MAKING MODERN LIVING POSSIBLE

Service manual
Danfoss Burner Components



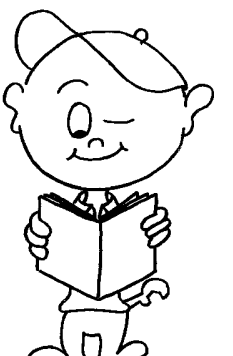
burner.danfoss.com

Dear Danfoss partner,

In the field of components for burners and boilers, Danfoss offers a complete range for most oil burners on the market, right from the smallest domestic burners to the largest industrial burners. The construction of burners available today varies widely; therefore a high degree of adaptability is demanded from the individual components.

An example: The series of BFP service pumps from Danfoss give the greatest possible flexibility where the range of functions and connections is concerned. These pumps are therefore ideal as replacement units for both older Danfoss pumps and pumps from other makers. If you would like precise details of how pump replacement can be simplified - please read on.

Danfoss will of course be pleased to help with the conversions outlined in this service manual and make the work of finding an alternative easier.
In other words, we will make it as easy as possible for you to find the most suitable components and service from the comprehensive Danfoss range.



The service manual is intended as an aid in the daily routine. We therefore hope that the manual will make your work with Danfoss burner components easier so that we will be able to look forward to your continued custom.

Your Danfoss Team

Contents

1. Oil pumps
   - Contents Oil pumps ..... Page 3
   - Conversion ..... Page 6
   - Dimensions ..... Page 42
   - Spare parts and accessories ..... Page 41, 47, 48
   - Accessories ..... Page 49
   - Connections ..... Page 51

2. Oil burner controls
   - Contents Oil burner controls ..... Page 56
   - Introduction ..... Page 57
   - Conversion ..... Page 58
   - Dimensions ..... Page 63
   - Accessories ..... Page 65
   - Flash codes ..... Page 66

3. Ignition units
   - Contents Ignition units ..... Page 67
   - Introduction ..... Page 68
   - Conversion ..... Page 70
   - Dimensions ..... Page 75
   - Service ..... Page 77

4. Oil nozzles
Contents Oil nozzles ..... Page 79
Oil nozzles, brass ..... Page 81
Oil nozzles, steel ..... Page 82
Conversion ..... Page 83
Marking ..... Page 85

5. Oil preheaters
Contents Oil preheater ..... Page 86
Danfoss standard types ..... Page 87
Dimensions ..... Page 88

Oil pumps

Contents

Introduction		Page	4
Conversion	Danfoss RS -> RSA	Page	6
Conversion	Danfoss RSL -> BFP Service	Page	7
Conversion	Danfoss MSL -> BFP Service	Page	9
Conversion	Danfoss MS -> BFP Service	Page	12
Conversion	Danfoss BFP -> BFP Service	Page	14
Conversion	Suntec -> BFP Service	Page	24
Conversion	Eckerle -> BFP Service	Page	29
Conversion	DELTA -> BFP Service	Page	36
Spare parts and accessories	RSA/RSH	Page	41
Dimensions	BFP	Page	44
Accessories	BFP	Page	46
Spare parts and accessories	BFP	Page	47
Changeover 1-2 pipe	RSA/BFP	Page	49
Connections	RSA	Page	51
Connections	BFP	Page	52

Oil pump conversion

The tables below give the following pump conversions:

- Danfoss RS pumps to RSA pumps
- Danfoss RSL/MSL/MS/BFP pumps to BFP service pumps
- Suntec pumps to BFP service pumps
- Eckerle pumps to BFP service pumps
- Delta pumps to BFP service pumps

Using Danfoss service pumps BFP 21 L3 and BFP 21 R3 it is possible to maintain 90% of existing small burners. In other cases it can be difficult to find the correct Danfoss service pump. The main purpose of the conversion tables is to make the replacement of such pumps easier.

The tables are compiled as follows:

- Column 1 always gives the pump type to be replaced.

- Column 2 gives the code number of the pump to be replaced.

  Note: Where Eckerle UNI-pumps are concerned, column 1 gives the old and column 2 the new designation.

- Column 3 states whether the pump is for 1-pipe or 2-pipe operation.

  Note: With the MS pump, the numbers „1 +2" are added because this particular unit has automatic changeover. Eckerle pumps have no suffixes.

- Column 5 gives the Danfoss pump type able to replace the existing pump.

- Column 6 gives the corresponding Danfoss code number.

- The last column, „Comments/accessories", refers to special characteristics and features. Please note that in some cases accessories are necessary.

Explanation – code number and comments:

When changing over from pumps with hydraulic shut-off valve (RSL and MSLC) to BFP with electric shut-off valve (BFP 11, 21 and 41) a cable must be ordered for connection to the motor terminals in the oil burner control.

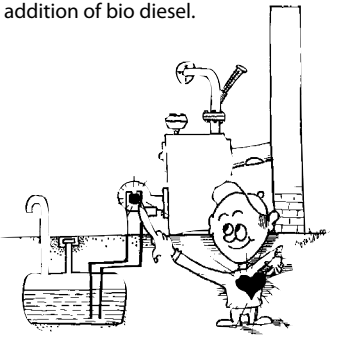
Some pump types carry the comment „No repl.". There are several possible explanations, among them:

- The BFP service pump cannot supply the required nozzle capacity.
- The BFP service pump does not have the required coil voltage. BFP coils are only available for 220-240 V a.c., 110-120 V a.c. and 24 V a.c.
- The shaft of the BFP service pump is not of a suitable diameter.
- With the BFP service pump it is possible that a hydraulic cylinder might be connected to the pressure gauge port on the front.

The position of connections and clockwise/counterclockwise indication are always given when looking on the shaft end. See Changeover 1-2 pipe.

Before fitting a service pump, a check must be made of whether it is set for 1-pipe or 2-pipe operation. If necessary, the pump must be reset to suit the system in which it is being installed.

As per April 2010 all service pumps are clearly marked with the word "Service" and the designation "Bio 10". This means that these pumps are approved and released for the use with B10. i.e. heating oil with an addition of up to 10% bio diesel. Pumps that do not carry this mark may only be used with up to B5, i.e. heating oil with max. 5% addition of bio diesel.



Oil pumps – RS

Danfoss oil pumps – older series			➡	Relevant Danfoss types		
Type	Code no.	1-2 pipe	➡	Type	Code no.	Comments/accessories
RS 28	070-5300	1	➡	RSA 28	070-5372	
RS 28	070L5300	1	➡	RSA 28	070L5372	
RS 28	070-5302	2	➡	RSA 28	070-5372	
RS 28	070L5302	2	➡	RSA 28	070L5372	
RS 28	070-5310	1	➡	RSA 28	070-5382	
RS 28	070L5310	1	➡	RSA 28	070L5382	
RS 28	070-5312	2	➡	RSA 28	070-5382	
RS 28	070L5312	2	➡	RSA 28	070L5382	
RS 28	070-5322	2	➡	RSA 28	070-5332	
RS 28	070L5322	2	➡	RSA 28	070L5332	
RS 40	070-3200	1	➡	RSA 40	070-3232	
RS 40	070L3200	1	➡	RSA 40	070L3232	
RS 40	070-3202	2	➡	RSA 40	070-3232	
RS 40	070L3202	2	➡	RSA 40	070L3232	
RS 40	070-3210	1	➡	RSA 40	070-3242	
RS 40	070L3210	1	➡	RSA 40	070L3242	
RS 40	070-3212	2	➡	RSA 40	070-3242	
RS 40	070L3212	2	➡	RSA 40	070L3242	
RS 40	070-3222	2	➡	RSA 40	070-3249	
RS 40	070L3222	2	➡	RSA 40	070L3249	
RS 60	070-3300	1	➡	RSA 60	070-3352	
RS 60	070L3300	1	➡	RSA 60	070L3352	
RS 60	070-3302	2	➡	RSA 60	070-3352	
RS 60	070L3302	2	➡	RSA 60	070L3352	

Oil pumps – RS

Danfoss oil pumps – older series			➡	Relevant Danfoss types		
Type	**Code no.**	**1-2 pipe**	➡	**Type**	**Code no.**	**Comments/accessories**
RS 60	070L3302	2	➡	RSA 60	070L3352	
RS 60	070-3310	1	➡	RSA 60	070-3362	
RS 60	070L3310	1	➡	RSA 60	070L3362	
RS 60	070-3312	2	➡	RSA 60	070-3362	
RS 60	070L3312	2	➡	RSA 60	070L3362	

Oil pumps – RSL

Danfoss oil pumps – older series			➡	Relevant Danfoss types		
Type	**Code no.**	**1-2 pipe**	➡	**Type**	**Code no.**	**Comments/accessories**
RSL 028	070-4330	1	➡	BFP 21 R3	071N0171[1)]	+ cable, L = 710 mm: 071G0204
RSL 028	070L4330	1	➡	BFP 21 L3	071N0170[1)]	
RSL 028	070-4332	2	➡	BFP 21 R3	071N0171[1)]	
RSL 028	070L4332	2	➡	BFP 21 L3	071N0170[1)]	
RSL 028	070-4340	1	➡	BFP 21 R3	071N0171[1)]	+ cable, L = 710 mm: 071G0204 + bush ∅54: 071B0011
RSL 028	070L4340	1	➡	BFP 21 L3	071N0170[1)]	
RSL 028	070-4342	2	➡	BFP 21 R3	071N0171[1)]	
RSL 028	070L4342	2	➡	BFP 21 L3	071N0170[1)]	
RSL 050	070-3130	1	➡	BFP 21 R5	071N0173[1)]	+ cable, L = 710 mm: 071G0204
RSL 050	070L3130	1	➡	BFP 21 L5	071N0172[1)]	
RSL 050	070-3132	2	➡	BFP 21 R5	071N0173[1)]	
RSL 050	070L3132	2	➡	BFP 21 L5	071N0172[1)]	
RSL 050	070-3140	1	➡	BFP 21 R5	071N0173[1)]	+ cable, L = 710 mm: 071G0204 + bush ∅54: 071B0011
RSL 050	070L3140	1	➡	RFP 21 L5	071N0172[1)]	
RSL 050	070-3142	2	➡	BFP 21 R5	071N0173[1)]	
RSL 050	070L3142	2	➡	BFP 21 L5	071N0172[1)]	

1) The solenoid coil must be connected in parallel with the burner motor.

Oil pumps – RSLB

Danfoss oil pumps – older series			➡	Relevant Danfoss types		
Type	Code no.	1-2 pipe	➡	Type	Code no.	Comments/accessories
RSLB 028	070-4030	1	➡	BFP 20 R3	071N0169	
RSLB 028	070L4030	1	➡	BFP 20 L3	071N0168	
RSLB 028	070-4032	2	➡	BFP 20 R3	071N0169	
RSLB 028	070L4032	2	➡	BFP 20 L3	071N0168	
RSLB 028	070-4040	1	➡	BFP 20 R3	071N0169	
RSLB 028	070L4040	1	➡	BFP 20 L3	071N0168	+ bush ∅54: 071B0011
RSLB 028	070-4042	2	➡	BFP 20 R3	071N0169	
RSLB 028	070L4042	2	➡	BFP 20 L3	071N0168	
RSLB 050	070-4130	1	➡	BFP 20 R5	071N0129	
RSLB 050	070L4130	1	➡	BFP 20 L5	071N0126	
RSLB 050	070-4132	2	➡	BFP 20 R5	071N0129	
RSLB 050	070L4132	2	➡	BFP 20 L5	071N0126	
RSLB 050	070-4140	1	➡	BFP 20 R5	071N0129	
RSLB 050	070L4140	1	➡	BFP 20 L5	071N0126	+ bush ∅54: 071B0011
RSLB 050	070-4142	2	➡	BFP 20 R5	071N0129	
RSLB 050	070L4142	2	➡	BFP 20 L5	071N0126	

Oil pumps – MSLA

Danfoss oil pumps – older series			➡	Relevant Danfoss types			
Type	**Code no.**	**1-2 pipe**	➡	**Type**	**Code no.**	**Comments/accessories**	
MSLA 032	071B0101	1	➡	BFP 21 R3	071N0171[2)]		
MSLA 032	071B0102	2	➡	BFP 21 R3	071N0171		
MSLA 032	071B0103	1	➡		No repl.	MSLA = 100 V a.c.	
MSLA 032	071B0104	2	➡		No repl.		
MSLA 032	071B0105	1	➡	BFP 21 R3	071N0171[2)]	+ coil 110-120 V a.c.: 071N0061	
MSLA 032	071B0108	2	➡		No repl.	MSLA = 200 V a.c.	
MSLA 032	071B0112	2	➡	BFP 21 R3	071N0171		
MSLA 032	071B0113	1	➡	BFP 21 R3	071N0171[2)]		
MSLA 032	071B0132	2	➡	BFP 21 R3	071N0171	+ coil 24 V a.c.: 071N0062	
MSLA 032	071B1101	1	➡	BFP 21 L3	071N0170[2)]		
MSLA 032	071B1102	2	➡	BFP 21 L3	071N0170		
MSLA 032	071B1103	1	➡		No repl.	MSLA 100 V a.c.	+ cable, L = 710 mm: 071G0204
MSLA 032	071B1104	2	➡		No repl.		
MSLA 032	071B1105	1	➡	BFP 21 L3	071N0170[2)]	+ coil 110-120 V a.c.: 071N0061	
MSLA 032	071B1111	1	➡	BFP 21 L3	071N0170[2)]		
MSLA 032	071B1112	2	➡	BFP 21 L3	071N0170		
MSLA 032	071B1114	2	➡	BFP 21 L3	071N0170		
MSLA 032	071B1118	2	➡	BFP 21 L3	071N0170		
MSLA 032	071B1120	2	➡	BFP 21 L3	071N0170		
MSLA 032	071B1126	2	➡	BFP 21 L3	071N0170		
MSLA 032	071B1128	2	➡	BFP 21 L3	071N0170		
MSLA 032	071B1132	2	➡	BFP 21 L3	071N0170	+ coil 24 V a.c.: 071N0062	
MSLA 032	071B1134	2	➡	BFP 21 L3	071N0170		
MSLA 032	071B1136	2	➡	BFP 21 L3	071N0170		
MSLA 032	071B1138	2	➡	BFP 21 L3	071N0170		

2) This pump is delivered for 2-pipe operation. A changeover to 1-pipe operation is possible, see Changeover 1 - 2 pipe.

