



# Pumps

## BFP 21 LE-S

size 3 and 5

## Description

BFP 21 LE-S oil pumps are designed for small/domestic oil burners up to 42 l/h.

## Features & Benefits

- Light oil and kerosene
- 1 or 2-pipe operation
- 1-stage
- Solenoid valve cut-off
- Cartridge filter
- Low emission at start and stop

## Applications

- Small/domestic oil burners up to 42 l/h.

## Ordering

### Product code numbers

Product Type	Nozzle/pressure outlet	ROTATION	1 or 2 stage	Capacity [l/h]	Biofuel blend	Code number
BFP 21 LE-S	L	R	1	24.00	10	071N1179
BFP 21 LE-S	R	L	1	24.00	10	071N2125
BFP 21 LE-S	R	L	1	24.00	100	071N2126
BFP 21 LE-S	R	L	1	16.00	10	071N2303
BFP 21 LE-S	L	L	1	42.00	10	071N3136
BFP 21 LE-S	L + R	R	1	24.00	100	071N7171

### Identification

Example:

BFP 21 L 5 L LE-S

BFP	
2	2: cartridge filter pressure adjustment on front
1	1: with one solenoid valve
L	R: clockwise rotation L: counter-clockwise rotation
5	3: capacity 24 l/h 5: capacity 42 l/h
L	R: right hand nozzle outlet L: left hand nozzle outlet
LE-S	

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

## Accessories code numbers



071G0200

**CABLE FOR NC VALVE, 500 mm OEM**

CABLE FOR NC VALVE, 500 mm OEM

Related products

071N0233	071N0234	071N0264
071N1179	071N2125	071N2127
071N2128	071N2131	071N2303
071N3136	071N3225	071N7171



071G0204

**CABLE FOR NC VALVE, 710 mm OEM**

CABLE FOR NC VALVE, 710 mm OEM

Related products

071N0233	071N0234	071N0264	071N1179
071N2125	071N2127	071N2128	071N2131
071N2303	071N3136	071N3225	071N7171



071G0208

**CABLE FOR NC VALVE, 630 mm OEM**

CABLE FOR NC VALVE, 630 mm OEM

Related products

071N0233	071N0234	071N0264
071N1179	071N2125	071N2127
071N2128	071N2131	071N2303
071N3136	071N3225	071N7171



071N1055

**PLUG FOR 1/4" CONNECTIONS**

PLUG FOR 1/4" CONNECTIONS

Related products

071N0233	071N0234	071N0264	071N1179
071N2125	071N2127	071N2128	071N2131
071N2303	071N3136	071N3225	071N7171



071G2245

**CABLE FOR NC VALVE, 2100 mm**

CABLE FOR NC VALVE, 2100 mm

Related products

071N0233	071N0234	071N0264
071N1179	071N2125	071N2127
071N2128	071N2131	071N2303
071N3136	071N3225	071N7171

## 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.



071N0604  
**PLUG 1/8" FOR P AND V PORTS.**  
PLUG 1/8" FOR P AND V PORTS.

Related products

071N0233	071N0234	071N0264	071N1179
071N2125	071N2127	071N2128	071N2131
071N2303	071N3136	071N3225	071N7171



071N0008  
**COIL 24 V DC.**  
COIL 24 V DC.

Related products

071N0233	071N0234	071N0264	071N1179
071N2125	071N2127	071N2128	071N2131
071N2303	071N3136	071N3225	071N7171



071N3011  
**NC LE-S SERVICE VALVE**  
NC LE-S SERVICE VALVE

Related products

071N0233	071N0234	071N0264	071N1179
071N2125	071N2127	071N2128	071N2131
071N2303	071N3136	071N3225	071N7171



071B0011  
**BUSH 32 x 54 mm.**  
BUSH 32 x 54 mm.

Related products

071N0233	071N0234	071N0264	071N1179
071N2125	071N2127	071N2128	071N2131
071N2303	071N3136	071N3225	071N7171



071N1033  
**O-rings for cover (ø54) and regulator (ø9,75)**  
O-rings for cover (ø54) and regulator (ø9,75)

Related products

071N0233	071N0234	071N0264	071N1179
071N2125	071N2127	071N2128	071N2131
071N2303	071N3136	071N3225	071N7171



071N0062  
**Coil 24 V AC.**  
Coil 24 V AC.

