



Munters
SIAL®

Mobile Diesel Heaters
GRY-D / GRY-I

Service
Training Course



GRY-I

Indirect-fired Diesel Heaters



- GRY-I 15 WE
 - GRY-I 25 WE
 - GRY-I 40 WE
- GRYP 15 AP
 - GRYP 25 AP
 - GRYP 40 AP

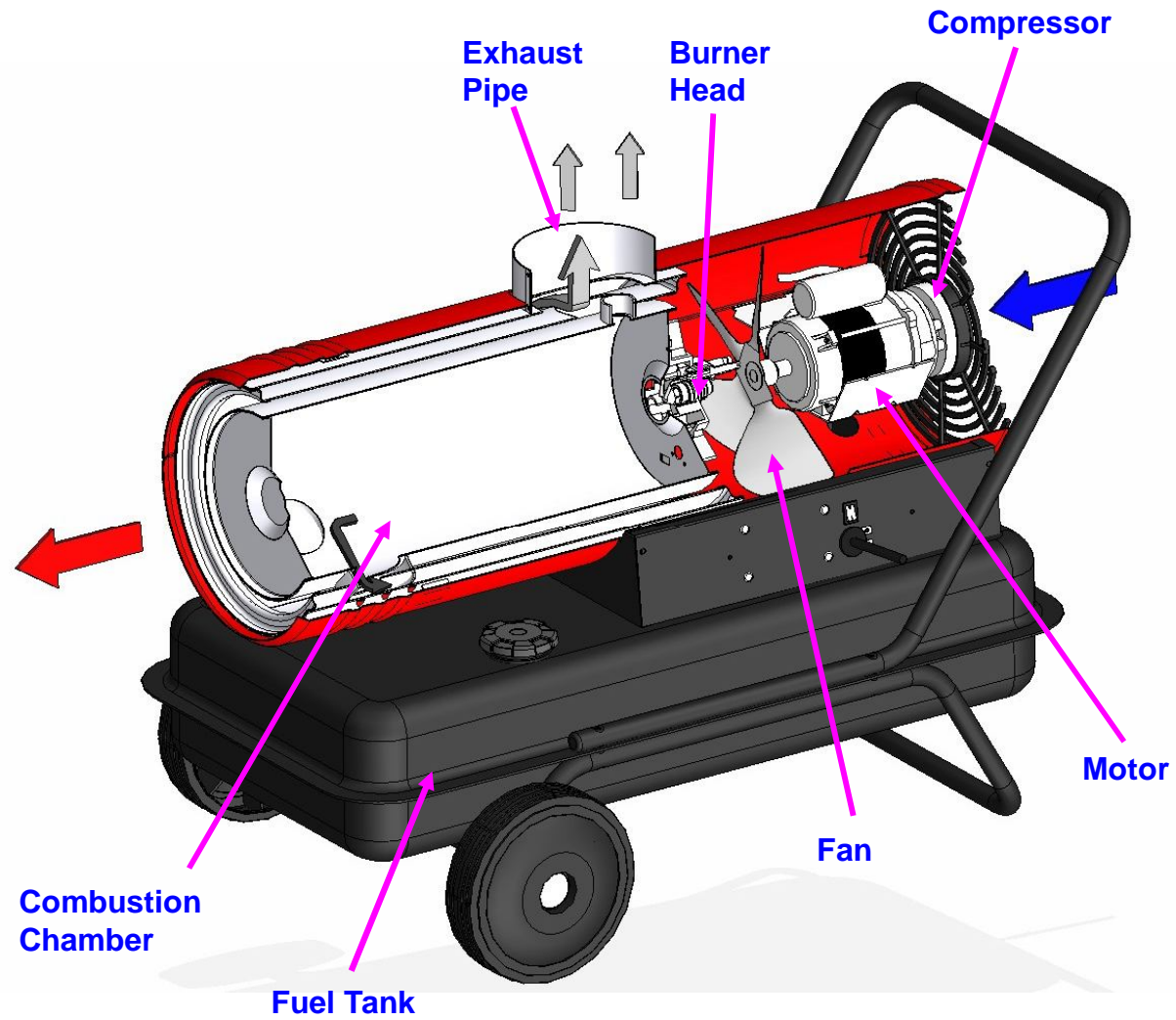
GRY-D

Direct-fired Diesel Heaters

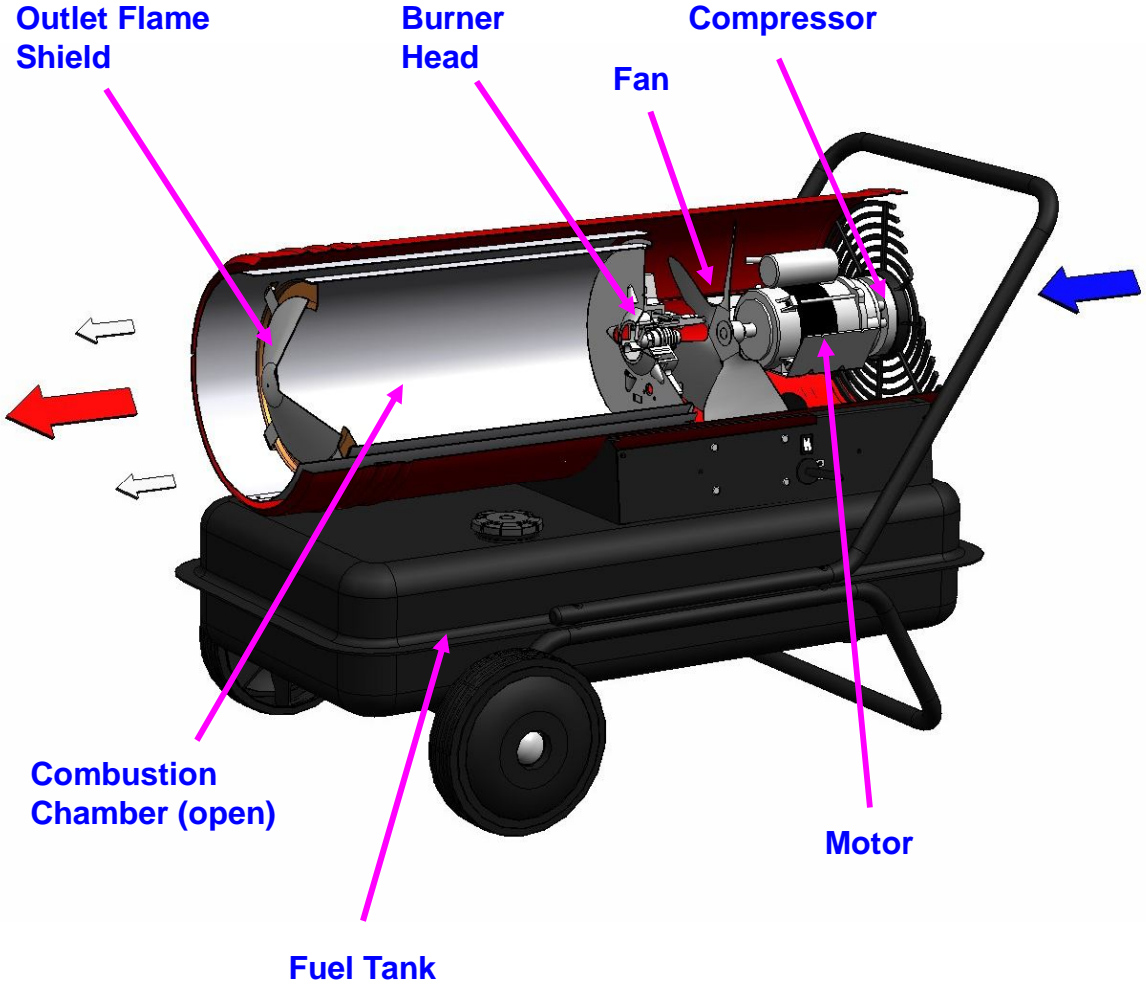


- GRY-D 15 WE
 - GRY-D 20 HE
 - GRY-D 20 WE
 - GRY-D 28 WE
 - GRY-D 40 WE
 - GRY-D 60 WE
- GRYP 15
 - GRYP 20 M
 - GRYP 20
 - GRYP 28
 - GRYP 40
 - GRYP 60 PV

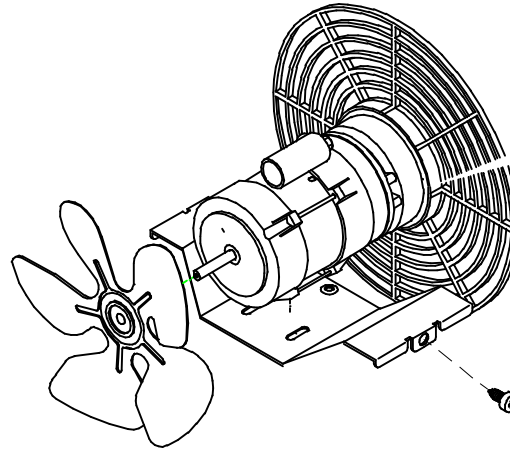
GRY-I General Assembly



GRY-D General Assembly



Fan Motor Assembly



Motors

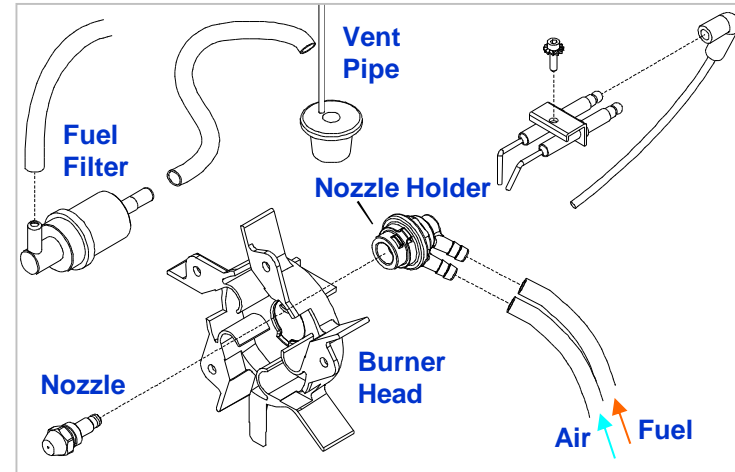
70 W	2800 rpm	2 poles
100 W	2800 rpm	2 poles
150 W	2800 rpm	2 poles
250 W	2800 rpm	2 poles

GRY-D 15
GRY-D 20
GRY-D 28 GRY-I 15
GRY-D 40/60 GRY-I 25/40

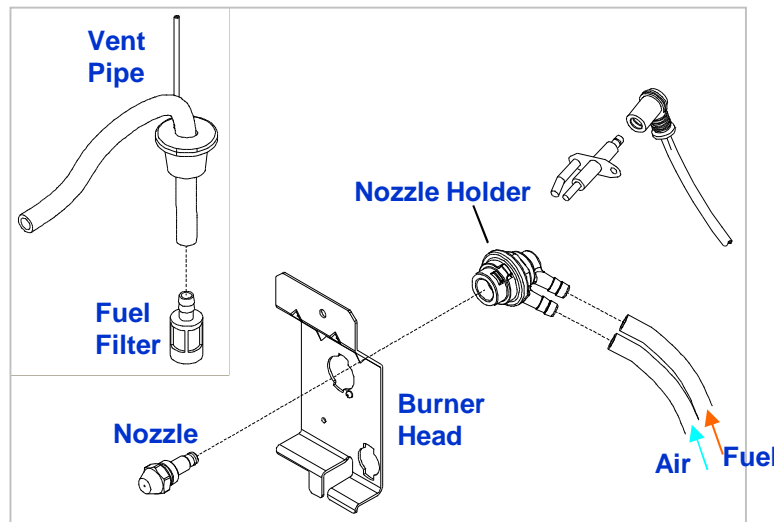
Fuel Circuit

The fuel circuit is composed of :

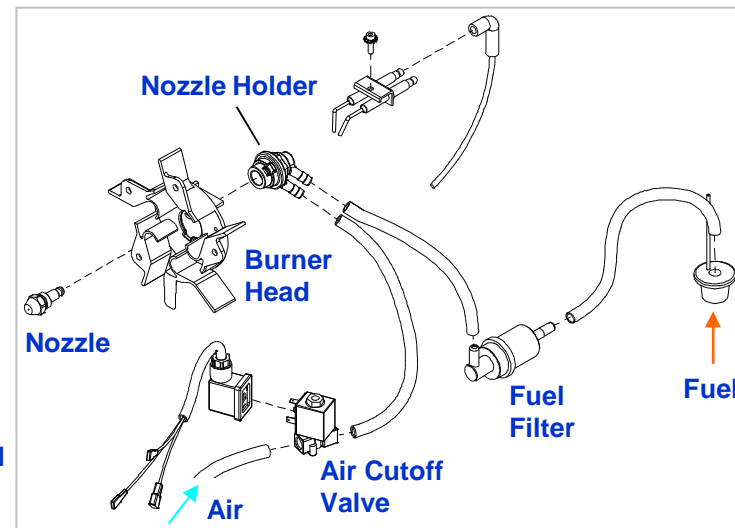
- fuel tank
- fuel suction hose
- fuel filter
- (air compressor)
- (air valve)
- (air hoses)
- nozzle holder (combustion head)
- nozzle



