Data Sheet

Oil Pump type BFP 52E
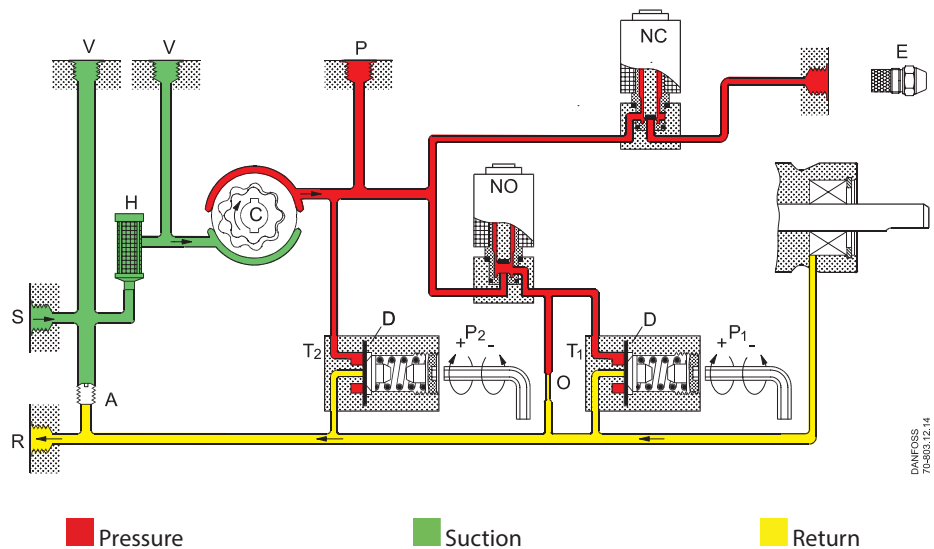# - size 3 and 5

Application

BFP 52E sizes 3 and 5 oil pumps are designed for small/medium-sized 2-stage domestic oil burners up to 42 l/h.

BFP 52E features:
- Light oil and kerosene
- 1 or 2-pipe operation
- 2-stage
- Two built-in pressure regulators
- Solenoid valve cut-off
- Cartridge filter

Function

| ■ Pressure | ■ Suction | ■ Return |

From the suction inlet (S) oil is drawn through the filter (H) to the gear set, where the pressure is increased. By means of the diaphragm (D) in the pressure regulator for stage 1 (T_1), the pressure is kept constant at the value set on adjustment screw (P_1).
When voltage is applied to the NC-valve, it opens and releases oil to the nozzle outlet.
When voltage is applied to the NO-valve, it closes and puts the pressure regulator (T_1) out of function.
The pressure now rises to the pressure regulator (T_2) value for stage 2 set on adjustment screw (P_2).

In 2-pipe systems the excess oil is led back to the return outlet (R) and the tank. In 1-pipe systems with plugged return outlet (R) and screw (A) removed, the oil is returned internally to the gear set (see figure).

Cut-off function, solenoid valve
When the burner stops, the voltage to the solenoid valves is cut off.

The NO-valve opens and the NC-valve closes and cuts off the oil flow to the nozzle outlet 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).
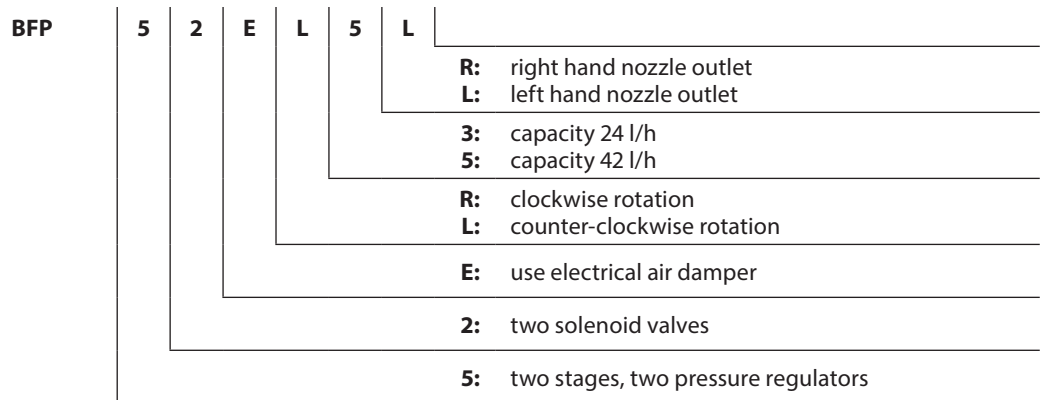
Warranty
For pumps used outside the stated technical data and used with oil containing abrasive particles Danfoss cannot give any warranty.

Note!
Do not mount the pump with the solenoid valve pointing downwards.
The solenoid valve must be replaced after 250.000 operations or 10 years (approved life expectancy).