Related products

071N0233	071N0234	071N0264	071N1179
071N2125	071N2127	071N2128	071N2131
071N2303	071N3136	071N3225	071N7171



071N0064  
**CARTRIDGE STRAINER BFP**  
CARTRIDGE STRAINER BFP

Related products

- 071N0233
- 071N0234
- 071N0264
- 071N1179
- 071N2125
- 071N2127
- 071N2128
- 071N2131
- 071N2303
- 071N3136
- 071N3225
- 071N7171



071N0074  
**PLUG FOR CARTRIDGE FILTER.**  
PLUG FOR CARTRIDGE FILTER.

Related products

- 071N0233
- 071N0234
- 071N0264
- 071N1179
- 071N2125
- 071N2127
- 071N2128
- 071N2131
- 071N2303
- 071N3136
- 071N3225
- 071N7171



071N1006  
**COIL T85 230 V AC**  
COIL T85 230 V AC

Related products

- 071N0233
- 071N0234
- 071N0264
- 071N1179
- 071N2125
- 071N2127
- 071N2128
- 071N2131
- 071N2303
- 071N3136
- 071N3225
- 071N7171



071N0050  
**NC VALVE**  
NC VALVE

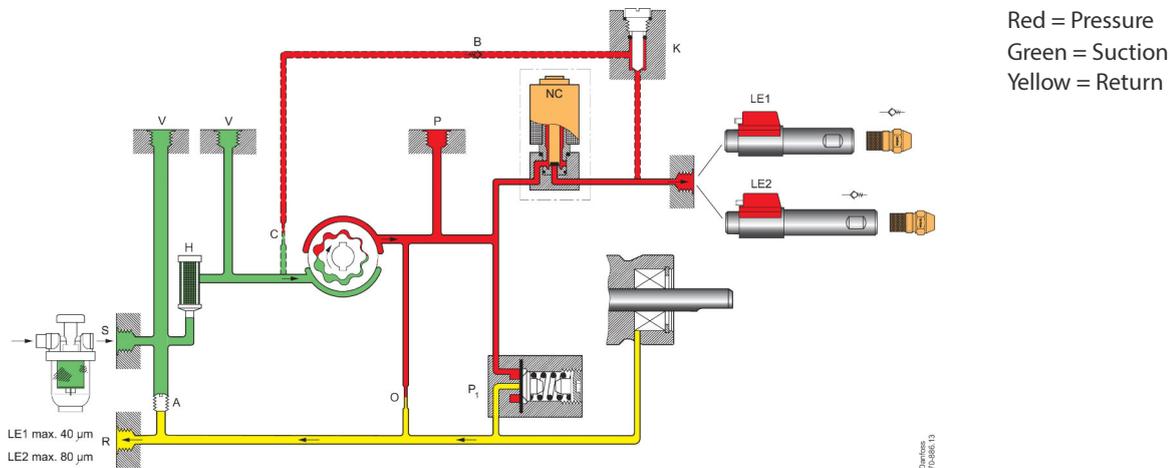
Related products

- 071N0233
- 071N0234
- 071N0264
- 071N1179
- 071N2125
- 071N2127
- 071N2128
- 071N2131
- 071N2303
- 071N3136
- 071N3225
- 071N7171

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

## Functions

### Operation



Before the burner starts the oil is heated in the oil preheater and in the nozzle line. This causes the oil to expand. The safety shut-off valve in the preheater prevents the oil from dripping out of the nozzle because the check valve B in the solenoid valve opens and thus makes a connection to the return or suction side of the pump.

The preheater valve opens at a pressure  $\geq 6$  bar. The check valve B in the solenoid valve NC opens at a pressure of max. 2 bar. When the burner starts the required atomizing pressure in the pump is built up and this pressure ensures that the check valve B closes and remains closed during the whole operating period. The pressure in the pump will always be  $\geq$  the pressure in the nozzle line.