Oil pumps – MSLA/MSLB

Danfoss oil pumps – older series			➡	Relevant Danfoss types			
Type	**Code no.**	**1-2 pipe**	➡	**Type**	**Code no.**	**Comments/accessories**	
MSLA 050	071B0201	1	➡	BFP 21 R5	071N0173[2)]		+ cable, L = 710 mm, 071G0204
MSLA 050	071B0202	2	➡	BFP 21 R5	071N0173		
MSLA 050	071B0203	1	➡	BFP 21 R5	071N0173[2)]	MSLA = 100 V a.c. + coil 110-120 V a.c.: 071N0061	
MSLA 050	071B0204	2	➡	BFP 21 R5	071N0173		
MSLA 050	071B0205	1	➡	BFP 21 R5	071N0173[2)]		
MSLA 050	071B0208	2	➡	BFP 21 R5	071N0173	MSLA = 200 V a.c.	
MSLA 050	071B1201	1	➡	BFP 21 L5	071N0172[2)]		
MSLA 050	071B1202	2	➡	BFP 21 L5	071N0172		
MSLA 050	071B1203	1	➡	BFP 21 L5	071N0172[2)]	MSLA = 100 V a.c. + coil 110-120 V a.c.: 071N0061	
MSLA 050	071B1204	2	➡	BFP 21 L5	071N0172		
MSLB 032	071B2101	1	➡	BFP 20 R3	071N0169[2)]		
MSLB 032	071B3101	1	➡	BFP 20 L3	071N0168[2)]		
MSLB 032	071B2102	2	➡	BFP 20 R3	071N0169		
MSLB 032	071B2104	2	➡	BFP 20 R3	071N0169		
MSLB 032	071B3102	2	➡	BFP 20 L3	071N0168		
MSLB 050	071B2201	1	➡	BFP 20 R5	071N0129[2)]		
MSLB 050	071B3201	1	➡	BFP 20 L5	071N0126[2)]		
MSLB 050	071B2202	2	➡	BFP 20 R5	071N0129		
MSLB 050	071B2203	1	➡	BFP 20 R5	071N0129[2)]		
MSLB 050	071B3202	2	➡	BFP 20 L5	071N0126		

2) This pump is delivered for 2-pipe operation. A changeover to 1-pipe operation is possible, see Changeover 1 - 2 pipe.

Oil pumps – MSLC/MSLD

Danfoss oil pumps – older series			➡	Relevant Danfoss types		
Type	**Code no.**	**1-2 pipe**	➡	**Type**	**Code no.**	**Comments/accessories**
MSLC 032	071B4101	1	➡	BFP 21 R3	071N0171[1) 2)]	+ cable, L = 710 mm: 071G0204
MSLC 032	071B5101	1	➡	BFP 21 L3	071N0170[1) 2)]	
MSLC 032	071B4102	2	➡	BFP 21 R3	071N0171[1)]	
MSLC 032	071B5102	2	➡	BFP 21 L3	071N0170[1)]	
MSLC 032	071B4103	1	➡	BFP 21 R3	071N0171[1) 2)]	
MSLC 032	071B4105	1	➡	BFP 21 R3	071N0171[1) 2)]	
MSLC 050	071B4201	1	➡	BFP 21 R5	071N0173[1) 2)]	
MSLC 050	071B5201	1	➡	BFP 21 L5	071N0172[1) 2)]	
MSLC 050	071B4202	2	➡	BFP 21 R5	071N0173[1)]	
MSLC 050	071B5202	2	➡	BFP 21 L5	071N0172[1)]	
MSLD 032	071B6101	1	➡	BFP 20 R3	071N0169[2)]	
MSLD 032	071B6102	2	➡	BFP 20 R3	071N0169	
MSLD 032	071B7101	1	➡	BFP 20 L3	071N0168[2)]	
MSLD 032	071B7102	2	➡	BFP 20 L3	071N0168	
MSLD 032	071B6201	1	➡	BFP 20 R5	071N0129[2)]	
MSLD 050	071B6202	2	➡	BFP 20 R5	071N0129	
MSLD 050	071B7201	1	➡	BFP 20 L5	071N0126[2)]	
MSLD 050	071B7202	2	➡	BFP 20 L5	071N0126	

1) The solenoid coil must be connected in parallel with the burner motor.
2) This pump is delivered for 2-pipe operation. A changeover to 1-pipe operation is possible, see Changeover 1 - 2 pipe.

Oil pumps – MS

Danfoss oil pumps – older series			➡	Relevant Danfoss types		
Type	**Code no.**	**1-2 pipe**	➡	**Type**	**Code no.**	**Comments/accessories**
MS 10 L3	071G0125	1 + 2	➡	BFP 20 L3	071N0168[2)]	
MS 10 R3	071G0123	1 + 2	➡	BFP 20 R3	071N0169[2)]	
MS 10 L3	071G0153	1 + 2	➡		No repl.	
MS 10 R3	071G0175	1 + 2	➡	BFP 20 R3	071N0169[2)]	
MS 10 R5	071G0176	1 + 2	➡	BFP 20 R5	071N0129[2)]	
MS 10 L5	071G0128	1 + 2	➡	BFP 20 L5	071N0126[2)]	
MS 10 R5	071G0124	1 + 2	➡	BFP 20 R5	071N0129[2)]	
MS 11 L3	071G0117	1 + 2	➡	BFP 21 L3	071N0170[2)]	
MS 11 R3	071G0118	1 + 2	➡	BFP 21 R3	071N0171[2)]	
MS 11 L3	071G0121	1 + 2	➡	BFP 21 L3	071N0170[2)]	
MS 11 L3	071G0134	1 + 2	➡	BFP 21 L3	071N0170[2)]	
MS 11 L3	071G0137	1 + 2	➡	BFP 21 L3	071N0170[2)]	
MS 11 L3	071G0139	1 + 2	➡	BFP 21 L3	071N0170[2)]	
MS 11 L3	071G0154	1 + 2	➡	BFP 21 L3	071N0170[2)]	+ coupling with single flat in hole (D-shaped)
MS 11 L3	071G0156	1 + 2	➡	BFP 21 L3	071N0170[2)]	+ coil 24 V a.c.: 071N0062
MS 11 L3	071G0158	1 + 2	➡	BFP 21 L3	071N0170[2)]	
MS 11 R3	071G0160	1 + 2	➡	BFP 21 R3	071N0171[2)]	+ coil 24 V a.c.: 071N0062
MS 11 L3	071G0162	1 + 2	➡	BFP 11 L3	071N0141[3)]	
MS 11 L3	071G0163	1 + 2	➡	BFP 11 L3	071N0141[3)]	+ coil 24 V a.c.: 071N0062
MS 11 L3	071G0165	1	➡	BFP 21 L3	071N0170[2)]	MS hat manuelle Umstellung
MS 11 R3	071G0173	1 + 2	➡	BFP 21 R3	071N0171[2)]	
MS 11 R5	071G0174	1 + 2	➡	BFP 21 R5	071N0173[2)]	
MS 11 R3	071G0177	1 + 2	➡	BFP 21 R3	071N0171[2)]	
MS 11 L3	071G0178	1 + 2	➡	BFP 21 L3	071N0170[2)]	

2) This pump is delivered for 2-pipe operation. A changeover to 1-pipe operation is possible, see Changeover 1 - 2 pipe.
3) This pump is delivered for 1-pipe operation. A changeover to 2-pipe operation is possible, see Changeover 1 - 2 pipe.

Oil pumps – MS

Danfoss oil pumps – older series			➨	Relevant Danfoss types		
Type	**Code no.**	**1-2 Strang**	➨	**Type**	**Code no.**	**Comments/accessories**
MS 11 L3	071G0179	1 + 2	➨	BFP 21 L3	071N0170[2)]	Any hydraulic cylinder must be connected to the pressure gauge port on the front.
MS 11 L5	071G0127	1 + 2	➨	BFP 21 L5	071N0172[2)]	
MS 11 R5	071G0126	1 + 2	➨	BFP 21 R5	071N0173[2)]	
MS 12 L3	071G0115	1 + 2	➨		No repl.	
MS 12 R3	071G0113	1 + 2	➨		No repl.	
MS 12 L5	071G0116	1 + 2	➨		No repl.	
MS 12 R5	071G0114	1 + 2	➨		No repl.	
MS 12 L3	071G0161	1 + 2	➨		No repl.	
MS 12E L3	071G0130	1 + 2	➨	BFP 52E L3	071N2201[2)]	
MS 12E R3	071G0129	1 + 2	➨	BFP 52E R3	071N2203[2)]	
MS 12E L5	071G0120	1 + 2	➨	BFP 52E L5	071N2202[2)]	
MS 12E R5	071G0119	1 + 2	➨	BFP 52E R5	071N2204[2)]	
MS 12E L3	071G0140	1 + 2	➨	BFP 52E L3	071N2201[2)]	
MS 12E L5	071G0181	1 + 2	➨	BFP 52E L5	071N2202[2)]	
MS 21 L3	071G0157	1 + 2	➨	BFP 21 L3	071N0170[2)]	
MS 21 R3	071G0167	1 + 2	➨	BFP 21 R3	071N0171[2)]	

2) This pump is delivered for 2-pipe operation. A changeover to 1-pipe operation is possible, see Changeover 1 - 2 pipe.

Oil pumps – BFP

BFP – standard pump			➡	Relevant Danfoss types		
Type	**Code no.**	**1-2 pipe**	➡	**Type**	**Code no.**	**Comments/accessories**
BFP 11 L3	071N0101	2	➡	BFP 11 L3	071N0141[3)]	
BFP 21 L3	071N0102	2	➡	BFP 21 L3	071N0170	
BFP 11 L3	071N0103	2	➡	BFP 21 L3	071N0170	
BFP 21 L3	071N0104	2	➡	BFP 21 L3	071N0170	
BFP 11 L5	071N0105	2	➡	BFP 21 L5	071N0172	
BFP 21 L3	071N0107	2	➡	BFP 21 L3	071N0170	
BFP 20 L3	071N0108	1	➡	BFP 20 L3	071N0168[2)]	
BFP 21 R3	071N0109	2	➡	BFP 21 R3	071N0171	Any hydraulic cylinder must be connected to the pressure gauge port on the front.
BFP 21 L3	071N0111	2	➡	BFP 21 L3	071N0170	
BFP 21 R3	071N0112	2	➡	BFP 21 R3	071N0171	
BFP 21 L3	071N0113	2	➡	BFP 21 L3	071N0170	
BFP 11 L3	071N0114	2	➡	BFP 21 L3	071N0170	+ coupling with single flat in hole (D-shaped)
BFP 31 L3	071N0115	2	➡	BFP 21 L3	071N0170	
BFP 21 L5	071N0116	2	➡	BFP 21 L5	071N0172	Any hydraulic cylinder must be connected to the pressure gauge port on the front.
BFP 20 R3	071N0118	1	➡	BFP 20 R3	071N0169[2)]	
BFP 21 L3	071N0119	2	➡	BFP 21 L3	071N0170	
BFP 21 R5	071N0120	1	➡	BFP 21 R5	071N0173[2)]	
BFP 21 L3	071N0122	1	➡	BFP 21 L3	071N0170[2)]	
BFP 21 L3	071N0123	2	➡	BFP 21 L3	071N0170	+ coil 110 V: 071N0061
BFP 20 L3	071N0125	2	➡	BFP 20 L3	071N0168	
BFP 20 L5	071N0126	2	➡	BFP 20 L5	071N0126	
BFP 20 L3	071N0127	1	➡	BFP 20 L3	071N0168[2)]	
BFP 20 R3	071N0128	1	➡	BFP 20 L3	071N0169[2)]	
BFP 20 R5	071N0129	2	➡	BFP 20 R5	071N0129	

2) This pump is delivered for 2-pipe operation. A changeover to 1-pipe operation is possible, see Changeover 1 - 2 pipe.
3) This pump is delivered for 1-pipe operation. A changeover to 2-pipe operation is possible, see Changeover 1 - 2 pipe.

