

Data sheet

# Oil Motor Pump type BFPM 61

## Application

The BFPM range is a series of Danfoss oil pumps in combination with a highly efficient permanent magnet motor.

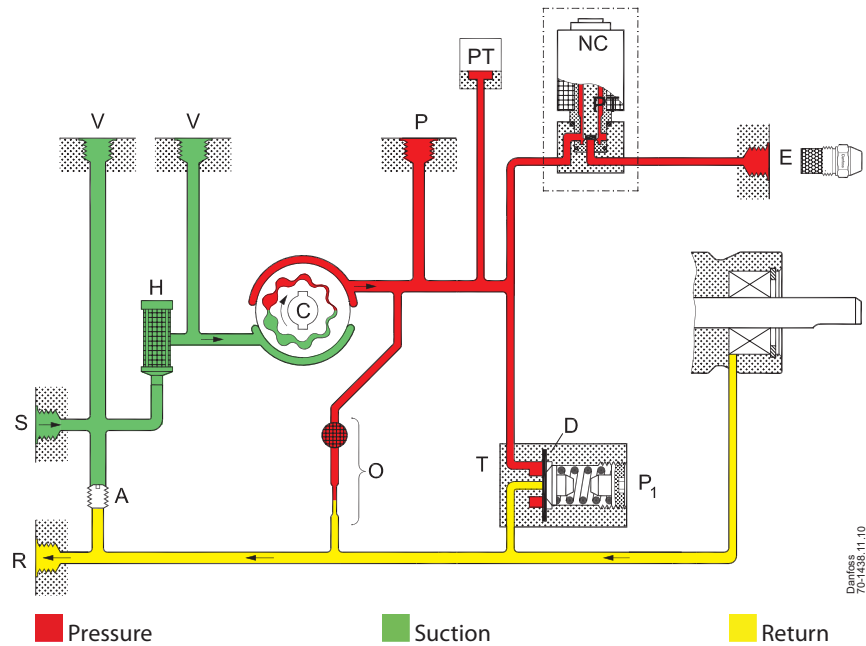
The BFPM Electronic Controller must be used for controlling BFPM motor pumps (see separate data sheet for BFPM Electronic Controller).

**BFPM 61** is designed with a pressure transducer, which makes it ideal for small, modulating oil burners.

### BFPM 61 features:

- Light oil and kerosene
- 1- or 2-pipe operation
- 1-stage modulating
- Built-in pressure regulator
- Solenoid valve cut-off
- Cartridge filter
- Pressure transducer
- Variable set points and up to 3 set-back periods per day

## Function



From the suction inlet (S) oil is drawn through the filter (H) to the gear set, where the pressure is increased. When voltage is applied to the NC-valve, it opens and releases oil to the nozzle outlet.

The pressure transducer (PT) reports the achieved pressure and the control, in conjunction with the oil/air ratio control, regulates the motor speed. The built-in pressure regulator prevents overpressure. Default setting is 30 bar.

### Cut-off function, solenoid valve

When the burner stops, the voltage to the NC-valve is cut off and the oil flow to the nozzle outlet is cut off immediately.

### Bleeding

In 2-pipe systems the pump is self-priming, i.e. bleeding is performed via the constriction (O) to the return outlet (R).

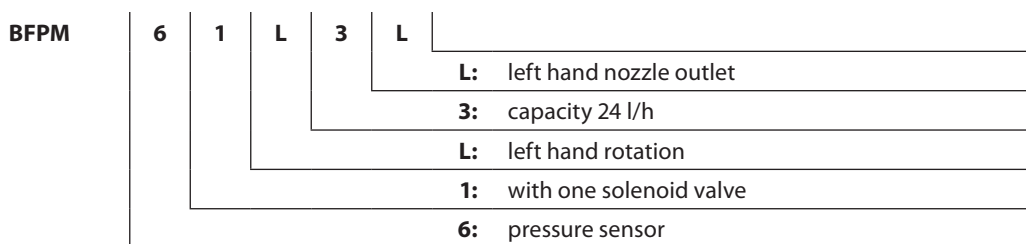
In 1-pipe systems with plugged return outlet (R), bleeding must be performed through the nozzle outlet (E) or the pressure gauge port (P).

### Warranty

For pumps used outside the stated technical data and used with oil containing abrasive particles Danfoss cannot give any warranty.

*Note! The solenoid valve must be replaced after 250.000 operations or 10 years (approved life expectancy).*

Identification



Nozzle capacity at 4.3 cSt., 10 bar, 2800 min<sup>-1</sup>

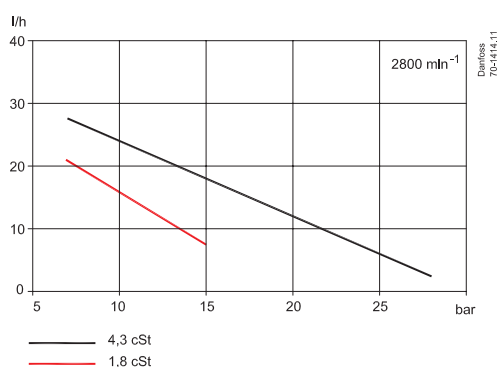
Technical Data

Oil types	Standard fuel gas oil and fuel gas oil acc. to DIN V 51603-6 EL A Bio-10 (max. 10% FAME)
Viscosity range (measured in suction inlet)	(1.3) 1.8 to 12.0 cSt. (mm <sup>2</sup> /s)
Filter area/mesh	11/200 cm <sup>2</sup> /μm
Pressure range <sup>1)</sup>	5 to 28 bar
Adjustable pressure, safety limitation	30 bar
Max. pressure in suction inlet/return outlet	2 bar
Speed	300 to 3400 min <sup>-1</sup>
Ambient/transport temperature	-20 to +70° C
Temperature of medium	0 to +70° C
Power supply/drive BFPM motor <sup>2)</sup>	230 V switched from controller
Coil power consumption	9 W
Coil rated voltage (other voltages on request)	220/240 V, 50/60 Hz
Coil enclosure	IP 40

