Data sheet



Pumps

BFP 21 LE

size 3

Description

BFP 21 LE is a special version of the BFP 21 pump. The pump has a connection from the nozzle line back to the suction side. This connection can be turned off by means of the screw K. The BFP 21 LE is designed for domestic burners with limited capacity featuring reduced start/stop emission. Please notice the capacity/pressure diagram.

Features & Benefits

- Light oil domestic oil burners
- Low emission at start and stop
- 1-stage oil burners
- 1- or 2-pipe operation
- Build in solenoid valve cut-off
- Cartridge filter
- Build in pressure regulator

Applications

- Domestic burners with limited capacity featuring reduced start/stop emission.

Ordering

Product code numbers

Product Type	Nozzle/pressure outlet	ROTATION	1 or 2 stage	Capacity [l/h]	Biofuel blend	Code number
BFP 21 LE	R	L	1	24.00	10	071N2110
BFP 21 LE	L	L	1	24.00	10	071N2113
BFP 21 LE	L	L	1	24.00	10	071N2285
BFP 21 LE	R	L	1	16.00	10	071N3118
BFP 21 LE	L	L	1	24.00	10	071N3119

Identification

Example:
BFP **21 L 3 L** LE

BFP	
2	2: cartridge filter, pressure adjustment on front
1	1: with one solenoid valve
L	R: clockwise rotation L: counter-clockwise rotation
3	3: capacity, see diagram below
L	R: right hand nozzle outlet L: left hand nozzle outlet
LE	

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

Spare parts code numbers

If your product code is not listed as a related product for any accessories, please reach out to us for assistance.



071B0011

BUSH 32 ⌧ 54 mm.

BUSH 32 ⌧ 54 mm.

Related products

071N2103 071N2135 071N2285 071N3118 071N3119 071N4105



071N3011

NC LE-S SERVICE VALVE

NC LE-S SERVICE VALVE

Related products

071N2103 071N2135 071N2285 071N3118 071N3119 071N4105



071N0074

PLUG FOR CARTRIGDE FILTER.

PLUG FOR CARTRIGDE FILTER.

Related products

071N2103 071N2135 071N2285 071N3118 071N3119 071N4105



071N0008

COIL 24 V DC.

COIL 24 V DC.

Related products

071N2103 071N2135 071N2285 071N3118 071N3119 071N4105



071N0604

PLUG 1/8" FOR P AND V PORTS.

PLUG 1/8" FOR P AND V PORTS.

Related products

071N2103 071N2135 071N2285 071N3118 071N3119 071N4105



071N0050

NC VALVE

NC VALVE

Related products

071N2103 071N2135 071N2285 071N3118 071N3119 071N4105



071N1033

O-rings for cover (ø54) and regulator (ø9,75)

O-rings for cover (ø54) and regulator (ø9,75)

Related products

071N2103 071N2135 071N2285 071N3118 071N3119 071N4105



071N0064

CARTRIGDE STRAINER BFP

CARTRIGDE STRAINER BFP

Related products

071N2103 071N2135 071N2285 071N3118 071N3119 071N4105



071N1006

COIL T85 230 V AC

COIL T85 230 V AC

Related products

071N2103 071N2135 071N2285 071N3118 071N3119 071N4105



071N0062

Coil 24 V AC.

Coil 24 V AC.