GRY-D Models (except 15 and 60)

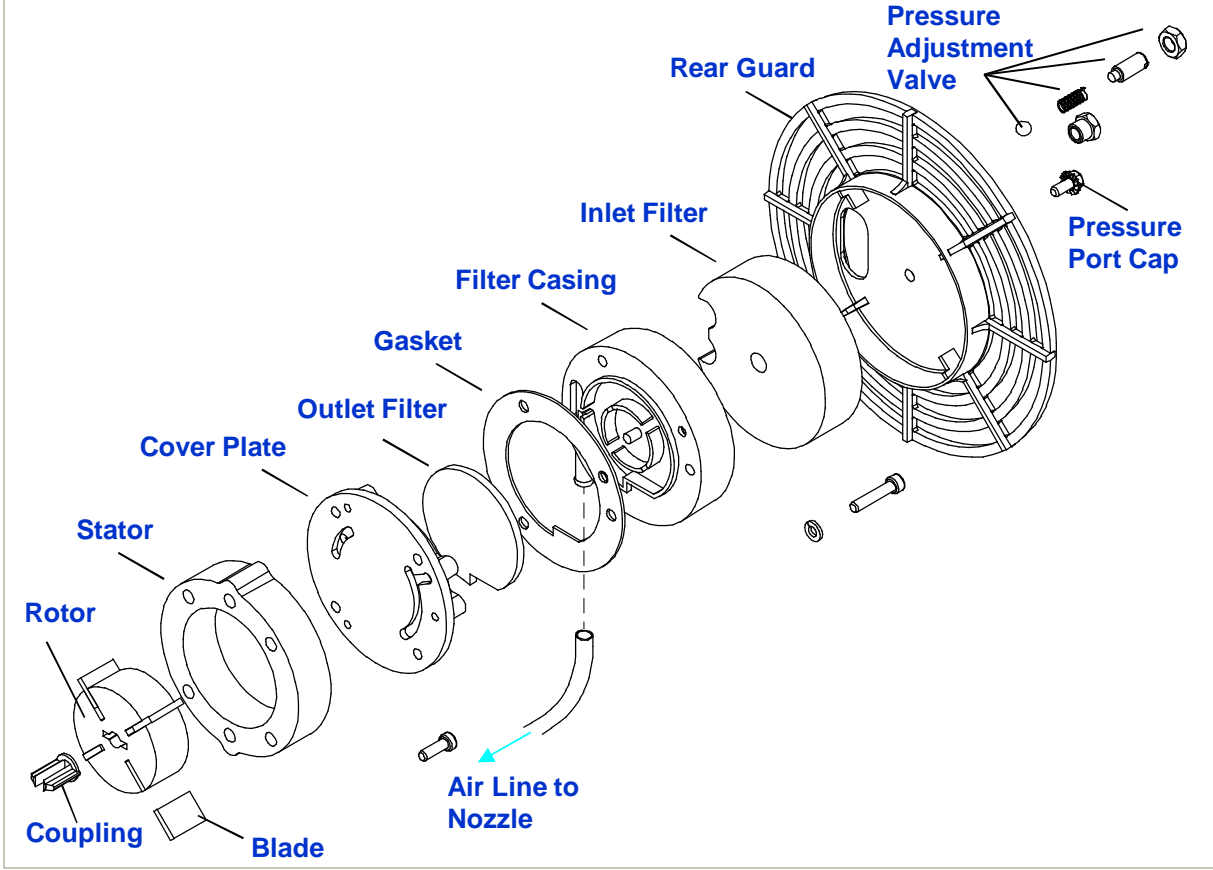


GRY-D 15 WU



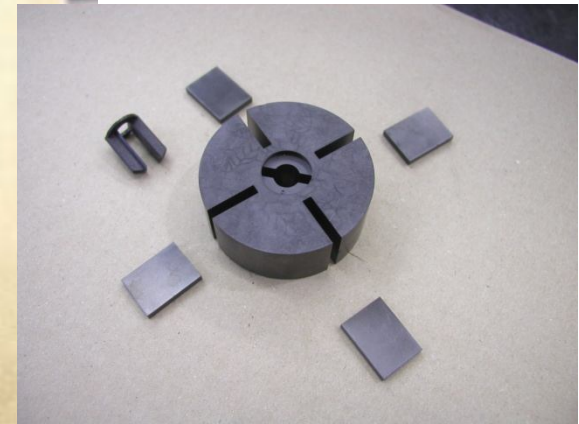
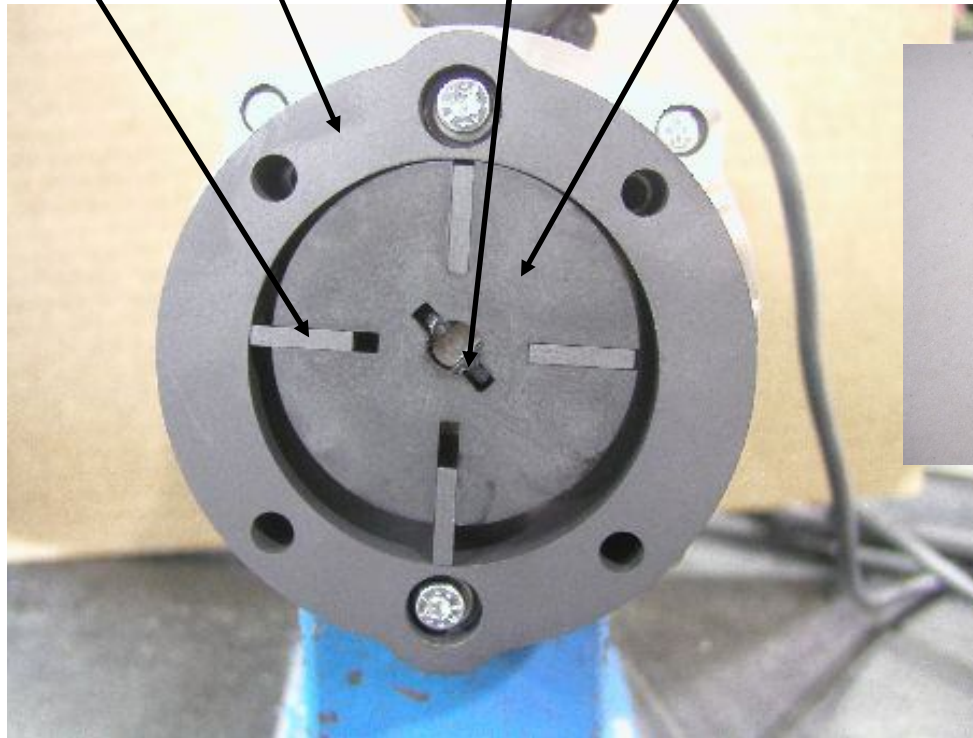
GRY-I Models & GRY-D 60

Air Compressor Assembly

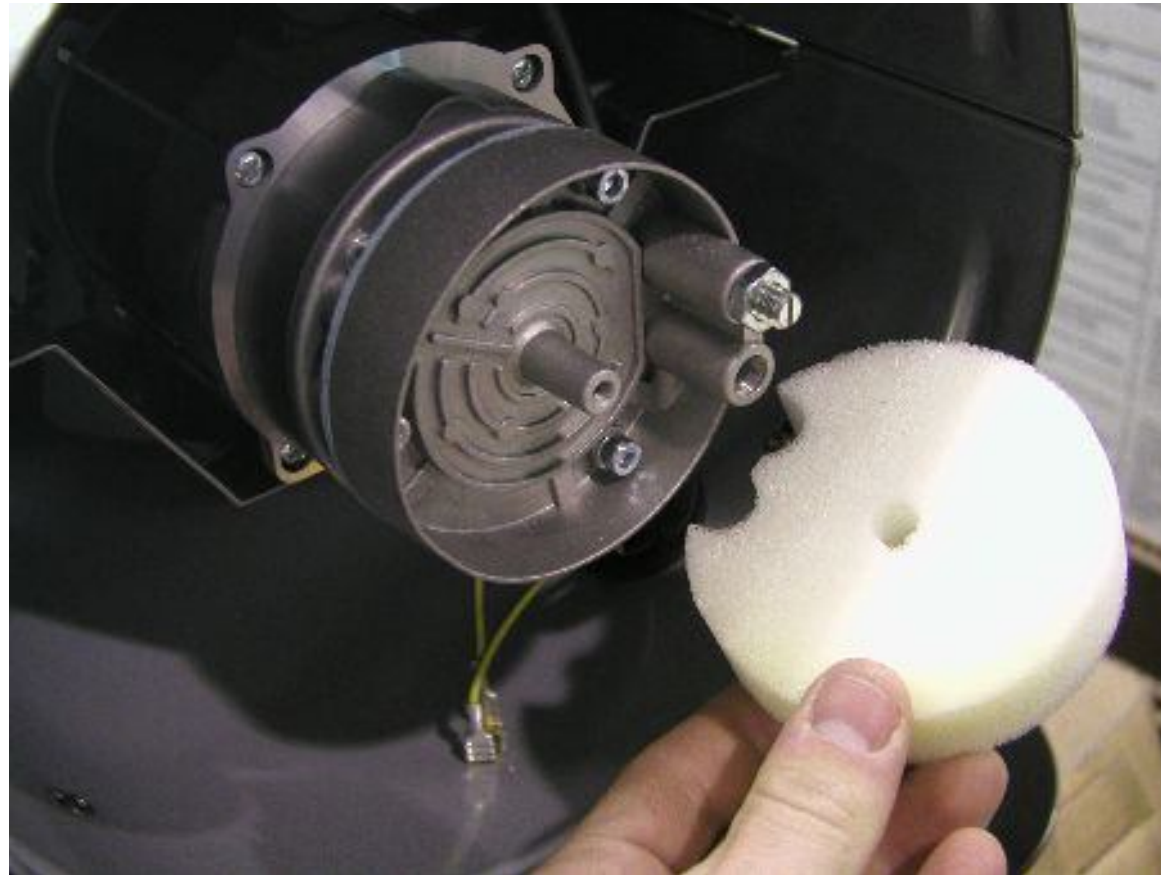


Rotary Compressor

Blade Stator Joint Rotor



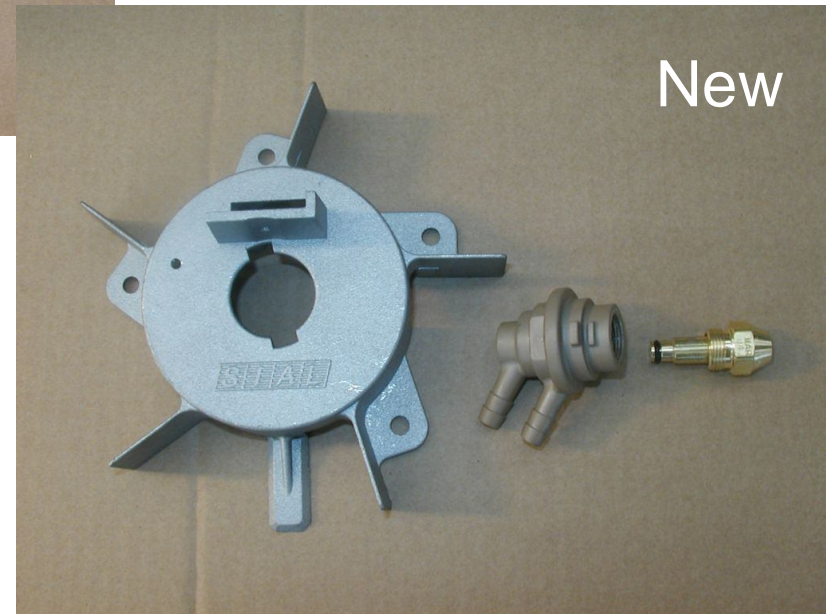
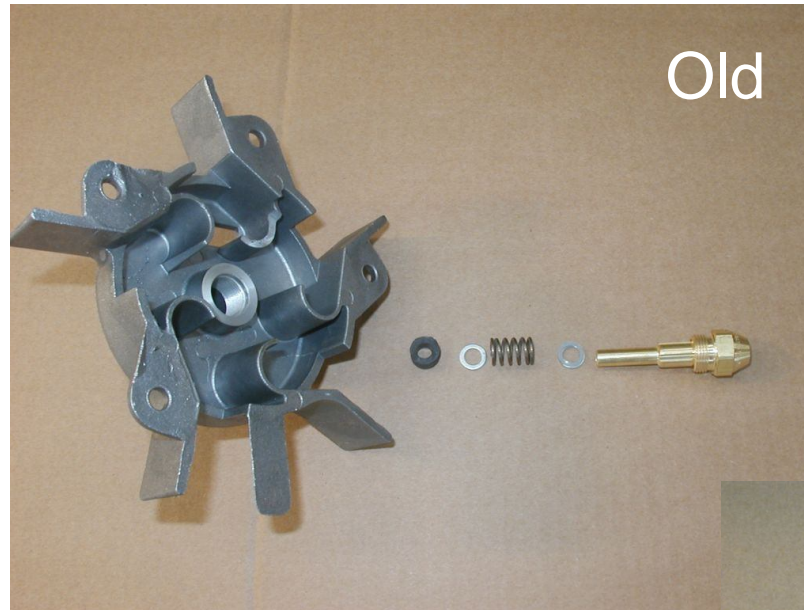
Air compressor Inlet (Low Pressure) Filter



