

TRIANCO

Oil

TRIANCO - OIL BURNER

BURNER DETAILS



**CONTRACTOR
HE 50/90 & 100/125**

To be retained by householder

PRIMING AND ADJUSTMENT OF THE PUMP

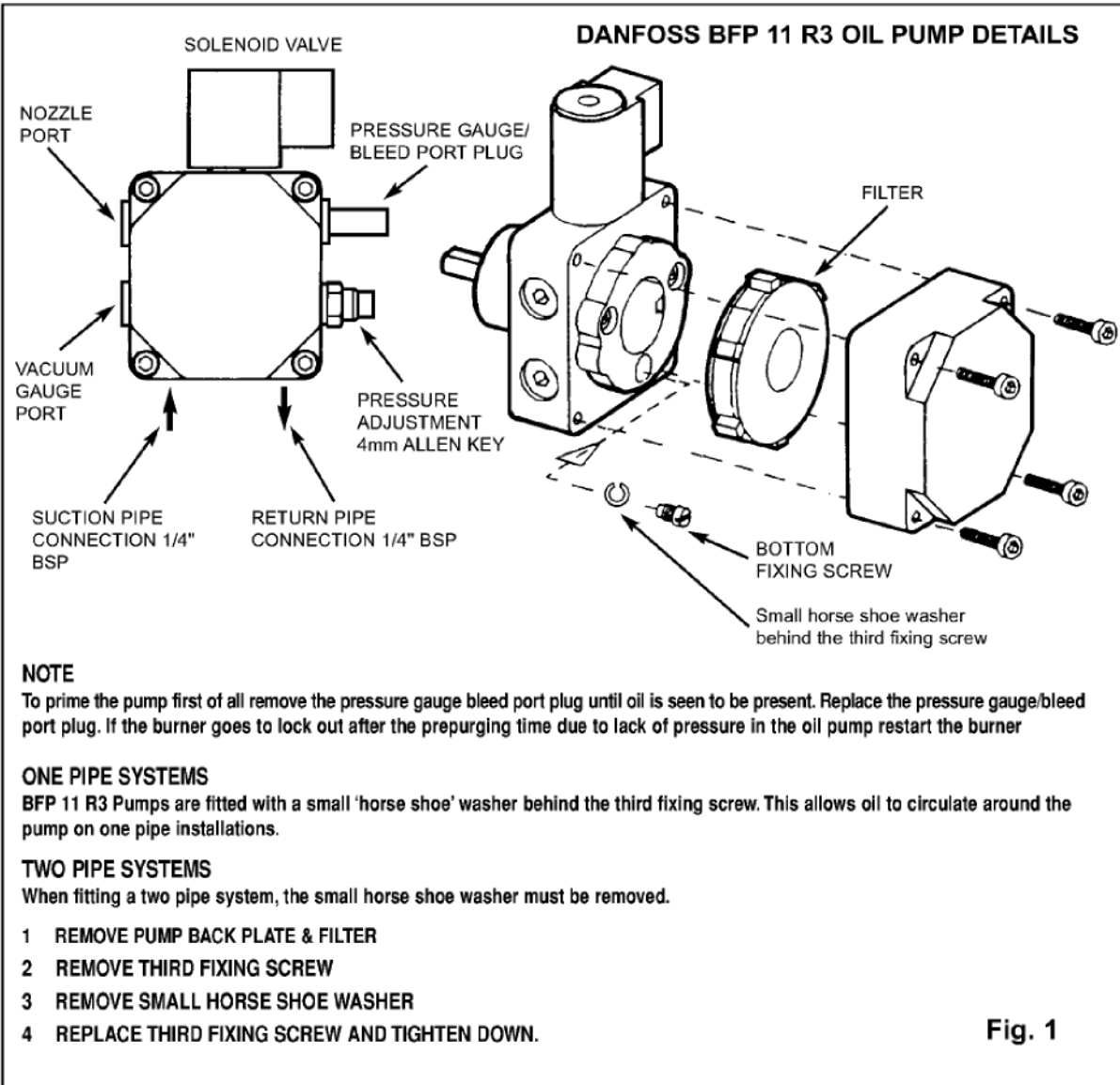


Fig. 1

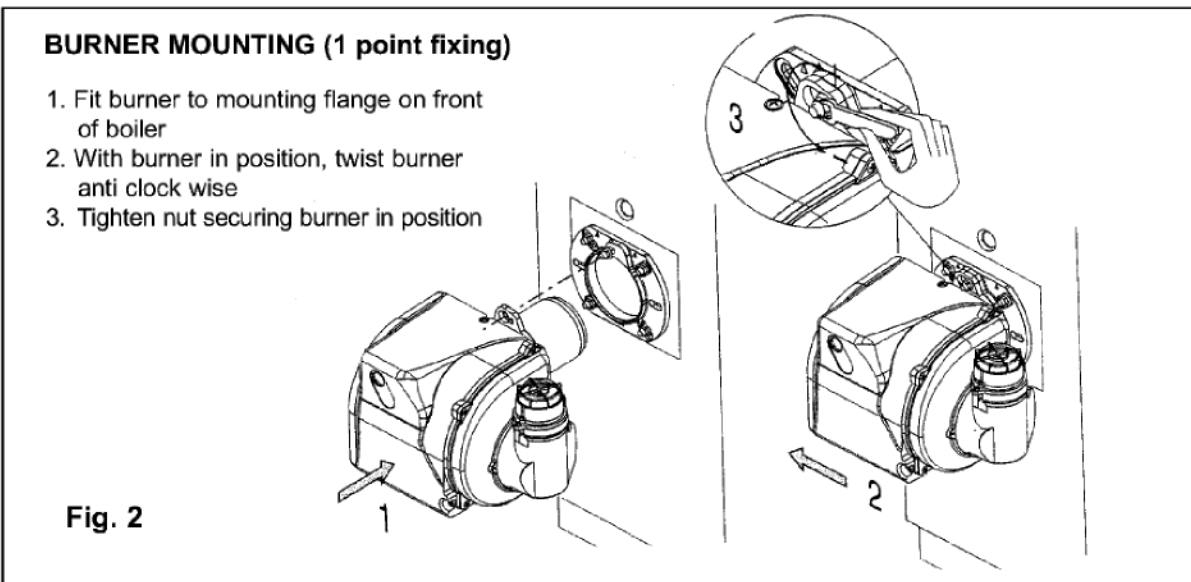


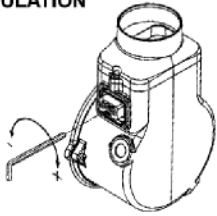
Fig. 2

TECHNICAL DATA

MODEL	MAX 4	
Voltage single phase 50Hz	V	230
Motor	W	90
Rpm	No	2800
Capacitor	uF	3
Ignition transformer	kV/mA	15/40
Control box	SATRONIC	TF 830.3
Fuel: Kerosene	Mj/kg	43.3

Model	Output (non-condensing)	Output (condensing)	Input	Nozzle	Pump Pressure	CO ₂ (%)
50/90	50,000 BTUs	51,272	53,022	0.40 x 80°EH	150 psi	11.5
	60,000 BTUs	61,526	63,626	0.5 x 80°EH	130 psi	11.5
	70,000 BTUs*	71,781	74,231	0.60 x 80°EH	120 psi	11.5
	80,000 BTUs	82,649	85,470	0.75 x 80°EH	115 psi	11.5
	90,000 BTUs	92,980	96,154	0.75 x 80°EH	140 psi	11.5
100/125	100,000 BTUs	102,360	109,866	0.85 x 80°EH	130 psi	11.5
	112,500 BTUs*	115,326	120,102	1.0 x 80°EH	110 psi	11.5
	125,000 BTUs	129,656	132,726	1.0 x 80°EH	130 psi	11.5

