



**Munters**  
**SIAL®**

**Mobile Diesel Heaters**  
**GRY-D / GRY-I**

***Service***  
***Training Course***



# GRY-I

## Indirect-fired Diesel Heaters



- GRY-I 15 WU
  - GRY-I 25 WU
  - GRY-I 40 WU
- GRYP 50 AP
  - GRYP 90 AP
  - GRYP 135 AP

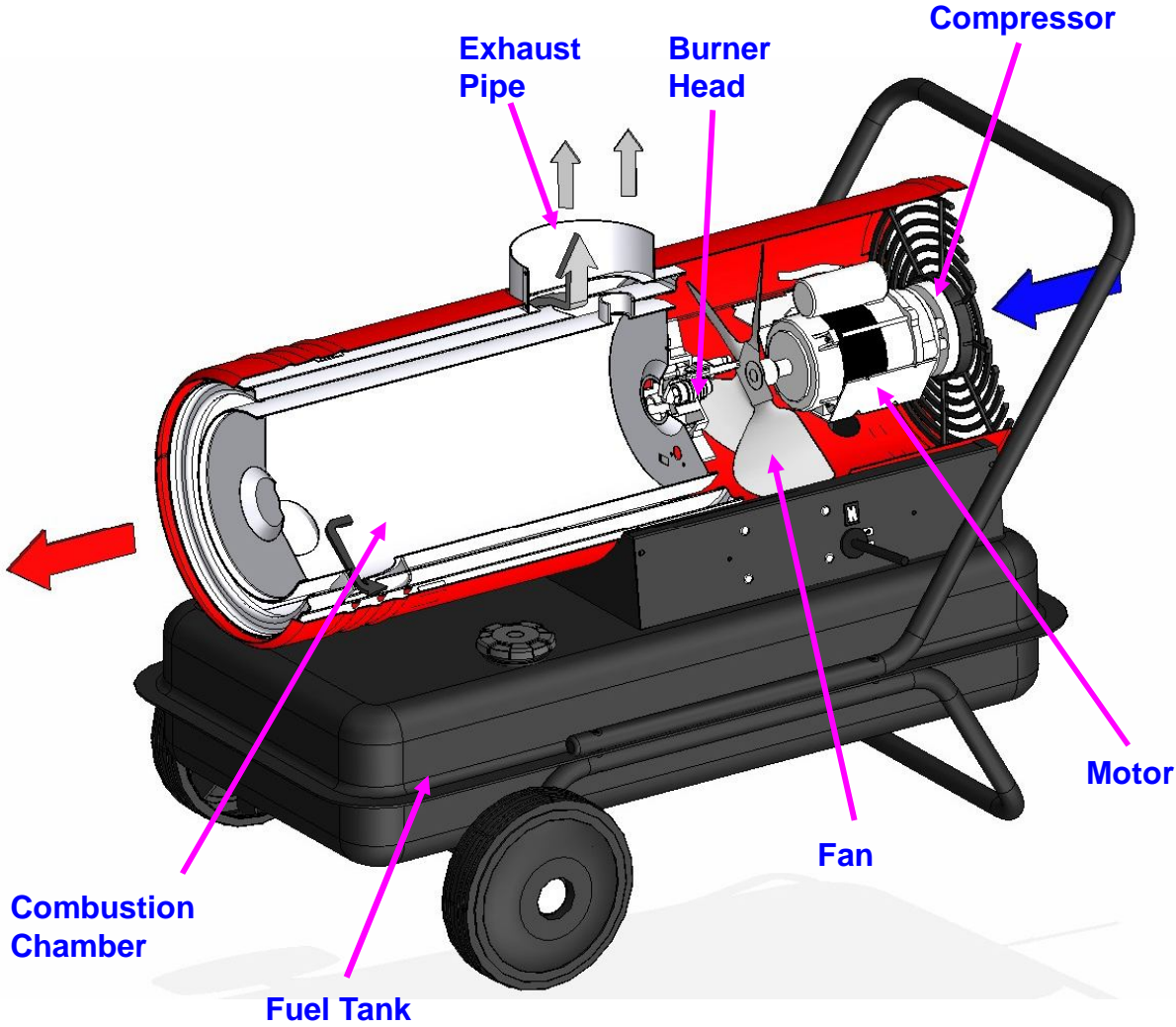
# GRY-D

## Direct-fired Diesel Heaters

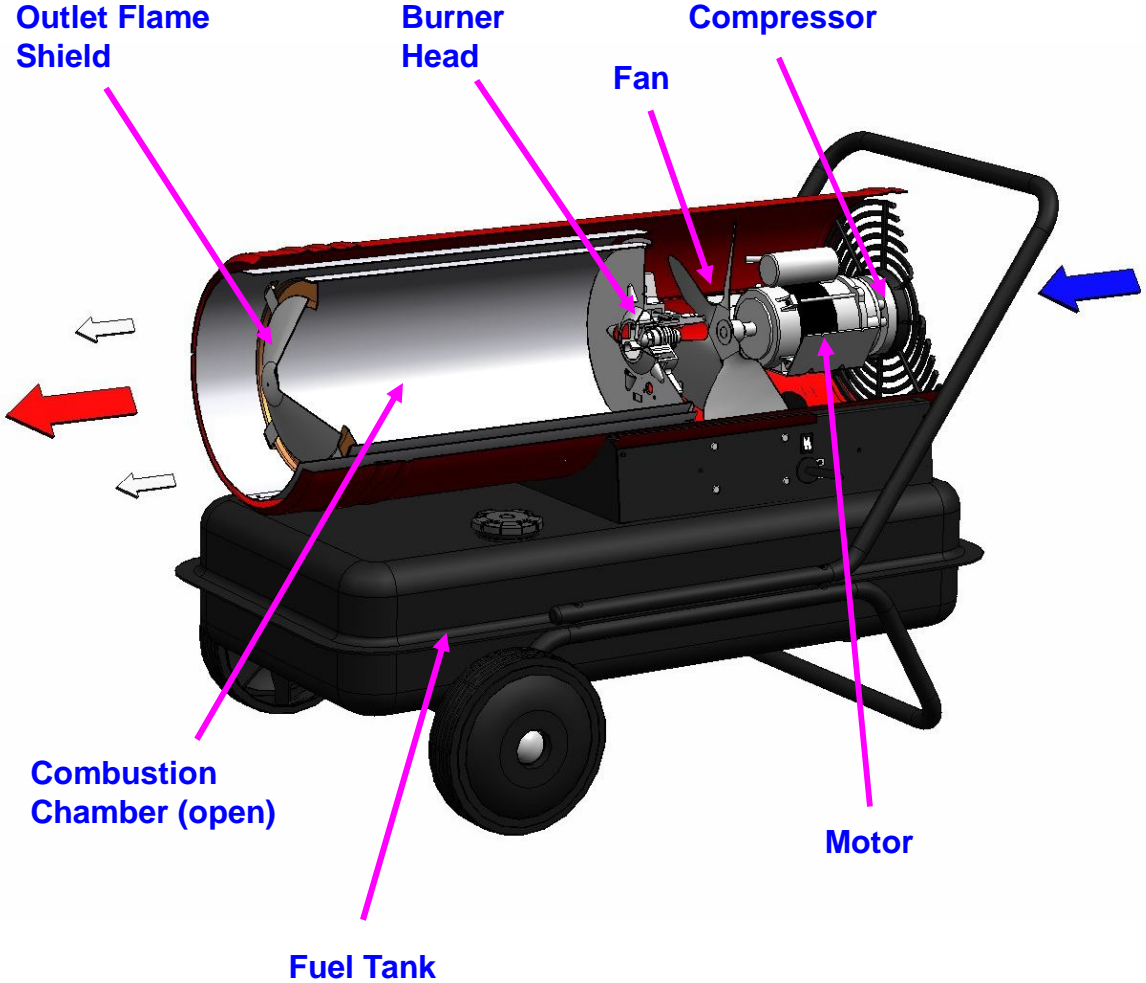


- GRY-D 15 WU
  - GRY-D 20 HU
  - GRY-D 20 WU
  - GRY-D 28 WU
  - GRY-D 40 WU
  - GRY-D 60 WU
- GRYP 50
  - GRYP 80 M
  - GRYP 80
  - GRYP 100
  - GRYP 150
  - GRYP 210 PV

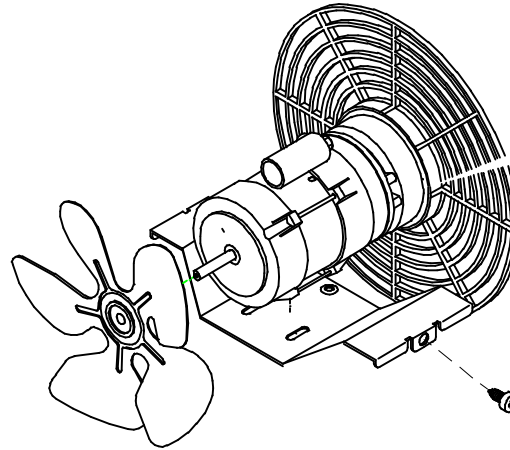
# GRY-I General Assembly



# GRY-D General Assembly



# Fan Motor Assembly



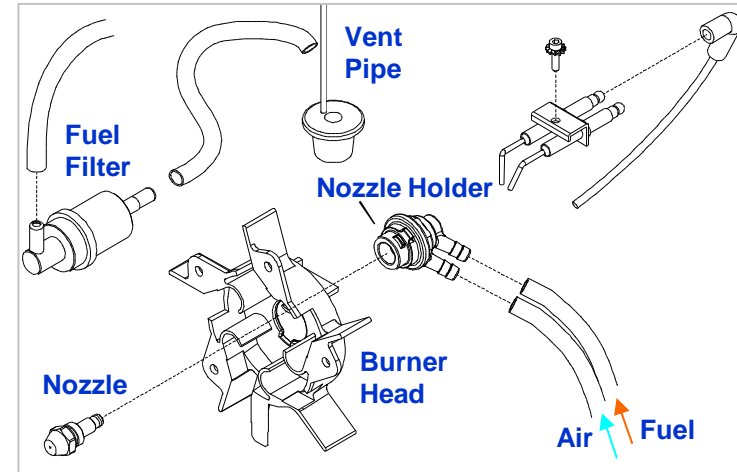
## US Motors

70 W	3300 rpm	2 poles	10 $\mu$ F	GRY-D 15
100 W	3300 rpm	2 poles	10 $\mu$ F	GRY-D 20
150 W	3300 rpm	2 poles	20 $\mu$ F	GRY-D 28 GRY-I 15
250 W	3300 rpm	2 poles	30 $\mu$ F	GRY-D 40/60 GRY-I 25/40

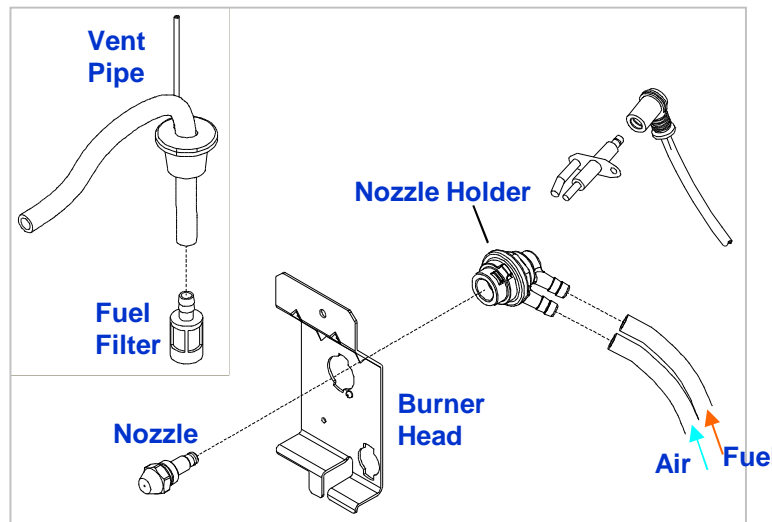
# Fuel Circuit

The fuel circuit is composed of :

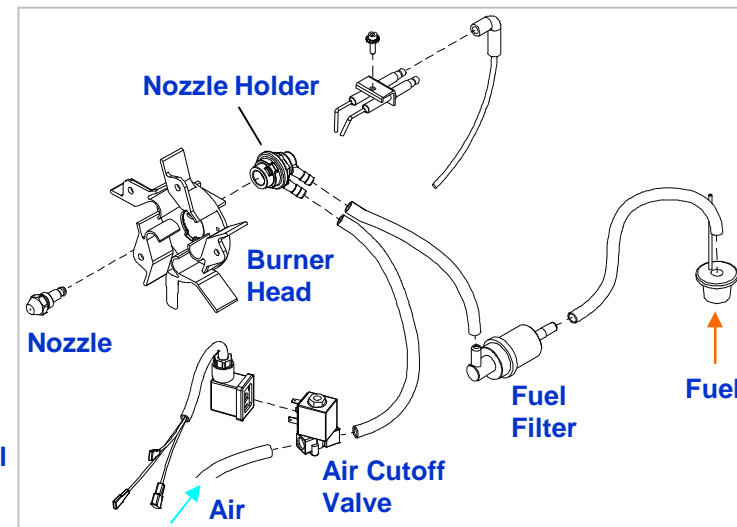
- fuel tank
- fuel suction hose
- fuel filter
- (air compressor)
- (air valve)
- (air hoses)
- nozzle holder (combustion head)
- nozzle



