



# Pumps

## BFP 52

size 3 and 5

## Description

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

## Features & Benefits

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

## Applications

- Small/medium-sized domestic fuel burners up to 42 l/h.



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

## Ordering

### Product code numbers

| Product Type | Nozzle/pressure outlet | ROTATION | 1 or 2 stage | Capacity [l/h] | Biofuel blend | Code number |
|--------------|------------------------|----------|--------------|----------------|---------------|-------------|
| BFP 52       | L                      | R        | 2            | 42.00          | 10            | 071N2207    |
| BFP 52       | L                      | L        | 2            | 42.00          | 10            | 071N2212    |
| BFP 52       | L                      | L        | 2            | 24.00          | 30            | 071N2218    |
| BFP 52       | L                      | L        | 2            | 24.00          | 10            | 071N2251    |
| BFP 52       | L                      | L        | 2            | 42.00          | 10            | 071N2252    |
| BFP 52       | L                      | R        | 2            | 24.00          | 10            | 071N2253    |
| BFP 52       | L                      | R        | 2            | 42.00          | 10            | 071N2254    |
| BFP 52       | L                      | R        | 2            | 24.00          | 10            | 071N2257    |
| BFP 52       | L                      | L        | 2            | 24.00          | 10            | 071N2264    |
| BFP 52       | L                      | R        | 2            | 24.00          | 10            | 071N2273    |
| BFP 52       | R                      | L        | 2            | 16.00          | 10            | 071N2286    |
| BFP 52       | R                      | L        | 2            | 24.00          | 10            | 071N2299    |
| BFP 52       | L                      | L        | 2            | 24.00          | 10            | 071N3201    |
| BFP 52       | L                      | L        | 2            | 42.00          | 10            | 071N3202    |
| BFP 52       | L                      | R        | 2            | 24.00          | 10            | 071N3203    |

### Identification

Example:  
BFP **B 52 E L 5 L**

| BFP      |                                                           |
|----------|-----------------------------------------------------------|
| <b>B</b> | B: biofuel ready for up to 100%                           |
| <b>5</b> | 5: two stages, two pressure regulators                    |
| <b>2</b> | 2: two solenoid valves                                    |
| <b>E</b> | E: use electrical air damper                              |
| <b>L</b> | R: clockwise rotation<br>L: counter-clockwise rotation    |
| <b>5</b> | 3: capacity 24 l/h<br>5: capacity 42 l/h                  |
| <b>L</b> | R: right hand nozzle outlet<br>L: left hand nozzle outlet |

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

## Accessories code numbers

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



071G0200

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

CABLE FOR NC VALVE, 500  
mm OEM

Related products

071N2203

071N2286

071N3204



071G0235

### **CABLE FOR NC VALVE, 180 mm OEM**

CABLE FOR NC VALVE, 180 mm OEM

Related products

071N2286

071N3204



071G0202

### **CABLE FOR NC VALVE, 280 mm OEM**

CABLE FOR NC VALVE, 280  
mm OEM

Related products

071N2203

071N2286

071N3204



071G0204

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

CABLE FOR NC VALVE, 710 mm OEM

Related products

071N2203

071N2286

071N3204



071G0205

### **CABLE FOR NO VALVE, 710 mm OEM**

CABLE FOR NO VALVE, 710  
mm OEM

Related products

071N2203

071N2286

071N3204



071N0007

### **NC SERVICE VALVE FOR 24 V DC**

NC SERVICE VALVE FOR 24 V DC

Related products

071N2203



071N0062

### **Coil 24 V AC.**

Coil 24 V AC.

Related products

071N2203



071N0604

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

PLUG 1/8" FOR P AND V PORTS.

Related products

071N2203



071B0011

**BUSH 32 x 54 mm.**

BUSH 32 x 54 mm.

Related products

071N2203



071N0047

**BUSH 32 x 54 mm W. STD. FLANGE.**

BUSH 32 x 54 mm W. STD. FLANGE.

Related products

071N2203



071G0201

**CABLE FOR NO VALVE, 500 mm OEM**

CABLE FOR NO VALVE, 500 mm OEM

Related products

071N2203



071N0010

**COIL 220/240 V AC.**

COIL 220/240 V AC.