AIR REGULATION



Air Adjustments

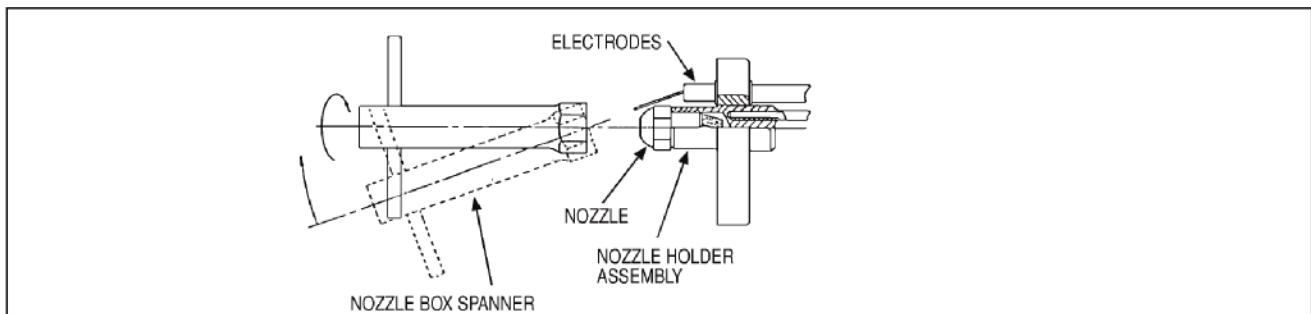
To adjust the air, use the allen key provided. Turn the air adjustment screw to + or – setting. The number will be indicated in the display window.

* factory-setting

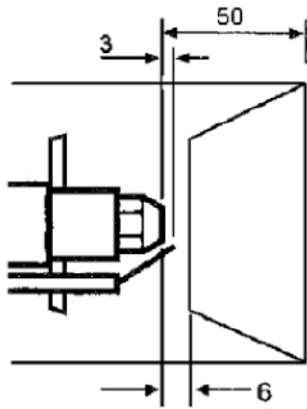
NOZZLE REPLACEMENT

1. Switch off electrical supply to the boiler and turn off oil.
2. Remove burner plug from boiler control box.
3. Undo fixing nuts and remove burner.
4. Remove blast tube from burner, exposing the nozzle holder assembly.
5. Loosen the electrode assembly and remove the flame ring.
6. Taking care not to damage the electrodes, remove the nozzle.
7. Fit a new nozzle of the same specification, ensuring the same level of care.
8. Replace the flame ring in the same position, check position of electrodes and tighten.
9. Refit the blast tube.

IMPORTANT: BURNER NOZZLES ARE ONLY GUARANTEED UP TO THE FIRST SERVICE.



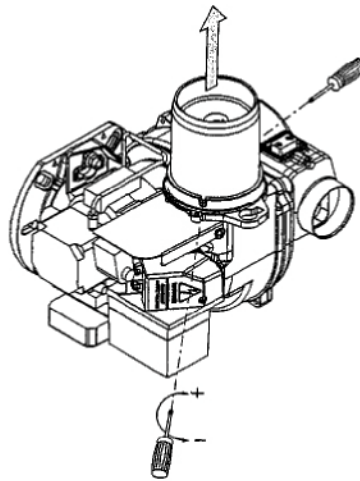
COMBUSTION HEAD SETTINGS



50/90 MODEL FIXED HEAD



BLAST TUBE REMOVAL



CONVERTING BURNER TO OTHER OUTPUTS

- 1) Loosen the two screws securing the blast tube (item 23) in position and remove.
- 2) Replace the nozzle with the correct specification for the output required.
- 3) Slide the curved PA disc (if required) over the nozzle and secure in position with the screw and nut provided.
- 4) Check and re-set the spark electrodes to the above dimensions.
- 5) Fit new blast tube (if required) and secure in position.
- 6) Replace the burner and adjust the pump pressure to the recommended setting.