Oil pumps – BFP

BFP – standard pump			➡	Relevant Danfoss types		
Type	**Code no.**	**1-2 pipe**	➡	**Type**	**Code no.**	**Comments/accessories**
BFP 21 L3	071N0130	2	➡	BFP 21 L3	071N0170	
BFP 21 L3	071N0132	1	➡	BFP 21 L3	071N0170[2)]	
BFP 31 L3	071N0133	2	➡	BFP 21 L3	071N0170	+ coupling with single flat in hole (D-shaped)
BFP 41 L3	071N0135	2	➡	BFP 41 L3	071N0174	
BFP 21 R3	071N0136	1	➡	BFP 21 R3	071N0171[2)]	
BFP 41 R3	071N0137	2	➡	BFP 21 R3	071N0171	
BFP 11 L3	071N0141	1	➡	BFP 11 L3	071N0141	
BFP 11 L3	071N0142	1	➡	BFP 11 L3	071N0141	
BFP 11 R3	071N0143	1	➡	BFP 11 R3	071N0155	
BFP 11 L3	071N0144	2	➡	BFP 11 L3	071N0141[3)]	
BFP 11 R3	071N0145	2	➡	BFP 11 R3	071N0155[3)]	
BFP 11 L3	071N0146	2	➡	BFP 11 L3	071N0141[3)]	Old coil might be usable
BFP 21 L3	071N0147	2	➡	BFP 21 L3	071N0170	
BFP 21 L3	071N0148	2	➡	BFP 21 L3	071N0170	
BFP 31 L3	071N0149	2	➡	BFP 21 L3	071N0170	
BFP 21 L3	071N0150	2	➡	BFP 21 L3	071N0170	
BFP 21 L3	071N0151	2	➡	BFP 21 L3	071N0170	
BFP 11 L3	071N0152	2	➡	BFP 11 L3	071N0141[3)]	
BFP 11 L3	071N0153	2	➡	BFP 11 L3	071N0141[3)]	+ coil 24 V a.c.: 071N0062
BFP 21 R3	071N0154	1	➡	BFP 21 R3	071N0171[2)]	
BFP 11 R3	071N0155	1	➡	BFP 11 R3	071N0155	
BFP 21 L3	071N0156	1	➡	BFP 21 L3	071N0170[2)]	
BFP 21 R3	071N0157	1	➡	BFP 21 R3	071N0171[2)]	
BFP 21 L5	071N0158	1	➡	BFP 21 L5	071N0172[2)]	
BFP 21 R5	071N0159	1	➡	BFP 21 R5	071N0173[2)]	
BFP 41 L3	071N0160	1	➡	BFP 41 L3	071N0174[2)]	

2) Diese Pumpe wird für 2-Strangbetrieb geliefert. Umstellung auf 1-Strangbetrieb ist möglich, siehe Umstellung 1-2
3) Diese Pumpe wird für 1-Strangbetrieb geliefert. Umstellung auf 2-Strangbetrieb ist möglich, siehe Umstellung 1-2

Oil pumps – BFP

BFP – standard pump				Relevant Danfoss types		
Type	Code no.	1-2 pipe		Type	Code no.	Comments/accessories
BFP 20 L3	071N0161	1	➡	BFP 20 L3	071N0168[2)]	
BFP 20 R3	071N0162	1	➡	BFP 20 R3	071N0169[2)]	
BFP 11 R5	071N0163	2	➡	BFP 21 R5	071N0173	
BFP 21 L3	071N0164	2	➡	BFP 21 L3	071N0170	
BFP 11 R5	071N0165	2	➡	BFP 21 R5	071N0173	
BFP 10 R5	071N0166	2	➡	BFP 20 R5	071N0129	
BFP 21 R3	071N0167	2	➡	BFP 21 R3	071N0171	
BFP 20 L3	071N0168	2	➡	BFP 20 L3	071N0168	
BFP 20 R3	071N0169	2	➡	BFP 20 R3	071N0169	
BFP 21 L3	071N0170	2	➡	BFP 21 L3	071N0170	
BFP 21 R3	071N0171	2	➡	BFP 21 R3	071N0171	
BFP 21 L5	071N0172	2	➡	BFP 21 L5	071N0172	
BFP 21 R5	071N0173	2	➡	BFP 21 R5	071N0173	
BFP 41 L3	071N0174	2	➡	BFP 41 L3	071N0174	
BFP 21 L3	071N0175	1	➡	BFP 21 L3	071N0170[2)]	
BFP 21 L3	071N0176	1	➡	BFP 21 L3	071N0170[2)]	+ coil: 071N0061
BFP 10 R3	071N0177	2	➡	BFP 20 R3	071N0169	
BFP 11 L5	071N0178	2	➡	BFP 21 L5	071N0172	
BFP 21 L3	071N0179	2	➡	BFP 21 L3	071N0170	
BFP 20 R5	071N0180	2	➡	BFP 20 R5	071N0129	
BFP 11 R3	071N0181	2	➡	BFP 11 R3	071N0155[3)]	
BFP 21 L3	071N0182	2	➡	BFP 21 L3	071N0170	
BFP 11 R3	071N0183	2	➡	BFP 11 R3	071N0155[3)]	
BFP 11 L3	071N0184	2	➡	BFP 21 L3	071N0170	
BFP 21 L3	071N0185	2	➡	BFP 21 L3	071N0170	
BFP 41 L3	071N0188	2	➡	BFP 41 L3	071N0174	

2) This pump is delivered for 2-pipe operation. A changeover to 1-pipe operation is possible, see Changeover 1 - 2 pipe.
3) This pump is delivered for 1-pipe operation. A changeover to 2-pipe operation is possible, see Changeover 1 - 2 pipe.

Oil pumps – BFP

BFP – standard pump			➡	Relevant Danfoss types		
Type	Code no.	1-2 pipe	➡	Type	Code no.	Comments/accessories
BFP 21 L3	071N0189	2	➡	BFP 21 L3	071N0170	+ coil: 071N0062
BFP 31 L3	071N0190	2	➡	BFP 21 L3	071N0170	
BFP 31 L3	071N0191	2	➡	BFP 21 R3	071N0171	
BFP 31 L3	071N0192	1	➡	BFP 21 L3	071N0170[2)]	
BFP 21 L3	071N0193	1	➡	BFP 21 L3	071N0170[2)]	
BFP 21 L5	071N0194	1	➡	BFP 21 L5	071N0172[2)]	
BFP 21 R5	071N0195	1	➡	BFP 21 R5	071N0173[2)]	
BFP 41 R3	071N0196	1	➡	BFP 41 R3	071N0137[2)]	
BFP 21 L3	071N0197	2	➡	BFP 21 L3	071N0170	
BFP 21 R3	071N0198	1	➡	BFP 21 R3	071N0171[2)]	
BFP 21 L5	071N0202	2	➡	BFP 21 L5	071N0172	
BFP 21 L3	071N0204	2	➡	BFP 21 L3	071N0170	
BFP 21 R5	071N0207	2	➡	BFP 21 R5	071N0173	
BFP 21 R3	071N0208	2	➡	BFP 21 R3	071N0171	
BFP 21 L3	071N0209	2	➡	BFP 21 L3	071N0170	
BFP 11 L3	071N0210	1	➡	BFP 11 L3	071N0141	
BFP 20 L3	071N0212	2	➡	BFP 20 L3	071N0168	+ coupling with single flat in hole (D-shaped)
BFP 11 L3	071N0213	1	➡	BFP 21 L3	071N0141	
BFP 21 R3	071N0214	1	➡	BFP 21 R3	071N0171[2)]	
BFP 21 R3	071N0215	2	➡	BFP 21 R3	071N0171	071N0215 has G 1/8 in S+R
BFP 21 L3	071N0217	2	➡	BFP 21 L3	071N0170	
BFP 41 L3	071N0224	1	➡	BFP 41 L3	071N0174[2)]	
BFP 41 L3	071N0225	2	➡	BFP 41 L3	071N0174	
BFP 21 L3	071N0226	2	➡	BFP 21 L3	071N0170	
BFP 21 L5	071N0227	2	➡	BFP 21 L5	071N0172	+ coupling with 2 flats

2) This pump is delivered for 2-pipe operation. A changeover to 1-pipe operation is possible, see Changeover 1 - 2 pipe.
3) This pump is delivered for 1-pipe operation. A changeover to 2-pipe operation is possible, see Changeover 1 - 2 pipe.

Oil pumps – BFP

BFP – standard pump			➡	Relevant Danfoss types		
Type	**Code no.**	**1-2 pipe**	➡	**Type**	**Code no.**	**Comments/accessories**
BFP 21 L3	071N0228	2	➡	BFP 21 L3	071N0170	
BFP 20 R3	071N0229	2	➡	BFP 20 R3	071N0169	
BFP 21 R3	071N0231	1	➡	BFP 21 R3	071N0171[2)]	
BFP 21 L3 LE-S	071N0233	2	➡	BFP 21 L3 LE-S	071N2225	+ coupling with single flat in hole (D-shaped)
BFP 41 R3	071N0235	2	➡	BFP 41 R3	071N0137	
BFPC-21 L5	071N0237	2	➡	BFP 21 L5	071N0172	
BFPC-21 L3	071N0238	2	➡	BFP 21 L3	071N0170	
BFPC-21 L3	071N0240	1	➡	BFP 21 L3	071N0170[2)]	
BFPC-21 L3	071N0241	1	➡	BFP 21 L3	071N0170[2)]	+ 24 V a.c. coil 071N0062
BFPC-21 L3	071N0242	2	➡	BFP 21 L3	071N0170	
BFPC-21 L3	071N0243	2	➡	BFP 21 L3	071N0170	+ 24 V a.c. coil 071N0062
BFPC-21 R3	071N0245	2	➡	BFP 21 R3	071N0171	
BFPC-21 R5	071N0248	2	➡	BFP 21 R5	071N0173	
BFP 21 L3 LE-S	071N0264	2	➡	BFP 21 L3 LE-S	071N2225	+ coupling with single flat in hole (D-shaped)
BFP 20 L3	071N0267	2	➡	BFP 20 L3	071N0168	
BFP 11 L6	071N0270	2	➡	BFP 21 L5	071N0172	Max. 40 l/h at 10 bar
BFP 11 R6	071N0271	2	➡	BFP 21 R5	071N0173	
BFP 10 L6	071N0272	2	➡	BFP 20 L5	071N0126	
BFP 10 R6	071N0273	2	➡	BFP 20 R5	071N0129	
BFP 11 L6	071N0274	1	➡	BFP 21 L5	071N0172[2)]	
BFP 11 R6	071N0275	1	➡	BFP 21 R5	071N0173[2)]	
BFPC-21 R3	071N0279	1	➡	BFP 21 R3	071N0171[2)]	+ 24 V a.c. coil 071N0062
BFPC-21 R3	071N0280	2	➡	BFP 21 R3	071N0171	
BFPC-21 R5	071N0281	2	➡	BFP 21 R5	071N0173	
BFPC-21 L3	071N0282	1	➡	BFP 21 L3	071N0170[2)]	Old coil might be usable
BFPC-21 R3	071N0283	1	➡	BFP 21 R3	071N0171[2)]	Old coil might be usable
BFPC-21 L3	071N0284	2	➡	BFP 21 L3	071N0170	Old coil might be usable
BFPC-21 R3	071N0285	2	➡	BFP 21 R3	071N0171	+ 24 V a.c. coil 071N0062

2) This pump is delivered for 2-pipe operation. A changeover to 1-pipe operation is possible, see Changeover 1 - 2 pipe.

Oil pumps – BFP

BFP – standard pump			➡	Relevant Danfoss types		
Type	**Code no.**	**1-2 pipe**	➡	**Type**	**Code no.**	**Comments/accessories**
BFPC-21 R3	071N0286	2	➡	BFP 21 R3	071N0171	+ 24 V a.c. coil 071N0062
BFPC-21 R3	071N0287	2	➡	BFP 21 R3	071N0171	+ 24 V a.c. coil 071N0062
BFP 10 R3	071N0288	1	➡	BFP 20 R3	071N0169[2)]	
BFPC-21 L3	071N0289	1	➡	BFP 21 L3	071N0170[2)]	Old coil might be usable
BFP 21 L5	071N0292	2	➡	BFP 21 L5	071N0172	+ coupling with 2 flats
BFP 21 L3	071N0295	2	➡	BFP 21 L3	071N0170	
BFP 20 R3	071N0298	1	➡	BFP 20 R3	071N0169[2)]	
BFP 31 L3	071N1201	2	➡		No repl.	
BFP 31 L3	071N1203	2	➡	BFP 21 L3	071N0170	
BFP 21 L3 LE-S	071N1211	2	➡	BFP 21 L3 LE-S	071N2225	+ coupling with 2 flats
BFP 21 L3	071N1217	2	➡	BFP 21 L3	071N0170	+ coupling with 2 flats
BFP 21 L3	071N1219	2	➡	BFP 21 L3	071N0170	+ coupling with 2 flats
BFA 01 L3	071N1221	2	➡	BFP 21 L3	071N0170	
BFA 01 R3	071N1223	2	➡	BFP 21 R3	071N0171	
BFA 01 R3	071N1224	1	➡	BFP 21 R3	071N1215[2)]	
BFA 01 L3	071N1225	2	➡	BFP 21 L3	071N0170	+ 24 V a.c. coil 071N0062
BFA 01 L3	071N1226	2	➡	BFP 21 L3	071N0170	
BFA 00 L3	071N1227	2	➡	BFP 20 L3	071N0168	
BFA 01 L3	071N1228	1	➡	BFP 21 L3	071N1214[2)]	
BFA 01 L3	071N1229	2	➡	BFP 21 L3	071N0170	+ 110 V a.c. coil 071N0061
BFA 01 R3	071N1230	1	➡	BFP 21 R3	071N0157	+ 24 V a.c. coil 071N0062
BFA 01 R3	071N1231	2	➡	BFP 21 R3	071N0171	+ 24 V a.c. coil 071N0062
BFA 01 R5	071N1232	2	➡	BFP 21 R5	071N0173	
BFA 01 R3	071N1233	2	➡	BFP 21 R5	071N0173	+ 110 V a.c. coil 071N0061
BFA 00 R5	071N1234	2	➡	BFP 20 R5	071N0129	
BFA 01 R3	071N1235	1	➡	BFP 21 R3	071N1215	
BFA 01 L3	071N1236	2	➡	BFP 21 L3	071N0170	+ 24 V a.c. coil 071N0062
BFA 01 R3	071N1240	2	➡	BFP 21 R3	071N0171	+ 110 V a.c. coil 071N0061
BFA 01 L3	071N1241	2	➡	BFP 21 L3	071N0170	+ 24 V a.c. coil 071N0008 and valve 071N0007

2) This pump is delivered for 2-pipe operation. A changeover to 1-pipe operation is possible, see Changeover 1 - 2 pipe.