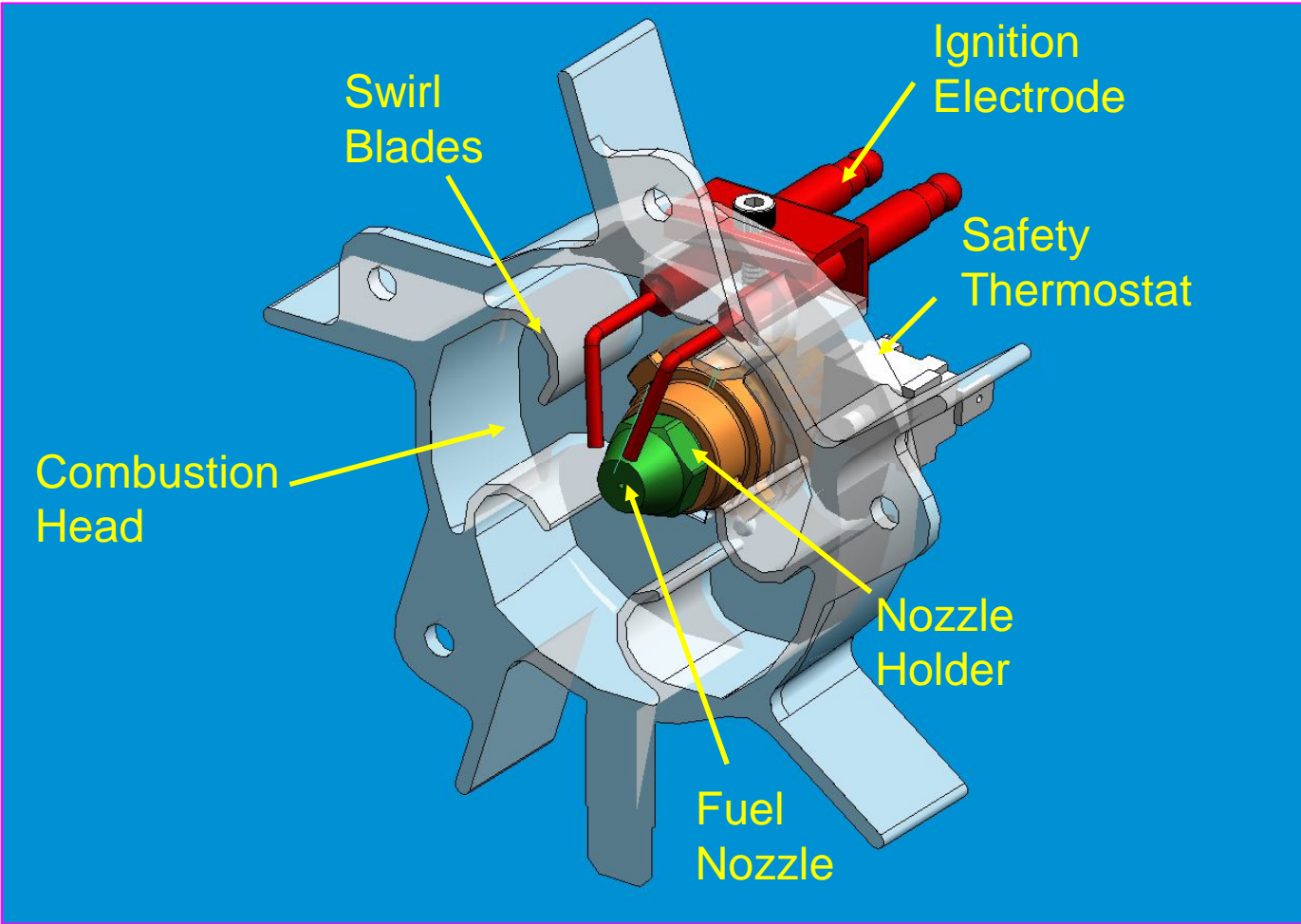
Air compressor Outlet (High Pressure) Filter



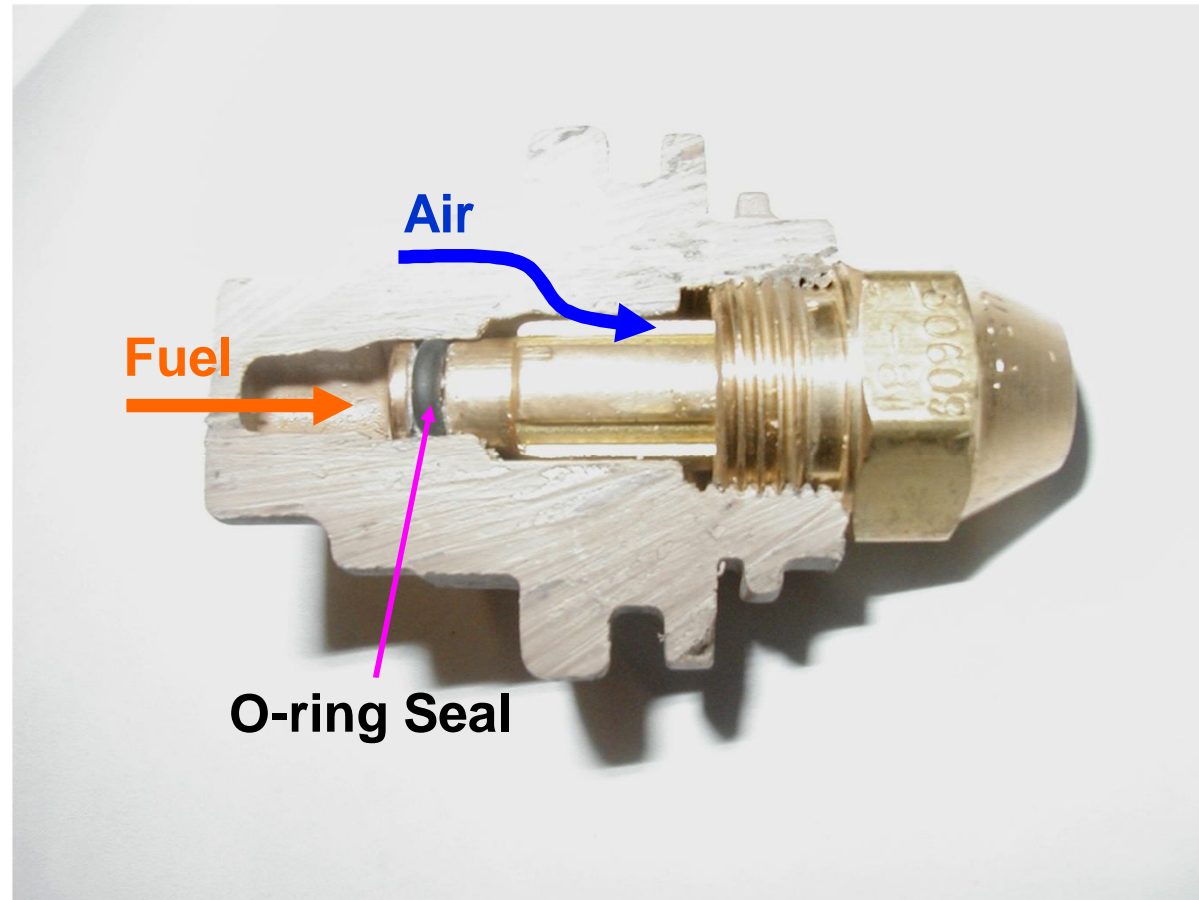
Burner Assembly (old and new design)



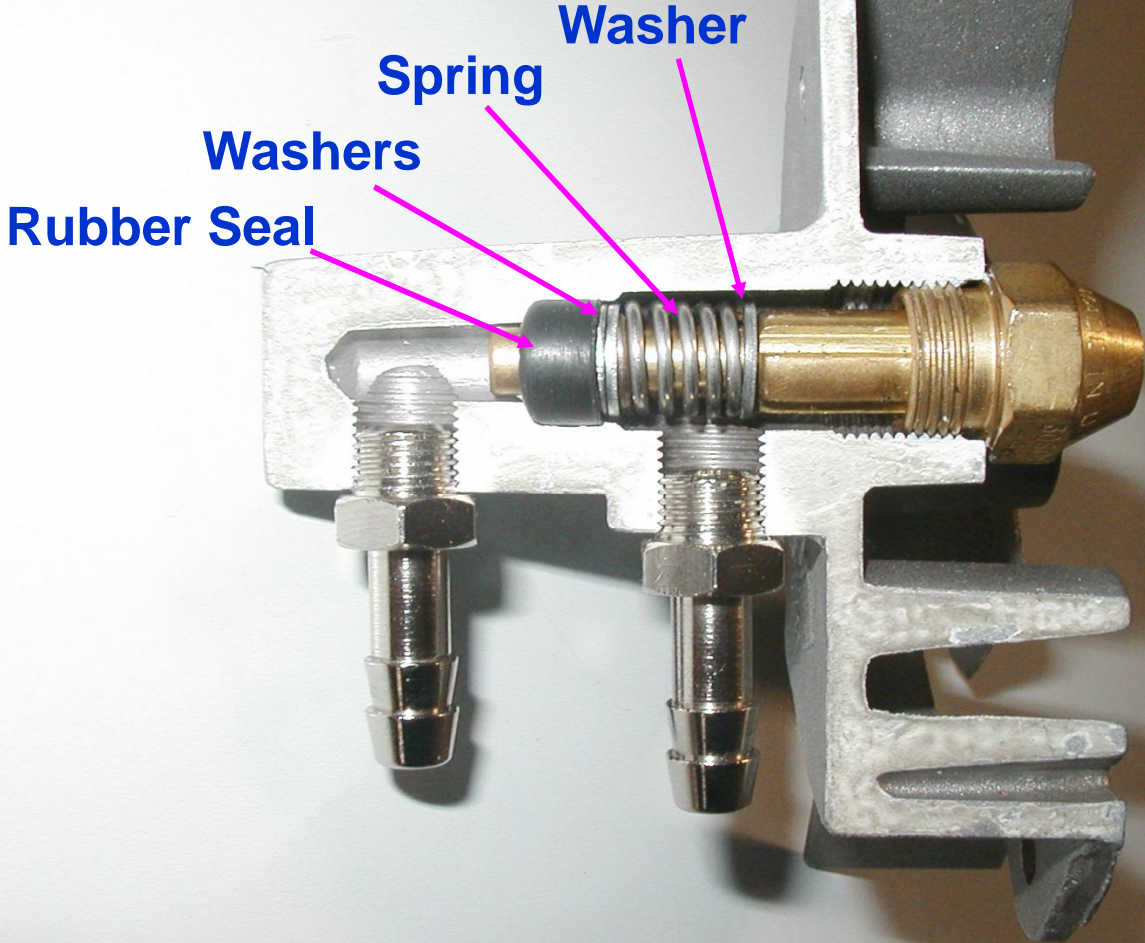
Burner Assembly



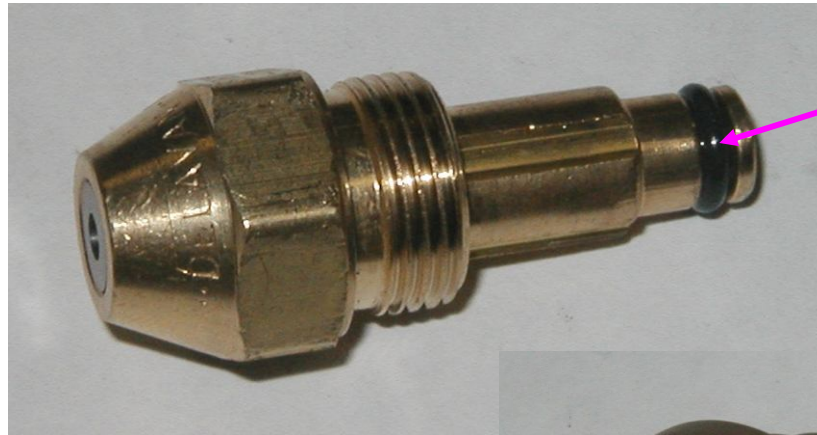
Combustion Head (current design)