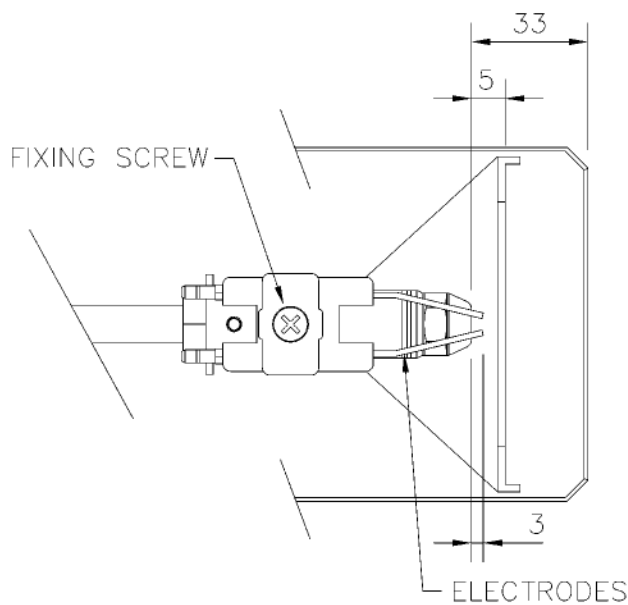
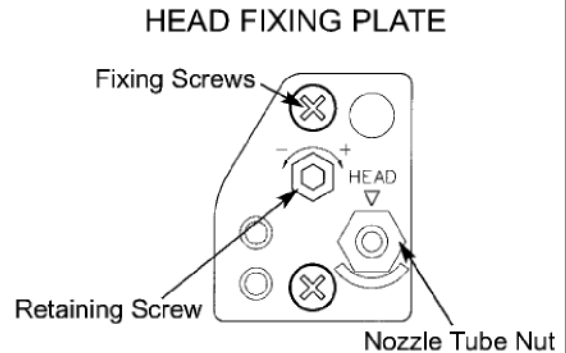
The burner is pre-set at 70,000 Btu/h. Only a replacement nozzle is required to convert to 80,000 and 90,000 Btu/h. Conversion to 50,000 Btu/h and 60,000 Btu/h can be achieved by using conversion kits available under the following part numbers:

Kit to convert to 50,000 Btu/h - 223780
Kit to convert to 60,000 Btu/h - 223781

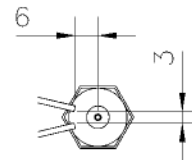
COMBUSTION HEAD SETTINGS

ELECTRODE REMOVAL MAX 4

Isolate the mains power supply to the boiler. Turn off the oil supply and remove the burner cover. On the back of the burner is the head fixing plate, remove the nut from the end of the nozzle tube and then remove the 2 fixing screws and the retaining screw. Remove the blast tube from the burner this will allow the inner nozzle assembly to be pulled forward to give access to the electrode assembly. Disconnect the ignition cables remove electrode fixing screw and replace electrodes. Before re assembly set the electrode position, refer to Combustion Head Settings. Reassemble in reverse order, recheck electrode position before fixing the burner back in to the boiler.



100/125 Adjustable head



The burner is pre-set at 112,500 Btu/h. Only a replacement nozzle is required to convert to 100,000 Btu/h. Conversion to 125,000 Btu/h can be achieved by fitting a replacement air inlet manifold (part no. 223792)

BURNER FAULT-FINDING

ELECTRICAL SAFETY - before making any electrical checks, switch off the mains supply to the boiler

FAULT	POSSIBLE CAUSE	ACTION
BURNER WILL NOT START	Control box locked out	Press orange reset button on front of burner. NB: ONLY TRY TWICE
	High limit stat tripped	Press red reset button (under control panel) and check function of boiler stat
	System controls satisfied	Ensure all controls are calling for heat
	Fuse blown	Fit new fuse (5A). If problem persists, check for short circuit in wiring
	Motor or pump seized	Check for rotation, replace as necessary
BURNER STARTS BUT FLAME NOT ESTABLISHED	No oil supply	Check oil level in tank, check oil supply for adequate flow
	Photocell not seeing flame	Clean photocell, ensure it is fully inserted
	Air trapped in pump	Bleed excess air via tapping on oil pump
	Solenoid valve faulty	Check coil for continuity, replace as necessary
	Nozzle blocked	Replace nozzle with one of same specification (see burner leaflet)
	Electrodes incorrectly set	Reset gap and position to settings shown in burner leaflet
	Electrode insulator cracked	Replace as necessary
	Ignition transformer or leads faulty	Check for spark, check condition of HT leads, replace as necessary
Low oil pressure	Check pump pressure and adjust to settings shown in burner leaflet	
FLAME ESTABLISHED BUT BURNER LOCKS OUT AFTER A FEW SECONDS	Oil contaminated with water	Run off oil at burner until free of water and drain condensation from tank
	Oil filter partially blocked	Wash filter clean with kerosene
	Photocell faulty	Clean photocell, ensure it is fully inserted, check for damage. Replace as necessary
	Low oil pressure	Check pump pressure and adjust to settings shown in burner leaflet