Oil pumps – BFP

BFP – standard pump			➡	Relevant Danfoss types		
Type	**Code no.**	**1-2 pipe**	➡	**Type**	**Code no.**	**Comments/accessories**
BFA 01 R3	071N1262	2	➡	BFP 21 R3	071N0171	+ 24 V a.c. coil 071N0062
BFA 01 R3	071N1263	2	➡	BFP 21 R3	071N0171	
BFA 01 R3	071N1264	2	➡	BFP 21 R3	071N0171	+ 110 V a.c. coil 071N0061
BFA 01 R3	071N1265	2	➡	BFP 21 R3	071N0171	
BFA 01 R4	071N1284	1	➡	BFP 21 R5	071N0173[2)]	
BFA 01 R4	071N1285	2	➡	BFP 21 R5	071N0173	
BFA 01 R3	071N1286	1	➡	BFP 21 L3	071N1214	
BFA 01 R3	071N1287	2	➡	BFP 21 R5	071N0173	+ 110 V a.c. coil 071N0061
BFA 01 R5	071N1288	2	➡	BFP 21 R5	071N0173	
BFA 01 L4	071N1289	2	➡	BFP 21 L5	071N0172	+ 24 V a.c. coil 071N0062
BFA 01 L3	071N1290	2	➡	BFP 21 L3	071N0170	
BFA 01 L3	071N1291	2	➡	BFP 21 L3	071N0170	
BFA 01 R3	071N1292	2	➡	BFP 21 R5	071N0173	
BFP 01 R5	071N1293	2	➡	BFP 21 R5	071N0173	
BFA 01 R5	071N1294	1	➡	BFP 21 R5	071N0173[2)]	
BFA 01 R5	071N1295	1	➡	BFP 21 R5	071N0173[2)]	
BFA 01 L3	071N1296	1	➡	BFP 21 L3	071N1214	
BFA 01 R3	071N1298	2	➡	BFP 21 R3	071N0171	
BFA 01 R3	071N1299	1	➡	BFP 21 R3	071N1215	
BFP 21L3 LE	071N2103	2	➡	BFP 21 L3 LE	071N2119	
BFP 21L3 LE	071N2104	2	➡	BFP 21 L3 LE	071N2119	
BFP 21R3-LE	071N2107	2	➡	BFP 21 R3 LE	071N2107	
BFP 21L3 LE	071N2108	2	➡	BFP 21 L3 LE	071N2119	
BFP 31L3-LE	071N2109	2	➡	BFP 21 L3 LE	071N2119	
BFP 21L3 LE	071N2110	2	➡	BFP 21 L3 LE	071N2118	
BFP 21L3 LE	071N2112	2	➡	BFP 21 L3 LE	071N2119	
BFP 21L3 LE	071N2113	2	➡	BFP 21 L3 LE	071N2119	
BFP 21L3 LE	071N2114	2	➡	BFP 21 L3 LE	071N2119	

2) This pump is delivered for 2-pipe operation. A changeover to 1-pipe operation is possible, see Changeover 1 - 2 pipe.

Oil pumps – BFP

BFP – standard pump			➡	Relevant Danfoss types		
Type	**Code no.**	**1-2 pipe**	➡	**Type**	**Code no.**	**Comments/accessories**
BFP 21L3 LE-S	071N2116	2	➡	BFP 21 L3 LE-S	071N2225	
BFP 21 L2	071N2123	2	➡	BFP 21 L3	071N0170	
BFP 21 L3 LE-S	071N2125	2	➡	BFP 21 L3 LE-S	071N2225	+ coupling with single flat in hole (D-shaped)
BFP 52E L3	071N2201	2	➡	BFP 52E L3	071N2201	
BFP 52E L5	071N2202	2	➡	BFP 52E L5	071N2202	
BFP 52E R3	071N2203	2	➡	BFP 52E R3	071N2203	
BFP 52E R5	071N2204	2	➡	BFP 52E R5	071N2204	
BFP 52E L5	071N2205	2	➡	BFP 52E L5	071N2202	
BFP 52E R5	071N2206	2	➡	BFP 52E R5	071N2204	
BFP 52E L3	071N2209	2	➡	BFP 52E L3	071N2201	
BFP 52E L3	071N2211	2	➡	BFP 52E L3	071N2201	+ coupling with single flat in hole (D-shaped)
BFP 52E L5	071N2212	2	➡	BFP 52E L5	071N2202	
BFP 52E L3	071N2213	2	➡	BFP 52E L3	071N2201	
BFP 52E L5	071N2217	1	➡	BFP 52E L5	071N2202[2)]	
BFP 52E L5	071N2220	2	➡	BFP 52E L5	071N2202	+ coupling with 2 flats
BFP 52E L3	071N2264	2	➡	BFP 52E L3	071N2201	
BFP 52E L5	071N2265	2	➡	BFP 52E L5	071N2202	
BFP 21 L3 LE-S	071N2303	2	➡	BFP 21 L3 LE-S	071N2225	+ coupling with single flat in hole (D-shaped)
BFP 21 L3 LE	071N4105	2	➡	BFP 21 L3 LE	071N2118	+ coupling with 2 flats
BFP 11 L13	071N6101	2	➡		No repl.	
BFP 11 R13	071N6102	2	➡		No repl.	
BFP 10 L13	071N6103	2	➡		No repl.	
BFP 10 R13	071N6104	2	➡		No repl.	
BFP 11 L11	071N6105	2	➡		No repl.	
BFP 11 R11	071N6106	2	➡		No repl.	
BFP 10 L11	071N6107	2	➡		No repl.	
BFP 10 R11	071N6108	2	➡		No repl.	
BFP 11 L8	071N6109	2	➡		No repl.	

2) This pump is delivered for 2-pipe operation. A changeover to 1-pipe operation is possible, see Changeover 1 - 2 pipe.

Oil pumps – BFP

BFP – standard pump			➡	Relevant Danfoss types		
Type	Code no.	1-2 pipe	➡	Type	Code no.	Comments/accessories
BFP 11 R8	071N6110	2	➡		No repl.	
BFP 10 L8	071N6111	2	➡		No repl.	
BFP 10 R8	071N6112	2	➡		No repl.	
BFP 12 L8	071N6201	2	➡		No repl.	
BFP 12 L11	071N6202	2	➡		No repl.	
BFP 12 L13	071N6203	2	➡		No repl.	
BFP 51 L6	071N6204	2	➡		No repl.	
BFP 51 L11	071N6205	2	➡		No repl.	
BFP 52 L6	071N6206	2	➡	BFP 52 E L5	071N2202	Max. 40 l/h at 10 bar
BFP 52 L8	071N6207	2	➡		No repl.	
BFP 52 R8	071N6208	2	➡		No repl.	
BFP 52 L11	071N6209	2	➡		No repl.	
BFP 52 R11	071N6210	2	➡		No repl.	
BFP 52 L13	071N6211	2	➡		No repl.	
BFP 52 R13	071N6212	2	➡		No repl.	
BFP 53 L6	071N6213	2	➡		No repl.	
BFP 12 R11	071N6214	2	➡		No repl.	
BFP 53 L11	071N6216	2	➡		No repl.	
BFP 12 L6	071N6217	2	➡		No repl.	
BFP 12 R6	071N6218	2	➡		No repl.	
BFP 12 R8	071N6219	2	➡		No repl.	
BFP 12 R13	071N6220	2	➡		No repl.	
BFP 51 R6	071N6221	2	➡		No repl.	
BFP 51 L8	071N6222	2	➡		No repl.	
BFP 51 R8	071N6223	2	➡		No repl.	
BFP 51 R11	071N6224	2	➡		No repl.	
BFP 51 L13	071N6225	2	➡		No repl.	

Oil pumps – BFP

BFP – standard pump			➨	Relevant Danfoss types		
Type	**Code no.**	**1-2 pipe**	➨	**Type**	**Code no.**	**Comments/accessories**
BFP 51 R13	071N6226	2	➨		No repl.	
BFP 52 R6	071N6227	2	➨	BFP 52 E R5	071N2204	Max. 40 l/h at 10 bar
BFP 53 R6	071N6228	2	➨		No repl.	
BFP 53 L8	071N6229	2	➨		No repl.	
BFP 53 R8	071N6230	2	➨		No repl.	
BFP 53 R11	071N6231	2	➨		No repl.	
BFP 53 L13	071N6232	2	➨		No repl.	
BFP 53 R13	071N6233	2	➨		No repl.	

Oil pumps – Suntec

Suntec			➡	Danfoss oil pumps		
Type	Code no.	1-2 pipe	➡	Type	Code no.	Comments/accessories
AN47A	13261P	2	➡	BFP 20 R3	071N0169	
AN47D	13391P	2	➡	BFP 20 L3	071N0168	
AN47C	13421P	2	➡	BFP 20 L3	071N0168	
AN47B	13951P	2	➡	BFP 20 R3	071N0169	
AN47A	72163P	2	➡	BFP 20 R3	071N0169	+ flange and bush ∅54: 071N0047
AN47B	72173P	2	➡	BFP 20 R3	071N0169	
AN47C	72183P	2	➡	BFP 20 L3	071N0168	
AN47D	72193P	2	➡	BFP 20 L3	071N0168	
AN47A	72263P	2	➡	BFP 20 R3	071N0169	
AN47B	72273P	2	➡	BFP 20 R3	071N0169	
AN47C	72283P	2	➡	BFP 20 L3	071N0168	
AN47D	72293P	2	➡	BFP 20 L3	071N0168	
AN47C	72473M	1	➡	BFP 20 L3	071N0168[2)]	+ 071N0047, possible changeover to 1-pipe operation
AN47A	72832M	1	➡	BFP 20 R3	071N0169[2)]	
AN47A	73263P	2	➡	BFP 20 R3	071N0169	
AN47B	73273P	2	➡	BFP 20 R3	071N0169	
AN47C	73283P	2	➡	BFP 20 L3	071N0168	
AN47A	73443P	2	➡	BFP 20 R3	071N0169	
AN57B	13301P	2	➡	BFP 20 R5	071N0129	
AN57A	72433P	2	➡	BFP 20 R5	071N0129	+ flange and bush ∅54: 071N0047 Suntec: 60 l/h, BFP: 40 l/h at 12 bar
AN57C	72823P	2	➡	BFP 20 L5	071N0126	
AN57C	78823E6	2	➡	BFP 20 L5	071N0126	
AN67B	13351P	2	➡	BFP 20 R5	071N0129	
AN67C	13361P	2	➡		No repl.	
AN67D	13571P	2	➡		No repl.	
AN67C	13381P	2	➡		No repl.	

2) This pump is delivered for 2-pipe operation. A changeover to 1-pipe operation is possible, see Changeover 1 - 2 pipe.

Oil pumps – Suntec

Suntec			➨	Danfoss oil pumps		
Type	**Code no.**	**1-2 pipe**	➨	**Type**	**Code no.**	**Comments/accessories**
AN67C	84102 E1	2	➨		No repl.	
AN67C	72333 P	2	➨		No repl.	
AN67A	72383 P	2	➨		No repl.	
AN67C	72423 P	2	➨		No repl.	
AN67B	72513 P	2	➨		No repl.	
AN67D	72523 P	2			No repl.	
AN67B	73353 P	2	➨		No repl.	
AN67A	73453 P	2	➨		No repl.	
AL35B	95202 P0200	2	➨	BFP 21 R3	071N0171	+ 24 V a.c. coil: 071N0062
AL35B	95202 P0500	2	➨	BFP 21 R3	071N0171	
AL35C	95212 P0500	2	➨	BFP 21 L3	071N0170	
AL35C	95242 M0500	1	➨	BFP 21 L3	071N0170[2)]	
AL35A	95262 P0500	2	➨	BFP 21 R3	071N0171	
AL35C	95282 P0500	2	➨	BFP 21 L3	071N0170	
AL35D	95292 P0200	2	➨	BFP 21 L3	071N0170	+ 24 V a.c. coil: 071N0062
AL35C	95402 P0500	2	➨	BFP 21 L3	071N0170	Suntec: G $^{1}/_{8}$ in S+R
AL35C	95652 M0500	1	➨	BFP 21 L3	071N0170[2)]	
AL35A	95702 P0500	2	➨	BFP 21 R3	071N0171	
AL35C	95782 P0500	2	➨	BFP 21 L3	071N0170	
AL35B	95802 P0500	2	➨	BFP 21 R3	071N0171	
AL35C	95402 P0500R	2	➨	BFP 21 L3	071N0170	

2) This pump is delivered for 2-pipe operation. A changeover to 1-pipe operation is possible, see Changeover 1 - 2 pipe.