When the burner stops and the pressure in the pump drops to suction pressure, the LE-S system may again become active if the nozzle and preheater are heated due to radiation from the boiler or due to residual heat in the preheater.

If the pump is used without a shut-off valve in the preheater, the valve B in the solenoid valve will never become active and thus there will be no risk that, even with an overlying tank, the oil is released to the combustion chamber unintentionally.

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!

*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

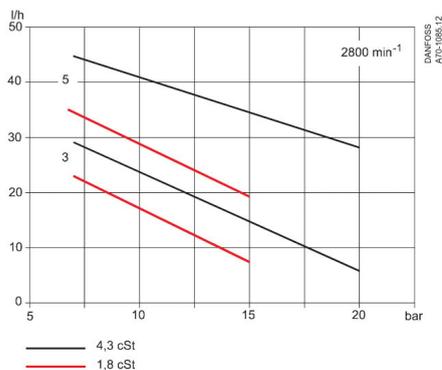
BFP 21 LE-S	3	5
Oil types	Standard fuel gas oil and fuel gas oil acc. to DIN V 51603-6 EL A Bio-10 (max. 10% FAME)	
Viscosity range (measured in suction inlet) <sup>1)</sup>	(1.3) 1.8 to 12.0 cSt. (mm <sup>2</sup> /s)	
Filter area/mesh	11 cm <sup>2</sup> /200 μm	
Pressure range <sup>2)</sup>	7 to 20 bar	
Default setting	10 ±1 bar	
Max. pressure in suction inlet/return outlet	2 bar	
Speed	2400 to 3450 min <sup>-1</sup>	1400 to 3450 min <sup>-1</sup>
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.

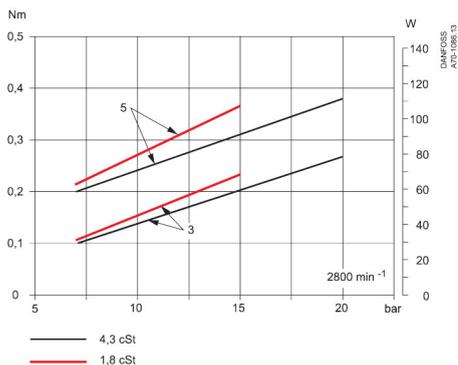
2) Max. 12 bar at 1.3 cSt., max. 15 bar at 1.8 cSt.xxx

### Capacity

Nozzle capacity [l/h]

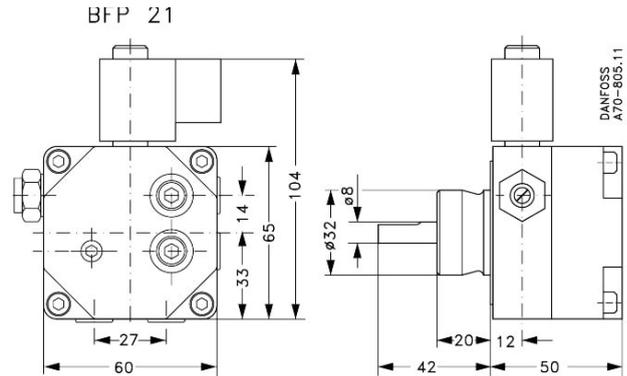


Operating torque [Nm]  
Power consumption [W]



## Dimensions & weights

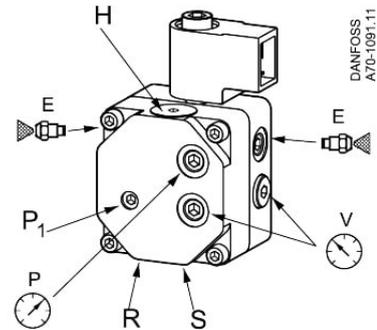
Weight	Oil Pump type BFP 21 LE-S, size 3 and 5	
	Gross weight	1.192 kg
	Net weight	1.176 kg
	Volume	2.013 Liter



## Connections

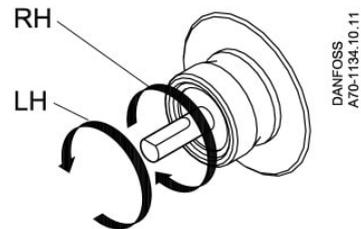
Example shows BFP 21 L3L LE

- P<sub>1</sub>: Pressure adjustment
- 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



