

Data sheet

Fuel Pump type BFP 20/21 - size 3 and 5



Compatible with heating
oil up to 100% biodiesel
(FAME and UCOME)

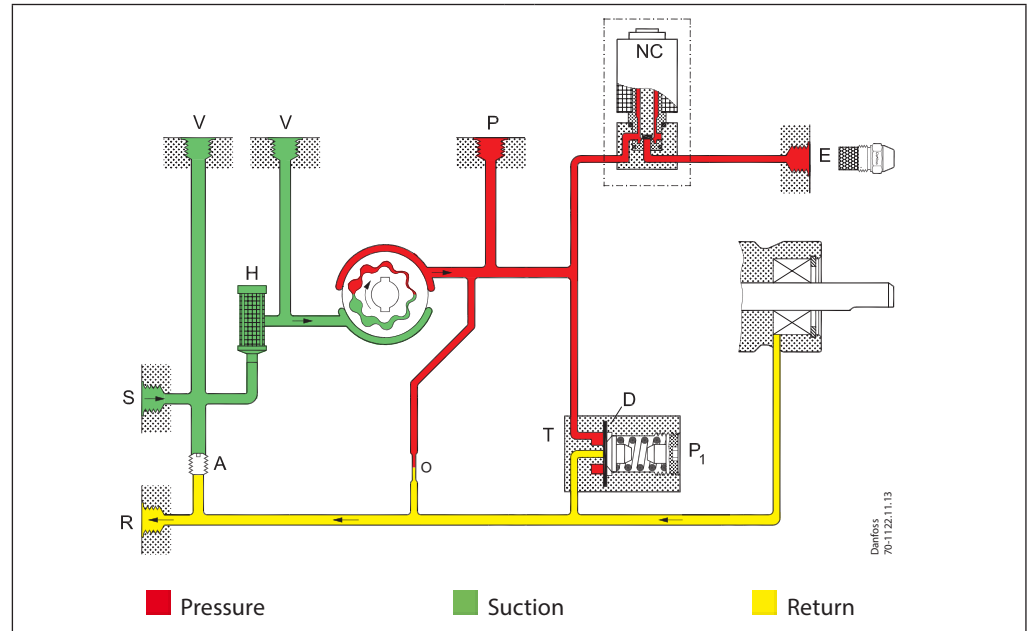
Application

BFP 20/21 fuel pumps - size 3 and 5 are designed for small/medium-sized domestic fuel burners up to 42 l/h.

Features

- Light oil, kerosene and biofuel blends hereof
- 1 or 2-pipe operation
- 1-stage
- Built-in pressure regulator
- Solenoid valve cut-off (BFP 21)
- Cartridge filter
- Bio compatible pressure and solenoid valve (Bio100 - version)

Function



From the suction inlet (S) fuel 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 fuel to the nozzle outlet.

By means of the diaphragm (D) in the pressure regulator (T), the pressure is kept constant at the value set on adjustment screw (P1).

In 2-pipe systems the excess fuel 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 fuel is returned internally to the gear set (see details in figure).

Cut-off function, solenoid valve (BFP 21)

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

BFP 20 has no solenoid valve. In systems using this pump, a separate cut-off valve must be fitted in the nozzle line.

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 fuel 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).

By changing the materials of the components within our pumps, in relation to the different types of fuels - we ensure all product components are 100% bio compatible.

Identification

BFP	B	2	1	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
							0: without solenoid valve 1: with one solenoid valve
							2: cartridge filter, pressure adjustment on front
							B: biofuel ready for up to 100%

Nozzle capacity at 4.3 cSt., 10 bar, 2800 min⁻¹

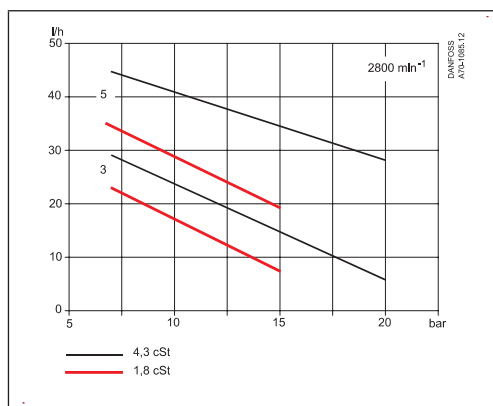
Technical data

BFP 20/21	3	5
Fuel type	Standard fuel according to DIN EN 51603-1 and biofuel according to DIN EN 51603-6;-8 and EN14214	
Viscosity range (measured in suction inlet)	(1.3) 1.8 to 12.0 cSt. (mm ² /s)	
Filter area / mesh	11 cm ² /200 µm	
Pressure range ^{1) 2)}	7 to 20 bar	
Default setting	10 ±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⁾ Max. 12 bar at 1.3 cSt., max. 15 bar at 1.8 cSt.

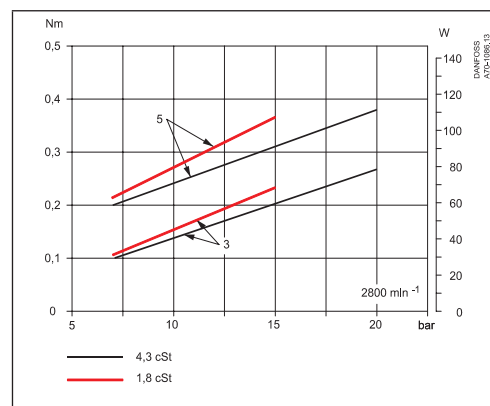
²⁾ If blend oil used, technical data can be different

Nozzle capacity

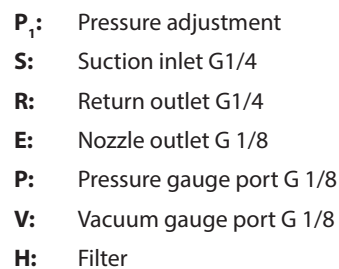


Operating torque

Power consumption



Example shows BFP 21 L5L



LH: L-rotation

H: Filter

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

Technical drawing of the Danfoss 70-701.14 valve, showing three views: front, side, and top.

Front View (Left): Shows the main body with a square flange. Dimensions include a total width of 60, a central port diameter of $\varnothing 32$, and a total height of 104. The flange has four mounting holes with a diameter of $\varnothing 8$. The distance between the center of the main body and the center of the flange is 27. The distance between the center of the main body and the center of the flange is 33. The distance between the center of the main body and the center of the flange is 14.

Side View (Right): Shows the side profile of the valve. Dimensions include a total width of 50, a central port diameter of $\varnothing 32$, and a total height of 104. The distance between the center of the main body and the center of the flange is 20. The distance between the center of the main body and the center of the flange is 12.

Top View (Bottom): Shows the top of the valve. Dimensions include a total width of 60, a central port diameter of $\varnothing 32$, and a total height of 104. The flange has four mounting holes with a diameter of $\varnothing 8$. The distance between the center of the main body and the center of the flange is 27. The distance between the center of the main body and the center of the flange is 33. The distance between the center of the main body and the center of the flange is 14.

Dimensions:

- Overall width: 60
- Overall height: 104
- Central port diameter: $\varnothing 32$
- Flange mounting hole diameter: $\varnothing 8$
- Distance between center of main body and center of flange: 27
- Distance between center of main body and center of flange: 33
- Distance between center of main body and center of flange: 14
- Distance between center of main body and center of flange: 20
- Distance between center of main body and center of flange: 12

Model: Danfoss 70-701.14

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

Danfoss A/S

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