Combustion Head (old design)



Nozzle & Nozzle Holder



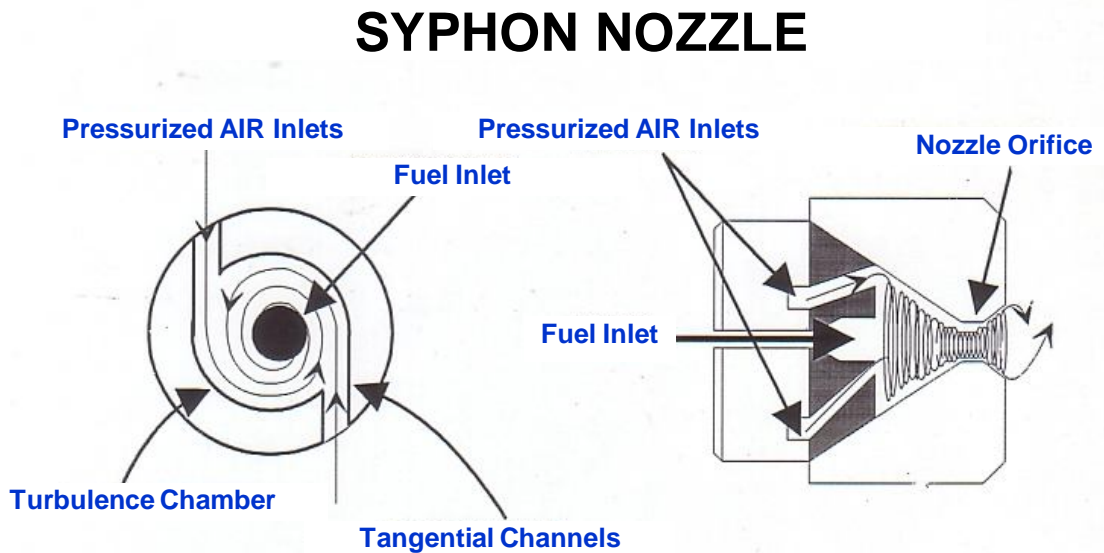
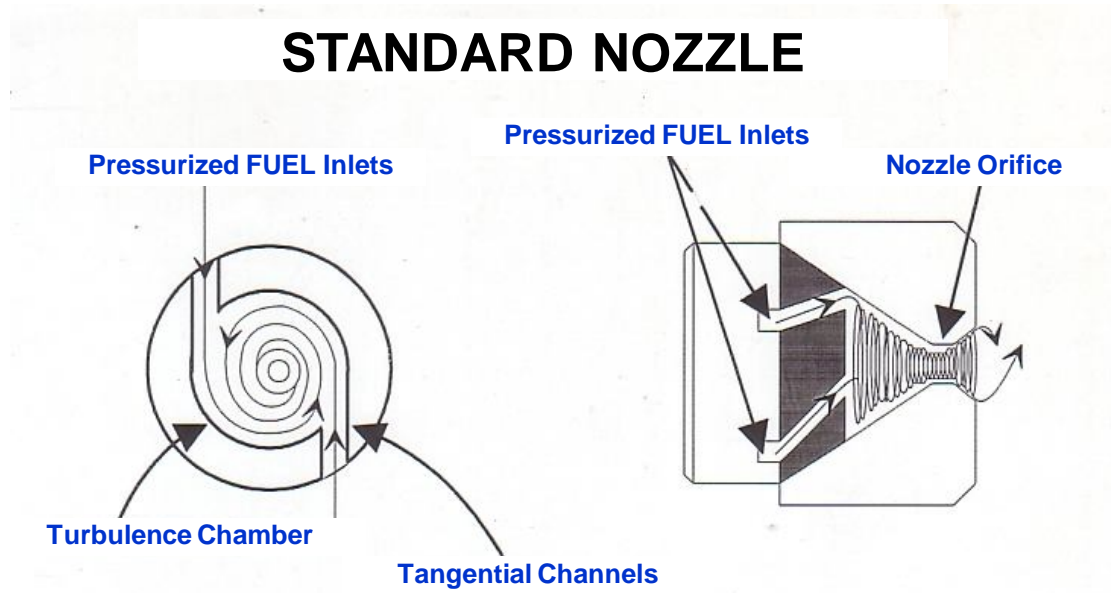
O-ring