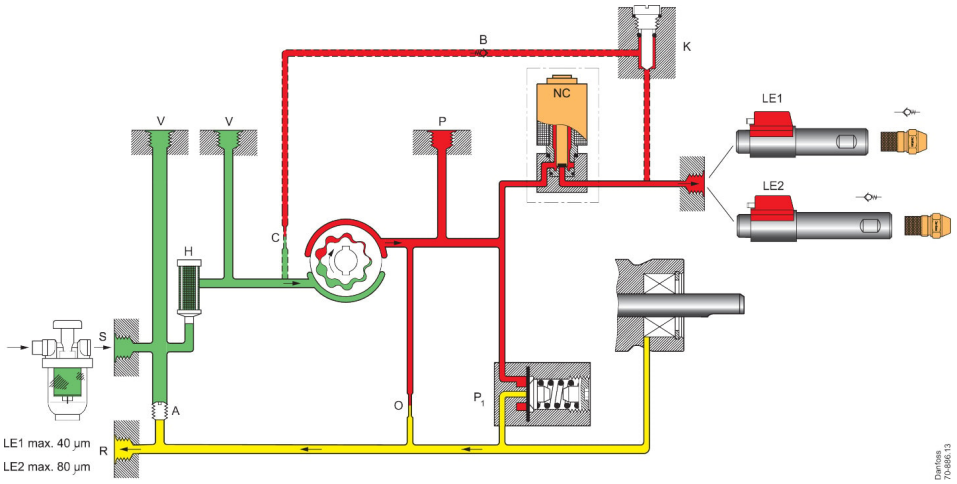
Related products

071N2103 071N2135 071N2285 071N3118 071N3119 071N4105

If your product code is not listed as a related product for any accessories, please reach out to us for assistance.

Functions

Operation



Red = Pressure
Green = Suction
Yellow = Return

The LE pump is used with either an LE nozzle (System 1) or an LE preheater (System 2).
Before burner start the preheater heats up the oil in the nozzle line. The expanding oil is prevented from dripping out of the nozzle because of the connection back to the suction side. The non return valve B inside the pump has an opening pressure of less than 2 bar whereas the LE valve in the nozzle opens at a pressure of 5±1 bar. (The valve in the preheater opens at min. 6 bar.)
When the burner starts, the pump build up pressure and the solenoid valve NC opens.The oil pressure will open the LE valve and the nozzle will function as normal. If the LE nozzle is used the pump pressure must be adjusted 1,6 bars above the required nozzle pressure as the valve has a pressure drop of 1,6 bar. If the LE valve in the preheater is used there is no need for pressure correction as this valve has no pressure drop.
During operation there will be a loss of oil back to the suction side. This loss is minimized by the restriction C that allows 14 l/h loss at 10 bar. The pump is therefore limited in its capacity compared with a standard pump.
When the burner stops the solenoid valve NC is closed and cuts off the flow to the nozzle. The LE valve secures a fast and tight shut off at the nozzle.
If the nozzle line is heated due to radiation from the combustion chamber the LE function will secure that the expanding oil is released back to the suction side and does not drip out the nozzle.

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).

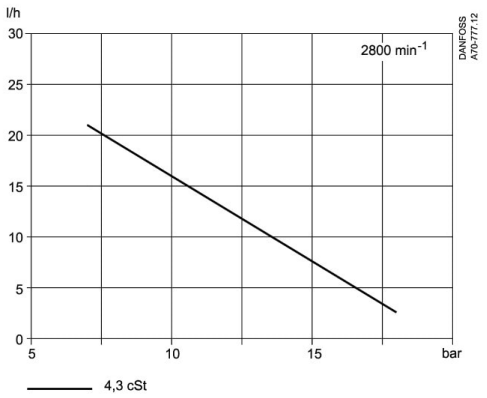
Product details

General data

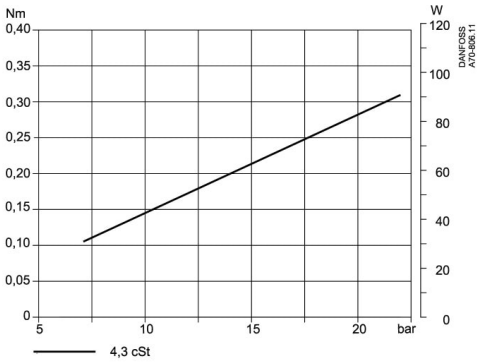
BFP 21 LE	3
Oil types	Standard fuel gas oil and fuel gas oil acc. to DIN V 51603-6 EL A Bio-10 (max. 10% FAME)
Viscosity range (measured in suction inlet)	1.8 to 12.0 cSt. (mm^2/s)
Filter area/mesh	11 cm^2/200 µm
Pressure range	7 to 16.5 bar
Default setting	10 ±1 bar
Max. pressure in suction inlet/return outlet	1.5 bar
Speed	2400 to 3450 min^{-1}
Max. starting torque	0.1 Nm
Ambient/transport temperature	-20 to +70° C
Temperature of medium	-10 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