Related products

071N2203



071N0601

**NO COIL 220/240 V**

NO COIL 220/240 V

Related products

071N2203



071N0061

**COIL 110/120 V AC.**

COIL 110/120 V AC.

Related products

071N2203



071N1033

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

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

Related products

071N2203



071N1055

**PLUG FOR 1/4" CONNECTIONS**

PLUG FOR 1/4" CONNECTIONS

Related products

071N2203



071N0050  
**NC VALVE**  
NC VALVE

Related products

071N2203



071G2245  
**CABLE FOR NC VALVE, 2100 mm**  
CABLE FOR NC VALVE, 2100 mm

Related products

071N2203

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

### 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 x 54 mm.**  
BUSH 32 x 54 mm.

Related products

071N2209

071N2218

071N2257

071N2273

071N2286

071N2299

071N3201

071N3202

071N3203

071N3204



071N0041  
**CHANGE OVER SCREW 2-PIPE OPERATION**  
CHANGE OVER SCREW 2-PIPE OPERATION

Related products

071N2209

071N2218

071N2257

071N2273

071N2286

071N2299

071N3201

071N3202

071N3203

071N3204



071N0005  
**NO SERVICE VALVE FOR USE W. NC COIL**  
NO SERVICE VALVE FOR USE W. NC COIL

Related products

071N2209

071N2218

071N2257

071N2273

071N2286

071N2299

071N3201

071N3202

071N3203

071N3204



071N3010  
**NO SERVICE VALVE FOR USE W. NO COIL**  
NO SERVICE VALVE FOR USE W. NO COIL

Related products

071N2218

071N2257

071N2273

071N2286

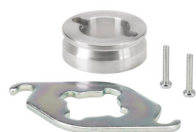
071N2299

071N3201

071N3202

071N3203

071N3204



071N0047

**BUSH 32 x 54 mm W. STD. FLANGE.**

BUSH 32 x 54 mm W. STD. FLANGE.

## Related products

071N2218

071N2257

071N2273

071N2286

071N2299

071N3201

071N3202

071N3203

071N3204



071N3011

**NC LE-S SERVICE VALVE**

NC LE-S SERVICE VALVE

## Related products

071N2218

071N2257

071N2273

071N2286

071N2299

071N3201

071N3202

071N3203

071N3204



071N1033

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

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

## Related products

071N2218

071N2257

071N2273

071N2286

071N2299

071N3201

071N3202

071N3203

071N3204



071N0064

**CARTRIDGE STRAINER BFP**

CARTRIDGE STRAINER BFP

## Related products

071N2218

071N2257

071N2273

071N2286

071N2299

071N3201

071N3202

071N3203

071N3204



071N0074

**PLUG FOR CARTRIDGE FILTER.**

PLUG FOR CARTRIDGE FILTER.