Oil pumps – Suntec

Suntec			➡	Danfoss oil pumps		
Type	**Code no.**	**1-2 pipe**	➡	**Type**	**Code no.**	**Comments/accessories**
AL55B	95312 P0500	2	➡	BFP 21 R5	071N0173	
AL65C	-	2	➡		No repl.	
ALE 35C	93242 P0500	2	➡	BFP 21 L3-LE-S	071N2225	
AS47A	15361 P0500	2	➡	BFP 21 R3	071N0171	
AS47B	15371 P0500	2	➡	BFP 21 R3	071N0171	
AS47C	15381 P0500	2	➡	BFP 21 L3	071N0170	
AS47D	15391 P0500	2	➡	BFP 21 L3	071N0170	
AS47D	15501 P0500	2	➡	BFP 21 L3	071N0170	
AS47B	15511 P0500	2	➡	BFP 21 R3	071N0171	
AS47C	15541 P0500	2	➡	BFP 21 L3	071N0170	
AS47D	15571 P0500	2	➡	BFP 21 L3	071N0170	+ coupling with single flat in hole (D-shaped)
AS47D	15621 P0500	2	➡	BFP 21 L3	071N0170	
AS47D	15681 P0500	2	➡	BFP 21 L3	071N0170	
AS47C	15691 P0500	2	➡	BFP 21 L3	071N0170	
AS47D	15721 P0500	2	➡	BFP 21 L3	071N0170	
AS47D	15801 P0500	2	➡	BFP 21 L3	071N0170	
AS47A	74323 P0500	2	➡	BFP 21 R3	071N0171	
AS47C	74343 P0500	2	➡	BFP 21 L3	071N0170	
AS47D	74353 P0500	2	➡	BFP 21 L3	071N0170	
AS47A	74363 P0500	2	➡	BFP 21 R3	071N0171	
AS47C	74383 P0500	2	➡	BFP 21 L3	071N0170	+ flange and bush ∅54: 071N0047
AS47D	74393 P0500	2	➡	BFP 21 L3	071N0170	
AS47C	74443 P0500	2	➡	BFP 21 L3	071N0170	
AS47B	74453 P0500	2	➡	BFP 21 R3	071N0171	
AS47C	74513 M0500	1	➡	BFP 21 L3	071N0170[2)]	

2) This pump is delivered for 2-pipe operation. A changeover to 1-pipe operation is possible, see Changeover 1 - 2 pipe.

Oil pumps – Suntec

Suntec			➡	Danfoss oil pumps		
Type	**Code no.**	**1-2 pipe**	➡	**Type**	**Code no.**	**Comments/accessories**
AS47C	74613 P0500	2	➡	BFP 21 L3	071N0170	+ flange and bush ∅54: 071N0047
AS47C	75543 P0500	2	➡	BFP 21 L3	071N0170	
AS47D	75623 P0500	2	➡	BFP 21 L3	071N0170	
AS47A	75643 P0500	2	➡	BFP 21 R3	071N0171	
AS57C	15441 P0500	2	➡	BFP 21 L5	071N0172	
AS57C	74413 P0500	2	➡	BFP 21 L5	071N0172	+ flange and bush ∅54: 071N0047
AS57B	74423 P0500	2	➡	BFP 21 R5	071N0173	
AS57C	75443 P0500	2	➡	BFP 21 L5	071N0172	
AS67C			➡		No repl.	
AE45C	13601 P	2	➡	BFP 20 L5	071N0126	
AE45C	13701 M	1	➡	BFP 20 L5	071N0126[2)]	Suntec: $^1/_8$ NPTF in nozzle outlet
AE47B	13661 P	2	➡	BFP 20 R5	071N0129	
AE47D	13781 M	1	➡	BFP 20 L5	071N0126[2)]	
AE47A	13841 M	1	➡	BFP 20 R5	071N0129[2)]	
AE47D	13851 P	2	➡	BFP 20 L5	071N0126	
AE47C	13861 P	2	➡	BFP 20 L5	071N0126	
AE47C	13871 P	2	➡	BFP 20 L5	071N0126	
AE47B	72673 P	2	➡	BFP 20 R5	071N0129	+ flange and bush ∅54: 071N0047
AE47C	72743 M	1	➡	BFP 20 L5	071N0126[2)]	+ flange and bush ∅54: 071N0047
AE47C	73683 P	2	➡	BFP 20 L5	071N0126	
AE57B	13641 M	1	➡	BFP 20 R5	071N0129[2)]	
AE57C	73733 P	2	➡	BFP 20 L5	071N0126	
AE67D	72783 P	2	➡		No repl.	

2) This pump is delivered for 2-pipe operation. A changeover to 1-pipe operation is possible, see Changeover 1 - 2 pipe.

Oil pumps – Suntec

Suntec			➡	Danfoss oil pumps		
Type	Code no.	1-2 pipe	➡	Type	Code no.	Comments/accessories
AE67C	73613 P	2	➡		No repl.	
AE77C	72702 P	2	➡		No repl.	
AE77C	73802 P	2	➡		No repl.	
AP47A	75553 P0500	2	➡		No repl.	
AP47C	75563 P0500	2	➡	BFP 52E L5	071N2202[4)]	
AP47B	75613 P0500	2	➡	BFP 52E R5	071N2204[4)]	
AP47C	74603 P0500	2	➡	BFP 52E L5	071N2202[4)]	+ flange and bush ∅54: 071N0047
AP57C	74433 P0500	2	➡	BFP 52E L5	071N2202[4)]	Suntec: 35 l/h, BFP: 26 l/h at 22 bar + 071N0047
AP57C	75453 P0500	2	➡	BFP 52E L5	071N2202[4)]	Suntec: 35 l/h, BFP: 26 l/h at 22 bar
AP57A	75493 P0500	2	➡	BFP 52E R5	071N2204[4)]	
AP67C	74583 P0500	2	➡	BFP 52E L5	071N2202[4)]	Suntec: 58 l/h, BFP: 26 l/h at 22 bar + 071N0047
AP67C	75593 P0500	2	➡	BFP 52E L5	071N2202[4)]	Suntec: 58 l/h, BFP: 26 l/h at 22 bar
AP245C	95541 P0500	2	➡	BFP 52E L5	071N2202[4)]	
AP245C	95601 P0500	2	➡	BFP 52E L5	071N2202[4)]	
AP345C	95101 P0500	2	➡		No repl.	
AT245C	95412 P0500	2	➡	BFP 52E L5	071N2202	
AT245D	95442 P0500	2	➡		No repl.	
AT245A	95472 P0500	2	➡		No repl.	Suntec: Nozzle outlet to the right
AT245D	95482 P0500	2	➡		No repl.	
AT255C	95492 P0500	2	➡	BFP 52E L5	071N2202	Suntec: 47 l/h, BFP: 26 l/h at 22 bar
AT255A	95522 P0500	2	➡		No repl.	Suntec: Nozzle outlet to the right
AT3....			➡		No repl.	Special pump
AT275C	95832 P0500	2	➡		No repl.	
AT355D	95642 P0500	2	➡		No repl.	Suntec: Nozzle outlet to the right
AT355C	9550	2	➡		No repl.	
A2L95D	97022 P0500	2	➡		No repl.	

4) The pump NC valve must be connected in parallel to the NC valve in nozzle line.

Oil pumps – Eckerle

Eckerle		➨	Danfoss oil pumps		
Old designation	New designation	➨	Type	Code no.	Comments/accessories
UNI 1.1 L5 L64W	UNI-E 2.1 L1 L64	➨	BFP 20 L3	071N0168	Eckerle: G 1/8 in S+R
UNI 1.2 L1 L64-50	UNI 2.12 L1 L64	➨	BFP 21 L3	071N0170	
UNI 1.2 L5 L14	UNI 2.12 L1 L14	➨	BFP 21 L3	071N0170	
UNI 1.2 L5 L64-M1	UNI-E 2.1 L1 L64-21	➨	BFP 21 L3	071N0170	Eckerle: G 1/8 in S+R
UNI 1.2 L5 L64-50	UNI 2.12 L1 L64	➨	BFP 21 L3	071N0170	
UNI 1.2 L5 M14-50	UNI 2.12 L1 M14	➨	BFP 21 L3	071N0170	
UNI 1.2 L5 M64-50-W	UNI 2.12 L1 M64-65	➨	BFP 21 L3	071N0170	Eckerle: G 1/8 in S+R
UNI 1.2 L62 M14-01-W	UNI 2.12 L6 M14-65	➨	BFP 11 L5	071N6109	Eckerle: Max. 75 l/h, BFP: Max. 40 l/h at 12 bar
UNI 1.2 L62 L14W		➨	BFP 21 L5	071N0172	
UNI 1.42 L5 A64-W	UNI 2.42 L5 L64-65	➨	BFP 52E L5	071N2202	Eckerle: G 1/8 in S+R
UNI 1.42 L5 L64W		➨	BFP 52E L5	071N2202	Eckerle: Max. 75 l/h,
UNI 1.42 L6 L64W		➨	BFP 52E L5	071N2202	BFP: Max. 40 l/h at 12 bar
UNI 1.72 L62 L14-W	UNI 2.17 L6 M14-65	➨		No repl.	
UNI 2.1 L1 L40	UNI-E 2.1 L1 L10 (-22,-30)	➨	BFP 20 L3	071N0168	+ coupling with single flat in hole (D-shaped)
UNI 2.1 L1 L44	UNI-E 2.1 L1 L14	➨	BFP 20 L3	071N0168	
UNI 2.1 L1 L44H	UNI-E 2.1 L14	➨	BFP 20 L3	071N0168	
UNI 2.1 R1 L40	UNI-E 2.1 R1 L10	➨	BFP 20 R3	071N0169	+ coupling with single flat in hole (D-shaped)
UNI 2.1 R1 L44-21	UNI-E 2.1 R1 L14	➨	BFP 20 R3	071N0169	
UNI 2.1 L5 L40-21	UNI-E 2.1 L5 L10	➨	BFP 20 L5	071N0126	+ coupling with single flat in hole (D-shaped)
UNI 2.1 L5 L42	UNI-E 2.1 L5 L12	➨	BFP 20 L5	071N0126	+ coupling with single flat in hole (D-shaped) + 071B0011
UNI 2.1 L5 L44	UNI-E 2.1 L5 L14 (-13)	➨	BFP 20 L5	071N0126	
UNI 2.1 L5 L50	UNI-E 2.1 L5 L10	➨	BFP 20 L5	071N0126	Eckerle: 10-25 bar, BFP: Max. 20 bar + coupling with single flat in hole (D-shaped)
UNI 2.1 L5 R44	UNI-E 2.1 L5 R14 (-13)	➨	BFP 20 L5	071N0126	
UNI 2.1 L5 R94	UNI-E 2.1 L5 R74	➨	BFP 20 L5	071N0126	Eckerle: G 1/8 in S+R
UNI 2.1 R5 L42-UI-21	UNI-E 2.1 R5 L12-80	➨	BFP 20 R5	071N0129	+ coupling with single flat in hole (D-shaped)
UNI 2.1 R5 L43-UI-21	UNI-E 2.1 R5 L13-80	➨	BFP 20 R5	071N0129	+ flange: 071N0047
UNI 2.1 R5 L43		➨	BFP 20 R5	071N0129	

