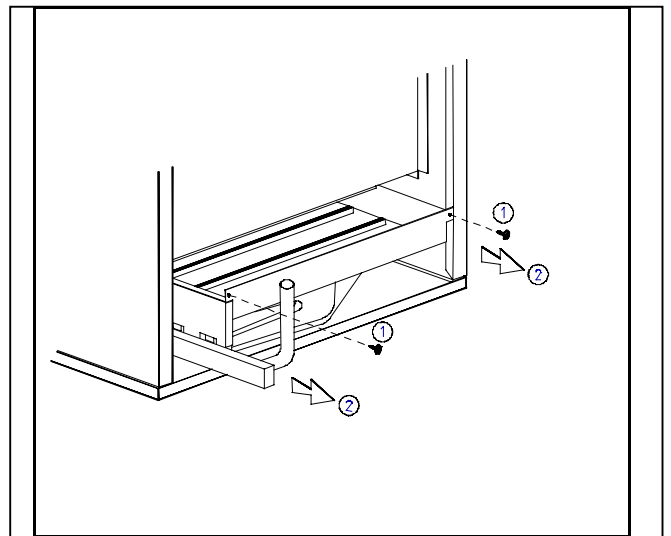
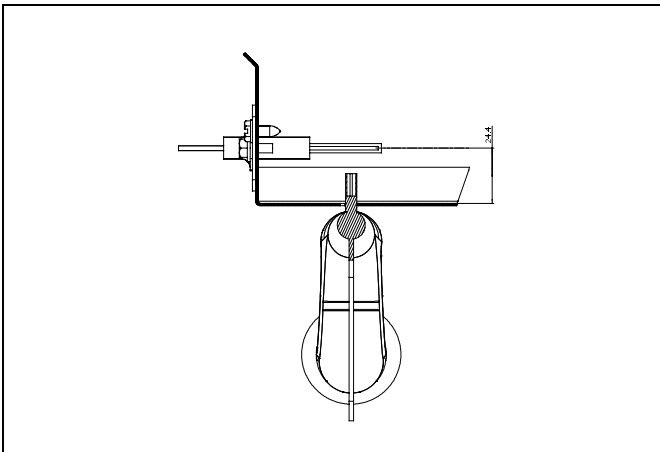