Capacity

Nozzle capacity [l/h]

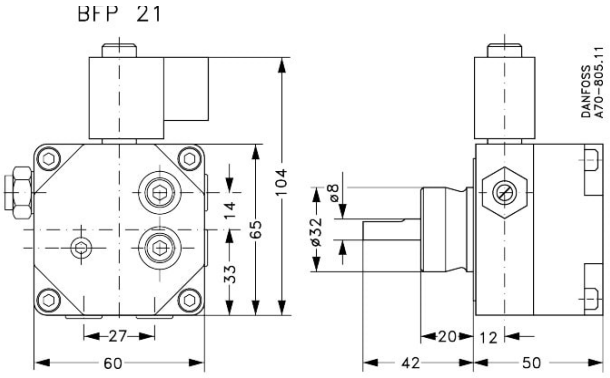


Operating torque [Nm]
Power consumption [W]



Dimensions & weights

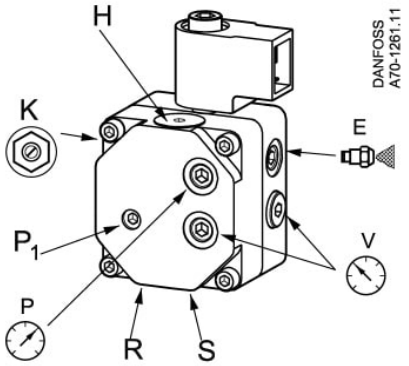
Weight	Oil Pump type BFP 21 LE, size 3	
	Gross weight	1.1 kg
	Net weight	1.099 kg
	Volume	1.124 Liter



Connections

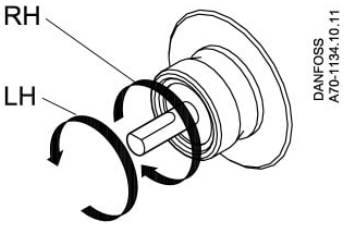
Example shows BFP 21 L3L LE

P_1: Pressure adjustment
S: Suction inlet G 1/4
R: Return outlet G 1/4
E: Nozzle outlet G 1/8
K: LE changeover screw
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.

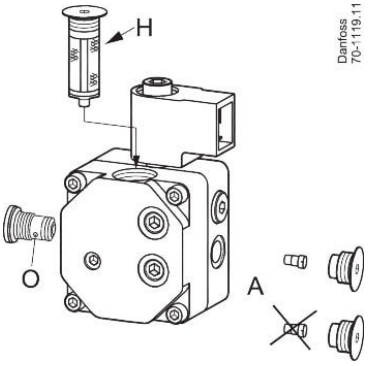
RH: R-rotation
LH: L-rotation



Service

Change-over and filter replacement

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



Certificates, declarations and approvals

The list contains all certificates, declarations, and approvals for this product type. Individual code number may have some or all of these approvals, and certain local approvals may not appear on the list.

When you click on the link you will be directed to the latest version of the 'Declaration of Conformity'. Products developed and sold before this date of issue conform to the directives/standards in force at the time of their sale.

Approval type	Title	Certification body	Approval topic
Manufacturer's Declaration	Danfoss MD 071NP.05	Danfoss	EU RoHS
Export Control Declaration	Oil pumps BFP/BFA/BFM	Danfoss	
Electrical Safety Certificate	SEMKO SE-S-2101293R3	Intertek Semko	
EU-UK Declaration	Danfoss EU-UK 071NP.05	Danfoss	LVD

Contact details

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