## Related products

071N2218

071N2257

071N2273

071N2286

071N2299

071N3201

071N3202

071N3203

071N3204



071N1006

**COIL T85 230 V AC**

COIL T85 230 V AC

## Related products

071N2218

071N2257

071N2273

071N2286

071N2299

071N3201

071N3202

071N3203

071N3204



071N1055

**PLUG FOR 1/4"  
CONNECTIONS**

PLUG FOR 1/4" CONNECTIONS

## Related products

071N2218

071N2257

071N2273

071N2286

071N2299

071N3201

071N3202

071N3203

071N3204



071N1007

**NO COIL T85 230 V AC**

NO COIL T85 230 V AC

## Related products

071N2218

071N2257

071N2273

071N2286

071N2299

071N3201

071N3202

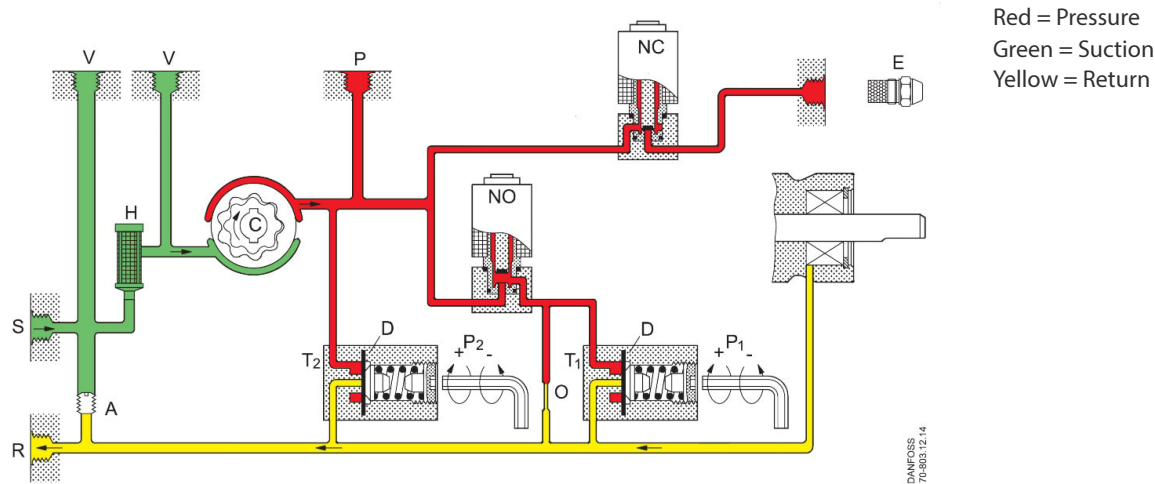
071N3203

071N3204

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

## Functions

## Operation



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

When voltage is applied to the NO-valve, it closes and puts the pressure regulator (T1) 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 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 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 fuel 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 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.*

## Product details

### General data

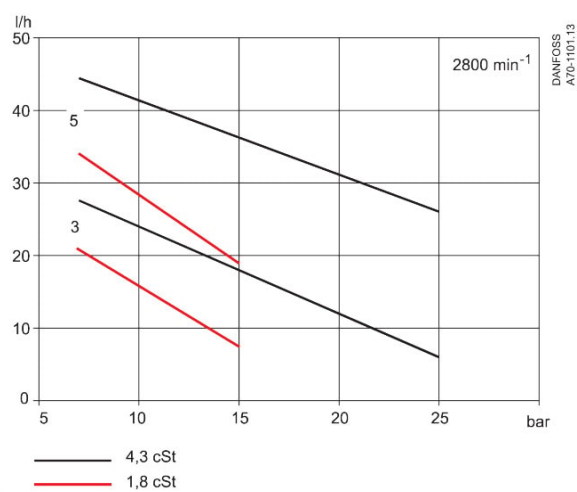
| BFP 52E                                                   | 3                                                                                                | 5                              |
|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------|
| 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) <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, stage 1 <sup>1) 2)</sup>                  | 7 to 15 bar                                                                                      |                                |
| Pressure range, stage 2 <sup>1) 2)</sup>                  | 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 <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) Max. 12 bar at 1.3 cSt., max. 15 bar at 1.8 cSt.

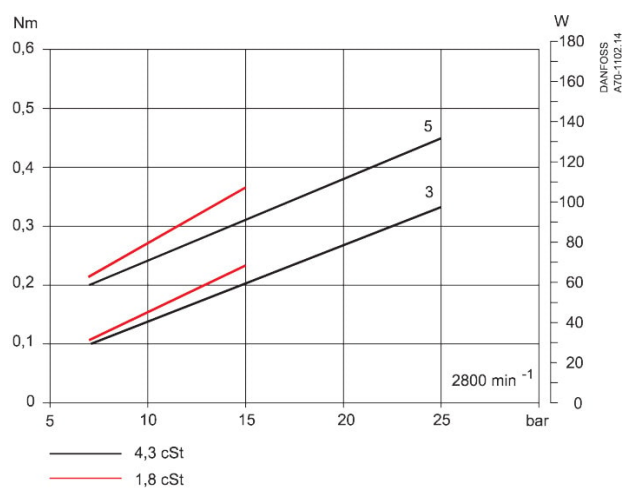
2) If blend oil used, technical data can be different