Oil pumps – Eckerle

Eckerle		➨	Danfoss oil pumps		
Old designation	New designation	➨	Type	Code no.	Comments/accessories
UNI 2.1 R5 L44	UNI-E 2.1 R5 L14	➨	BFP 20 R5	071N0129	
UNI 2.1 R5 L54	UNI-E 2.1 R5 L24	➨	BFP 20 R5	071N0129	Eckerle: Max. 25 bar
UNI 2.1 R5 R42		➨	BFP 20 R5	071N0129	
UNI 2.1 R5 R44	UNI-E 2.1 R5 R14	➨	BFP 20 R5	071N0129	
UNI 2.1 R5 R45-21	UNI-E 2.1 R5 R15	➨	BFP 20 R5	071N0129	+ bush: 071B0011
	UNI-E 2.1 R5 R60	➨	BFP 20 R5	071N0129	G 1/8 in S+R + coupling with single flat in hole (D-shaped)
UNI 2.1 R5 R80	UNI-E 2.1 R5 R40	➨	BFP 20 R5	071N0129	+ coupling with single flat in hole (D-shaped)
UNI 2.1 L6 L46	UNI-E 2.1 L6 L26	➨	RSA 40	070L3249	+ flange: 070N0211
UNI 2.1 L6 L46-S-W	UNI-E 2.1 L6 L16-11	➨	RSA 40	070L3249	
UNI 2.1 L6 L54	UNI-E 2.1 L6 L24	➨		No repl.	Eckerle ∅32, RSA ∅54 neck diameter
UNI 2.1 L6 L54-06	UNI-E 2.1 L6 L24	➨		No repl.	
UNI 2.1 R6 L25	UNI-E 2.1 R6 L25	➨	RSA 40	070-3249	
UNI 2.1 R6 R54	UNI-E 2.1 R6 L24	➨		No repl.	Eckerle ∅32, RSA ∅54 neck diameter
UNI 2.1 L7 L55	UNI-E 2.1 L7 L15	➨	RSA 60	070L3352	
UNI 2.1 L7 L55-05	UNI-E 2.1 L7 L25	➨	RSA 60	070L3352	Shaft: Eckerle ∅8, RSA ∅10
UNI 2.1 R7 L55	UNI-E 2.1 R7 L15	➨	RSA 60	070L3352	
UNI 2.1 G22 L1 L10/L40	UNI-E 2.1 G22	➨	BFP 20 L3	071N0168	+ coupling with single flat in hole (D-shaped)
	UNI-E 2.1 L1 L64 (-21)	➨	BFP 20 L3	071N0168	G 1/8 in S+R
	UNI-E 2.1 L5 R74	➨	BFP 20 L5	071N0172	
UNI 2.1 G41-21 L1 L10	UNI-E 2.1 G41	➨	BFP 20 L3	071N0168	
	UNI-E 2.1 G41-13	➨	BFP 20 L3	071N0168	+ coupling with single flat in hole (D-shaped)
	UNI- E 2.2 L1 L10	➨	BFP 21 L3	071N0170	
UNI 2.2 L1 L14	UNI-E 2.2 L1 L14	➨	BFP 21 L3	071N0170	
UNI 2.2 L1 L16W	UNI-E 2.2 L1 L16-10	➨	BFP 21 L3	071N0170	+ flange: 071N0047
UNI 2.2 L1 L44	UNI-E 2.2 L1 L14	➨	BFP 21 L3	071N0170	
UNI 2.2 L1 R14	UNI-E 2.2 L1 R14-12	➨	BFP 21 L3	071N0170	
UNI 2.2 R1 L40	UNI-E 2.2 R1 L10	➨	BFP 21 R3	071N0171	+ coupling with single flat in hole (D-shaped)
UNI 2.2 R1 M14	UNI-E 2.2 R1 M14	➨	BFP 21 R3	071N0171	

Oil pumps – Eckerle

Eckerle		➡	Danfoss oil pumps		
Old designation	**New designation**	➡	**Type**	**Code no.**	**Comments/accessories**
UNI 2.2 R1 R24	UNI-E 2.2 R1 R24	➡	BFP 21 R3	071N0171	Eckerle: Max. 25 bar
	UNI-E 2.2 R1 S14	➡	BFP 21 R3	071N0171	
UNI 2.2 L5 L14	UNI-E 2.2 L5 L14-92	➡	BFP 21 L5	071N0172	Eckerle: G 1/8 in S+R Eckerle: 10-25 bar, BFP: Max. 20 bar
UNI 2.2 L5 L15-21-05	UNI-E 2.2 L5 L15	➡	BFP 21 L5	071N0172	+ bush: 071B0011
UNI 2.2 L5 L40-X	UNI-E 2.2 L5 L10-50	➡	BFP 21 L5	071N0172	+ coupling with single flat in hole (D-shaped)
UNI 2.2 L5 L42	UNI-E 2.2 L5 L12	➡	BFP 21 L5	071N0172	+ bush: 071B0011 + coupling with single flat in hole (D-shaped)
UNI 2.2 L5 L60		➡	BFP 21 L5	071N0172	+ coupling with single flat in hole (D-shaped)
	UNI-E 2.2 L5 L60	➡	BFP 21 L5	071N0172	Eckerle: G 1/8 in S+R + coupling with single flat in hole (D-shaped)
UNI 2.2 L5 L62		➡	BFP 21 L5	071N0172	
UNI 2.2 L5 M14-C1	UNI.E 2.2 L5 M14-12	➡	BFP 21 L5	071N0172	
UNI 2.2 L5 S20	UNI-E 2.2 L5 S20	➡	BFP 21 L5	071N0172	Eckerle: 10-25 bar, BFP: Max. 20 bar + coupling with single flat in hole (D-shaped)
UNI 2.2 L5 S20-21-BUD	UNI-E 2.2 L5 S20 BUD	➡	BFP 21 L5	071N0172	Eckerle: Max. 25 bar, BFP: Max. 20 bar + coupling with single flat in hole (D-shaped)
UNI 2.2 L5 S74	UNI-E 2.2 L5 L14	➡	BFP 21 L5	071N0172	Eckerle: 10-25 bar, BFP: Max. 20 bar + coupling with single flat in hole (D-shaped)
	UNI-E 2.2 L5 S74	➡	BFP 21 L5	071N0172	G 1/8 in S+R. Eckerle: Max. 25 bar
UNI 2.2 R5 L14	UNI-E 2.2 R5 L14	➡	BFP 21 R5	071N0173	
	UNI-E 22 R5 M14	➡	BFP 21 R5	071N0173	
UNI 2.2 R5 M45	UNI-E 2.2 R5 M15	➡	BFP 21 R5	071N0173	+ bush: 071B0011
UNI 2.2 R5 R14	UNI-E 2.2 R5 R14	➡	BFP 21 R5	071N0173	
UNI 2.2 R5 R60-21	UNI-E 2.2 R5 R60	➡	BFP 21 R5	071N0173	Eckerle: G 1/8 in S+R + coupling with single flat in hole (D-shaped)
UNI 2.2 R5 R80B	UNI-E 2.2 R5 R60	➡	BFP 21 R5	071N0173	
	UNI-E 2.2 R5 S14	➡	BFP 21 R5	071N0173	
UNI 2.2 R5 S60	UNI-E 2.2 R5 S60	➡	BFP 21 R5	071N0173	

Oil pumps – Eckerle

Eckerle		➡	Danfoss oil pumps		
Old designation	New designation	➡	Type	Code no.	Comments/accessories
	UNI-E 2.2 L6 L14	➡	BFP 21 L5	071N0172	Eckerle: 75 l/h, BFP: Max. 40 l/h at 12 bar
UNI 2.2 L6 L16W	UNI-E 2.2 L6 L16-10	➡	BFP 21 L5	071N0172	Eckerle: 75 l/h, BFP: Max. 40 l/h at 12 bar + 071N0047
UNI 2.2 L6 L24	UNI-E 2.2 L6 L24	➡	BFP 21 L5	071N0172	Eckerle: 120 l/h, BFP: Max. 40 l/h at 12 bar
	UNI-E 2.2 L6 LR14-81	➡	BFP 21 L5	071N0172	
UNI 2.2 R6 M24	UNI-E 2.2 R6 M24	➡	BFP 21 R5	071N0173	
UNI 2.2 R6 S24-ET	UNI-E 2.2 R6 S24 (-40)	➡	BFP 21 R5	071N0173	
UNI 2.2 R6 S24 ET(R1)	UNI-E 2.2 R6 S24-40	➡	BFP 21 R5	071N0173	
UNI 2.3 L1 L56 (W-1-0	UNI-E 2.3 L1 L26-80	➡	BFP 20 L3	071N0168	Eckerle: 10-25 bar BFP: Max. 20 bar + flange: 071N0047
UNI 2.3 L1 R54	UNI-E 2.3 L1 R24-13	➡	BFP 20 L3	071N0168	Eckerle: 10-25 bar, BFP: Max. 20 bar
	UNI-E L5 L24-13	➡	BFP 20 L5	071N0126	Eckerle: Max. 25 bar, BFP: Max. 20 bar
UNI 2.3 L5 L54	UNI-E 2.3 L5 L24-13	➡	BFP 20 L5	071N0126	Eckerle: 10-25 bar, BFP: Max. 20 bar
UNI 2.3 L5 L56-I (W-06)	UNI-E 2.3 L5 L26-80	➡	BFP 20 L5	071N0126	Eckerle: 10-25 bar, BFP: Max. 20 bar + flange: 071N0047
	UNI-E 2.3 L5 L64	➡	BFP 20 L5	071N0126	Eckerle: G $^{1}/_{8}$ in S+R
UNI 2.3 L5 R54-S	UNI-E 2.3 L5 R24-13	➡	BFP 20 L5	071N0126	
UNI 2.3 R5 L54-05	UNI-E 2.3 R5 L24	➡	BFP 20 R5	071N0129	Eckerle: Max. 25 bar, BFP: Max. 20 bar
	UNI-E 2.3 R5 R24-13	➡	BFP 20 R5	071N0129	
UNI 2.3 R5 R54		➡	BFP 20 R5	071N0129	Eckerle: 10-25 bar, BFP: Max. 20 bar
UNI 2.3 R5 R64-I	UNI-E 2.3 R5 R24-93	➡	BFP 20 R5	071N0129	Eckerle: Max. 25 bar, BFP: Max. 20 bar
UNI 2.3 R6 L55-05	UNI-E 2.3 R6 L25	➡	BFP 20 R5	071N0129	Eckerle: 75 l/h, BFP: 40 l/h at 12 bar + 071B0011
UNI 2.4 L1 M10-VO	UNI-E 2.4 L1 M10-22	➡	BFP 52E L3	071N2201 [4]	+ coupling with single flat in hole (D-shaped)
UNI 2.4 L1 M14-C1	UNI-E 2.4 L1 M14-12	➡	BFP 52E L3	071N2201 [4]	
UNI 2.4 L1 R14-C		➡		No repl.	
UNI 2.4 L1 R14-V1-21	UNI-E 2.4 L1 R14-12	➡		No repl.	Righthand nozzle outlet on Eckerle
UNI 2.4 L1 R44	UNI-E 2.4 L1 R14	➡		No repl.	

4) The pump NC valve must be connected in parallel to the NC valve in nozzle line.

Oil pumps – Eckerle

Eckerle		➡	Danfoss oil pumps		
Old designation	**New designation**	➡	**Type**	**Code no.**	**Comments/accessories**
	UNI-E 2.4 L5 L20	➡	BFP 52E L5	071N2202[4)]	+ coupling with single flat in hole (D-shaped)
UNI 2.4 L5 L24	UNI-E 2.4 L5 L24	➡	BFP 52E L5	071N2202[4)]	
	UNI-E 2.4 L5 M20	➡	BFP 52E L5	071N2202[4)]	+ coupling with single flat in hole (D-shaped)
UNI 2.4 L5 M24		➡	BFP 52E L5	071N2202[4)]	
UNI 2.4 L5 M20-21	UNI-E 2.4 L5 M20	➡	BFP 52E L5	071N2202[4)]	+ coupling with single flat in hole (D-shaped)
UNI 2.4 L5 R24		➡		No repl.	
UNI 2.4 L5 R24		➡		No repl.	Righthand nozzle outlet on Eckerle
UNI 2.4 L5 S24	UNI-E 2.4 L5 S24	➡		No repl.	
UNI 2.4 R5 L24		➡	BFP 52E R5	071N2204[4)]	
UNI 2.4 R5 L24-05	UNI-E 2.4 R5 L24	➡	BFP 52E R5	071N2204[4)]	
UNI 2.4 R5 R24	UNI-E 2.4 R5 R24	➡		No repl.	Righthand nozzle outlet on Eckerle
UNI 2.4 R5 S70		➡		No repl.	
UNI 2.4 R5 S70-ET	UNI-E 2.4 R5 S70			No repl.	
UNI 2.4 R5.5 L24	UNI-E 2.4 R5.5 L24	➡		No repl.	
UNI 2.4 L6 L22	UNI-E 2.4 L6 L22	➡	BFP 52E L5	071N2202[4)]	Eckerle: Max. 75 l/h, BFP: Max. 40 l/h at 12 bar + bush: 071B0011
UNI 2.4 L6 L24		➡	BFP 52E L5	071N2202[4)]	Eckerle: Max. 75 l/h, BFP: Max. 40 l/h at 12 bar
UNI 2.4 L6 L24-05	UNI-E 2.4 L6 L24	➡	BFP 52E L5	071N2202[4)]	
UNI 2.4 L6 M24-C1	UNI-E 2.4 L6 M24-12	➡	BFP 52E L5	071N2202[4)]	
UNI 2.4 R6 S24		➡		No repl.	Righthand nozzle outlet on Eckerle
UNI 2.4 R6 S24 ET	UNI-E 2.4 R6 S24	➡		No repl.	
UNI 2.4 R7 R54-06	UNI-E 2.4 R7 R24	➡		No repl.	Righthand nozzle outlet on Eckerle
UNI 2.42 R5 R70-ET	UNI-E 2.42 R5 R70	➡		No repl.	
	UNI-E 2.42 L5 L64-65	➡	BFP 52E L5	071N2202	Eckerle: G 1/8 in S+R
	UNI-E 2.6 L5 L14	➡	BFP 20 L5	071N0126	
UNI 2.6 L5 L44		➡	BFP 20 L5	071N0126	Possible changeover to 1-pipe operation
	UNI-E 2.6 L6 L14	➡	BFP 20 L5	071N0126	Eckerle: 75 l/h, BFP: 40 l/h at 12 bar
UNI 2.6 L6 L44	UNI-E 2.6 L6 L14	➡	BFP 20 L5	071N0126	

4) The pump NC valve must be connected in parallel to the NC valve in nozzle line.