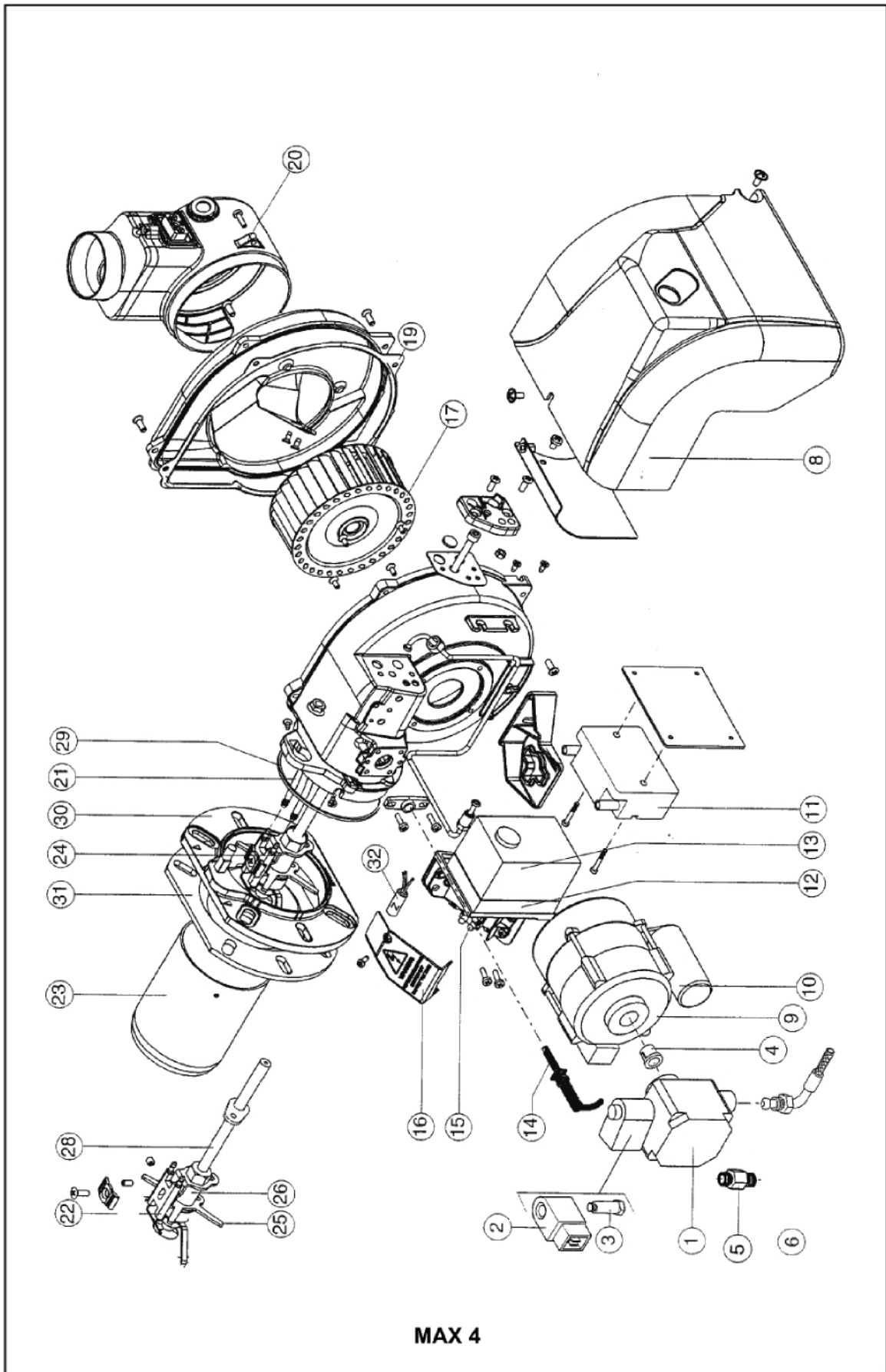
BURNER FAULT-FINDING (cont.)