## Capacity

### Nozzle capacity [l/h]

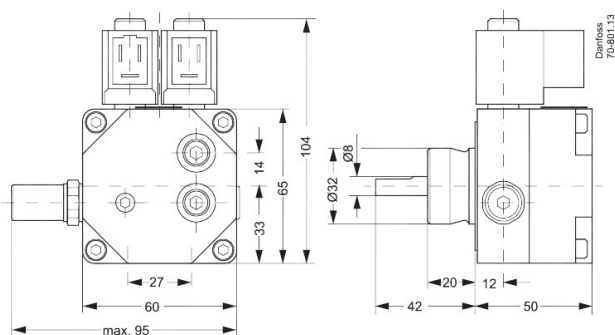


### Operating torque [Nm] Power consumption [W]



## Dimensions & weights

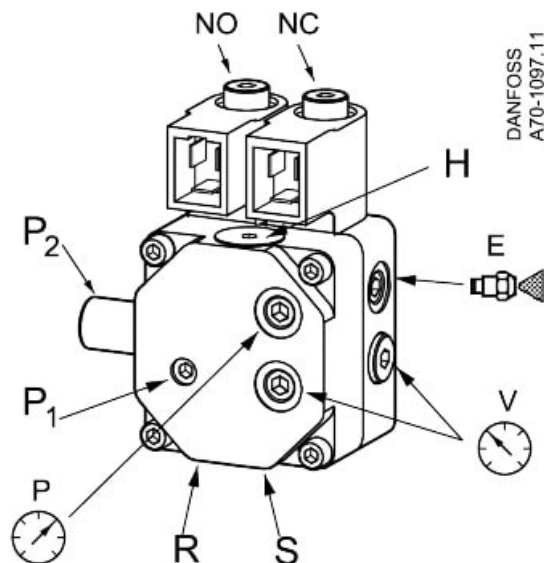
| Weight | Fuel Pump type BFP 52E, size 3 and 5 |             |
|--------|--------------------------------------|-------------|
|        | Gross weight                         | 1.144 kg    |
|        | Net weight                           | 1.143 kg    |
|        | Volume                               | 1.203 Liter |



## Connections

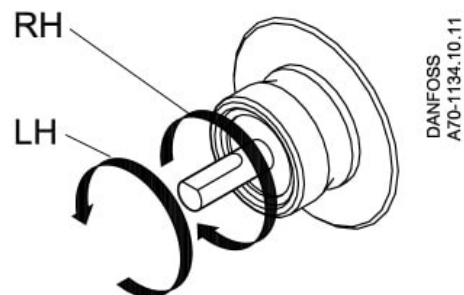
Example shows BFP 52 L5L

- P<sub>1</sub>: Pressure adjustment stage 1
- P<sub>2</sub>: 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.

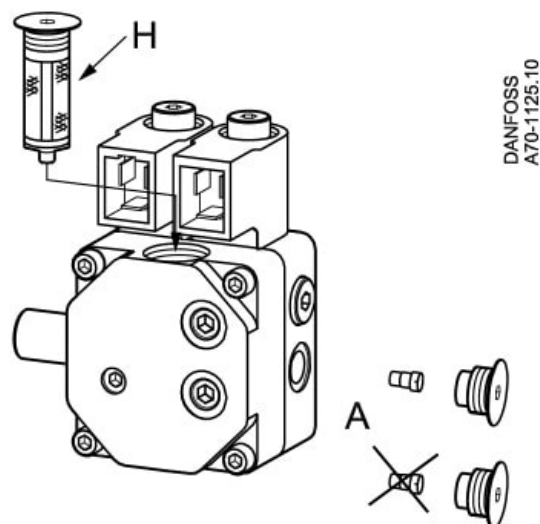
- RH: R-rotation
- LH: L-rotation



## 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 071NP.05</a>    | Danfoss            | EU RoHS        |
| EU-UK Declaration             | <a href="#">Danfoss EU-UK 071NP.05</a> | Danfoss            | LVD            |
| Electrical Safety Certificate | <a href="#">DIN CERTCO 5S222</a>       | DIN CERTCO         |                |
| Electrical Safety Certificate | <a href="#">SEMKO SE-S-2101293R3</a>   | Intertek Semko     |                |
| Export Control Declaration    | <a href="#">Oil pumps BFP/BFA/BFM</a>  | Danfoss            |                |

## 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

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#### Danfoss A/S

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