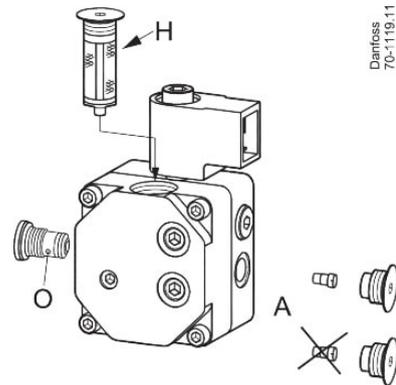
## Service

### 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	<a href="#">Danfoss MD 071NR05</a>	Danfoss	EU RoHS
Export Control Declaration	<a href="#">Oil pumps BFP/BFA/BFM</a>	Danfoss	
Electrical Safety Certificate	<a href="#">SEMKO SE-S-2101293R3</a>	Intertek Semko	
EU-UK Declaration	<a href="#">Danfoss EU-UK 071NR05</a>	Danfoss	LVD

## Contact details

### Online support

Danfoss offers a wide range of support along with our products, including digital information, software, mobile apps and expert guidance. See the possibilities below.



#### The Danfoss Design center

Discover the Design Center, our advanced digital platform that streamlines product selection. With integrated tools and enhanced type pages, it's simpler than ever to access product information and documentation, and to select the right products. Check the availability of Danfoss products at partner locations and enjoy seamless transitions from selection to purchase with our basket-to-basket functionality. Whether you're buying from our distributors or directly from the Product Store, the Design Center simplifies your experience. Learn more at: [designcenter.danfoss.com](https://designcenter.danfoss.com).



#### The Danfoss product store

The Danfoss Product Store is a one-stop shop available 24/7 for our customers, no matter where you are in the world or what area of industry you work in. Browse our catalog, check product details and documentation, view your prices and product availability, and quickly finalize your purchase. Start browsing at: [store.danfoss.com](https://store.danfoss.com).



#### Danfoss Partner Portal/Product Data tool

Designed to support you with easy access to product data extracts, essential resources, tools, and information. The Partner Portal provides a centralized hub for product documentation, training materials, marketing assets, and technical support, ensuring you have everything you need to succeed and grow your business with Danfoss. The Partner Portal is available 24/7 at: [partner.danfoss.com](https://partner.danfoss.com) and is ready to support your business.



#### Find technical documentation

Find technical documentation you need to get your project up running. Get direct access to our official collection of data sheets, certificates and declarations, manuals and guides, 3D models and drawings, case stories, brochures, and much more. Start searching now at: [documentation.danfoss.com](https://documentation.danfoss.com).



#### Danfoss Learning

Danfoss Learning is a free online learning platform. It features courses and materials specifically designed to help engineers, installers, service technicians, and wholesalers better understand the products, applications industry topics, and trends that will help you do your job better. Find your local Danfoss website here: [learning.danfoss.com](https://learning.danfoss.com).



#### Get local information and support

Local Danfoss websites are the main sources for help and information about our company and products. Find product availability, get the latest regional news, or connect with a nearby expert - all in your own language. Find your local Danfoss website here: [danfoss.com](https://danfoss.com).

#### Danfoss A/S

Climate Solutions . danfoss.com . +45 7488 2222

Any information, including, but not limited to information on selection of product, its application or use, product design, weight, dimensions, capacity or any other technical data in product manuals, catalogues description, advertisements, etc. and whether made available in writing, orally, electronically, online or via download, shall be considered informative, and is only binding if and to the extent, explicit reference is made in a quotation or order confirmation. Danfoss cannot accept any responsibility for possible errors in catalogues, brochures, videos and other material. Danfoss reserves the right to alter its products without notice. This also applies to products ordered but not delivered provided that such alterations can be made without changes to form, fit or function of the products. All trademarks in this material are property of Danfoss A/S or Danfoss group companies. Danfoss and the Danfoss logo are trademarks of Danfoss A/S. All rights reserved.