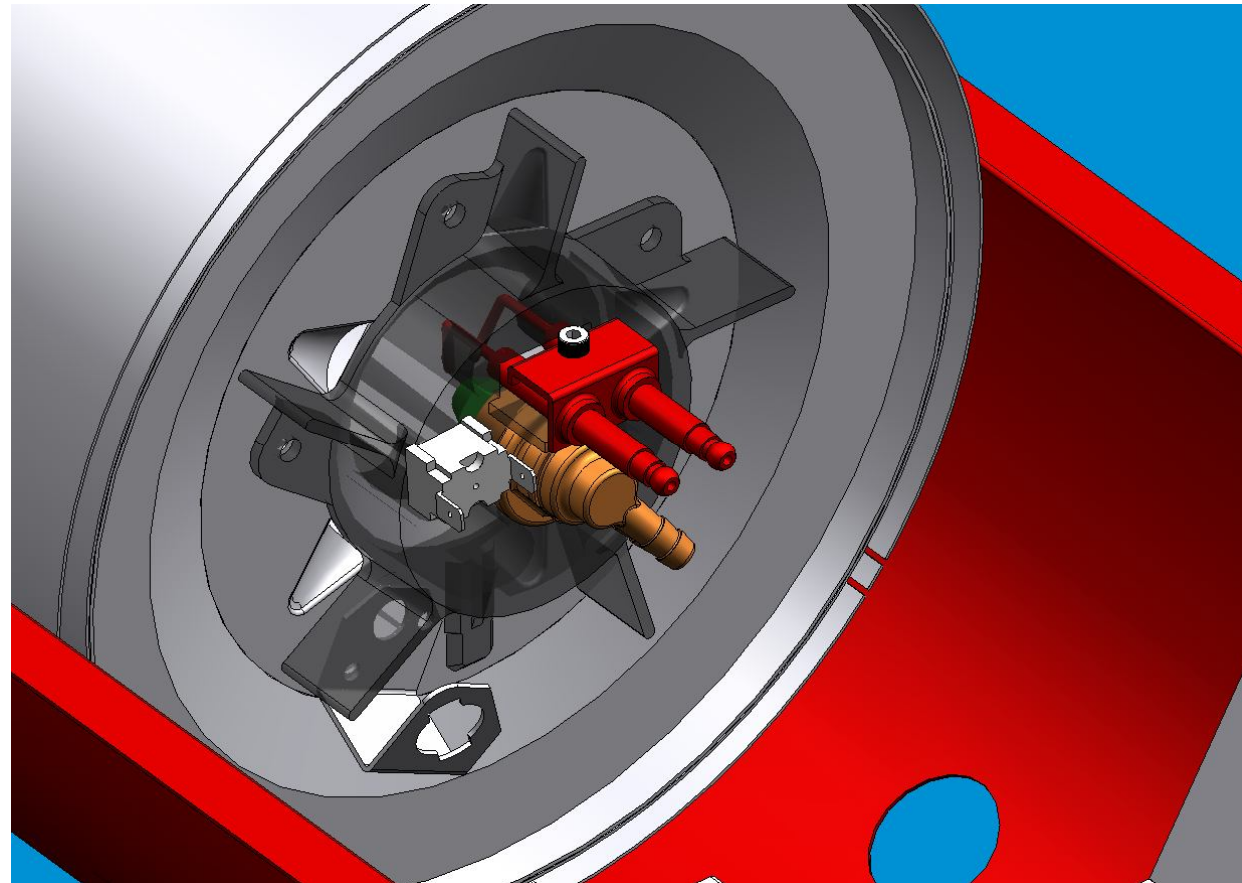
Fuel Inlet

Air Inlet

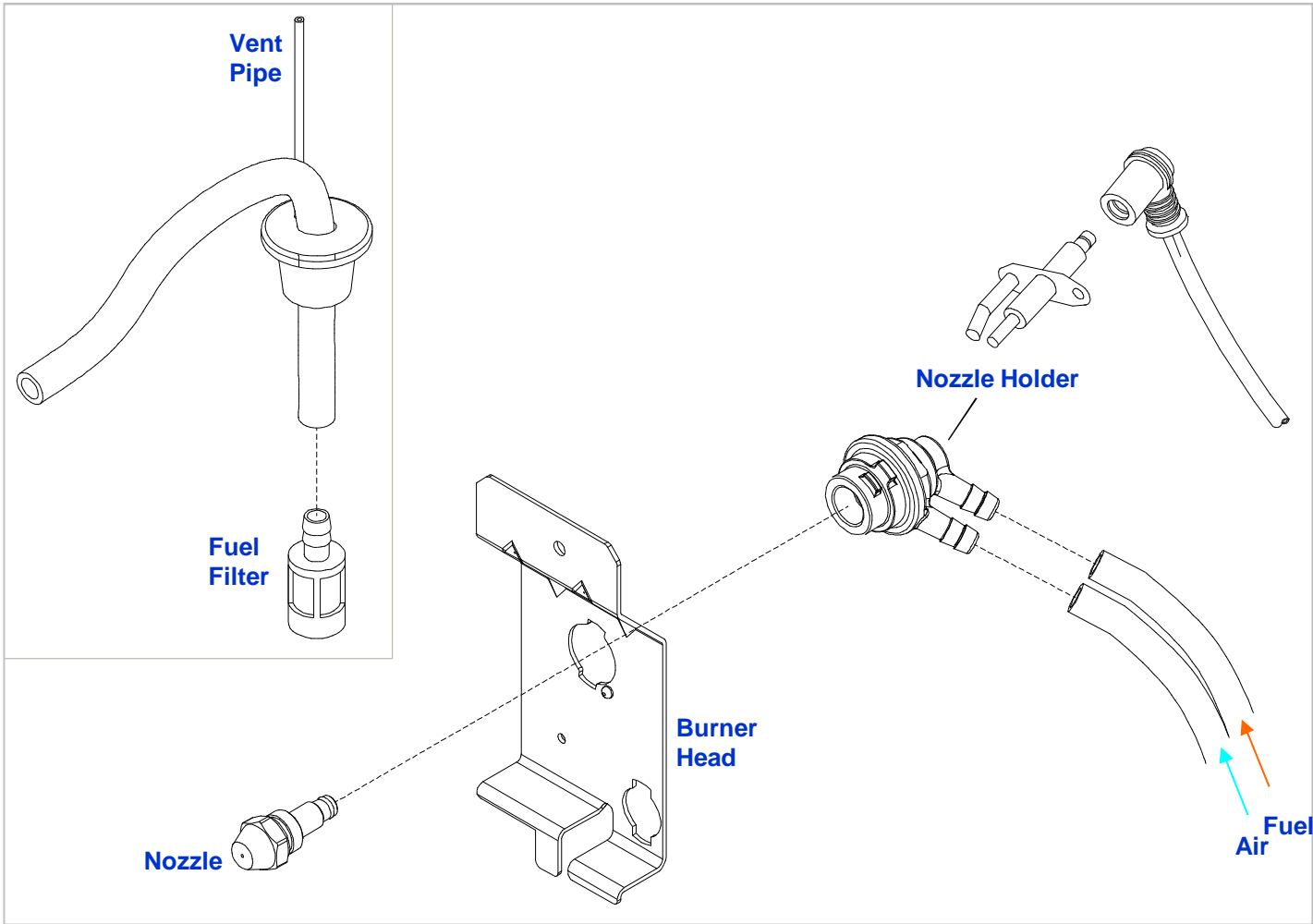
Syphon Nozzle vs. Standard Nozzle



Burner Head on Combustion Chamber



GRY-D 15 Combustion Head



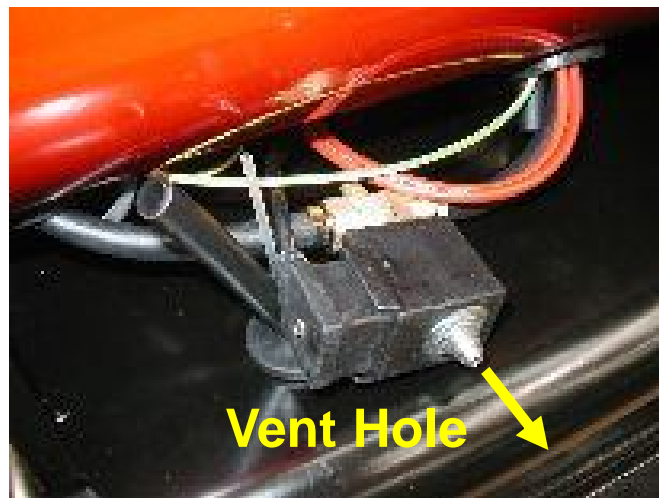
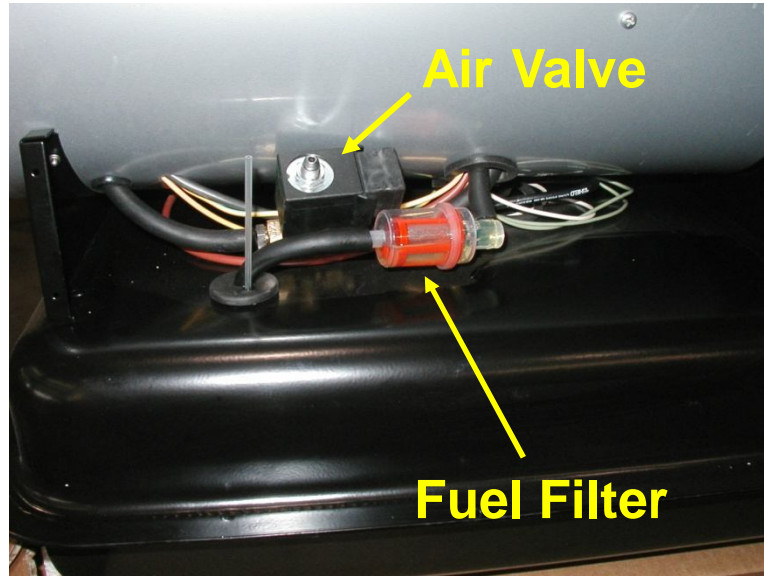
GRY-I

Combustion chamber detail



GRY-I

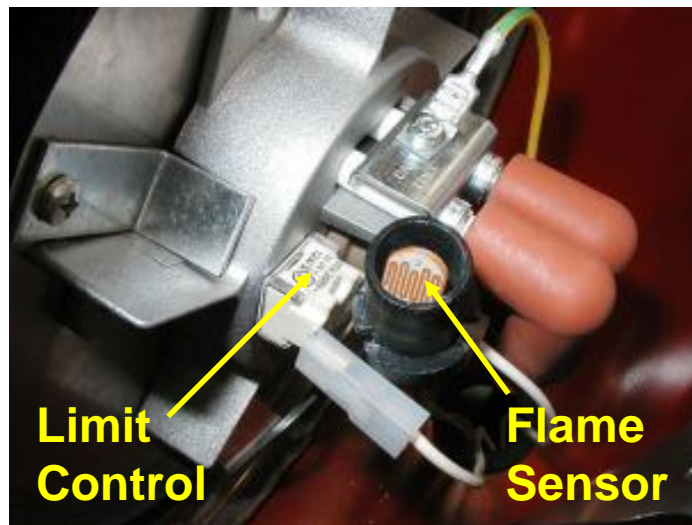
Fuel Filter and Air Valve



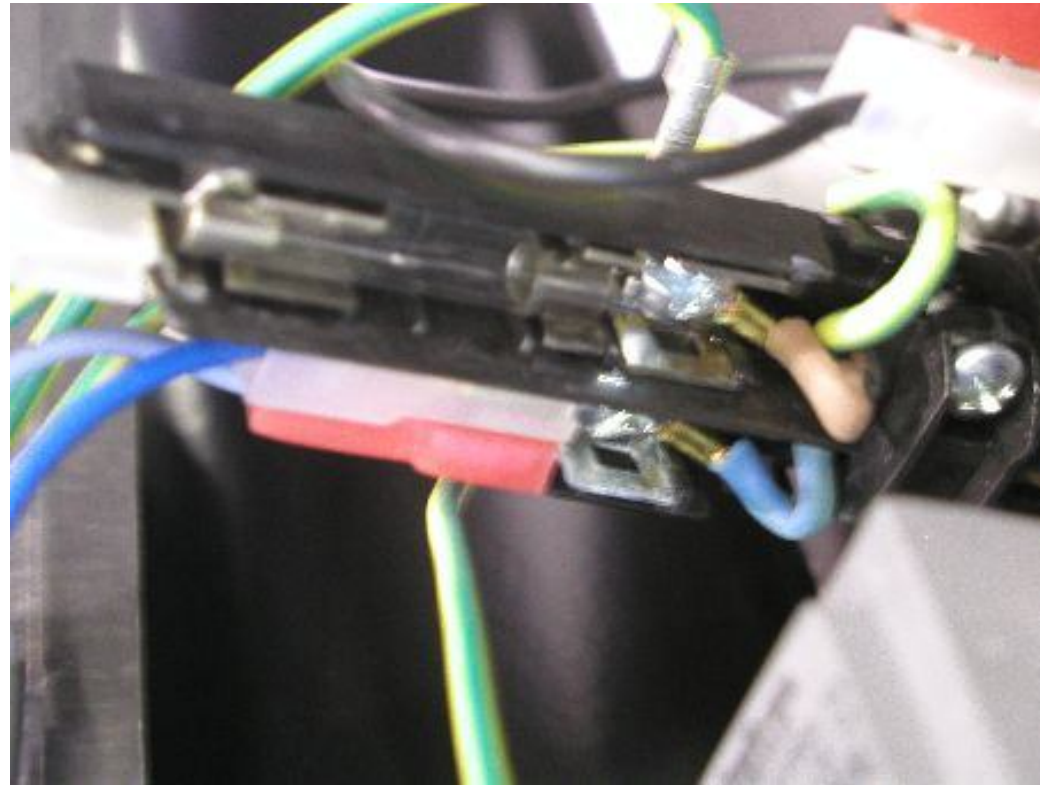
Safety Controls

Flame Sensor and Thermostat

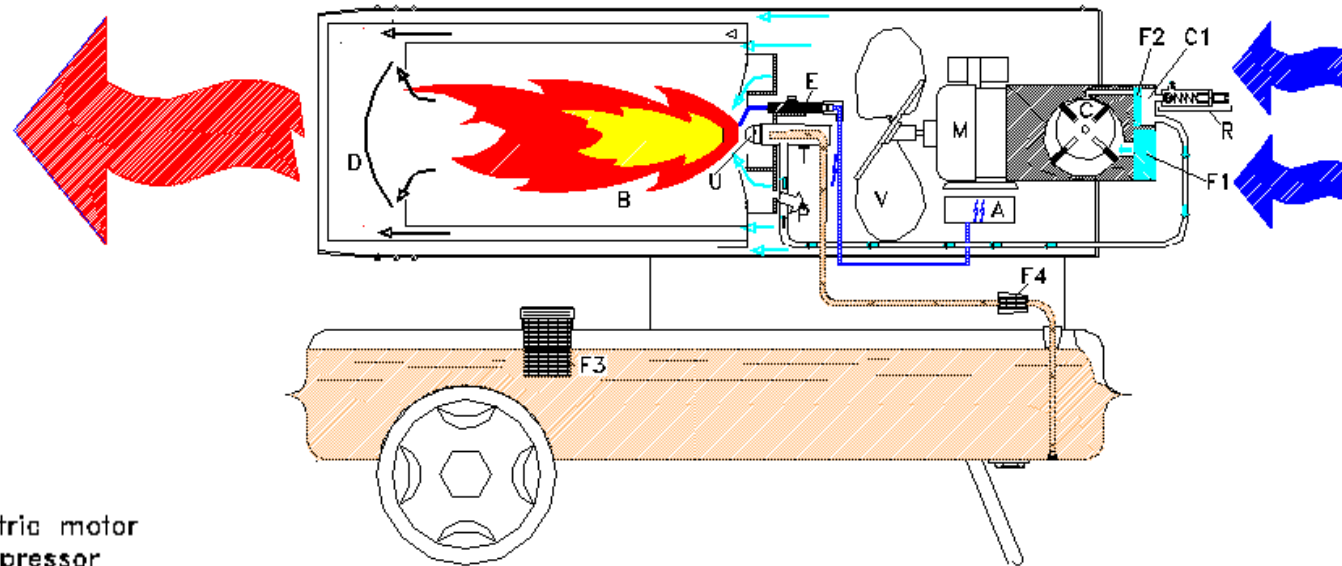
- **Flame Sensor (Photoresistor)**
 - Detects false flame signals or anticipated ignition
 - Checks flame failure at ignition
 - Checks flame failure during operation
- **Safety thermostat (Limit Control, OPTIONAL for USA models)**



Line Fuse

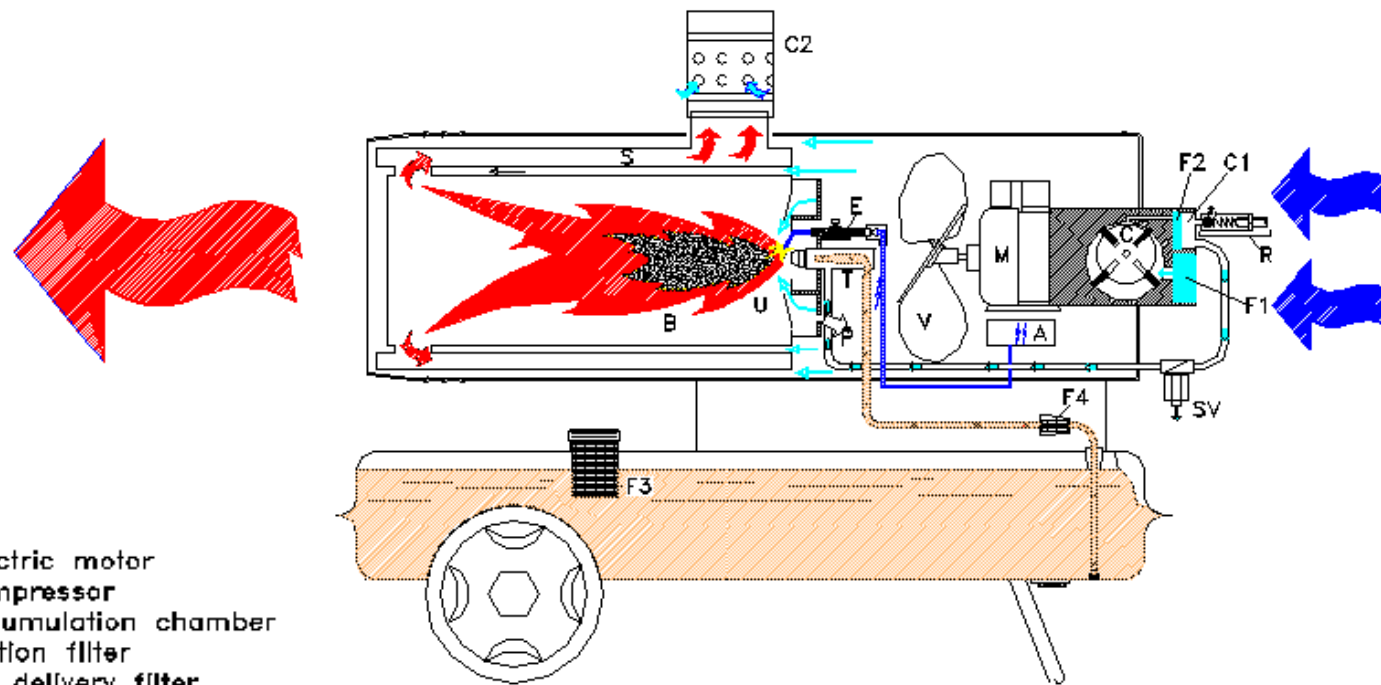


Principle of Operation GRY-D



- M electric motor
- C compressor
- C1 accumulation chamber
- F1 suction filter
- F2 felt delivery filter
- F3 tank filter
- F4 fuel filter
- R air regulation valve
- A ignition transformer
- V fan
- P photocell
- T combustion head
- E electrode
- U nozzle
- B combustion chamber
- D flame protecting plate