GRY-D Models (except 15 and 60)

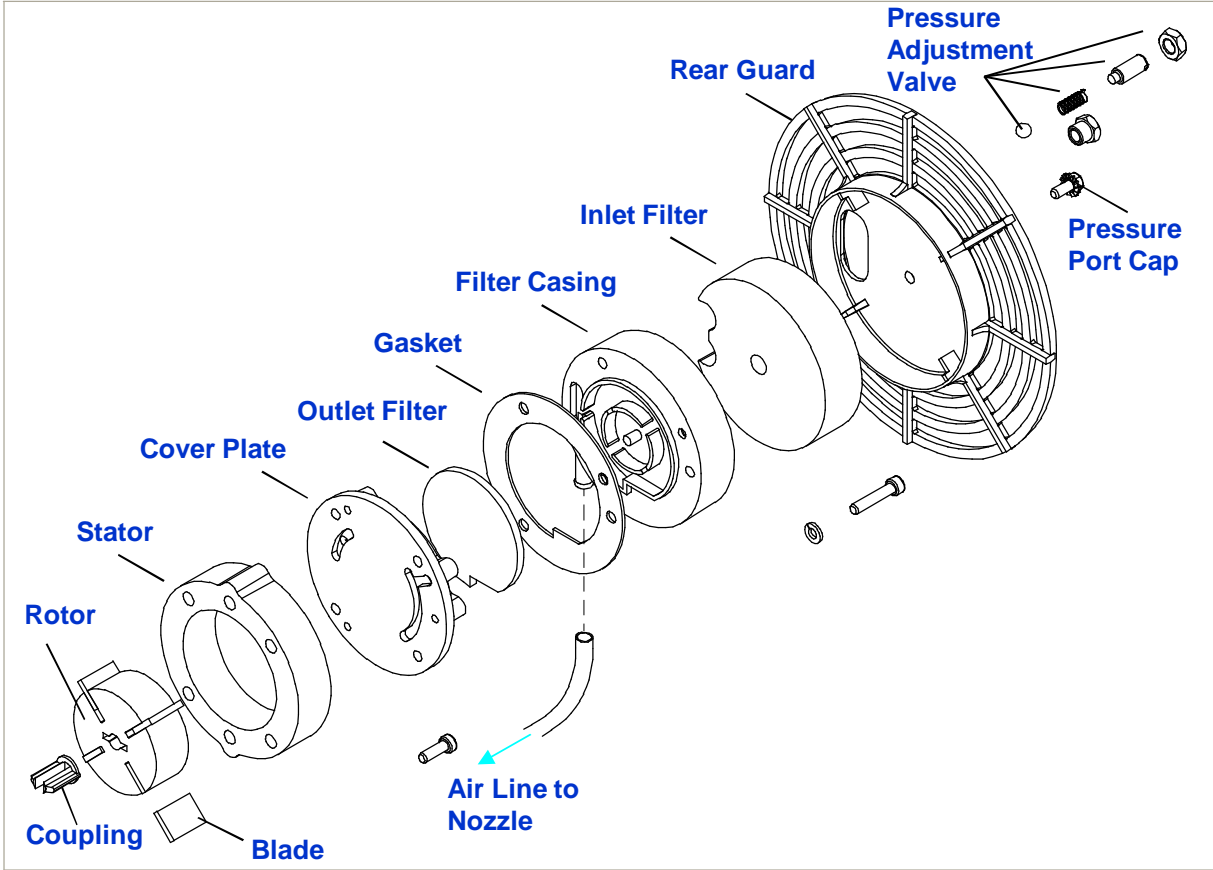


GRY-D 15 WU



GRY-I Models & GRY-D 60

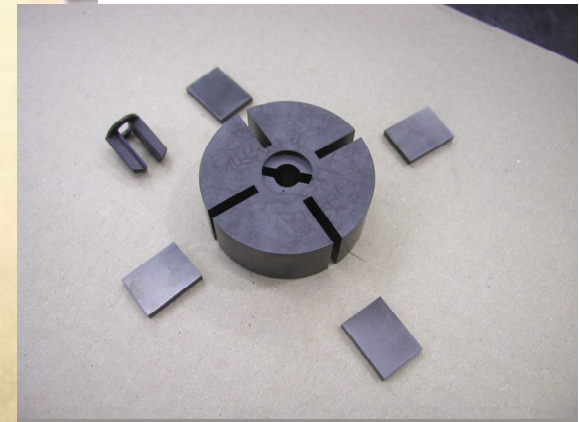
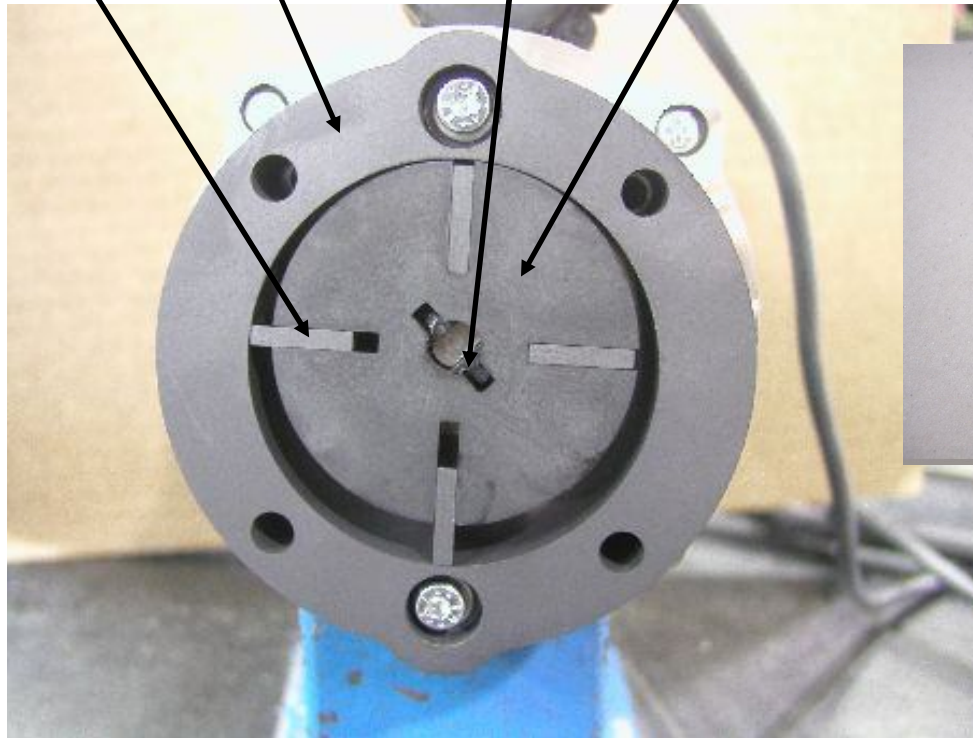
# Air Compressor Assembly



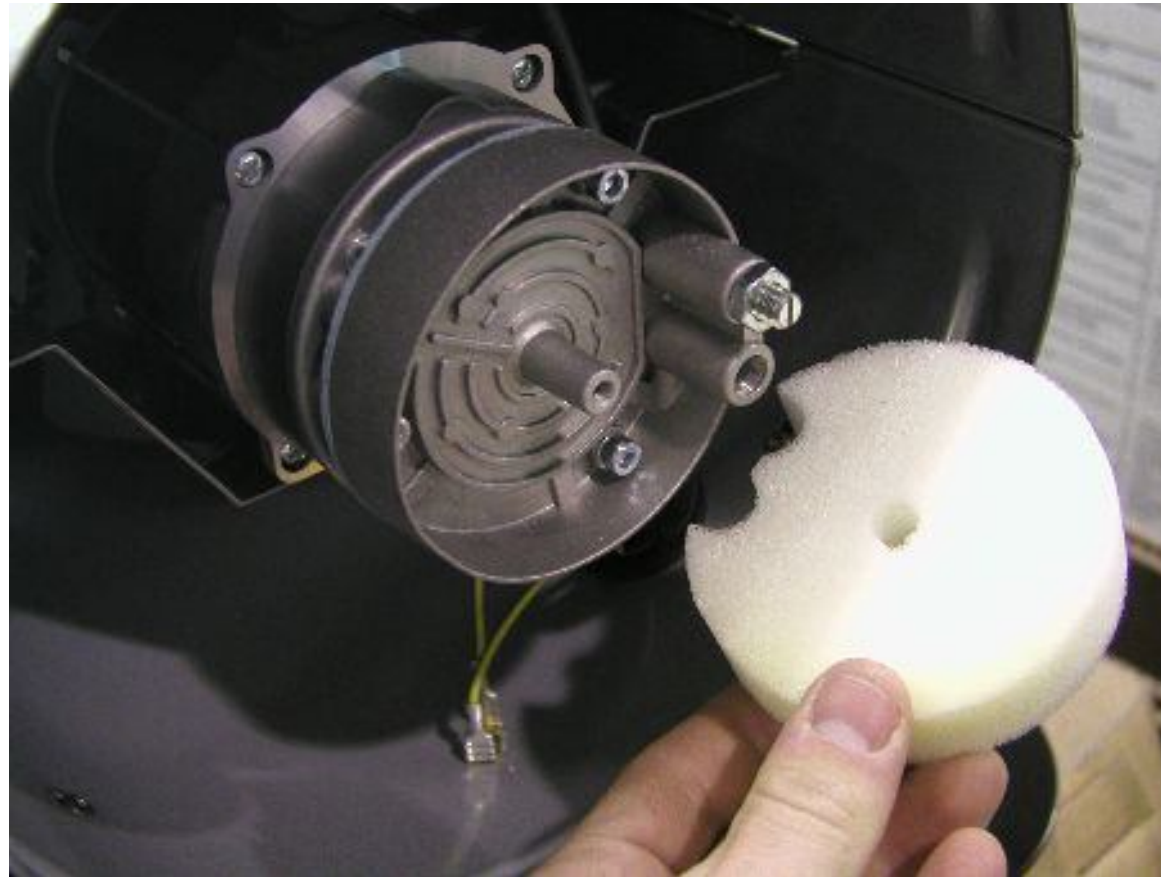


# Rotary Compressor

Blade Stator Joint Rotor



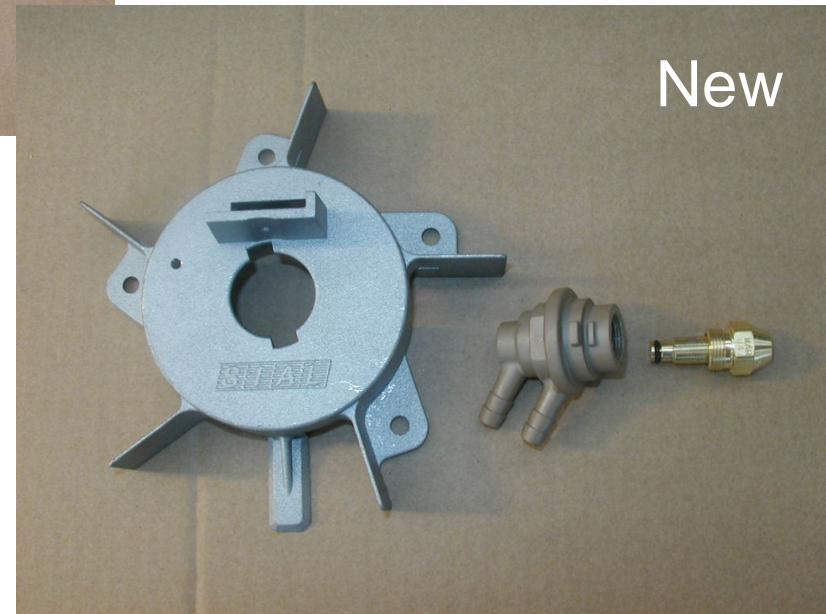
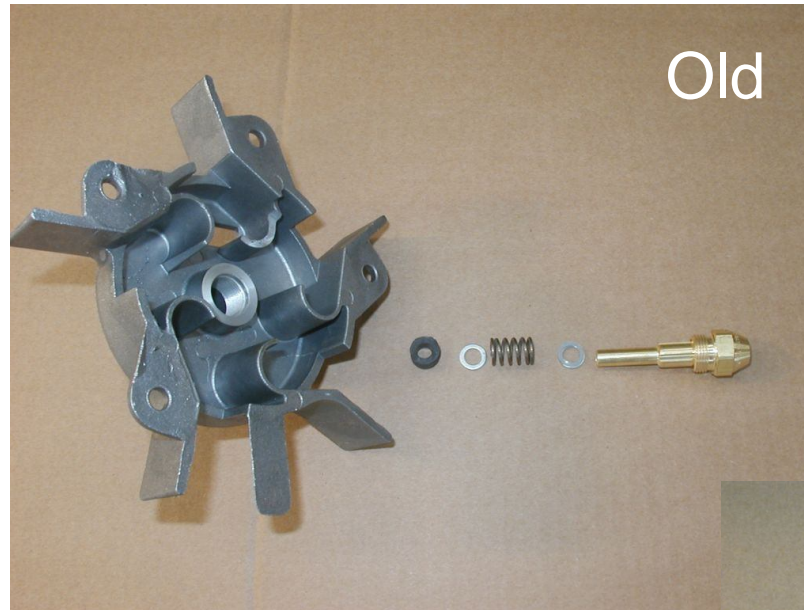
# Air compressor Inlet (Low Pressure) Filter