ELECTRICAL SAFETY - before making any electrical checks, switch off the mains supply to the boiler

FAULT	POSSIBLE CAUSE	ACTION
MORNING START LOCKOUT	Faulty non-return valve or air leak in two-pipe system	Replace non-return valve, cure leak
	Low voltage to appliance	Check with local electricity board
	Combustion settings incorrect	Check combustion under normal running conditions, check against settings shown in burner leaflet
	Oil level in tank falling below burner	Raise tank or fir two-pipe system
DELAYED IGNITION (BURNER PULSATES ON STARTUP)	Nozzle partially blocked	Replace nozzle with one of same specification (see burner leaflet)
	Low oil pressure	Check pump pressure and adjust to settings shown in burner leaflet
	Flue blocked or damaged	Check flue and rectify/replace as necessary
	Fan slipping on shaft	Check fan and retighten/replace as necessary
	Pump coupling loose or worn	Check fan and rectify/replace as necessary
BURNER STARTS VIOLENTLY	Delayed ignition	Reset electrode gap and position to settings shown in burner leaflet
		Check electrodes for damage, replace as necessary
		Check condition of HT leads, replace as necessary
BURNER REPEATEDLY ATTEMPTS TO FIRE (balanced flue only)	Exhaust gas in combustion air	Remove air hose from boiler end of flue, leaving burner end in place. If burner starts normally, check flue for breakdown of seals and repair/replace as necessary If indeterminate, leaving hose attached, pierce a small hole in air hose and use flue gas analyser to check for carbon dioxide. If more than trace elements present, check flue for breakdown of seals and repair/replace as necessary
COMBUSTION FUMES SMELL	Baffle access cover not secure	Tighten wing nuts, securing door in position
	Baffle access cover seal damaged	Replace seal as necessary
	Burner incorrectly fitted, or fixing gasket damaged	Check burner fixing gasket, replace as necessary. Tighten burner mounting nuts
	Flue gasket damaged	Check gasket, replace as necessary. Tighten flue mounting nuts

BURNER SPARES

Description	50/90	100/125
FULL BURNER ASSEMBLY	223868	223928
1 – OIL PUMP DANFOSS BFP 11 R3	221329	221329
2 – COIL	203082	203082
3 – OIL VALVE	221303	221303
4 – COUPLING	221304	221304
5 – NIPPLE	221305	221305
6 – FLEXIBLE OIL LINE	207019	207019
8 – COVER	223153	223153
9 – MOTOR AEG 90W	221340	221340
10 – CAPACITOR	223122	223122
11 – IGNITION TRANSFORMER	203053	203053
12 – CONTROL BOX BASE	207628	207628
13 – CONTROL BOX SATRONIC TF 830.3	29064	29064
14 – PHOTOCCELL SATRONIC	223168	223168
15 – WIRING TERMINAL BLOCK	223154	223154
16 – PROTECTION BOX	223155	223155
17 – FAN	223156	223156
18 – FAN SCOOP	223157	223157
19 – GASKET	223158	223158
20 – AIR INLET MANIFOLD	223159	223436
21 – IGNITION CABLES	223160	223160
22 – ELECTRODES	221322	221322
23 – BLAST TUBE	223539	223539
24 – FIRING HEAD	223124	223124
25 – NOZZLE HOLDER SUPPORT	223125	223125
26 – NOZZLE HOLDER	223126	223126
28 – ROD	223127	223127
29 – 'O'-RING SEAL	223128	223128
30 – MOUNTING FLANGE	223151	223151
31 – MOUNTING GASKET	223152	223152
33 – NOZZLE 0.85 x 80°EH	221356	221356
33 – NOZZLE 0.60 x 80°EH	223286	-
33 – NOZZLE 0.75 x 80°EH	223538	-
33 – NOZZLE 0.50 x 80°EH	223162	-
33 – NOZZLE 0.40 x 80°EH	223790	-
33 – NOZZLE 1.0 x 80°EH	-	26367



MAX 4



TR ENGINEERING LTD
Unit 7, Newton Chambers Way,
Thornccliffe Industrial Estate, Chapeltown
Sheffield S35 2PH
Tel: (0114) 257 2300
Fax: (0114) 257 1419
www.trianco.co.uk

© TR Engineering Ltd. Copyright in this brochure and the drawings or illustrations contained within are vested in TR Engineering Ltd and neither the brochure or any part thereof may be reproduced without prior written consent.