

The **A1RA -7738** model has a unique circuit that exhibits a dependable cut-off, a high single pipe lift capacity .  
The pump circuit contains a positive displacement involute gear set and a controlling valve.

## APPLICATIONS

- Waste oil or fuel #4 and lighter, not compatible for use with blends higher than 5% biodiesel.
- One pipe system.
- Needs an external strainer in inlet line.

## PUMP OPERATING PRINCIPLE

The gear set draws the fuel from the tank to through the built-in strainer and transfers it to the valve that regulates the fuel pressure to the nozzle line. All the fuel which does not go through the nozzle line will be by-passed through the seal chamber and then back to the inlet.

The valve also has a hydraulic cut-off function as follows :

During starting period when the gear-set speed is increasing, all the fuel passes through a special flat on the piston, back to the return. Once the speed reaches a certain value and the flow can no longer pass through this flat, then the pressure increases rapidly overcoming the valve spring force and opens the valve.

During the stop sequence, the gear-set speed slows down and the valve closes when the gear-set capacity is lower than the flat flow.

The cut-on and cut-off speeds depend on the set pressure.

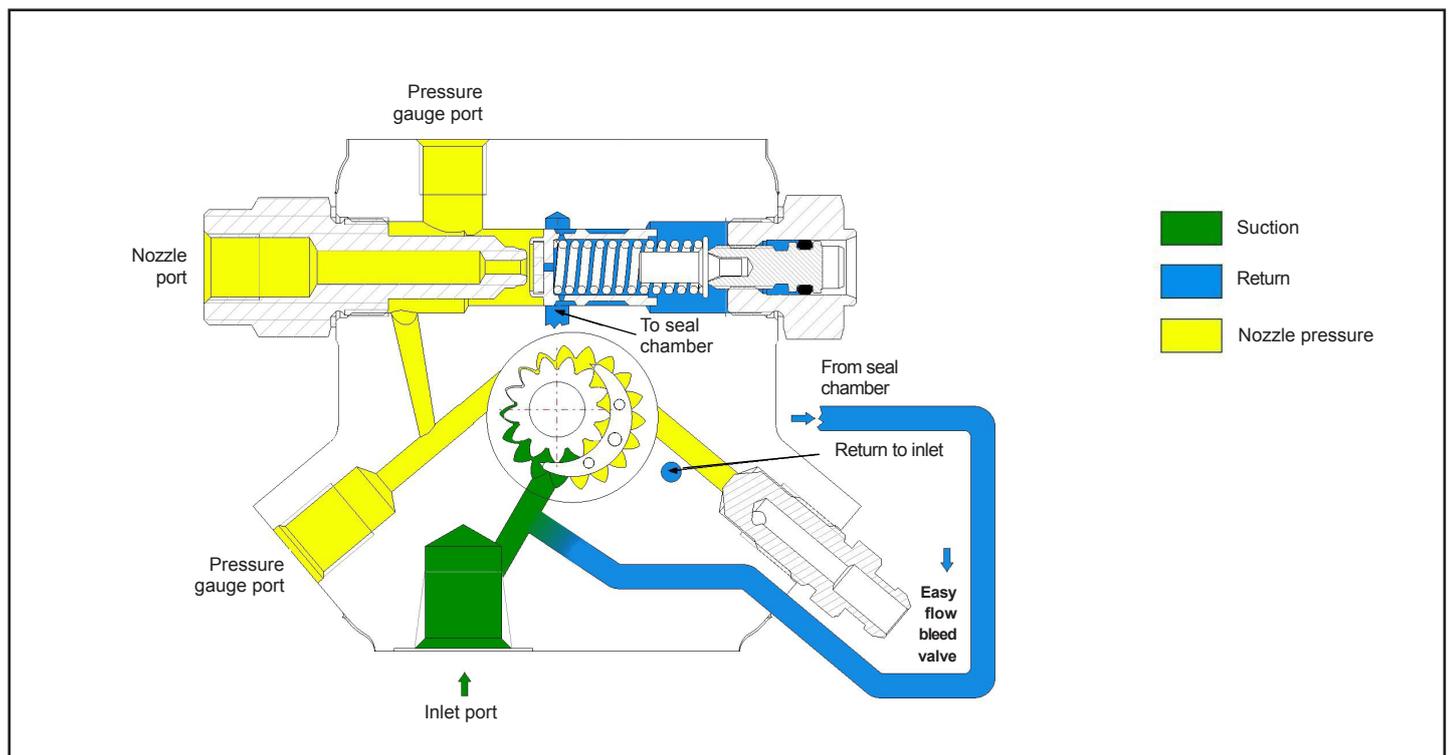
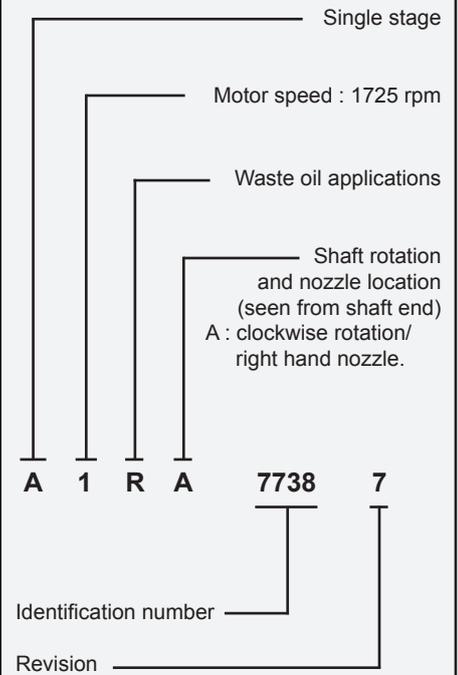
### Bleed :

The easy flow bleeder valve must be loosened to bleed the system.

### Installation :

This unit is supplied for 1-pipe operation only.

## PUMP IDENTIFICATION



## TECHNICAL DATA

### General

Mounting	Flange mounting
Connection threads	
Inlet	1/4 NPTF
Nozzle outlet	1/8 NPTF
Pressure gauge port	1/8 NPTF
Bleeder valve port	1/8 NPSF
Valve function	Pressure regulation
Strainer	30x30 Mesh
<i>(an external strainer 100X100 mesh must be installed on inlet line - min. 10 µm highly recommended)</i>	
Capacity	2 to 2.5 GPH
Shaft	5/16 in
Installation	One-pipe system only

### Hydraulic data

Nozzle pressure range	100 - 150 psi
Delivery pressure setting	100 psi
Rated nozzle flow	Waste oil 2.5 GPH @100 psi, 1725 rpm 2 GPH @150 psi, 1725 rpm  #2 fuel 2.25 GPH @100 psi, 1725 rpm 1.6 GPH @150 psi, 1725 rpm

Oil temperature	50 - 115 F
Inlet and return pressures	10 psi max. <i>NFPA limits pressures to 3 psi max</i>
Suction height	20" Hg max.(waste oil and #4 fuel) 10" Hg max.(#2 and lighter fuel) to prevent air separation from oil
Power consumption	Waste oil 80 W @100 psi, 1725 rpm 120 W @150 psi, 1725 rpm  #2 fuel 60 W @100 psi, 1725 rpm 90 W @150 psi, 1725 rpm
Rated speed	1725 rpm max.
Required Motor HP	1/8 HP 1725 rpm
Recommended inlet line length (Ft)	1/2" line 20' max, 3/4" line 90'max.
Lift (FT)	Waste oil & fuel equivalent to No. 4: 14' max. No. 2 & lighter fuel oil: 8' max.
Certification	

## PUMP DIMENSIONS