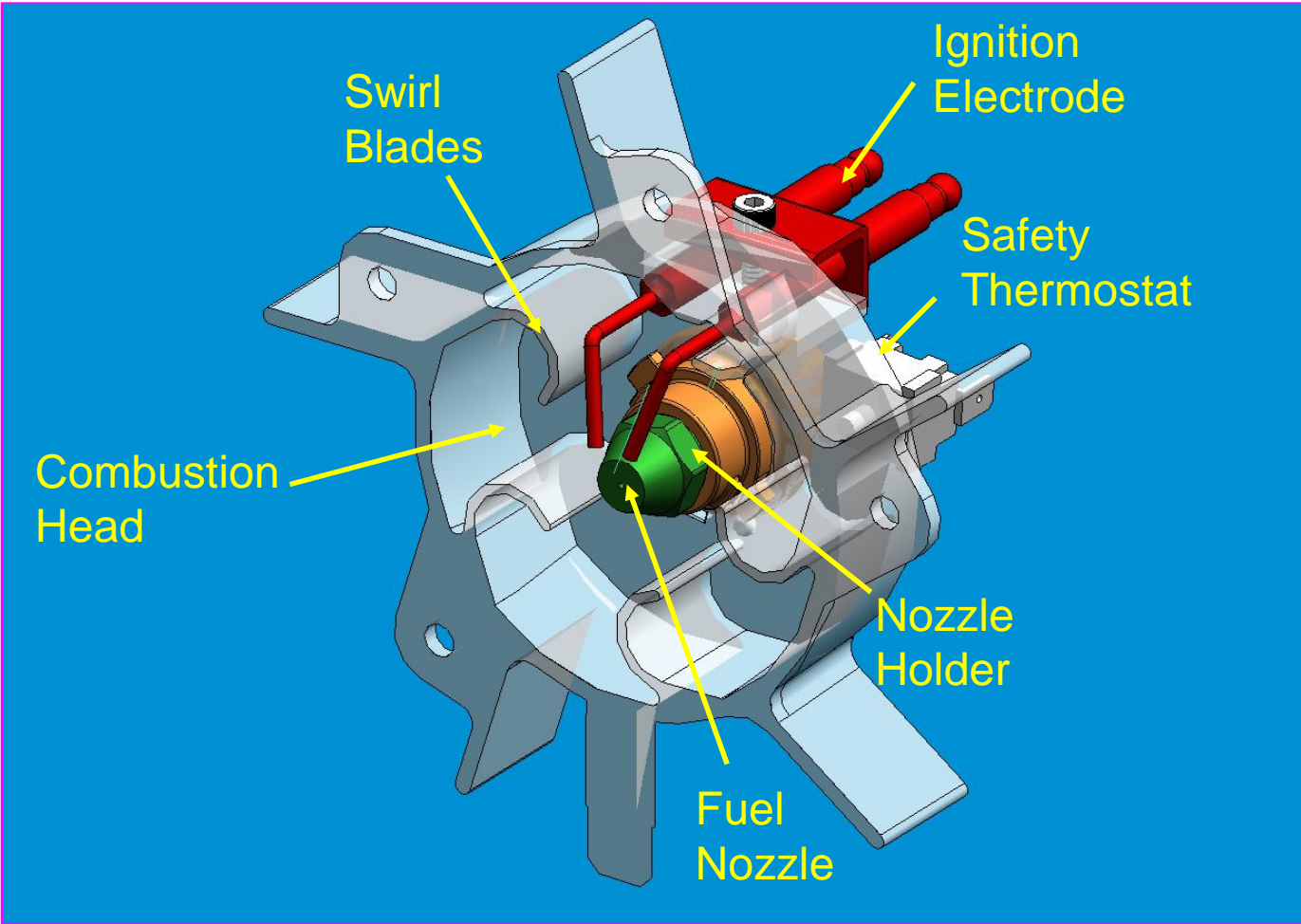
# Air compressor Outlet (High Pressure) Filter



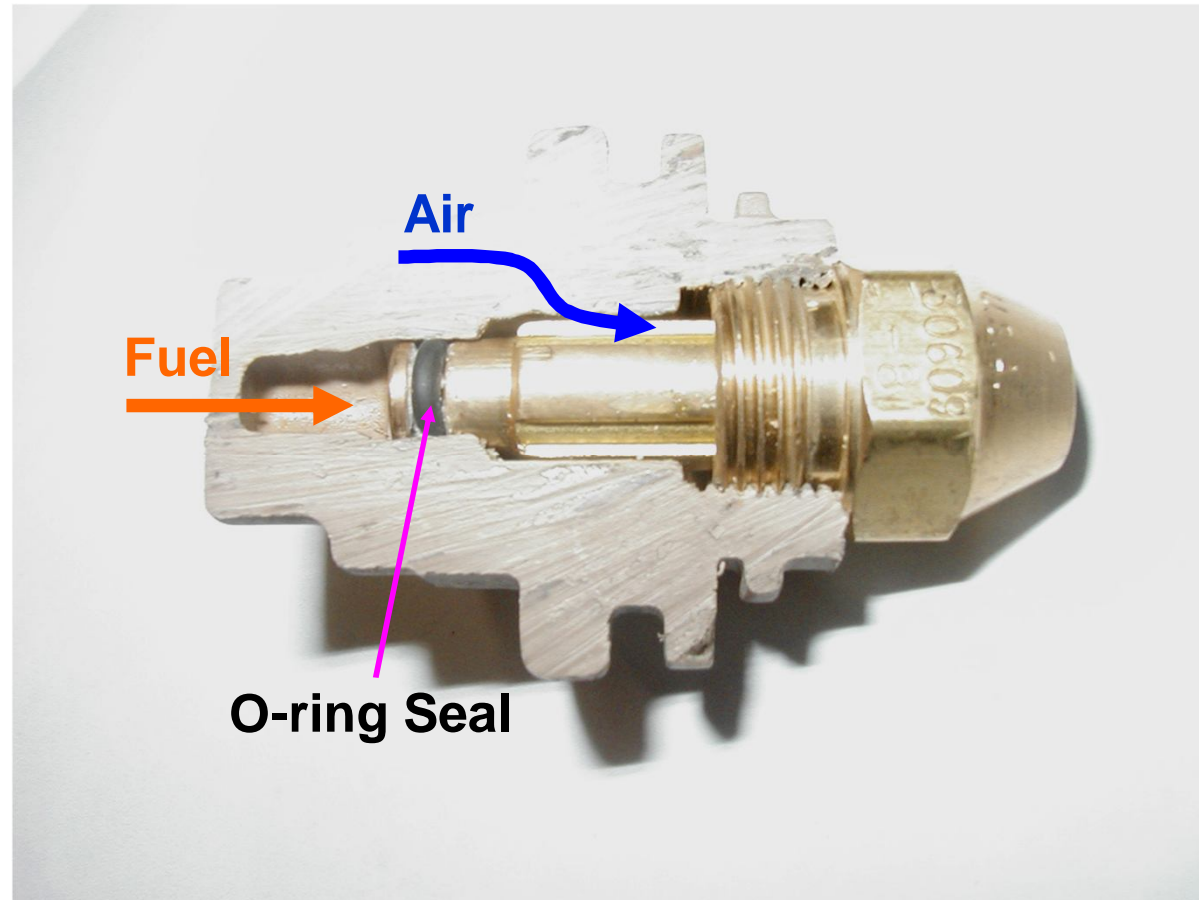
# Burner Assembly (old and new design)



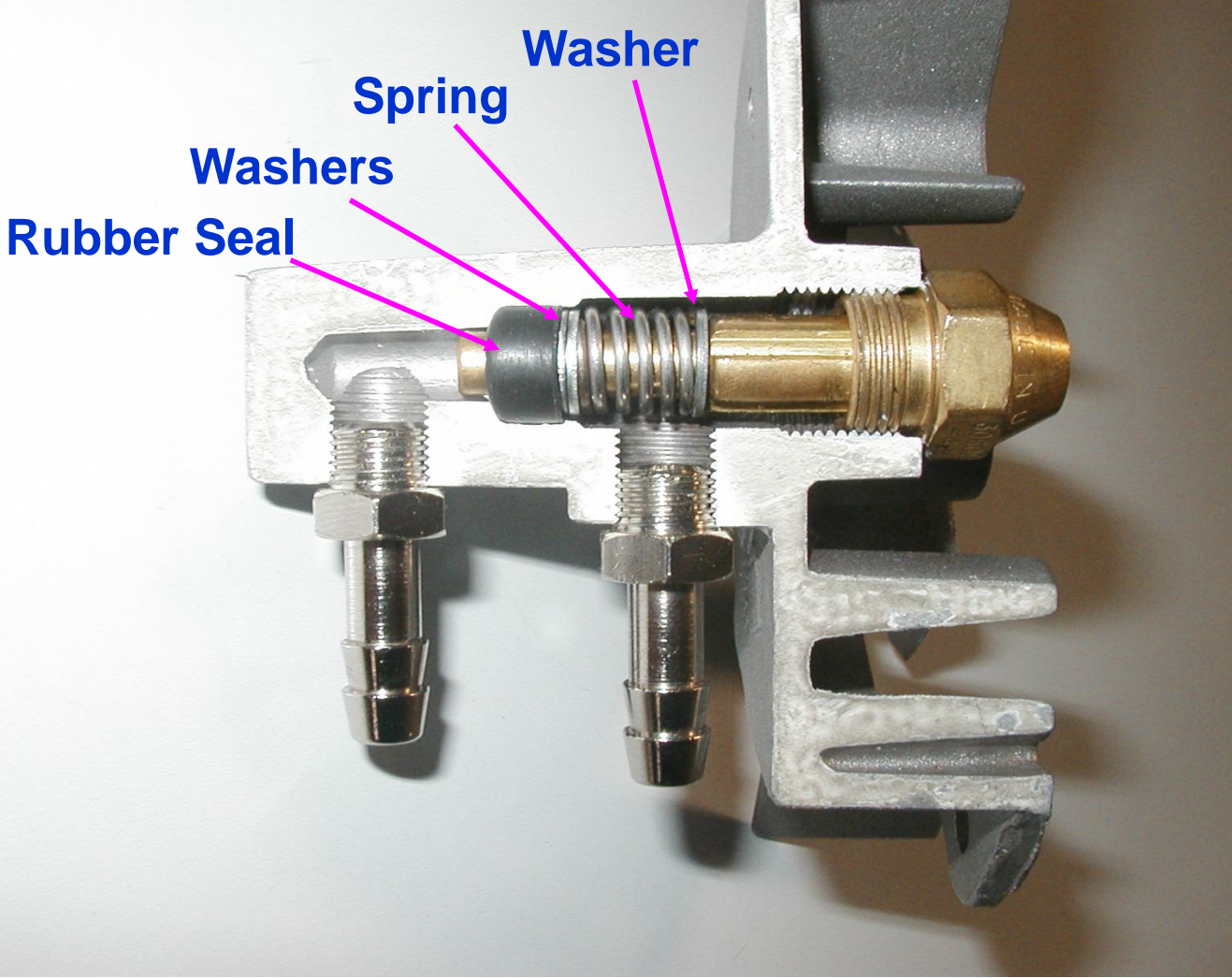
# Burner Assembly



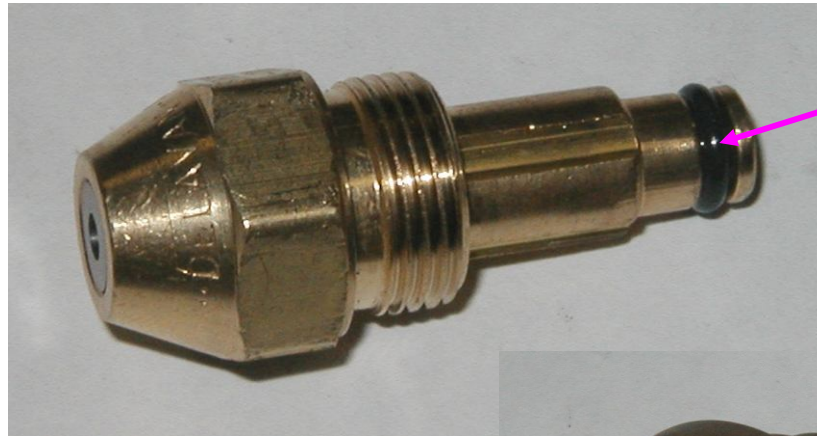
# Combustion Head (current design)