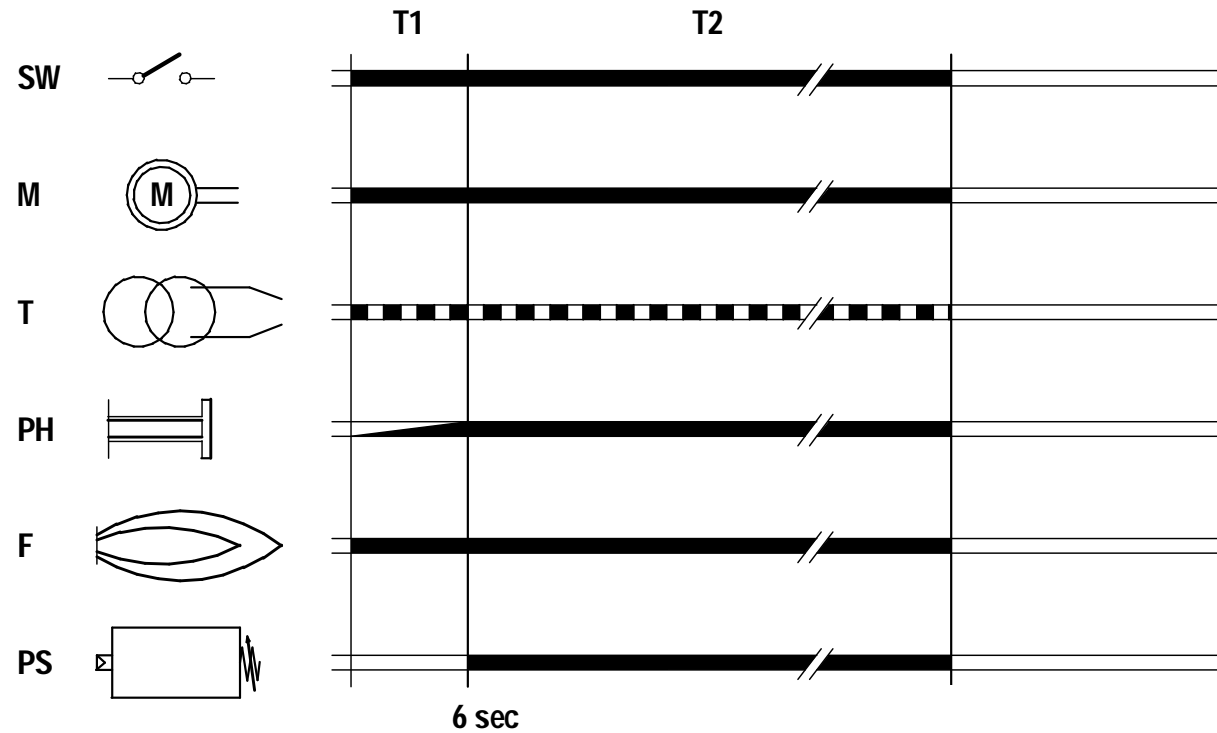
Principle of Operation GRY-I



- M** electric motor
- C** compressor
- C1** accumulation chamber
- F1** suction filter
- F2** felt delivery filter
- F3** tank filter
- F4** fuel filter
- R** air regulation valve
- A** ignition transformer
- V** fan
- P** photocell
- T** combustion head
- E** electrode
- U** nozzle
- B** combustion chamber
- EV** air solenoid valve
- C2** adapter chimney
- S** exchanger

Ignition Sequence

GRY-D 15/20/28/40

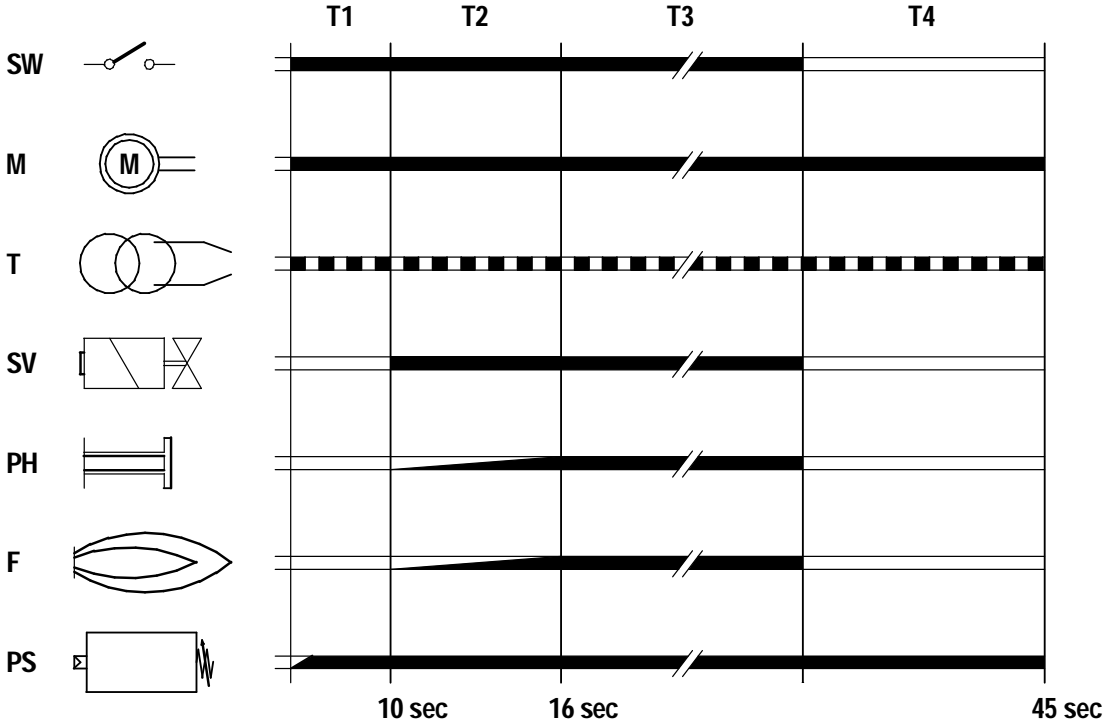


SW	SWITCH
M	MOTOR
T	TRANSFORMER
PH	PHOTOCELL
F	FLAME
PS	AIR PRESSURE SWITCH

T1	START TIME
T2	WORK TIME

Ignition Sequence

GRY-D 60 & GRY-I 15/25/40

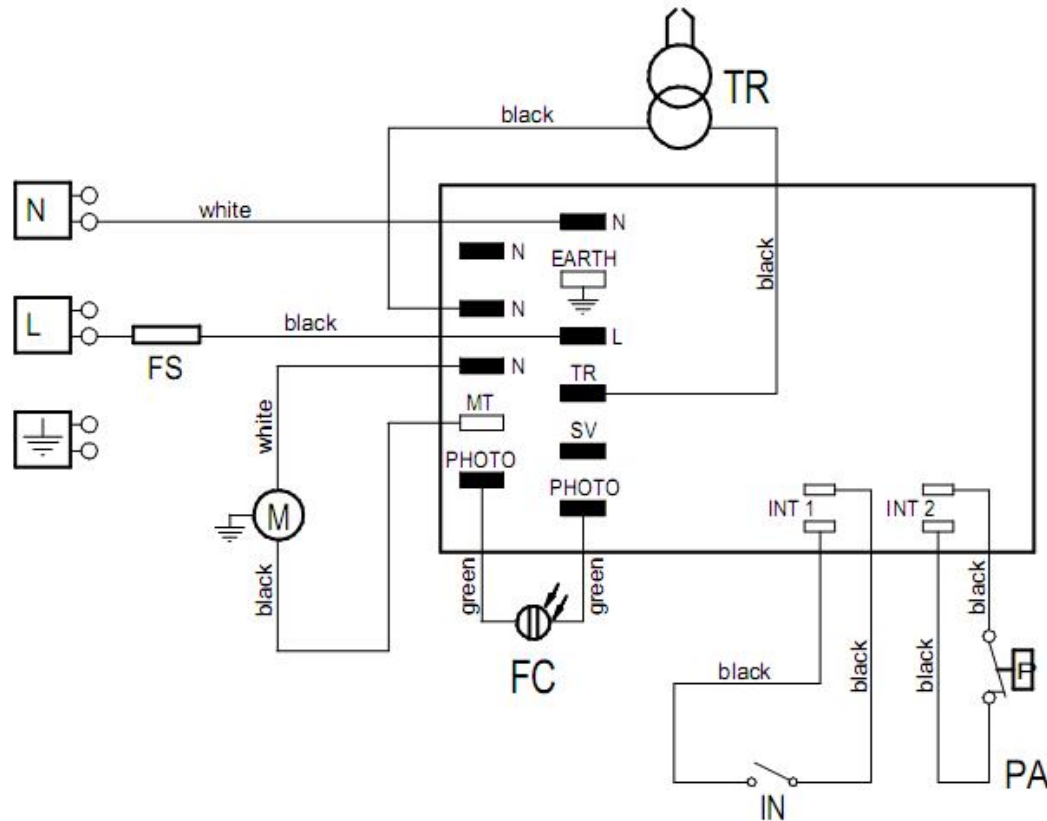


- SW SWITCH
- M MOTOR
- T TRANSFORMER
- SV AIR SOLENOID VALVE
- PH PHOTOCCELL
- F FLAME
- PS AIR PRESSURE SWITCH

- T1 PREVENTILATION TIME
- T2 START TIME
- T3 WORK TIME
- T4 POST-VENTILATION TIME

Wiring Diagrams

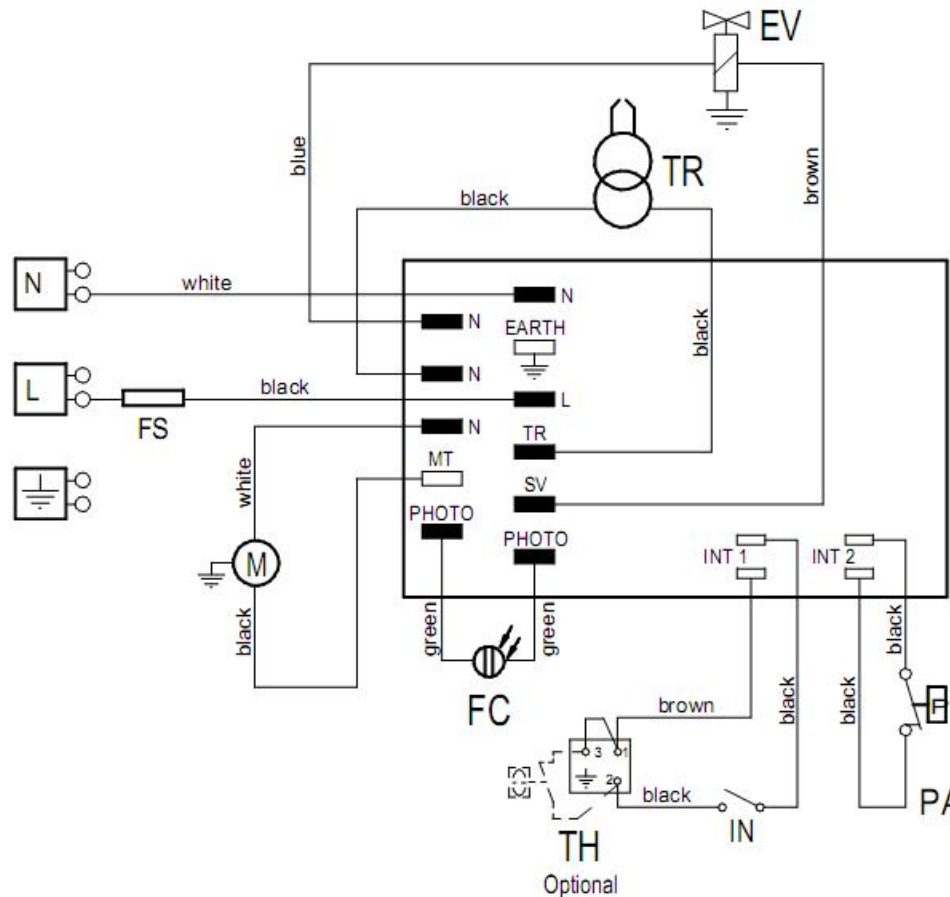
GRY-D 15HU / 20WU-HU / 28WU / 40WU



- FC Photocell
- FS Fuse
- IN Switch
- M Motor
- TR Transformer
- PA Air pressure switch