Oil pumps – Eckerle

Eckerle		➨	Danfoss oil pumps		
Old designation	New designation	➨	Type	Code no.	Comments/accessories
UNI 2.6 Stage 6		➨		No repl.	
UNI 2.6 Stage 7		➨		No repl.	
UNI 2.7 L5 L44		➨	BFP 20 L5	071N0126	
UNI 2.7 R5 R44	UNI-E 2.7 R5 R14	➨	BFP 20 R5	071N0129	
UNI 2.8 L5 L16		➨	BFP 21 L5	071N0172	BFP without remote setting + flange: 071N0047
UNI 2.91 L5 L44	UNI-E 2.91 L5 L14	➨		No repl.	Eckerle ∅32, RSA ∅54 neck diameter
UNI 2.91 L7 L44-05	UNI-E 2.91 L7 L14	➨		No repl.	
UNI 2.91 R7 L44	UNI-E 2.91 R7 L14	➨		No repl.	
UNI 2.93 L1 R44	UNI-E 2.93 L1 R14	➨		No repl.	
UNI 2.96 L5 L44-05	UNI-E 2.96 L5 L14	➨		No repl.	
UNI 2.96 L7 L44	UNI-E 2.96 L7 L14	➨		No repl.	
UNI 2.10 L7 L56-S-W	UNI-E 2.10 L7 L26-11	➨	RSA 60	070L3362	+ flange: 070-0211
UNI 2.10 L7 L56-W1-05	UNI-E 2.10 L7 L26-11	➨	RSA 60	070L3362	
UNI 2.10 L8 L56-S-W	UNI-E 2.10 L8 L26-11	➨	RSA 95	070L3482	
UNI 2.10 L8 L56-W1-05	UNI-E 2.10 L8 L26-11	➨	RSA 95	070L3482	+ flange: 070-0211
UNI 2.12 L1 L14		➨	BFP 21 L3	071N0170	
UNI 2.12 L1 L64		➨	BFP 21 L3	071N0170	Eckerle: G 1/8 in S+R
UNI 2.12 L1 M14		➨	BFP 21 L3	071N0170	
UNI 2.12 L1 M64		➨	BFP 21 L3	071N0170	Eckerle: G 1/8 in S+R
UNI 2.12 L1 M64-65		➨	BFP 21 L3	071N0170	
UNI 2.12 L6 M14		➨	BFP 21 L5	071N0172	Eckerle: 75 l/h, BFP: 40 l/h at 12 bar
UNI 2.12 L6 M14-65		➨	BFP 21 L5	071N0172	
UNI 2.13 L8 L56-S	UNI-E 2.13 L8 L26-11	➨		No repl.	
UNI 2.17 L6 M14-65		➨		No repl.	
BPC	BPC-40 1.1 LL 11	➨	BFP 20 L3	071N0168	
BPC	BPC-40 1.1 LL 21	➨	BFP 20 L3	071N0168	Eckerle: G 1/8 in S+R
BPC	BPC-40 1.1 LR 11	➨	BFP 20 L3	071N0168	

Oil pumps – Eckerle

Eckerle		➨	Danfoss oil pumps		
Old designation	New designation	➨	Type	Code no.	Comments/accessories
BPC	BPC-40 1.1 LR 21	➨	BFP 20 L3	071N0168	Eckerle: G 1/8 in S+R
BPC	BPC-40 1.1 RL 11	➨	BFP 20 R3	071N0169	
BPC	BPC-40 1.1 RL 21	➨	BFP 20 R3	071N0169	Eckerle: G 1/8 in S+R
BPC	BPC-40 1.1 RR 11	➨	BFP 20 R3	071N0169	
BPC	BPC-40 1.1 RR 21	➨	BFP 20 R3	071N0169	Eckerle: G 1/8 in S+R
BPC	BPC-40 1.1 RR 11(+)	➨	BFP 20 R3	071N0169	+ flange and bush 071N0047
BPC	BPC-40 2.1 LL 11	➨	BFP 21 L3	071N0170	
BPC	BPC-40 2.1 LL 21	➨	BFP 21 L3	071N0170	Eckerle: G 1/8 in S+R
BPC	BPC-40 2.1 RL 11	➨	BFP 21 R3	071N0171	
BPC	BPC-40 2.1 RR 11	➨	BFP 21 R3	071N0171	
BPC	BPC-40 2.1 RR 21	➨	BFP 21 R3	071N0171	Eckerle: G 1/8 in S+R
BPC	BPC-40 2.1 LL 11(+)	➨	BFP 21 L3	071N0170	+ flange and bush 071N0047
BPC	BPC-40 2.1 LR 11	➨	BFP 21 L3	071N0170	
BPC	BPC-40 2.1 LR 21	➨	BFP 21 L3	071N0170	Eckerle: G 1/8 in S+R
BPC	BPC-40 2.1 RL 21	➨	BFP 21 R3	071N0171	Eckerle: G 1/8 in S+R
BPC	BPC-40 2.3 LL 11	➨	BFP 52E L3	071N2201	The pump NC-valve must be connected in parallel to the NC-valve in the nozzleline
BPC					
BPC	BPC-40 2.3 LR 11	➨		No repl.	Righthand nozzle outlet on Eckerle
BPC	BPC-40 2.3 RL 11	➨	BFP 52E R3	071N2203	The pump NC-valve must be connected in parallel to the NC-valve in the nozzleline
BPC	BPC-40 2.3 RR 21	➨		No repl.	Righthand nozzle outlet on Eckerle

Oil pumps – Delta

Delta				Relevant Danfoss types		
Type	Code no.	1-2 pipe		Type	Code no.	Comments/accessories
V	V1LR2 4 (or	2		BFP 20 L3	071N0168	
V	V1LR1 4 (or	1		BFP 20 L3	071N0168[2)]	
V	V1LL2 4 (or	2		BFP 20 L3	071N0168	
V	V1LL1 4 (or	1		BFP 20 L3	071N0168[2)]	
V	V1RL2 4 (or	2		BFP 20 R3	071N0169	
V	V1RL1 4 (or	1		BFP 20 R3	071N0169[2)]	
V	V1RR2 4 (or	2		BFP 20 R3	071N0169	
V	V1RR1 4 (or	1		BFP 20 R3	071N0169[2)]	
V	V2LR2 4 (or	2		BFP 20 L5	071N0126	
V	V2LR1 4 (or	1		BFP 20 L5	071N0126[2)]	
V	V2LL2 4 (or	2		BFP 20 L5	071N0126	
V	2LL1 4 (or	1		BFP 20 L5	071N0126[2)]	Delta: 57 l/h: BFP: 40 l/h at 10 bar
V	V2RL2 4 (or	2		BFP 20 R5	071N0129	
V	V2RL1 4 (or	1		BFP 20 R5	071N0129[2)]	
V	V2RR2 4 (or	2		BFP 20 R5	071N0129	
V	V2RR1 4 (or	1		BFP 20 R5	071N0129[2)]	
VU	VU3LR 1 4 (or	1		BFP 20 L5	071N0126[2)]	
VU	VU3LR 2 4 (or	2		BFP 20 L5	071N0126	Delta: 80 l/h: BFP: 40 l/h at 10 bar
VU	VU3RL 1 4 (or	1		BFP 20 R5	071N0129[2)]	
VU	VU3RL 2 4 (or	2		BFP 20 R5	071N0129	
VD	VD1LR 24 (or	2		BFP 20 L3	071N0168	
VD	VD1LR 14 (or	1		BFP 20 L3	071N0168[2)]	
VD	VD1LL 24 (or	2		BFP 20 L3	071N0168	
VD	VD1LL 14 (or	1		BFP 20 L3	071N0168[2)]	
VD	VD1RL 24 (or	2		BFP 20 R3	071N0169	
VD	VD1RL 14 (or	1		BFP 20 R3	071N0169[2)]	
VD	VD1RR 24 (or	2		BFP 20 R3	071N0169	
VD	VD1RR 14 (or	1		BFP 20 R3	071N0169[2)]	

2) This pump is delivered for 2-pipe operation. A changeover to 1-pipe operation is possible, see Changeover 1 - 2 pipe.

Oil pumps – Delta

Delta			➡	Relevant Danfoss types		
Type	Code no.	1-2 pipe	➡	Type	Code no.	Comments/accessories
VD	VD2LR 24 (or	2	➡	BFP 20 L5	071N0126	Delta: 57 l/h; BFP: 40 l/h at 10 bar
VD	VD2LR 14 (or	1	➡	BFP 20 L5	071N0126[2)]	
VD	VD2LL 24 (or	2	➡	BFP 20 L5	071N0126	
VD	VD2LL 24 (or	2	➡	BFP 20 L5	071N0126[2)]	
VD	VD2RL 24 (or	2	➡	BFP 20 R5	071N0129	
VD	VD2RL 14 (or	1	➡	BFP 20 R5	071N0129[2)]	
VD	VD2RR 24 (or	2	➡	BFP 20 R5	071N0129	
VD	VD2RR 14 (or	1	➡	BFP 20 R5	071N0129[2)]	
VD	VD3LR 14 (or	1	➡	BFP 20 L5	071N0126[2)]	Delta: 80 l/h; BFP: 40 l/h at 10 bar
VD	VD3LR 24 (or	2	➡	BFP 20 L5	071N0126	
VD	VD3RL 14 (or	1	➡	BFP 20 R5	071N0129[2)]	
VD	VD3RL 24 (or	2	➡	BFP 20 R5	071N0129	
VM	VM1LR 24 (or F84-220	2	➡	BFP 21 L3	071N0170	**F84-220:** Indicates coil with loose cable and for 220 V, 50 Hz. If using other voltages the following must be ordered extra: Coil Nr. 071N0061 for 110/120 V a.c. or Coil Nr. 071N0062 for 24 V a.c.
VM	VM1LR 14 (or F84-220	1	➡	BFP 21 L3	071N0170[2)]	
VM	VM1LL 24 (or F84-220	2	➡	BFP 21 L3	071N0170	
VM	VM1LL 14 (or F84-220	1	➡	BFP 21 L3	071N0170[2)]	
VM	VM1RL 24 (or F84-220	2	➡	BFP 21 R3	071N0171	
VM	VM1RL 14 (or F84-220	1	➡	BFP 21 R3	071N0171[2)]	
VM	VD1RR 24 (or F84-220	2	➡	BFP 21 R3	071N0171	
VM	VM1RR 14 (or F84-220	1	➡	BFP 21 R3	071N0171[2)]	
VM	VM2LR 24 (or F84-220	2	➡	BFP 21 L5	071N0172	Delta: 57 l/h; BFP: 40 l/h at 10 bar / **F84-220:** See above
VM	VM2LR 14 (or F84-220	1	➡	BFP 21 L5	071N0172[2)]	
VM	VM2LL 24 (or F84-220	2	➡	BFP 21 L5	071N0172	
VM	VM2LL 14 (or F84-220	1	➡	BFP 21 L5	071N0172[2)]	
VM	VM2RL 24 (or F84-220	2	➡	BFP 21 R5	071N0173	
VM	VM2RL 14 (or F84-220	1	➡	BFP 21 R5	071N0173[2)]	
VM	VM2RR 24 (or F84-220	2	➡	BFP 21 R5	071N0173	
VM	VM2RR 14 (or F84-220	1	➡	BFP 21 R5	071N0173[2)]	

2) This pump is delivered for 2-pipe operation. A changeover to 1-pipe operation is possible, see Changeover 1 - 2 pipe.