# Combustion Head (old design)



# Nozzle & Nozzle Holder



O-ring



Fuel Inlet

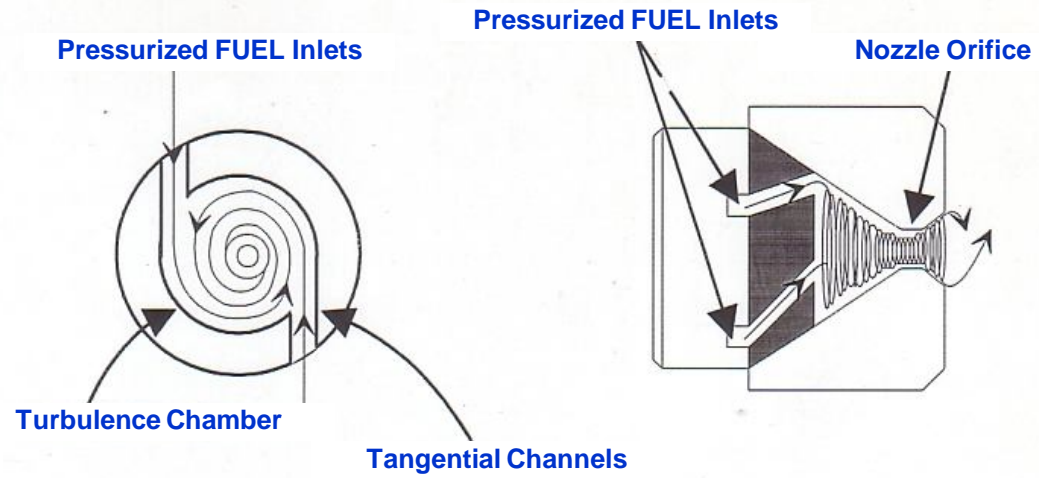
Air Inlet



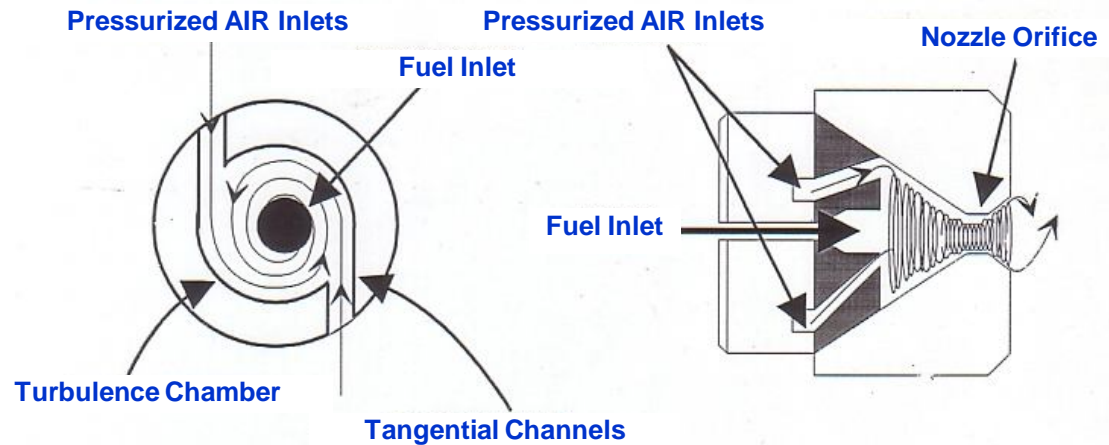


# Syphon Nozzle vs. Standard Nozzle

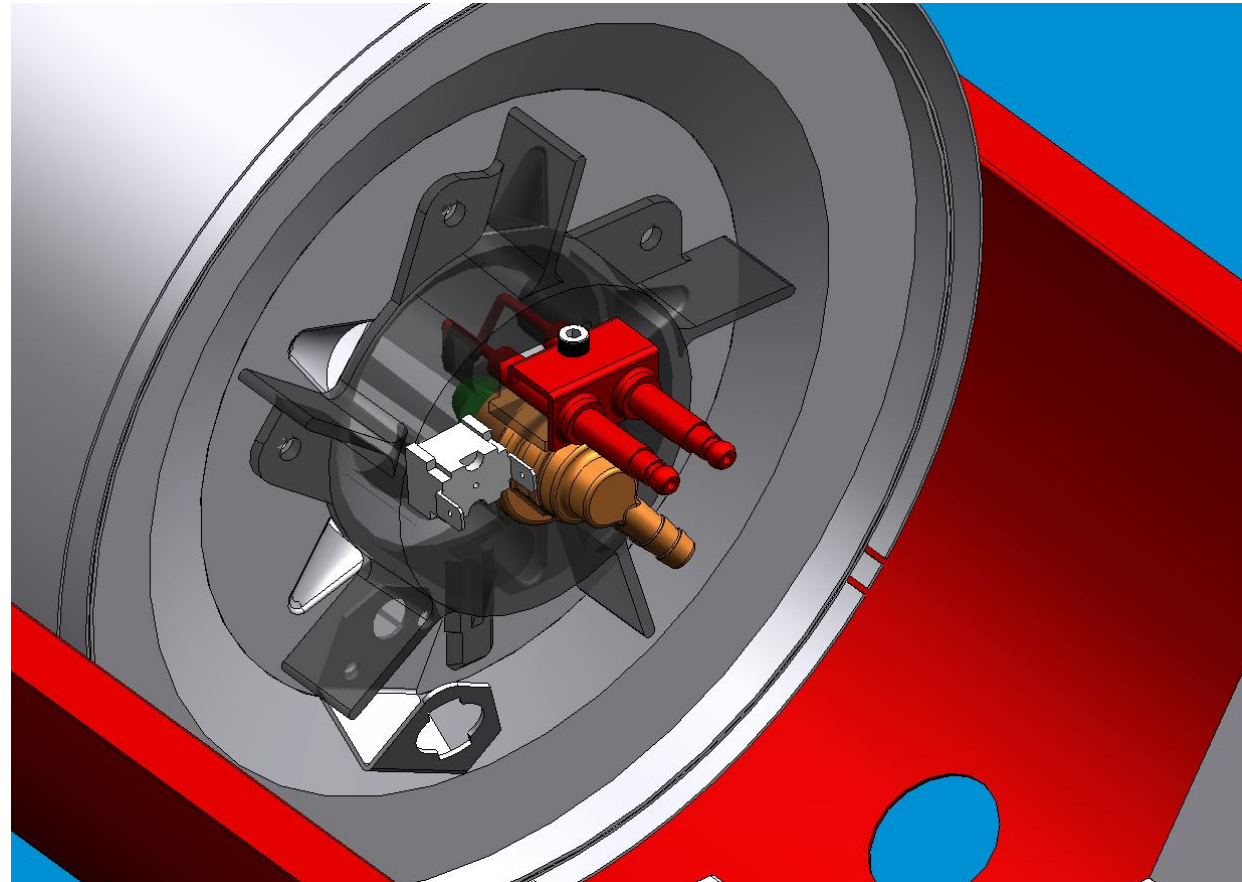
## STANDARD NOZZLE



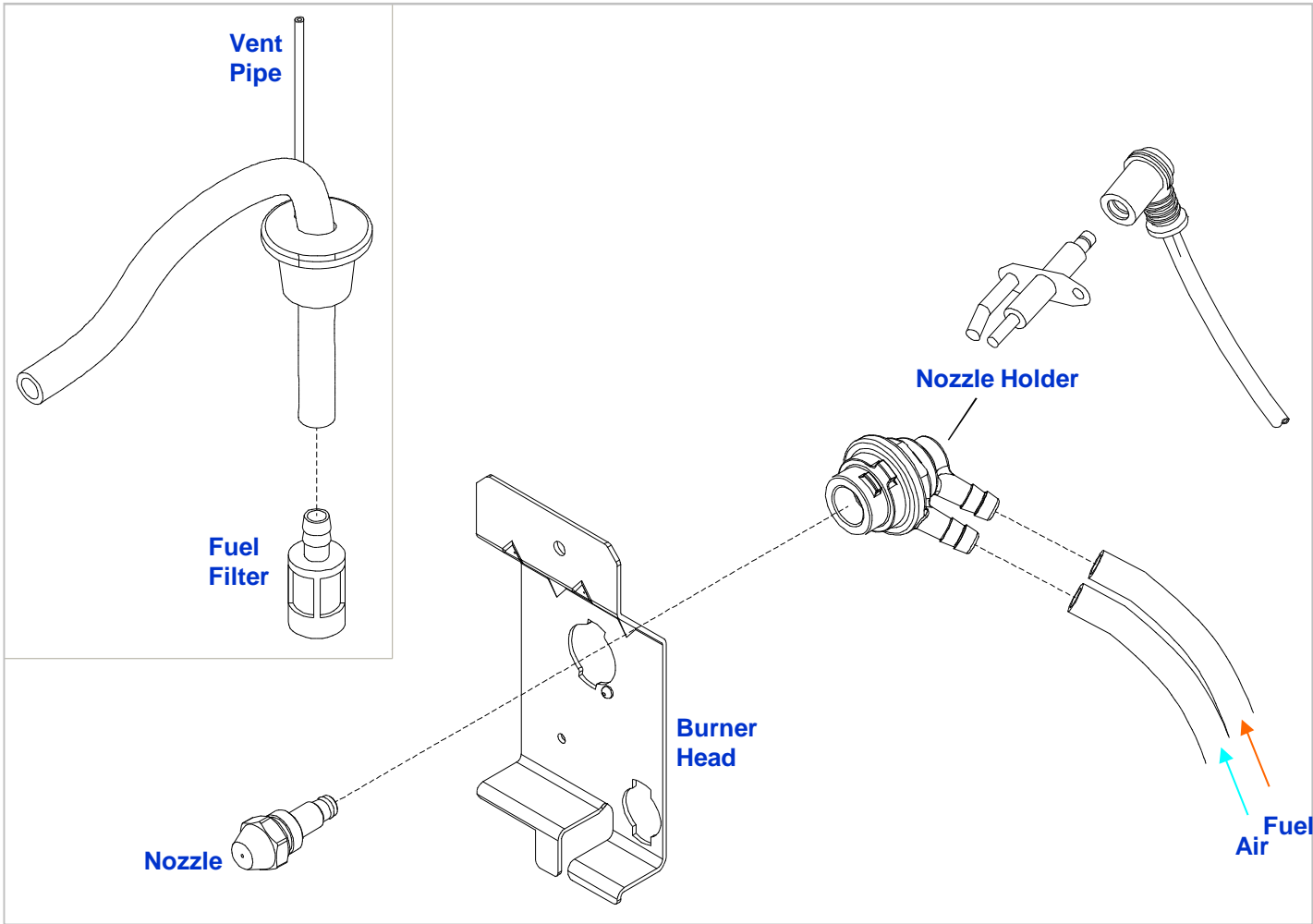
## SYPHON NOZZLE



# Burner Head on Combustion Chamber



# GRY-D 15 Combustion Head



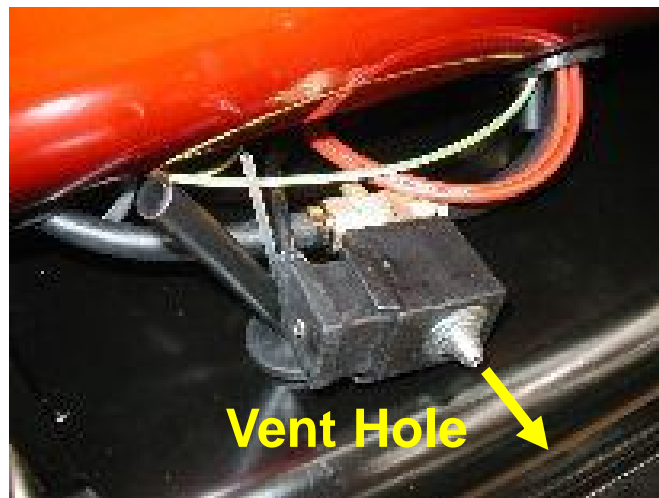
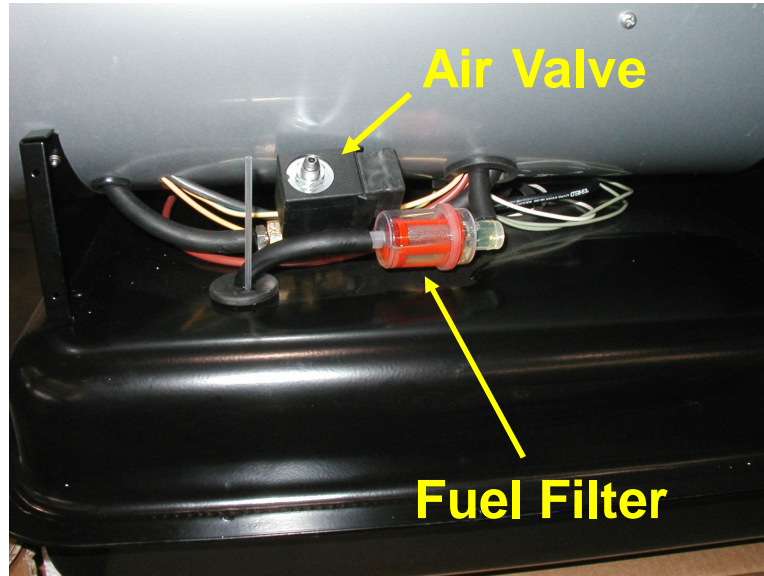
# GRY-I