Wiring Diagrams

GRY-I 15 WU / 25WU / 40WU
GRY-D 60WU

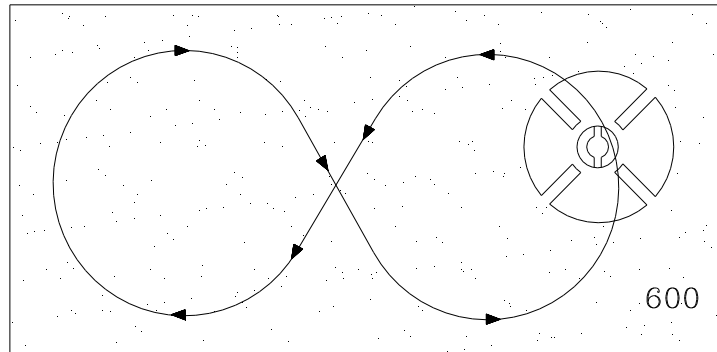
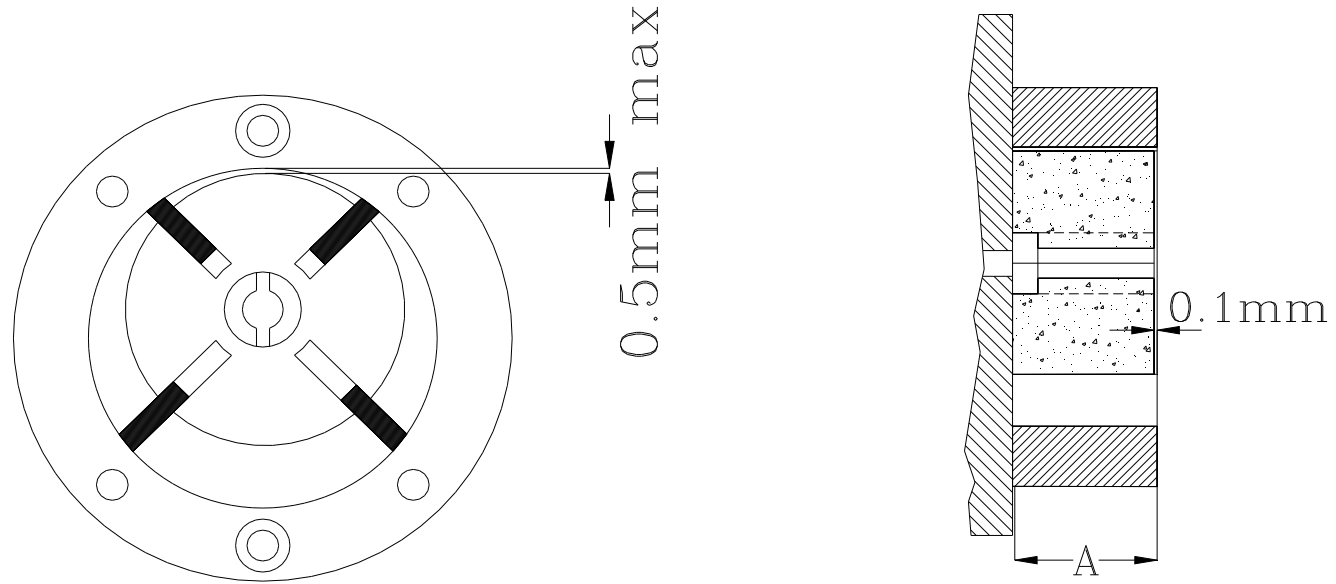


- EV Air solenoid valve
- FC Photocell
- FS Fuse
- IN Switch
- M Motor
- TH Remote thermostat (optional)
- TR Transformer
- PA Air pressure switch