FIGURE 16. HOT SURFACE IGNITER

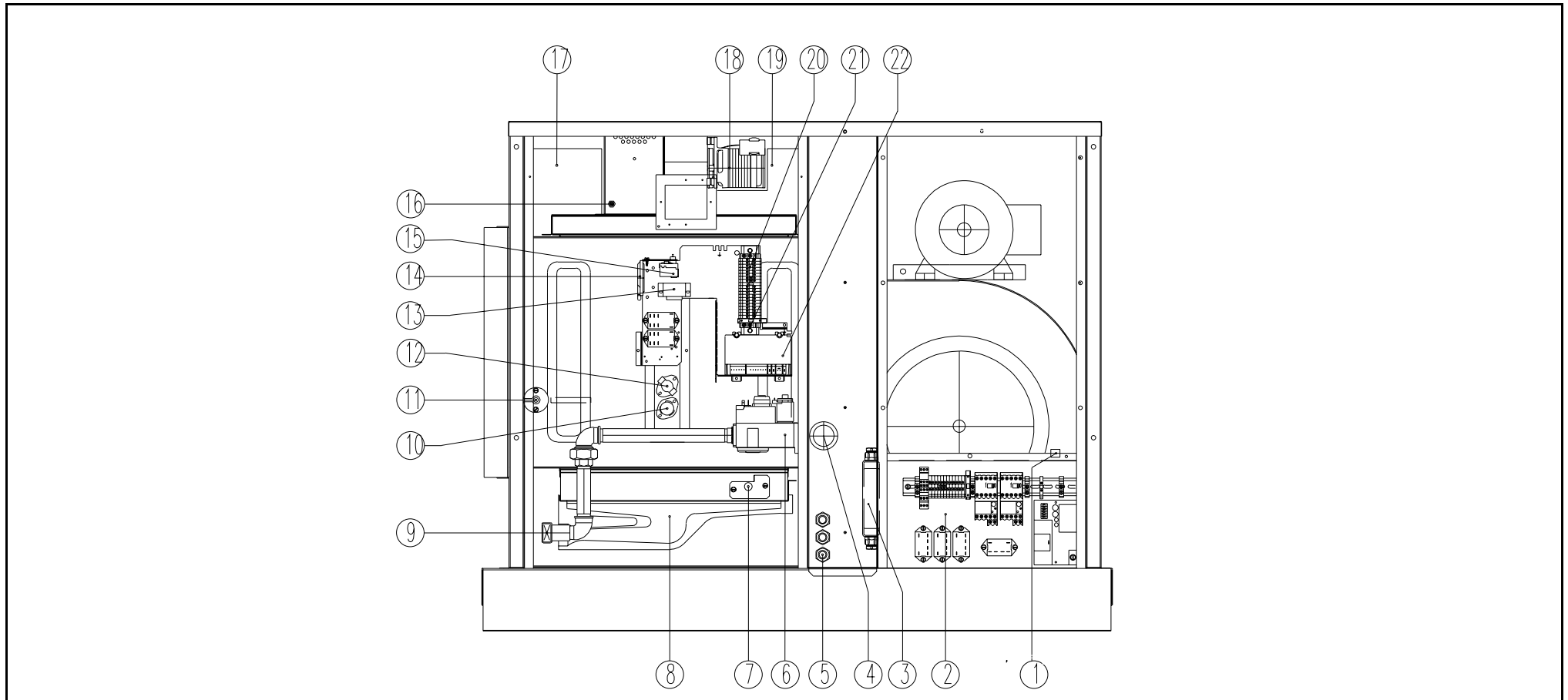


TO REMOVE THE BURNER ASSEMBLY

1. Disconnect burner manifold at union provided
2. Remove igniter assembly from burner tray
3. Remove two (2) screws securing the burner
4. Withdraw burner tray by pulling forwards

FIGURE 17.

PARTS LOCATION DIAGRAM



Legend figure 15

- 1. Air flow proving device
- 2. 3 phase motor starter & overload
- 3. Supplementary wiring box 3 phase
- 4. Gas inlet Rc 3/4
- 5. Electrical & controls inlet
- 6. Multi-functional gas valve
- 7. Hot surface ignition assembly
- 8. Burner ribbon

- 9. Burner manifold & test nipple
- 10. Thermal fan control
- 11. Overheat control LC3 capillary
- 12. Thermal over heat control LC1 (LC2)*
- 13. 3VA trafo
- 14. Combustion air proving device
- 15. Thermal overheat control LC3
- 16. Combustion air pressure reference point
- 17 & 19. Combustion air baffles

- 18. Flue gas fan (venter)
- 20. Main terminal rail
- 21. Fuse
- 22. Automatic burner control

SECTION 12 FAULT FINDING

12.1 Burner does not ignite

- Thermostat set too low or time switch not correctly set - no power to terminals 2 and 5;
- fuse F3 has blown - no power to terminal 2 and LC3;
- reference tube to differential air pressure switch S3 is not airtight or blocked - (condensation ??);
- faulty differential air pressure switch S3 - no power to terminals 2 and 13;
- burner relay in lockout (point 2 below) or faulty;
- faulty combustion air fan M3 (venter);
- faulty limit control LC1 - no power to terminal 2 and LC1;
- overheat control LC3 in lockout - no power to terminal 2 and LC3 - Reset manually;
- faulty 2 pole relay (2 stage only)
- faulty motor starter (3 phase only)

12.2 Flame relay in lockout

- Air in gas service - purge;
- low gas pressure - adjust;
- faulty hot surface igniter;
- faulty differential air pressure switch;
- gas valve does not open - no power to terminals 2 and 7;
- insufficient ionisation flame current - ionisation current $\geq 2\mu\text{A}$;
- incorrect wiring of mains input line, neutral, earth.

12.3. Combustion air fan (venter) does not start

- Faulty motor or capacitor;
- faulty burner relay;
- differential air pressure switch S3 still in normal run position has not changed over;
- faulty fuse F3.

12.4 Differential air pressure switch switches burner off

- Switch-point should be - ON 102 Pa, OFF 94 Pa-
- no differential pressure in flue gas system - check air inlet;
- faulty combustion air fan or capacitor;

12.5 Appliance does not provide sufficient warm air

- Check gas inlet pressure;
- check burner pressure;
- gas filter (if fitted) dirty or blocked;
- limit control (LC1) switches burner off (see 8.6);
- differential pressure switches relay off (see 8.4);

12.6 Limit control LC1 switches burner off

- Switch temperature 51,5 °C;
- insufficient air flow;
- air distribution grilles or dampers closed;
- burner overload - check burner and inlet gas pressures;
- fan control switch faulty;
- check fan rotational direction;
- air temperature at fan inlet too high ?
T max. 30 °C (see 8.6).;
- thermal contact in fan motor switches off intermittently.