## Combustion chamber detail



# GRY-I

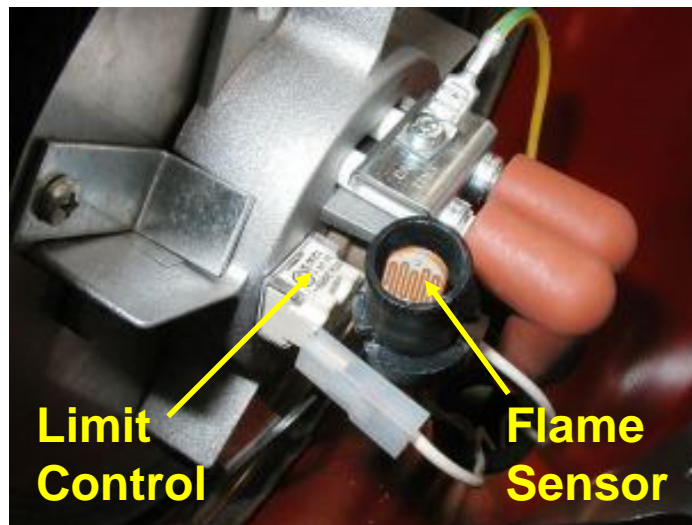
## Fuel Filter and Air Valve



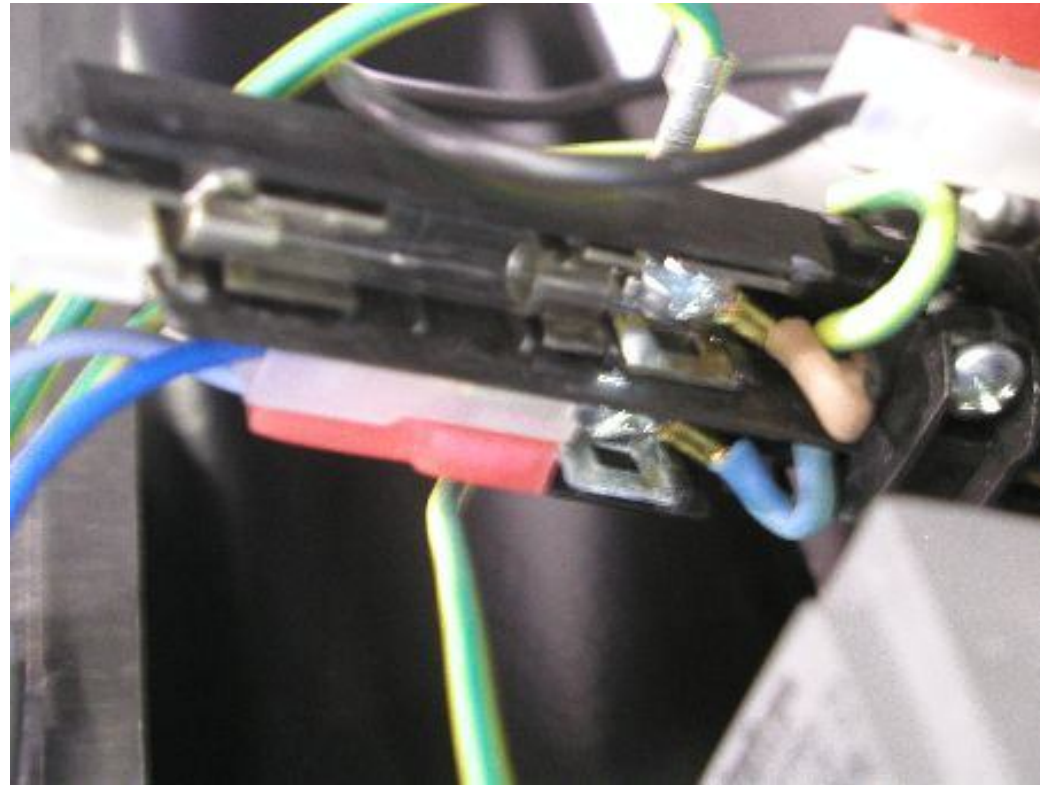
# Safety Controls

## 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)**

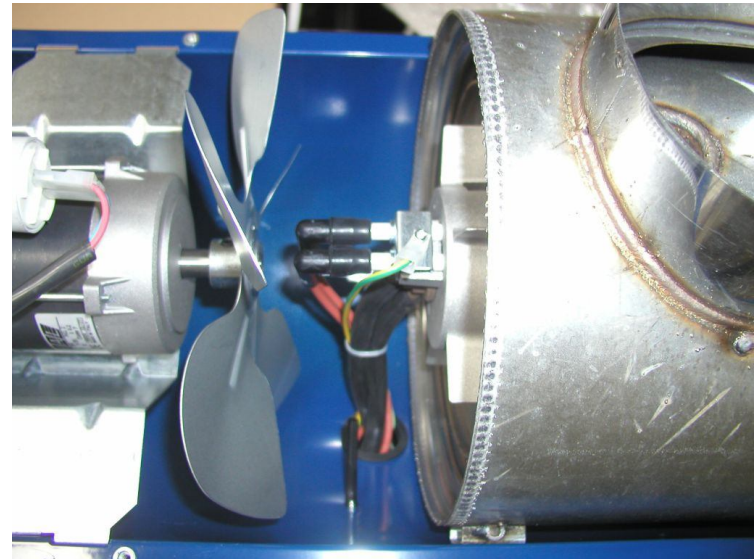
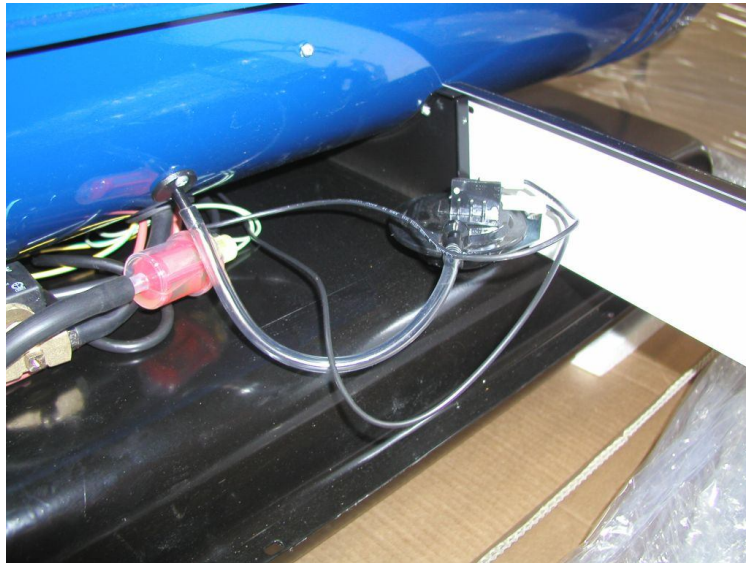