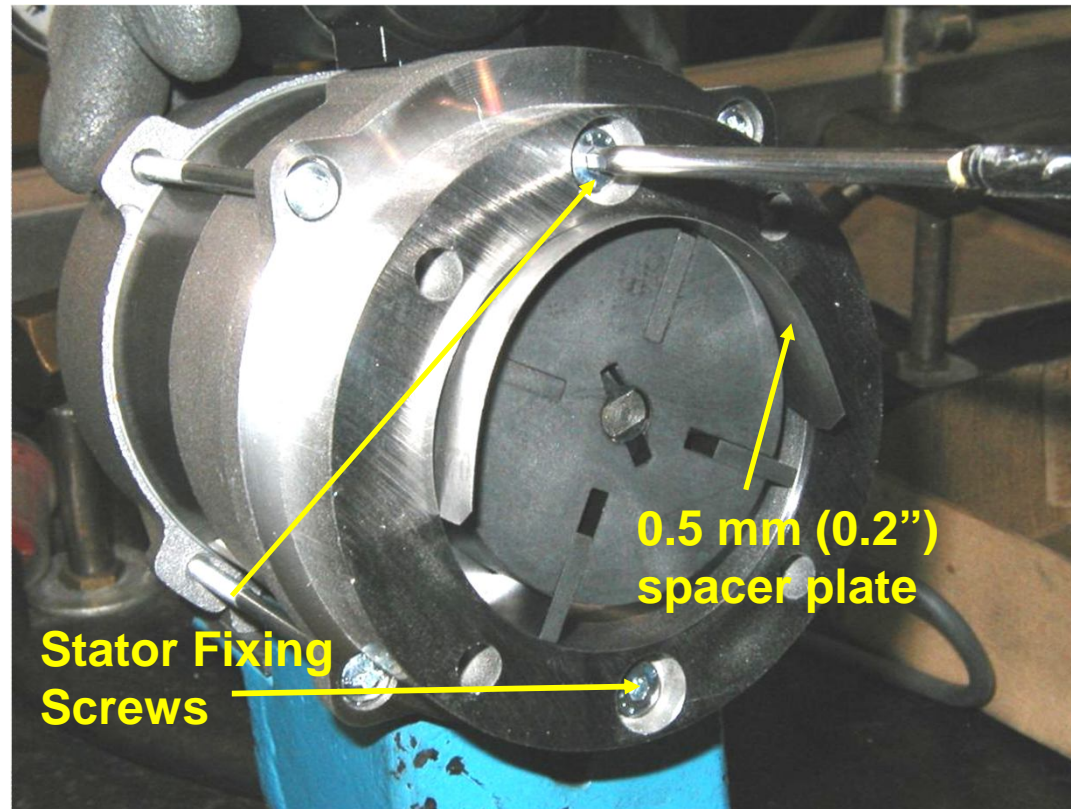


GRY-D GRY-I Service Procedures

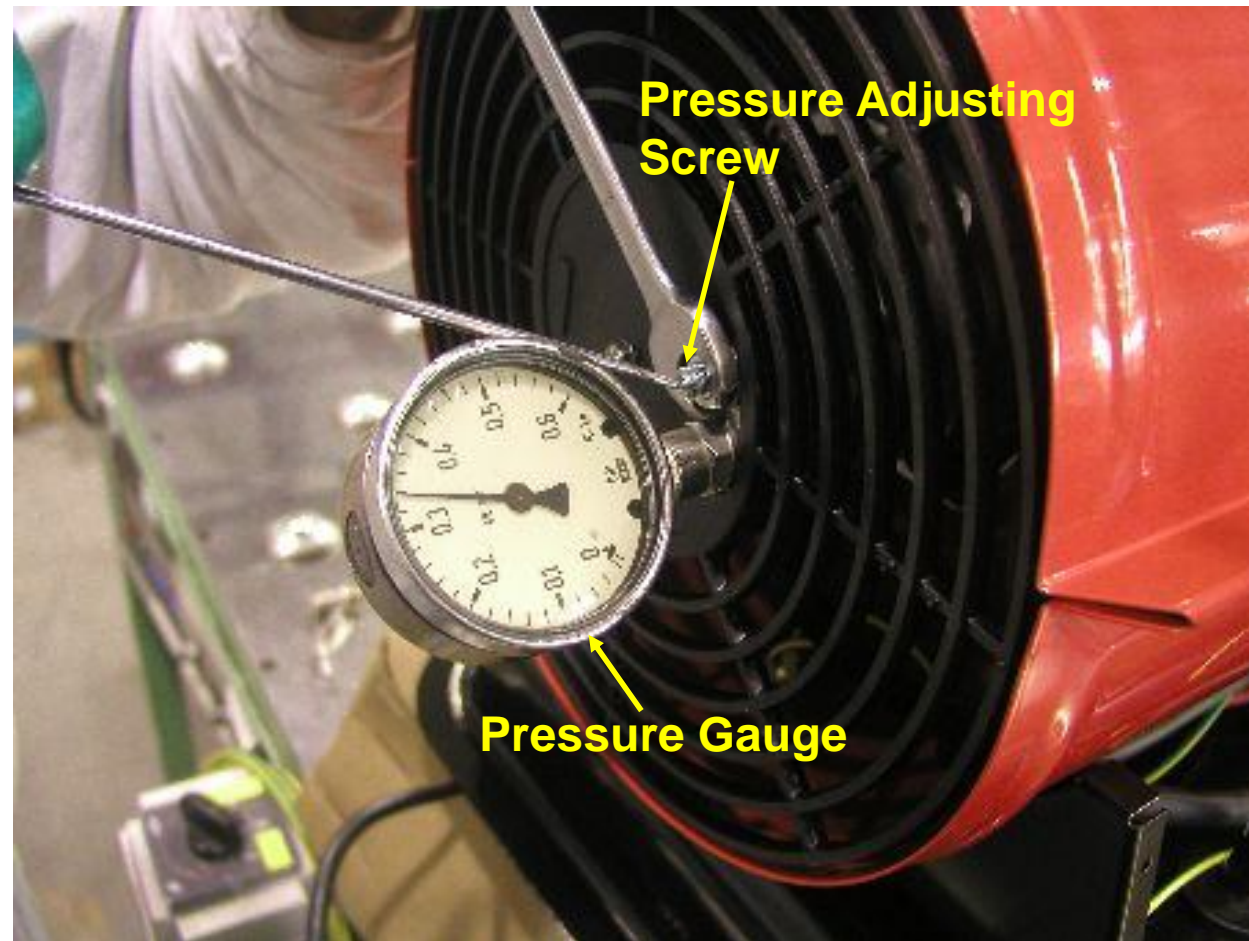
Rotor-Stator Clearances



Correct Stator vs. Rotor Positioning



Air pressure adjustment



GRY-D

Appearance of front disc

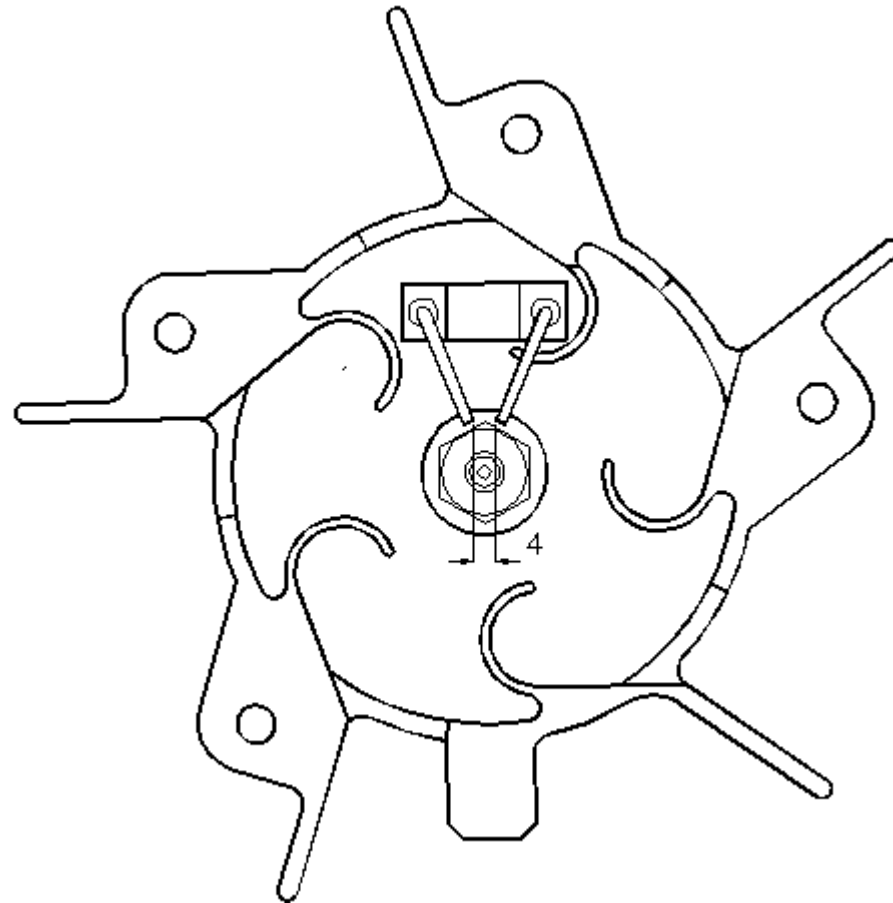


BAD COMBUSTION

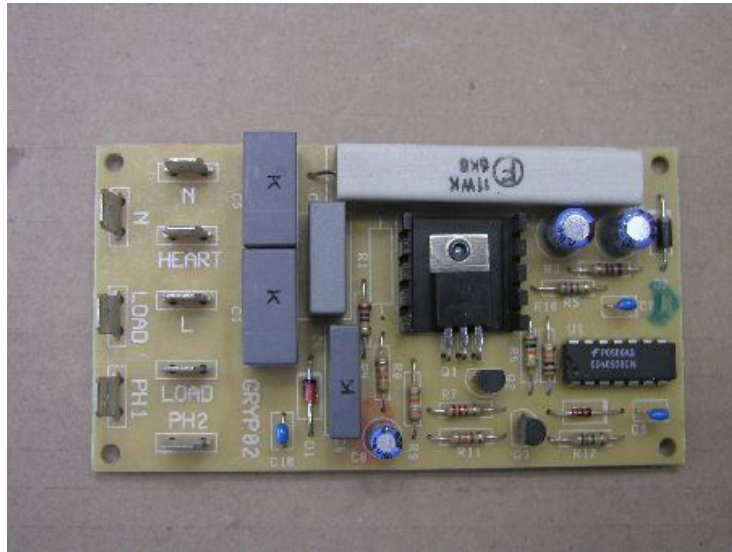


GOOD COMBUSTION

Ignition Electrode Gap

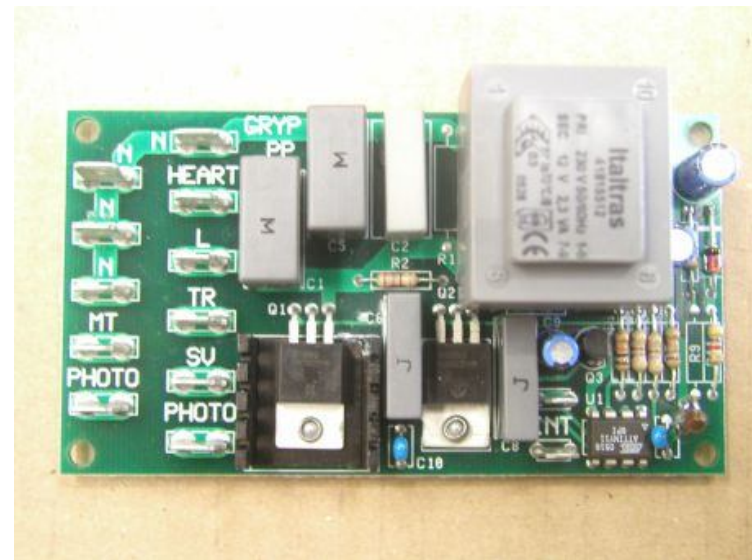


Electronic control boards

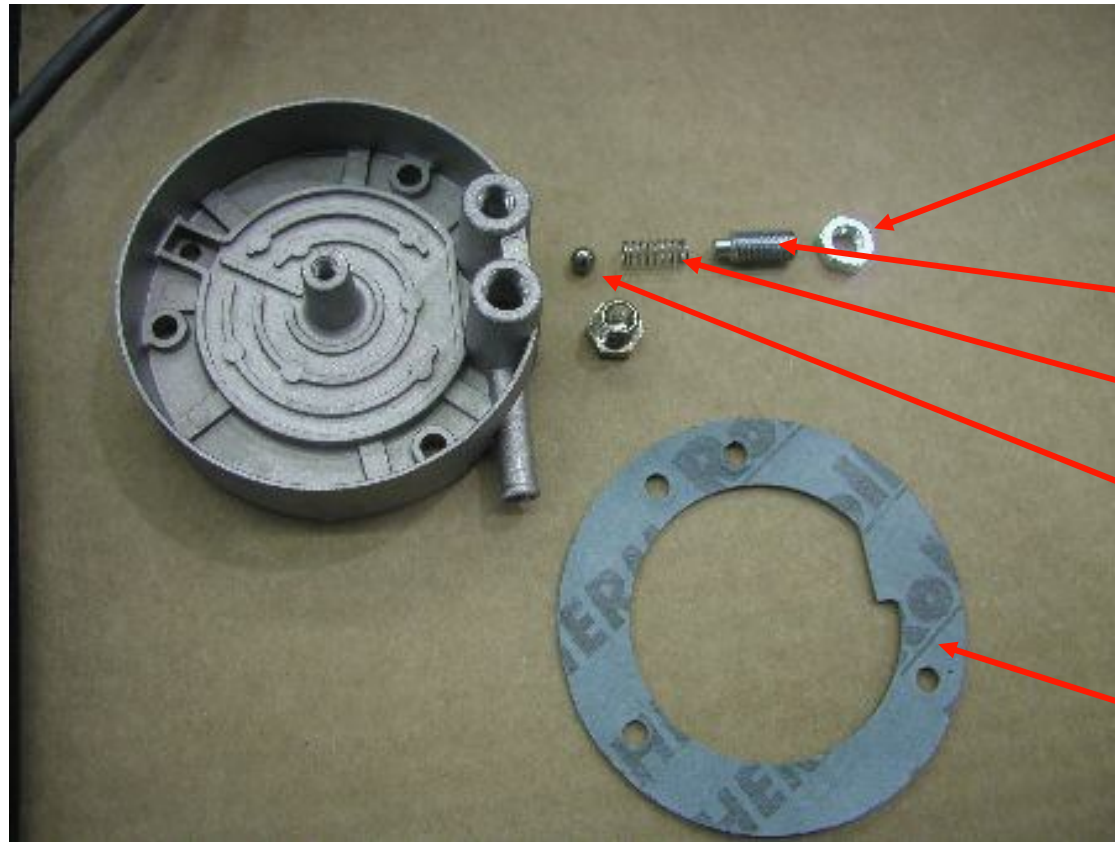


GRY-D

GRY-I



Pressure Adjustment Valve



Nut

Screw

Spring

Ball

Gasket

Air Ducting (Indirect Heaters only)



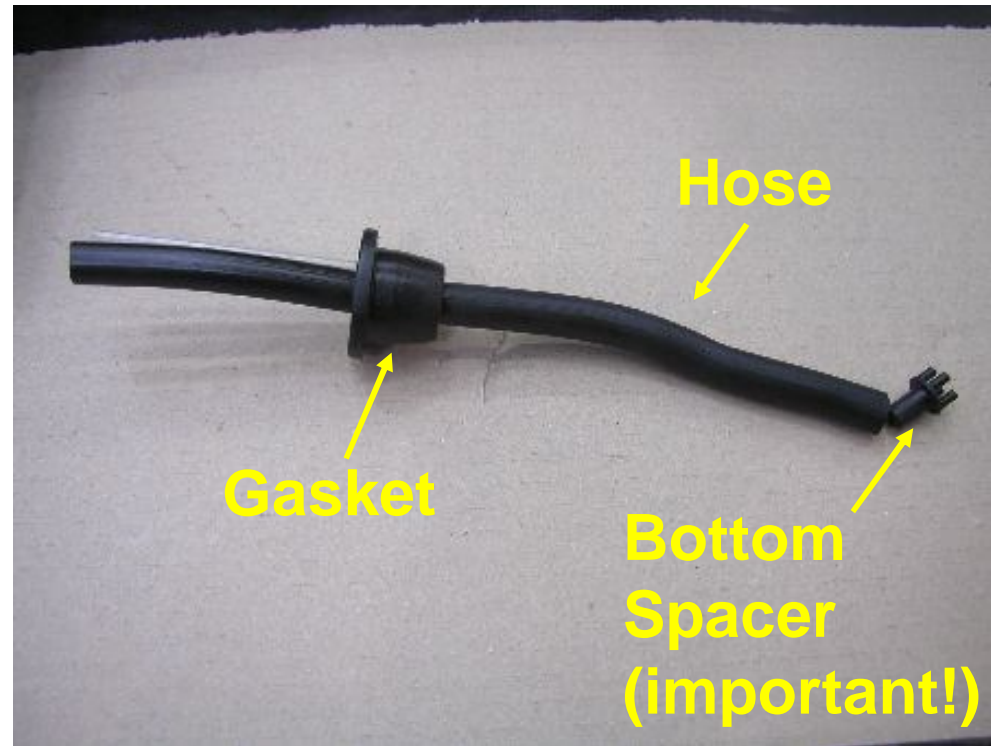
GRY-I 25&40 WU
GRY-I 15 WU

Max Duct Length ~ 8 m (25 ft)
Max Duct Length ~ 6 m (20 ft)

Draining Fuel from Tank



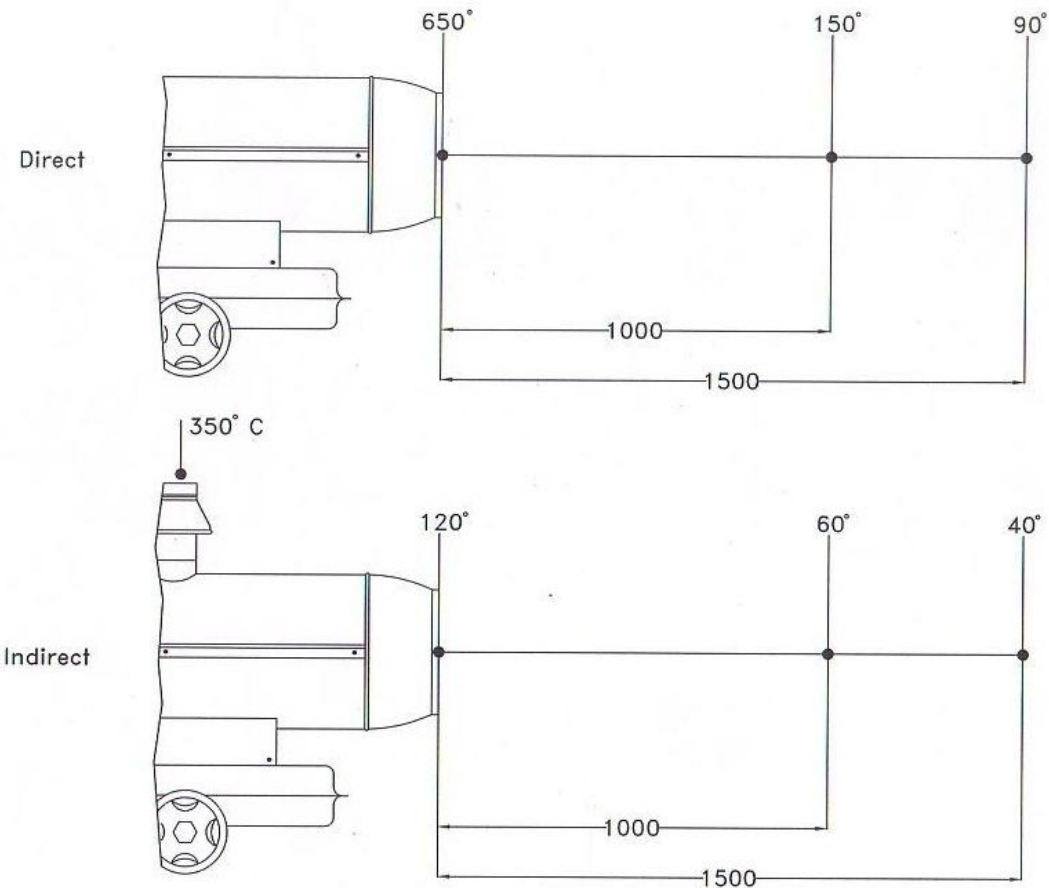
Fuel Suction Hose



Tank Cap

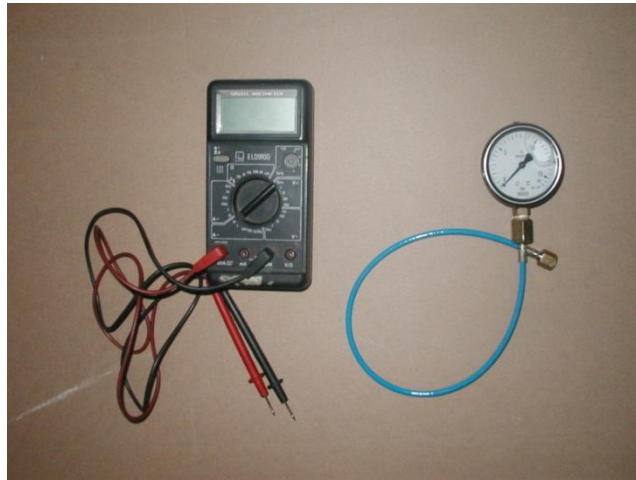


Typical Air Temperatures on Direct and Indirect Heaters



Outlet air temperature with room temperature 20 °C

Service & Maintenance Equipment



Measuring devices

Electric Multimeter (V, A, Ω)

PC Flame Sensor Tester Kit

Pressure Gauge Kit
(incl. hose and fitting)

Smoke Index Tester