12.7 Limit control LC3 switches

- Switch temperature 96 °C (+ 0/-5);
- check location and security of capillary and probe;
- air discharge temperature too high (see 8.6);
- faulty limit control LC1;
- air fan stops immediately after burner is switched off; incorrect control/s wiring;
- faulty fan control (FC).
- faulty motor starter
- incorrect setting of motor starter over-load

12.8 Air fan does not start

- No power to terminals 2 and 11;
- faulty fan control (FC);
- faulty motor or capacitor;
- thermal over-load in motor switching.
- faulty motor starter
- incorrect setting of motor starter over-load

12.9 Fan starts and stops intermittently while burner is on.

- Faulty heat anticipator (FCR) in fan switch (RPVE only);
- thermal over-load in motor switching;
- inlet ambient air temperature too low - T min. < 5 °C.; will correct as space temperature rises;
- faulty wiring connection - loose terminals!.

SECTION 13. SPARE PARTS LIST

13.1 GAS SECTION

DESCRIPTION	PART NUMBER	MFGS.REF.	APPLICATION
Gas valve	03 25136	Honeywell VR4601AB	All
Gas valve	03 35136	Honeywell VR4601PB	All 2 stage
Gas jet Main burner	07 25801 024	dia 2,4 mm	2045 6 2095 NG
Gas jet Main burner	07 25801 135	dia 1,35 mm	All LPG

CODES: NG = Natural gas G20 LPG = Butane gas G30 or Propane gas G31

13.2 ELECTRICAL SECTION

DESCRIPTION	PART NUMBER	MFGS.REF.	APPLICATION
Thermal fan control FCR	03 25166	TOD29T12 (250V)	All
Thermal over-heat control (limit) LC1/LC2	03 24970	TOD60T11	All
Thermal over-heat control LC3	03 24959	limit 96° C	All
Combustion fan motor	11 43426 01	Drouard-Tec CP 78	All
Combustion circuit pressure switch	30 60607 94	Honeywell C6065 FH 1193	All
Automatic burner control	03 25317	Honeywell S4570LS	All
Hot surface igniter assembly	36 25217	Norton 240V	All
Two pole relay K1.2	30 61738 240V	Omron G7L2A	All two stage burners
Wiring harness for burner control	06 41531 HGC	----	All
Wiring connector for igniter device	06 41531 HGC	----	All
Wiring harness for two stage burners	06 41621	----	All
Wiring terminals	06 41635	Entrelec	All
Reset switch/burner fail lamp	60 61988	----	All
Isolation transformer (not GB)	30 61610	3VA-E11TF102	When applied

13.3 AIR HANDLING SECTION

DESCRIPTION	PART NUMBER	MFGS. REF.	APPLICATION
Centrifugal blower	02 25753 01	BDC 321-321	2..45/46 + 2..55/56
Centrifugal blower	02 25754 01	BPC 270-270	2..75/76
Centrifugal blower	02 25756 01	BPC 321-321	2..95/96
Fan motors	Specify: kW rating - 1 or 3 phase & shaft size when ordering		