# Line Fuse



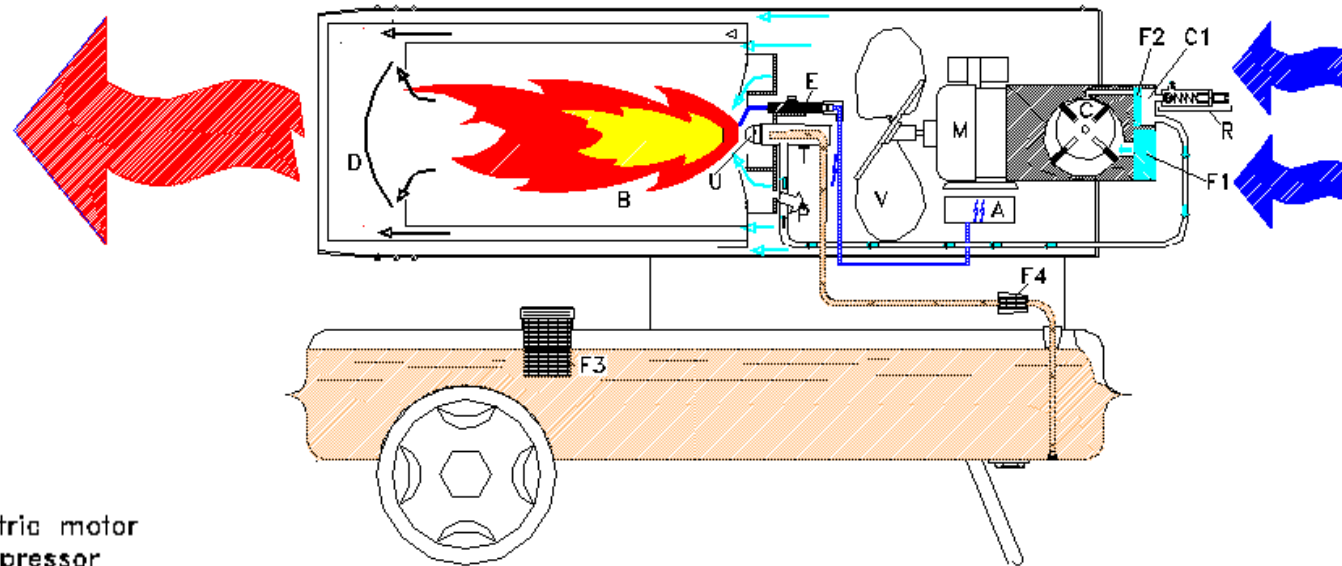
# Safety Controls

## Air Pressure Switch



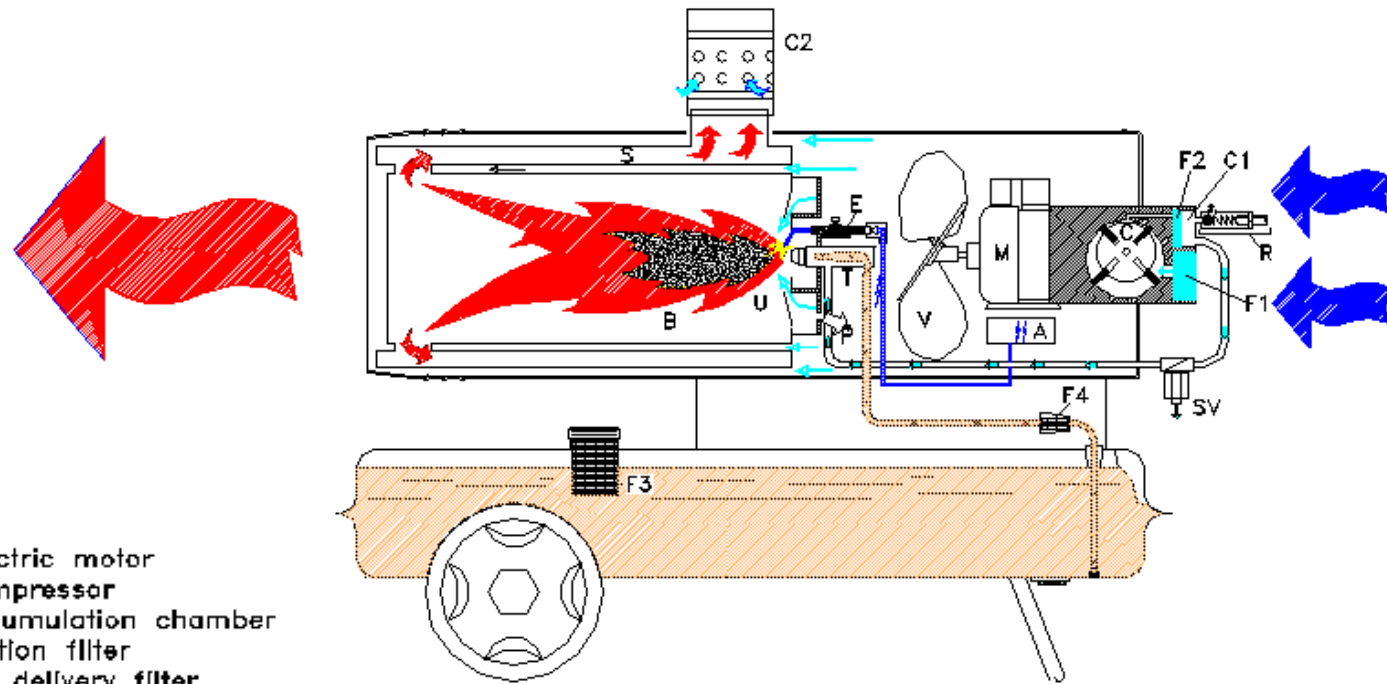


# Principle of Operation GRY-D



- 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

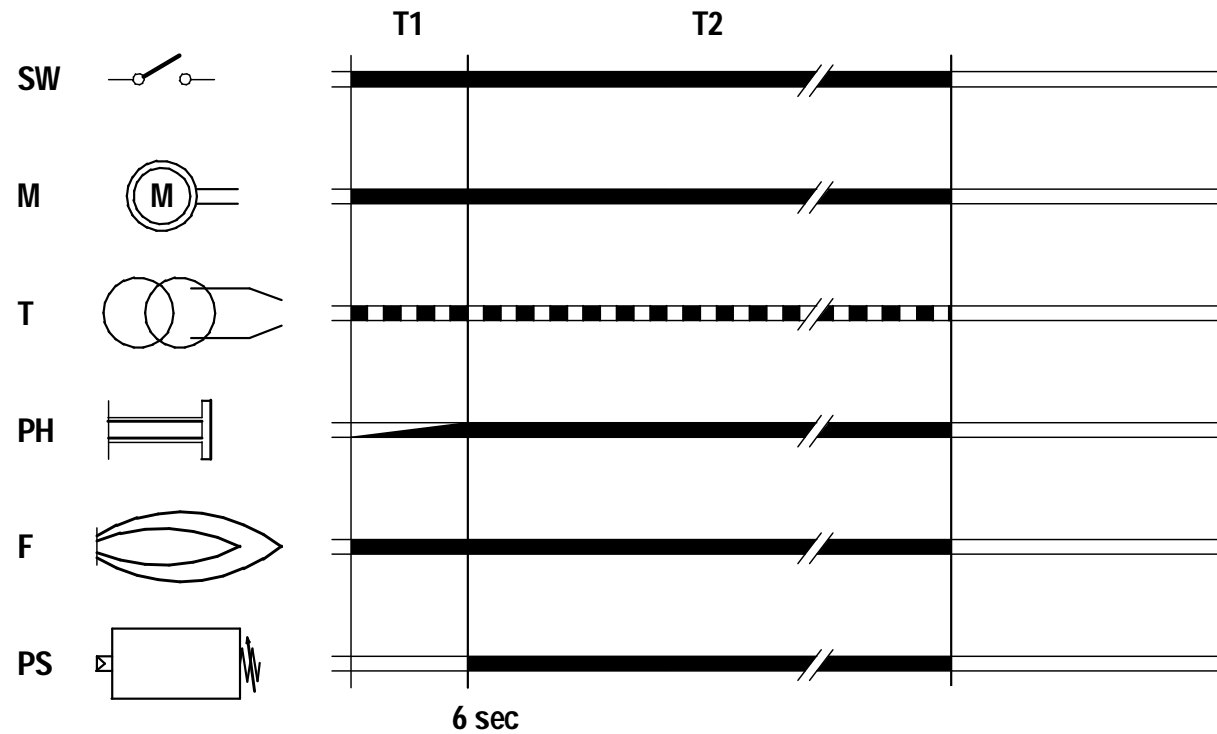
# Principle of Operation GRY-I



- 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

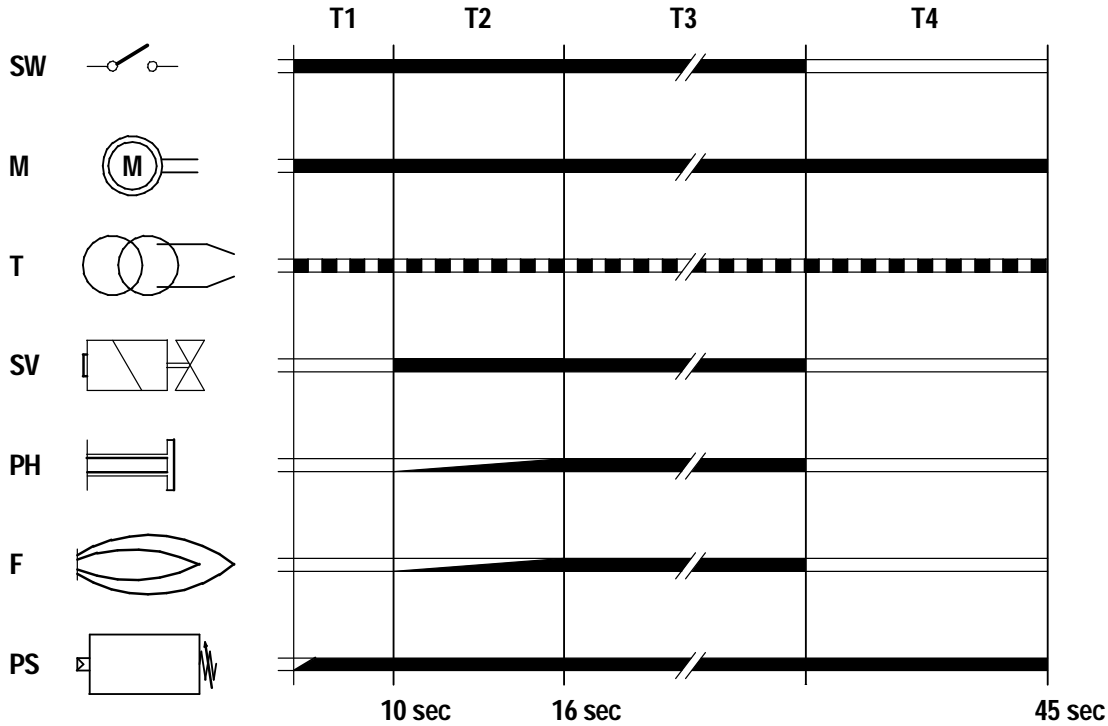


SW	SWITCH
M	MOTOR
T	TRANSFORMER
PH	PHOTOCELL
F	FLAME
PS	AIR PRESSURE SWITCH

T1	START TIME
T2	WORK TIME

# Ignition Sequence

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

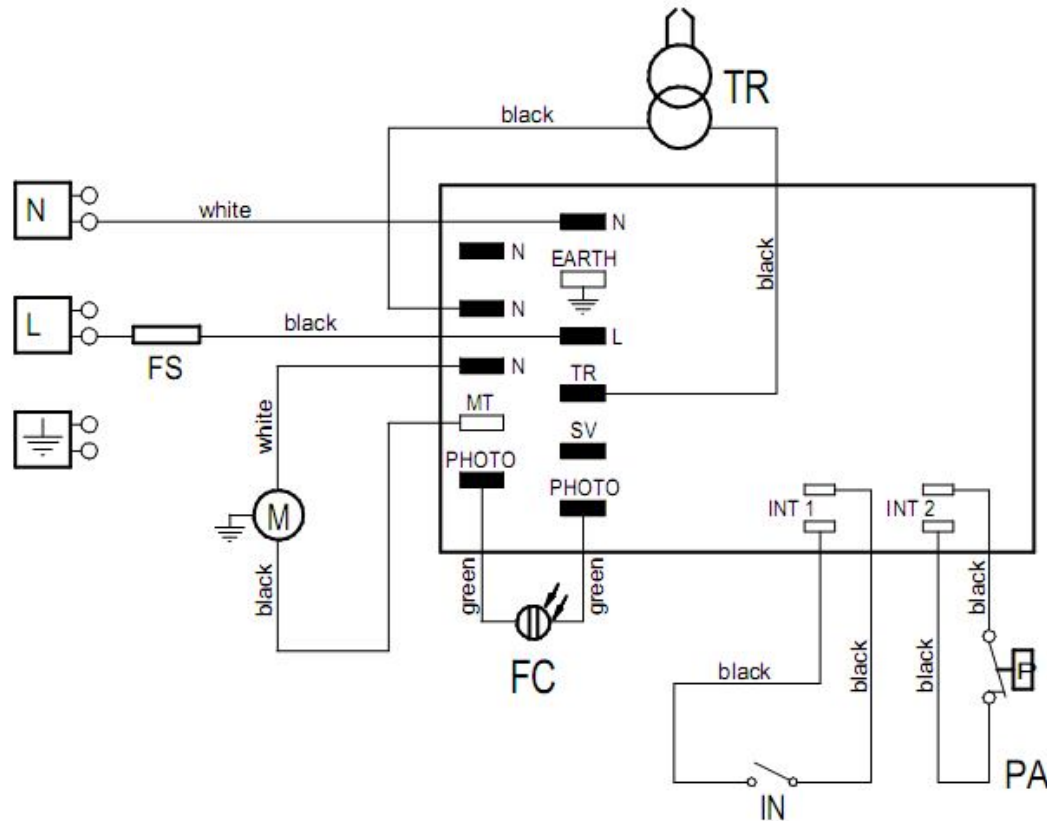


- SW SWITCH
- M MOTOR
- T TRANSFORMER
- SV AIR SOLENOID VALVE
- PH PHOTOCCELL
- F FLAME
- PS AIR PRESSURE SWITCH

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

# Wiring Diagrams

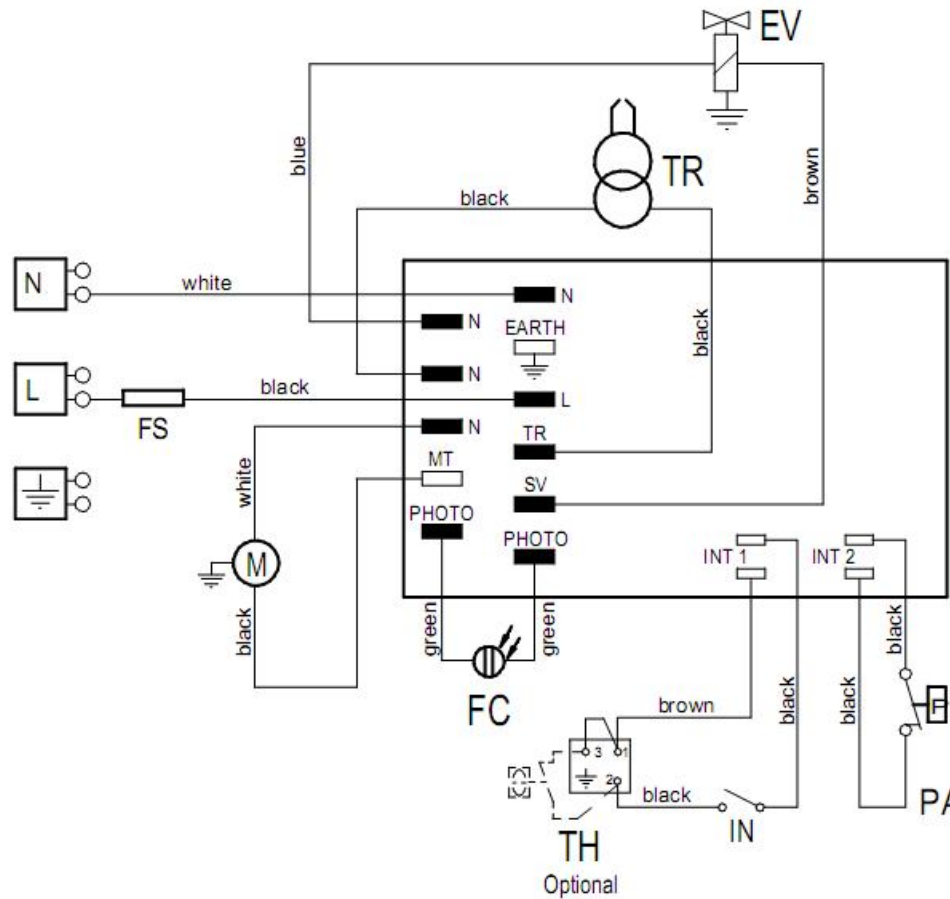
GRY-D 15HU / 20WU-HU / 28WU / 40WU



- 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

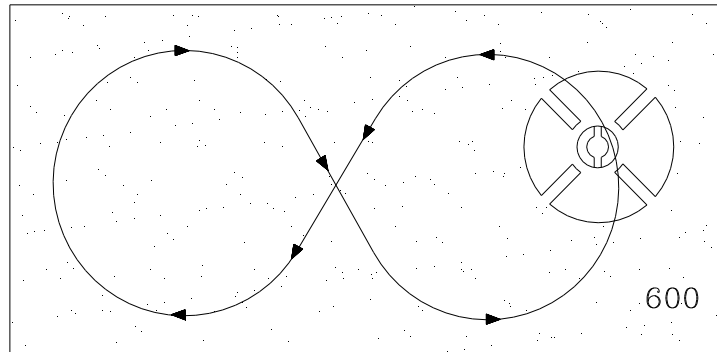
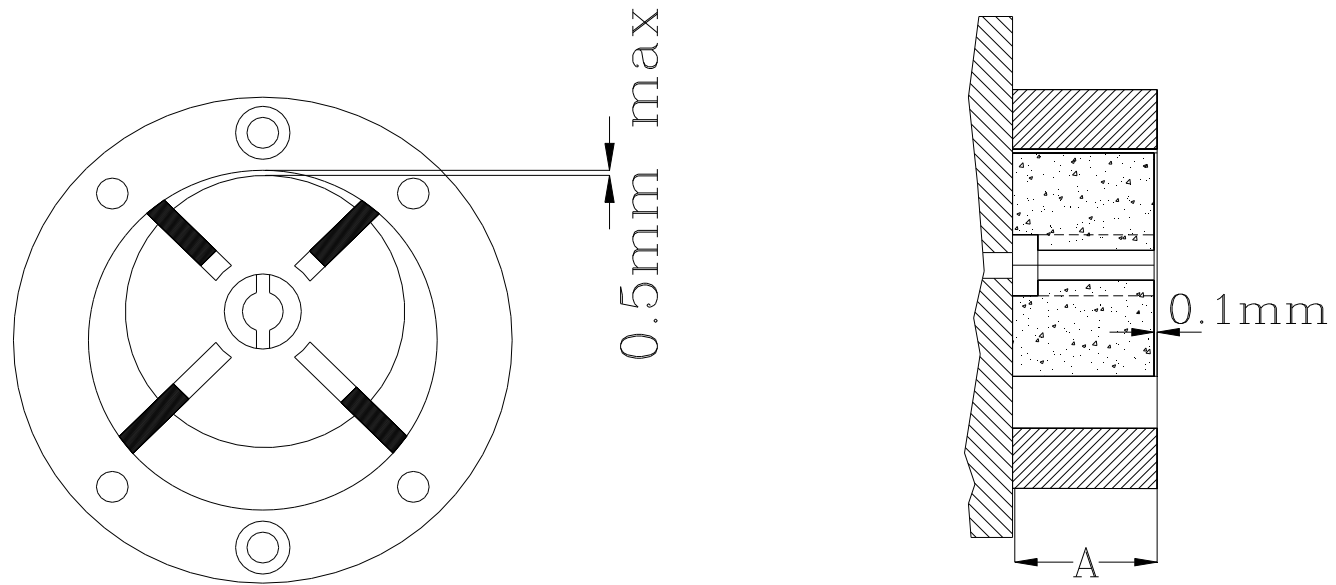


- EV Air solenoid valve
- FC Photocell
- FS Fuse
- IN Switch
- M Motor
- TH Remote thermostat (optional)
- TR Transformer
- PA Air pressure switch