Identification

BFP	5	2	E	L	5	L

R: right hand nozzle outlet
L: left hand nozzle outlet

3: capacity 24 l/h
5: capacity 42 l/h

R: clockwise rotation
L: counter-clockwise rotation

E: use electrical air damper

2: two solenoid valves

5: two stages, two pressure regulators

Nozzle capacity at 4.3 cSt., 10 bar, 2800 min^{-1}

Technical Data

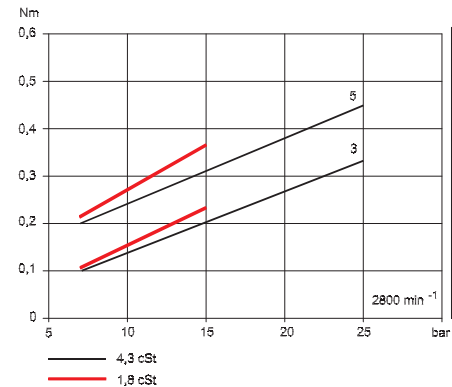| BFP 52E	3	5
Oil types	Standard fuel gas oil and fuel gas oil acc. to DIN V 51603-6 EL A Bio-10 (max. 10% FAME)	
Viscosity range (measured in suction inlet) [1]	(1.3) 1.8 to 12.0 cSt. (mm^2/s)	
Filter area/mesh	11 cm^2/200 µm	
Pressure range, stage 1 [2]	7 to 15 bar	
Pressure range, stage 2 [2]	10 to 25 bar	
Default setting, stage 1	10 ±1 bar	
Default setting, stage 2	13 ±1 bar	
Max. pressure in suction inlet/return outlet	2 bar	
Speed	2400 to 3450 min^{-1}	1400 to 3450 min^{-1}
Max. starting torque	0.1 Nm	0.12 Nm
Ambient/transport temperature	-20 to +70° C	
Temperature of medium	0 to +70° C	
Coil power consumption	9 W	
Rated voltage (other voltages on request)	230 V, 50/60 Hz	
Coil enclosure	IP 40	
Shaft/neck	EN 225	

[1] *Special pumps for Kerosene.*
[2] *Max. 12 bar at 1.3 cSt., max. 15 bar at 1.8 cSt.*

Nozzle capacity
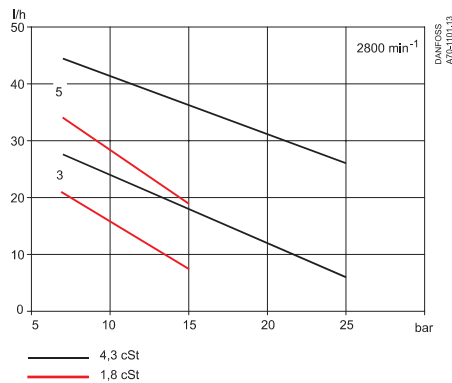
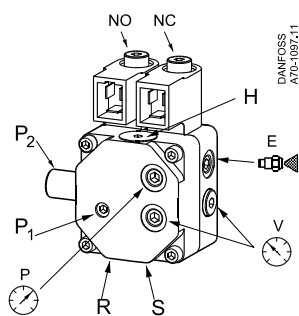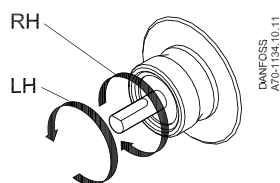**Operating torque**

Power consumption
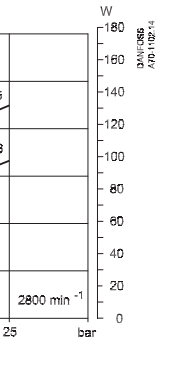
Connections

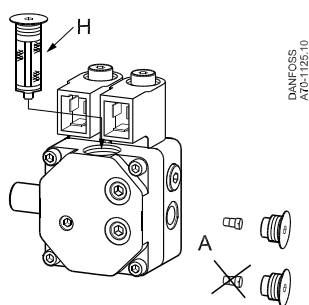*Example shows BFP 52E L5L*

P₁: Pressure adjustment stage 1

P₂: Pressure adjustment stage 2

S: Suction inlet G ¹⁄₄

R: Return outlet G ¹⁄₄

E: Nozzle outlet G ¹⁄₈

P: Pressure gauge port G ¹⁄₈

V: Vacuum gauge port G ¹⁄₈

H: Filter

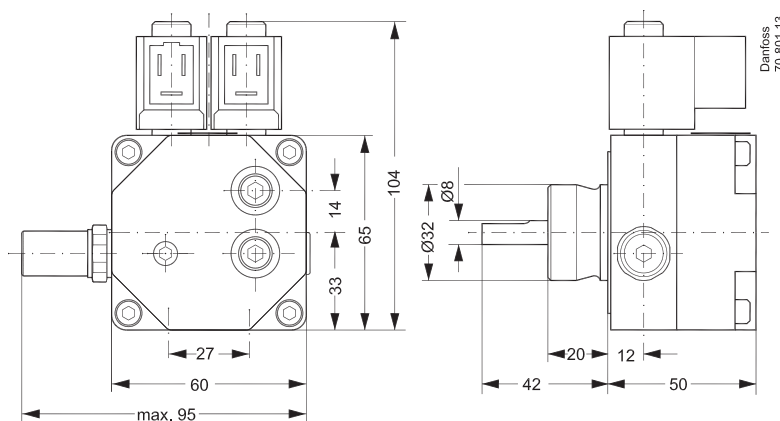*Note! Shaft rotation, location of nozzle outlet and other connections are seen from shaft end.*

RH: R-rotation

LH: L-rotation

Change-over and Filter Replacement

H: Filter

A: 2-pipe operation, with screw
1-pipe operation, without screw

Dimensions