13.4 MISCELLANEOUS

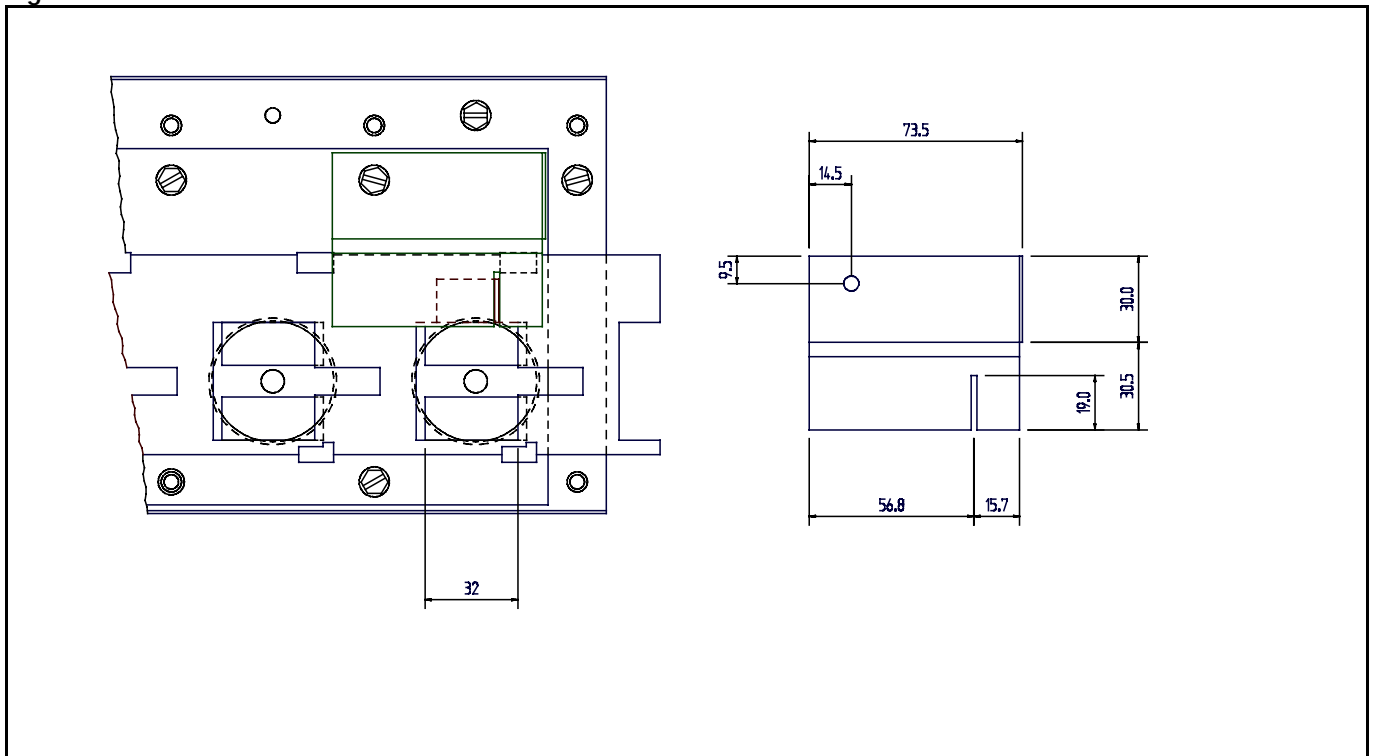
DESCRIPTION	PART NUMBER	MFGS. REF.	APPLICATION
Combustion air fan + impeller assy (+ wheel)	36 79090	Drouard-Tec	All
Sampling pressure test point	07 25811 02	M8	All
Silicon tubing	06 20224 cm	dia 5-8 mm x 1.0 m	All
Combustion fan assembly gasket	11 44696	---	All
Capillary seal plate assembly	08 07727	---	All

ALWAYS QUOTE MODEL SIZE/TYPE & SERIAL NUMBER WHEN ORDERING SPARES

SECTION 14. GAS CONVERSION

- 14.1 This air heater is designed to operate on natural, propane or butane gas and will be supplied as ordered for the gas type specified. In the event it is required to convert to a different gas type to that which has been supplied, conversion of the gas burner must be carried out.
- 14.2 A Reznor approved conversion kit to suit the appropriate gas type must be used.
- 14.3 In addition to changing the burner injectors, and adjusting the gas pressure, sealing a governor or fitting a blanking plate it is necessary to fix data plate over stickers as supplied with the conversion kit of parts.
- 14.4 After conversion re-commission appliance according to section 9 of this document.

Figure. 18 BURNER AIR SHUTTER AND SETTING DIMENSION for all GASES UK & IE



SECTION 15. HEALTH & SAFETY STATEMENT

Health and Safety Information for the Installer and Commissioning-Service Engineer

Under the Consumer Protection Act 1987 and Section 6 of the Health and Safety at Work Act 1974 we hereby provide the following information on substances hazardous to health.

Product range reference RPVE 2000 Series air heaters.

15.1 Cautionary note

During first firing some smoking may occur, this is due to the burning off of protective/lubricating oils used during appliance production. Most of this will have been removed during the production testing process. It is a wise precaution to ensure that adequate ventilation is provided during the initial firing and throughout the commissioning period, this is particularly important if the discharge air is to blow into a confined space. This smoking does not constitute a poison hazard.

15.2 Declaration

Reznor products contain no asbestos; copper is not employed in gas carrying components; solder which has a melting point below 450°C is not used; paints for corrosion protection and decoration are heat cured and contain no lead.

The above appliances meet the Electrical Safety requirements of EN60 335 Pt. 1 1988.

15.3 Miscellaneous

Small quantities of adhesives and sealants used in the product are dried and cured and present no known hazard.

15.4 Insulation and Seals.

Material: Synthetic Ceramic Fibre with Organic binder.

Description: Tapes and Papers

Known hazards: Some people can suffer reddening and itching of the skin. Fibre entry into the eyes will cause foreign body irritation. Inhalation will cause irritation to the respiratory tract. As with any dust pre-existing respiratory condition and lung diseases may be aggravated.

Prolonged exposure for the purposes envisaged pertaining to this Reznor product is not anticipated.