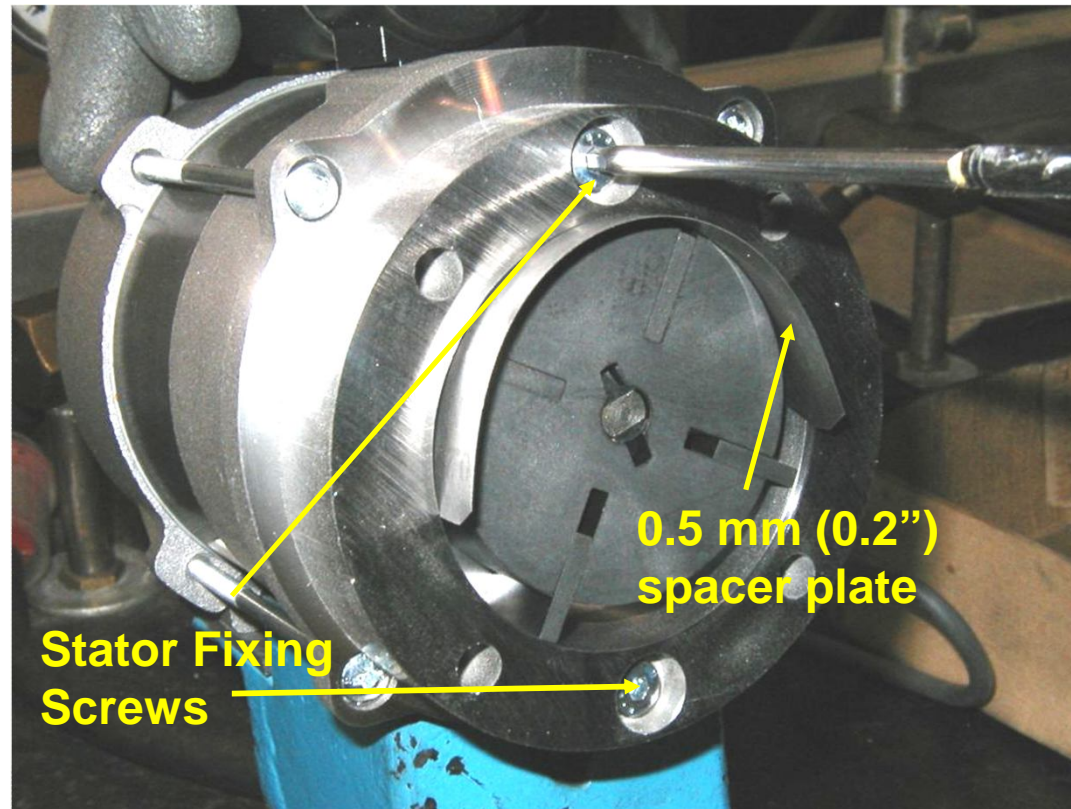
# **GRY-D GRY-I Service Procedures**

# Rotor-Stator Clearances

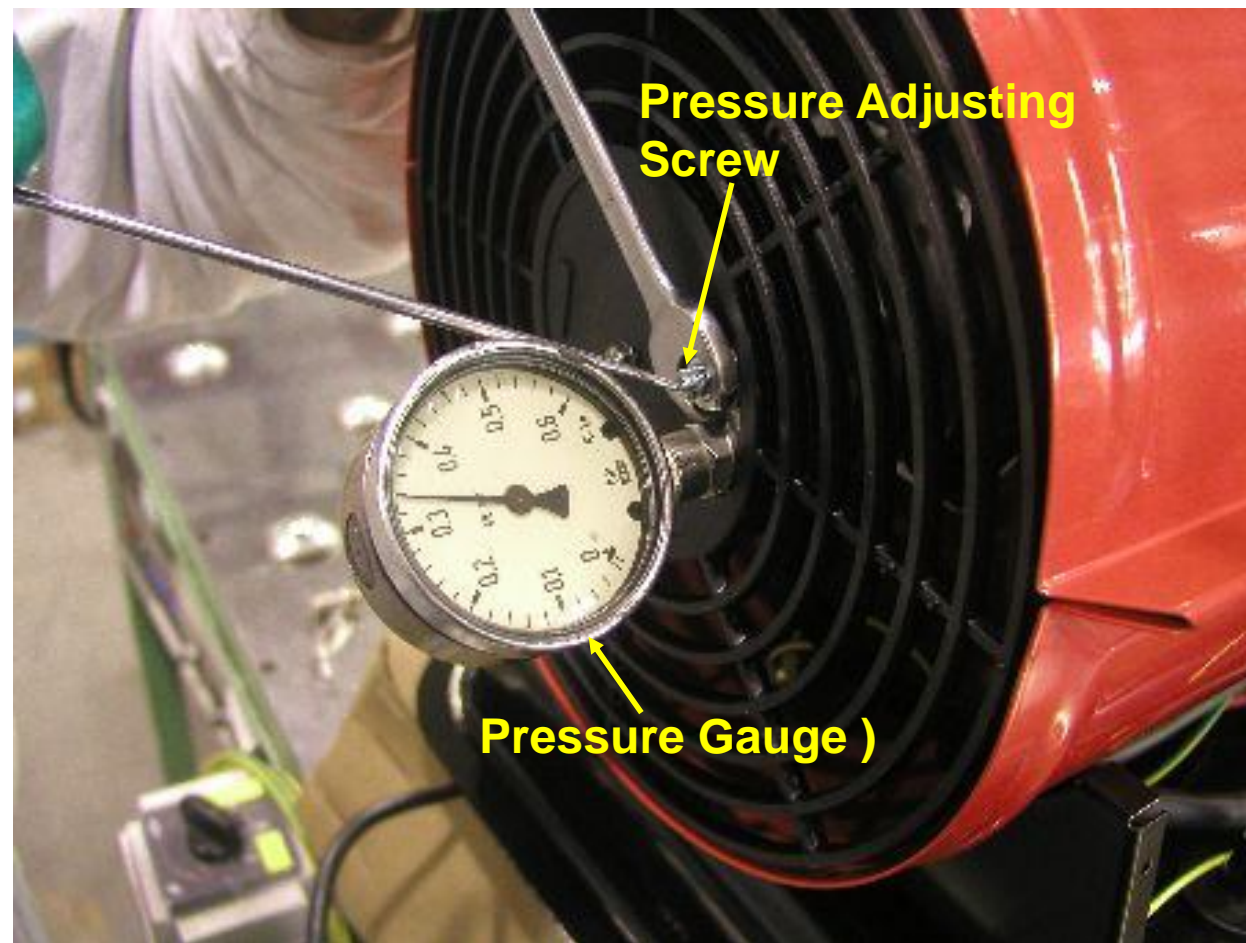




# Correct Stator vs. Rotor Positioning



# Air pressure adjustment



# GRY-D

## Appearance of front disc

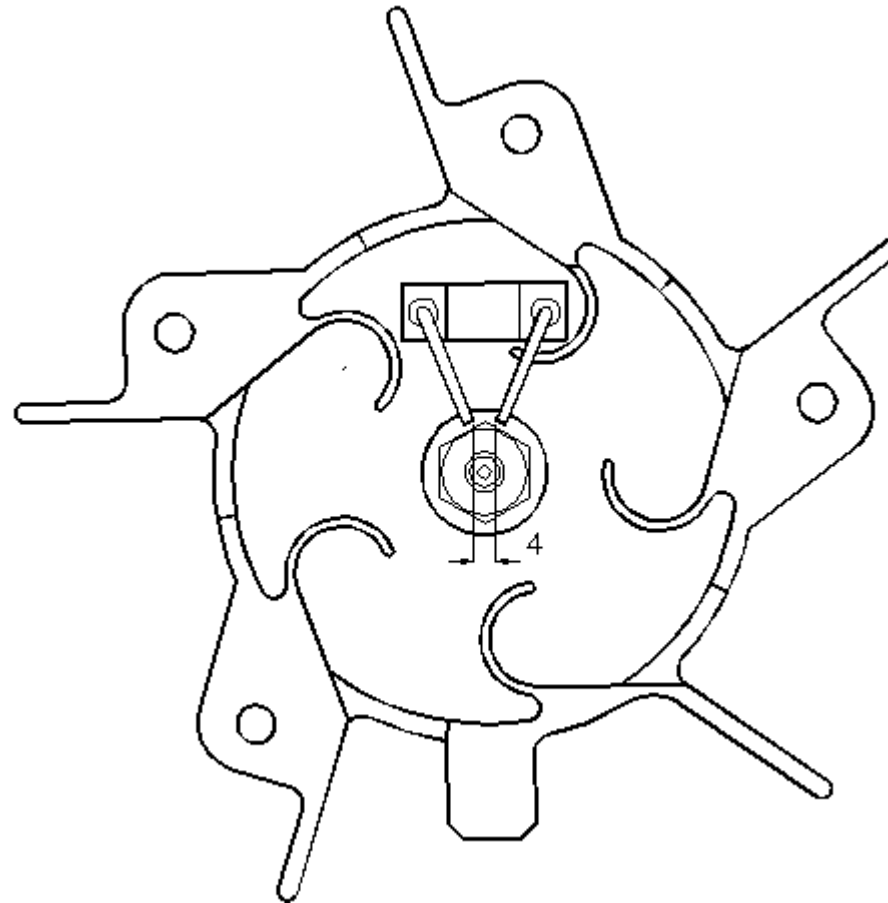


**BAD COMBUSTION**

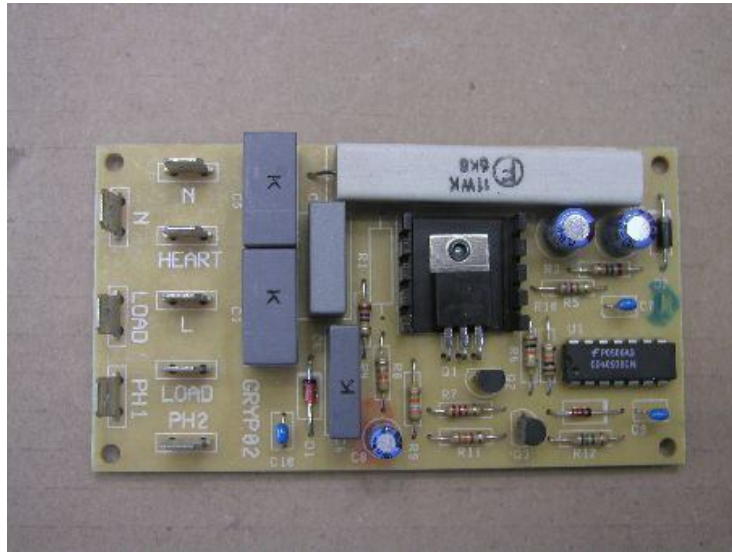


**GOOD COMBUSTION**

# Ignition Electrode Gap

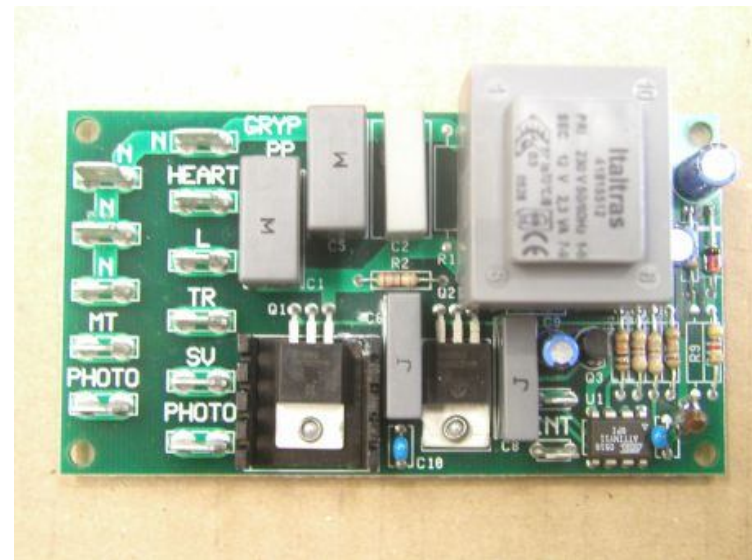


# Electronic control boards

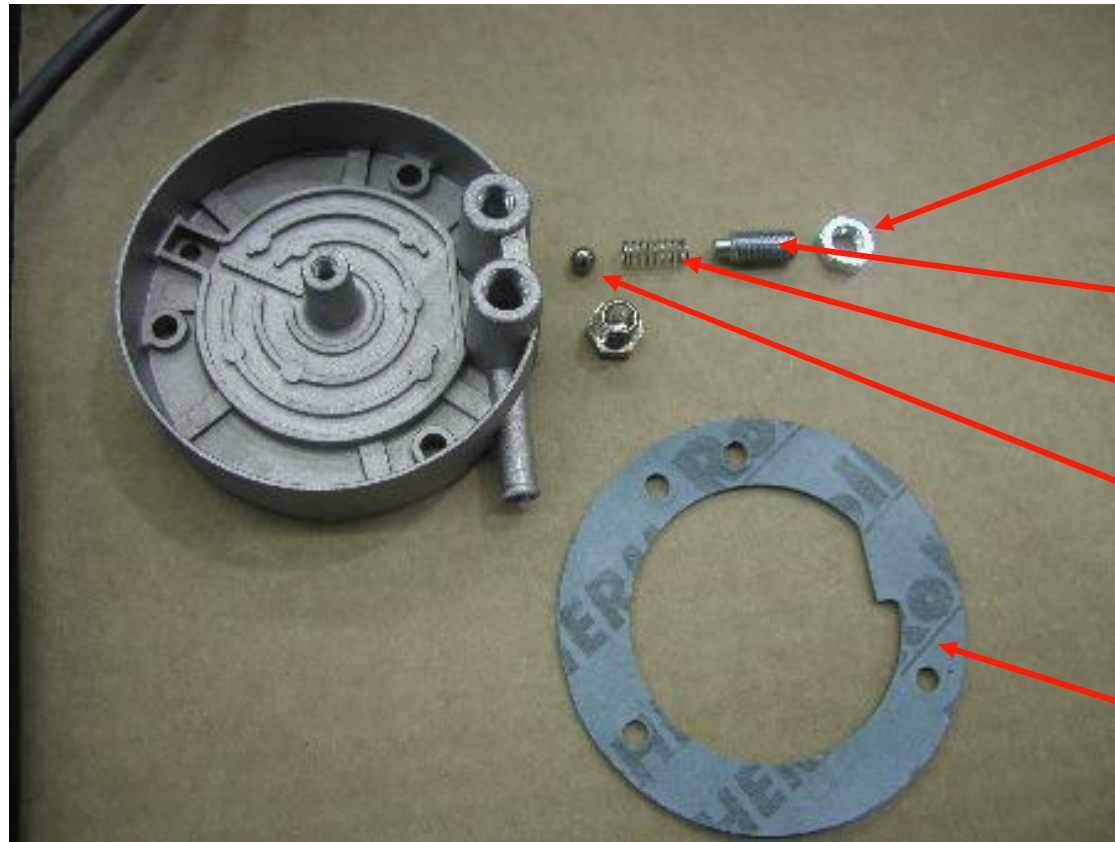


**GRY-D**

**GRY-I**



# Pressure Adjustment Valve



**Nut**

**Screw**

**Spring**

**Ball**

**Gasket**

# Air Ducting (Indirect Heaters only)



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