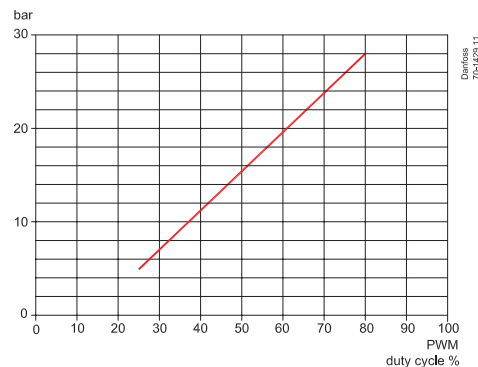
<sup>1)</sup> Max. 12 bar at 1.3 cSt., max. 15 bar at 1.8 cSt.

<sup>2)</sup> Warning: Do not connect BFPM motor directly to 230 V/50Hz power supply!

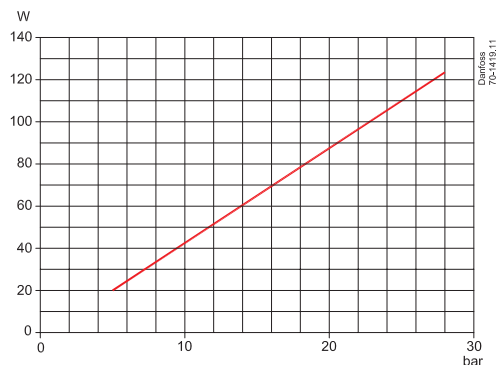
Nozzle capacity



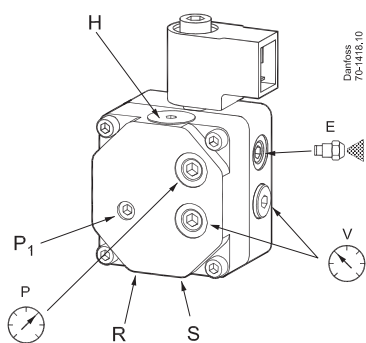
Modulation



Power consumption

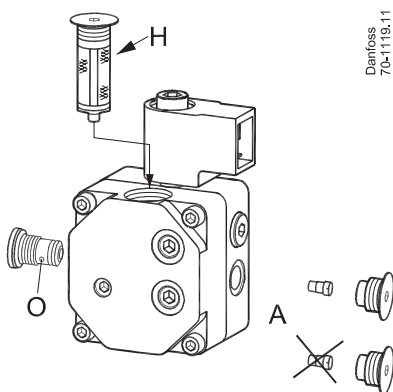


Connections



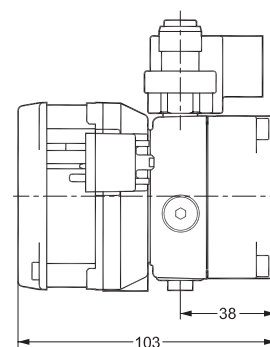
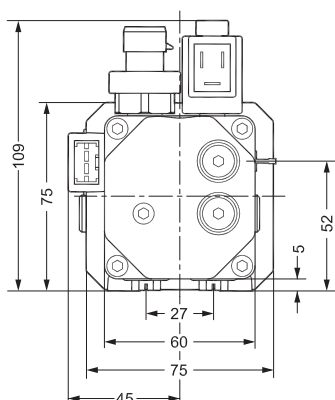
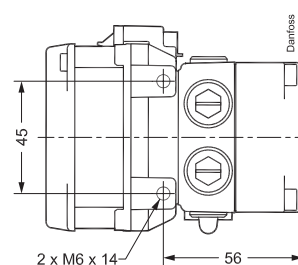
- P<sub>1</sub>**: Pressure limiter
- S**: Suction inlet G1/4
- R**: Return outlet G1/4
- E**: Nozzle outlet G1/8
- P**: Pressure gauge port G1/8
- V**: Vacuum gauge port G1/8
- H**: Filter

Change-over and Filter Replacement

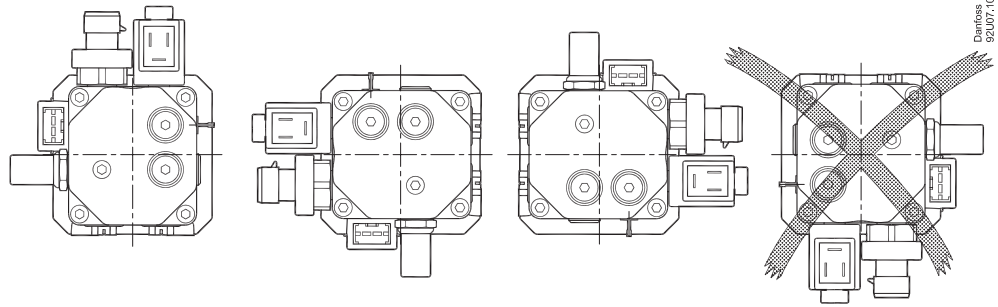


- H**: Filter
- A**: 2-pipe operation, with screw  
1-pipe operation, without screw
- O**: Constriction with filter

Dimensions



Mounting



Additional documentation on burner components is available on <http://heating.danfoss.com/>

**Danfoss A/S**

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