Precautions: Wear protective gloves when handling. If abrading and dust is generated suitable protective respirators must be used. People with a history of skin complaints may be susceptible to irritation. Dust levels are only likely when the material is abraded.

In general normal handling and use for this purpose will not present discomfort. Follow good hygiene practices, wash hands before consuming food or using the toilet.

First Aid: Medical attention must be sought following eye contact or prolonged reddening of the skin.

15.5 Thermostat.(Thermal overheat (limit) control LC3)

Material: Illuminating Kerosene.

Description: Sealed phial contains a small quantity in liquid form.

Recognition: Colourless liquid, paraffin oil/petroleum hydrocarbon odour.

Characteristics: Non-corrosive, flammable with no poisonous reference-CH poison Class 3

Precautions: Avoid handling. This product can irritate and defat the skin. Prolonged contact may cause dermatitis. Avoid breathing vapour. Avoid eye contact. Do not ingest.

First Aid: Skin. Wash thoroughly with soap and water.

Eyes. Rinse immediately with copious amounts of clean water.

Ingestion: Seek medical advice.

NOTE: If skin irritation persists seek medical advice.

15.6 Electrolytic Capacitor

Two types are used by random selection:

Recognition: 1. Plastic enclosure 2. Aluminium enclosure

Material: Contained liquid electrolyte

Known hazards: Electric shock possible if charged.

Precautions: Discharge to ground/earth. Do not incinerate.

First Aid: Treat for electric shock if affected.

SECTION 16. USER INSTRUCTIONS

RPVE OUTDOOR GAS FIRED AIR HEATERS

16.1 OPERATING

How the air heater works:

Gas is burned by an atmospheric burner which fires into a heat exchanger. The gas burner is controlled by a double gas valve via an electronic burner control, which is actuated automatically via external controls i.e. a room thermostat and/or a time switch. The burner is ignited by a hot surface igniter. When the burner fires and warms the heat exchanger, the heat is sensed by a thermally actuated fan control which switches on the fan when the air temperature has reached its preset operating level.

At the end of a heating cycle the burner is switched off, the air circulation fan will continue to run until the air heater has cooled to a safe condition. Thereafter, the fan will remain off until the next cycle is initiated.

Safety:

1. Flame failure is detected by the hot surface igniter which is also the sensor and will immediately result in gas valve shut down.
2. Safety against overheating is assured by two overheat controls. The first is an automatic recycle control which protects against low air flow i.e. clogged air ways, fan failure etc. The second, which is set to a higher level than the first one, is a control which locks out and switches off the burner in the event of gross overheating for any reason. Manual intervention is necessary to reset this control device. Resetting of the automatic burner control may also be required.

16.2 TO LIGHT THE HEATER:

1. Turn on the gas supply to the air heater.
2. Switch on the electricity supply to the air heater.
3. Ensure time switch (if fitted) is set to a 'ON' cycle.
4. Adjust control/room thermostat to desired temperature.
5. Air heater will light automatically when the room thermostat calls for heat.
6. If the appliance does not light:
 - a) check that the burner control does not require resetting. An indicator light glows on the remote control. Reset by pushing light/button on the remote control.
 - b) check if thermal overheat control requires resetting (see fig. 15 key 15).

7. If the thermal overheat control requires resetting and doing so restarts the air heater, wait until the appliance warms to thermal equilibrium, to ensure the overheat control does not lock out again.

If it does and the temperature near the heater is less than 30°C, then switch off the appliance and call for service. If the temperature is over 30°C, take appropriate action to reduce the ambient temperature near the air heater.

16.3 AIR CIRCULATION:

1. The space heating process is for air to be circulated through the appliance whereby it gains heat from a heat exchanger. The air is directly discharged into the space to be heated via ducting from the appliance.
2. Sometimes the air circulation fan of the appliance is connected to a remote over-ride switch. This enables cool air to be used for circulation purposes when the air heater is not used for heating purposes e.g. in summer.

To use this feature:

- a) switch ON electricity
- b) switch ON manual override switch, this may be fitted as a feature on a remote composite control.

16.4 MAINTENANCE:

1. Maintenance and service must only be carried out by appropriately qualified persons e.g. "Corgi" registered undertakings.
2. It is in your interest to ensure proper service and maintenance is carried out at a regular basis. Periods between service are dependent upon the local environment where the heater is installed. All gas appliances should be serviced at least once a year.
3. In case of any damage to the appliance, it must be shut down completely and checked by an appropriately qualified person.
4. In the event of difficulties in resolving any of these matters, please do not hesitate to contact Reznor or their official distributor.