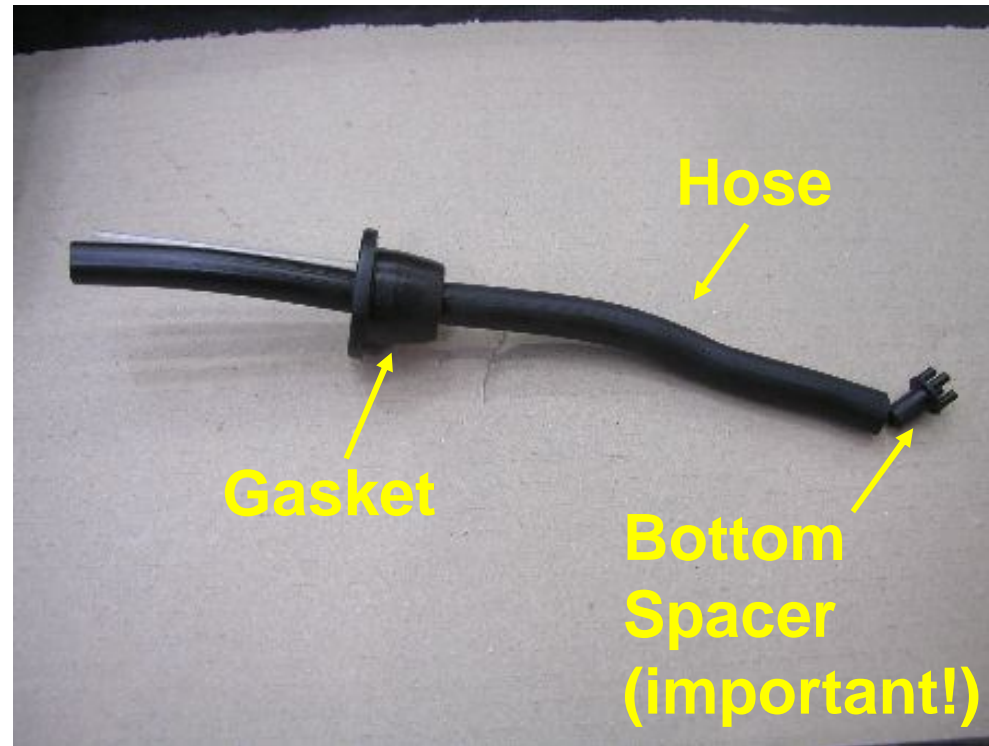
**Max Duct Length ~ 8 m (25 ft)**  
**Max Duct Length ~ 6 m (20 ft)**

# Draining Fuel from Tank





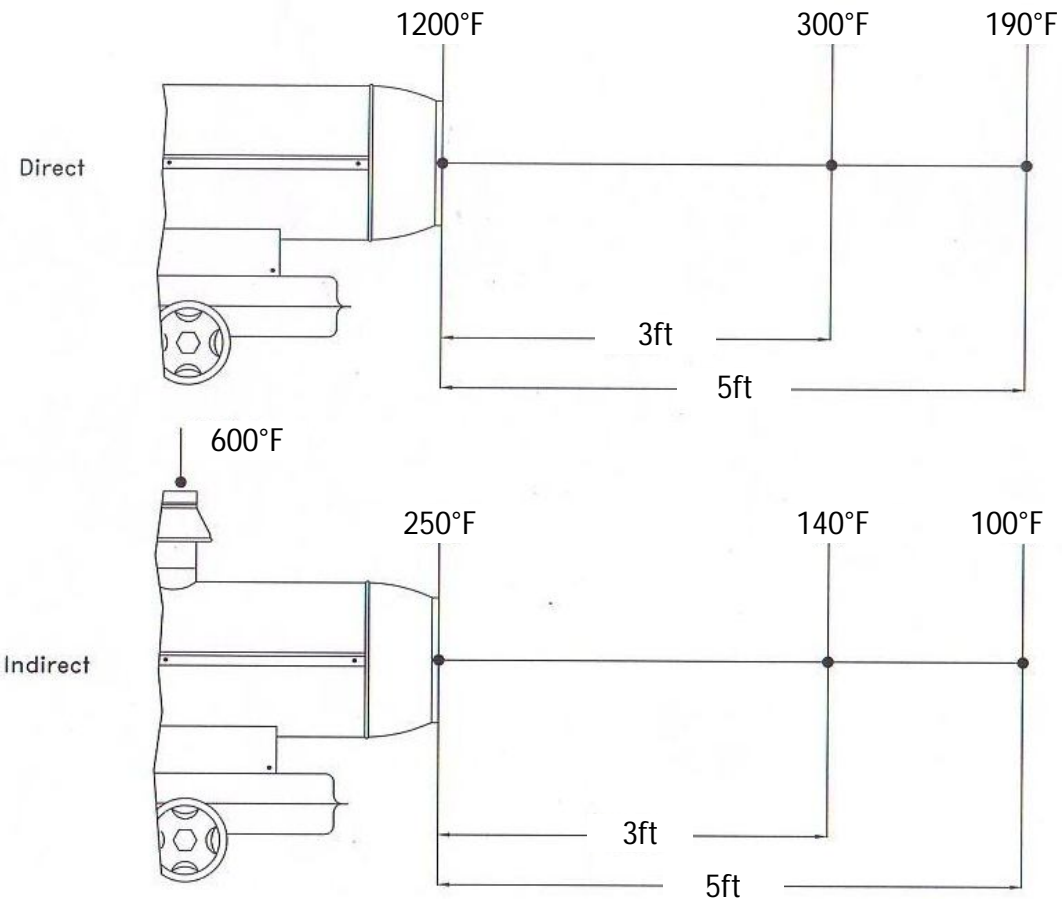
# Fuel Suction Hose



# Tank Cap

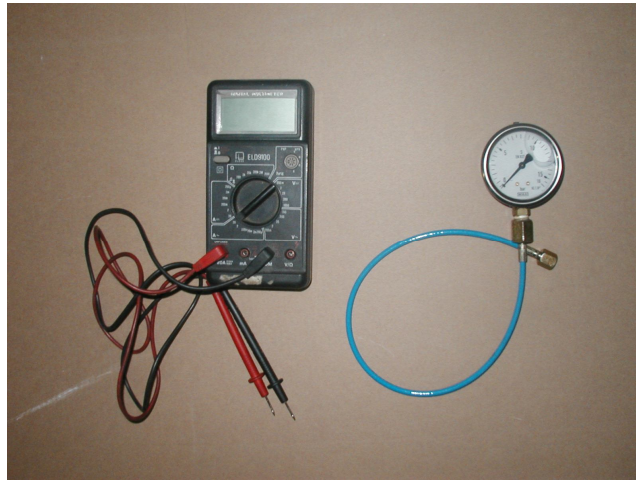


# Typical Air Temperatures on Direct and Indirect Heaters



Outlet air temperature with room temperature 20 °C

# Service & Maintenance Equipment



## Measuring devices

Electric Multimeter (V, A,  $\Omega$ )

PC Flame Sensor Tester Kit

Pressure Gauge Kit  
(incl. hose and fitting)

Smoke Index Tester