Oil pumps – Delta

Delta				Relevant Danfoss types		Comments/accessories	
Type	Code no.	1-2 pipe	➨	Type	Code no.		
VM	VM3LR 14 (or F84-220	1	➨	BFP 21 L5	071N0172[2)]	Delta: 80 l/h; BFP: 40 l/h at 10 bar	**F84-220:** See previous page
VM	VM3LR 14 (or F84-220	1	➨	BFP 21 L5	071N0172		
VM	VM3LR 24 (or F84-220	2	➨	BFP 21 L5	071N0172[2)]		
VM	VM3RL 14 (or F84-220	1	➨	BFP 21 R5	071N0173		
VM	VM3RL 24 (or F84-220	2	➨	BFP 21 R5	071N0173		
VM	VM1LR 24 (or M8-220	2	➨	BFP 21 L3	071N0170	**M8-220:** Indicates coil with fixed cable and for 220 V, 50 Hz. Generally the following cable should be ordered here: Cable no. 071G0200 L = 500 mm, or Cable no. 071G0204 L = 710 mm Cable no. 071G0202 L = 280 mm If using other voltages the following must be ordered extra (only for BFP21): Coil no. 071N0061 for 110/120 V a.c. or Coil no. 071N0062 for 24 V a.c.	
VM	VM1LR 14 (or M8-220	1	➨	BFP 21 L3	071N0170[2)]		
VM	VM1LL 24 (or M8-220	2	➨	BFP 21 L3	071N0170		
VM	VM1LL 14 (or M8-220	1	➨	BFP 21 L3	071N0170[2)]		
VM	VM1RL 24 (or M8-220	2	➨	BFP 21 R3	071N0171		
VM	VM1RL 14 (or M8-220	1	➨	BFP 21 R3	071N0171[2)]		
VM	VD1RR 24 (or M8-220	2	➨	BFP 21 R3	071N0171		
VM	VM1RR 14 (or M8-220	1	➨	BFP 21 R3	071N0171[2)]		
VM	VM2LR 24 (or M8-220	2	➨	BFP 21 L5	071N0172*		
VM	VM2LR 14 (or M8-220	1	➨	BFP 21 L5	071N0172*[2)]		
VM	VM2LL 24 (or M8-220	2	➨	BFP 21 L5	071N0172*		
VM	VM2LL 14 (or M8-220	1	➨	BFP 21 L5	071N0172*[2)]		
VM	VM2RL 24 (or M8-220	2	➨	BFP 21 R5	071N0173*	**M8-220:** See previous page	
VM	VM2RL 14 (or M8-220	1	➨	BFP 21 R5	071N0173[2)]		
VM	VM2RR 24 (or M8-220	2	➨	BFP 21 R5	071N0173*		
VM	VM2RR 14 (or M8-220	1	➨	BFP 21 R5	071N0173[2)]		
VM	VM3LR 14 (or M8-220	1	➨	BFP 21 L5	071N0172[2)]		
VM	VM3LR 24 (or M8-220	2	➨	BFP 21 L5	071N0172	Delta: 80 l/h; BFP: 40 l/h at 10 bar	
VM	VM3RL 14 (or M8-220	1	➨	BFP 21 R5	071N0173[2)]		
VM	VM3RL 24 (or M8-220	2	➨	BFP 21 R5	071N0173		

*) Delta: 57 l/h; BFP: 40 l/h at 10 bar

2) This pump is delivered for 2-pipe operation. A changeover to 1-pipe operation is possible, see Changeover 1 - 2 pipe.

Oil pumps – Delta

Delta			➡	Relevant Danfoss types			
Type	Code no.	1-2 pipe	➡	Type	Code no.	Comments/accessories	
VM	VM2RL 24	(or M8-220	2	➡	BFP 21 R5	071N0173*	**M8-220:** See previous pagen
VM	VM2RL 14	(or M8-220	1	➡	BFP 21 R5	071N0173[2)]	
VM	VM2RR 24	(or M8-220	2	➡	BFP 21 R5	071N0173*	
VM	VM2RR 14	(or M8-220	1	➡	BFP 21 R5	071N0173[2)]	
VM	VM3LR 14	(or M8-220	1	➡	BFP 21 L5	071N0172[2)]	Delta: 80 l/h; BFP: 40 l/h at 10 bar
VM	VM3LR 24	(or M8-220	2	➡	BFP 21 L5	071N0172	
VM	VM3RL 14	(or M8-220	1	➡	BFP 21 R5	071N0173[2)]	
VM	VM3RL 24	(or M8-220	2	➡	BFP 21 R5	071N0173	
VMK	VMK1LR 24-6 / F84-220		2	➡	BFP 52E L3	071N02201[4)]	**F84-220:** Indicates coil with loose cable and for 220 V, 50 Hz. BFP 52E is not delivered for other voltages
VMK	VMK1LR 14-6 / F84-220		1	➡	BFP 52E L3	071N02201[2)]	
VMK	VMK1LL 24-6 / F84-220		2	➡		No repl.**	
VMK	VMK1LL 14-6 / F84-220		1	➡		No repl.**	
VMK	VMK1RL 24-6 / F84-220		2	➡		No repl.**	
VMK	VMK1RL 14-6 / F84-220		1	➡		No repl.**	
VMK	VMK1RR 24-6 / F84-220		2	➡	BFP 52E R3	071N2203[4)]	
VMK	VMK1RR 14-6 / F84-220		1	➡	BFP 52E R3	071N2203[2)]	
VMK	VMK2LR 24-6 / F84-220		2	➡	BFP 52E L5	071N2202[4)]	Delta: 57 l/h; 40 l/h at 10 bar
VMK	VMK2LR 14-6 / F84-220		1	➡	BFP 52E L5	071N2202[2)]	
VMK	VMK2LL 24-6 / F84-220		2	➡		No repl.**	
VMK	VMK2LL 14-6 / F84-220		1	➡		No repl.**	
VMK	VMK2RL 24-6 / F84-220		2	➡		No repl.**	
VMK	VMK2RL 14-6 / F84-220		1	➡		No repl.**	
VMK	VMK2RR 24-6 / F84-220		2	➡	BFP 52E R5	071N2204[4)]	
VMK	VMK2RR 14-6 / F84-220		1	➡	BFP 52E R5	071N2204[2)]	

*) Delta: 57 l/h; BFP: 40 l/h at 10 bar

** No repl. means: Delta has nozzle outlet to the right.

2) This pump is delivered for 2-pipe operation. A changeover to 1-pipe operation is possible, see Changeover 1 - 2 pipe.

4) The pump NC-valve must be connected in parallel to the NC-valve in the nozzleline.

Oil pumps – Delta

Delta			➡	Relevant Danfoss types			
Type	**Code no.**	**1-2 pipe**	➡	**Type**	**Code no.**	**Comments/accessories**	
VMK	VMK3LR 14 (or M8-220	1	➡	BFP 52E L5	071N2202[2) 4)]	Delta: 68 l/h; Danfoss: 40 l/h at 10 bar	**F84-220:** See previous pagen.
VMK	VMK3LR 24 (or M8-220	2	➡	BFP 52E L5	071N2202[4)]		
VMK	VMK3RR 14 (or M8-220	1	➡	BFP 52E R5	071N2204[2) 4)]		
VMK	VMK3RR 24 (or M8-220	2	➡	BFP 52E R5	071N2204[4)]		
VMK	VMK1LR 24-6 / M8-220	2	➡	BFP 52E L3	071N0220[4)]		
VMK	VMK1LR 14-6 / M8-220	1	➡	BFP 52E L3	071N0220[2) 4)]		
VMK	VMK1LL 24-6 / M8-220	2	➡		No repl.*	**M8-220:** Indicates coil with fixed cable and for 220 V, 50 Hz. The following must be ordered separately For NC: Cable Nr. 071G0200 L = 500 mm, or Cable Nr. 071G0202 L = 280 mm, or Cable Nr. 071G0204 L = 710 mm For NO: Cable Nr. 071G0201 L = 500 mm, or Cable Nr. 071G0203 L = 280 mm, or Cable Nr. 071G0205 L = 710 mm	
VMK	VMK1LL 14-6 / M8-220	1	➡		No repl.**		
VMK	VMK1RL 24-6 / M8-220	2	➡		No repl.**		
VMK	VMK1RL 14-6 / M8-220	1	➡		No repl.**		
VMK	VMK1RR 24-6 / M8-220	2	➡	BFP 52E R3	071N2203[4)]		
VMK	VMK1RR 14-6 / M8-220	1	➡	BFP 52E R3	071N2203[2) 4)]		
VMK	VMK2LR 24-6 / M8-220	2	➡	BFP 52E L5	071N2202[4)]		
VMK	VMK 2LR 14-6 / M8-220	1	➡	BFP 52E L5	071N2202[2) 4)]		
VMK	VMK2LL 24-6 / M8-220	2	➡		No repl.*		
VMK	VMK2LL 14-6 / M8-220	1	➡		No repl.**		
VMK	VMK2RL 24-6 / M8-220	2	➡		No repl.**		
VMK	VMK2RL 14-6 / M8-220	1	➡		No repl.**		
VMK	VMK2RR 24-6 / M8-220	2	➡	BFP 52E R5	071N2204[4)]	Delta: 57 l/h; Danfoss: 40 l/h at 10 bar	**M8-220:** See above. BFP 52E is only delivered for 220/240 V a.c.
VMK	VMK2RR 14-6 / M8-220	1	➡	BFP 52E R5	071N2204[2) 4)]		
VMK	VMK3LR 14 (or M8-220	1	➡	BFP 52E L5	071N2202[2) 4)]		
VMK	VMK3LR 24 (or M8-220	2	➡	BFP 52E L5	071N2202[4)]		
VMK	VMK3RR 14 (or M8-220	1	➡	BFP 52E R5	071N2204[2) 4)]	Delta: 68 l/h; Danfoss: 40 l/h at 10 bar	
VMK	VMK3RR 24 (or M8-220	2	➡	BFP 52E R5	071N2204[4)]		

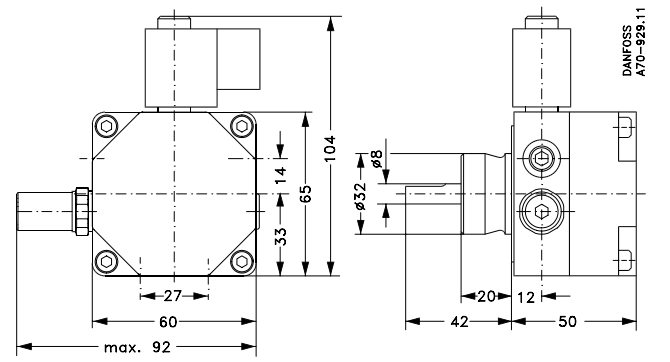
*) Delta: 57 l/h; BFP: 40 l/h at 10 bar
** No repl. means: Delta has nozzle outlet to the right.
2) This pump is delivered for 2-pipe operation. A changeover to 1-pipe operation is possible, see Changeover 1 - 2 pipe.
4) The pump NC-valve must be connected in parallel to the NC-valve in the nozzleline.

Spare Parts and Accessories RSA/RSH

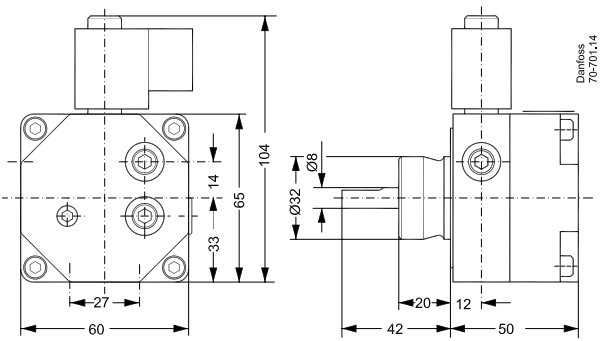
Description		Pump type/size	Code no.	Content
Filter	Filter RSA	RSA 28/40/60, RSL 050	070-0032	Filter, diaphragm, gasket
		RSA 95/125	070-0033	Filter, diaphragm, gasket
	Filter RSH	RSH 32	070-0034	Filter, diaphragm, gasket
		RSH 63/95/125	070-0035	Filter, diaphragm, gasket
O-ring	O-ring set for	RSA 28/40/60, RSH 32/63	070-0036	3 O-rings
		RSA 95/125, RSH 95/125	070-0037	3 O-rings
Gear set	Gear set 28	RSA 28, RH-rotation	070-0062	Complete gear set and plates
		RSA 28, LH-rotation	070-0063	Complete gear set and plates
	Gear set 32 and 40	RSA 40, RSH 32, RH-rotation	070-0064	Complete gear set and plates
		RSA 40, RSH 32, LH-rotation	070L0065	Complete gear set and plates
	Gear set 60 and 63	RSA 60, RSH 63, RH-rotation	070-0066	Complete gear set and plates
		RSA 60, RSH 63, LH-rotation	070L0067	Complete gear set and plates
	Gear set 95	RSA 95, RSH 95, RH-rotation	070-0068	Complete gear set and plates
		RSA 95, RSH 95, LH-rotation	070L0069	Complete gear set and plates
	Gear set 125	RSA 125, RSH 125, RH-rotation	070-0070	Complete gear set and plates
		RSA 125, RSH 125, LH-rotation	070L0071	Complete gear set and plates
Valve set	Valve set for RSA	RSA 28/40/60/95	070-0038	Piston, nippel and Cu ring
	Valve set for RSA, RSH	RSA 125 and RSH 32/63/95/125	070-0044	Piston, nippel and Cu ring
	Valve set special. No closing function	RSA 125	070-0041	Piston, nippel and Cu ring
Shaft seal	Shaft seal set	RSA, RSH, RH-rotation	070-2050	Complete shaft seal
		RSA, RSH, LH-rotation	070L2051	Complete shaft seal
Spring	Spring 1-5 bar	RSA	070-0030	Low pressure spring 1-5 bar
Flange	Flange	RSA and RSH	070-0211	Flange and screw

Dimensions – BFP 10/11

Type 3, 5

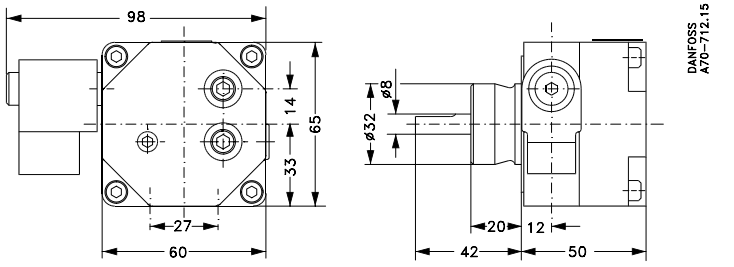


Type 3 and 5



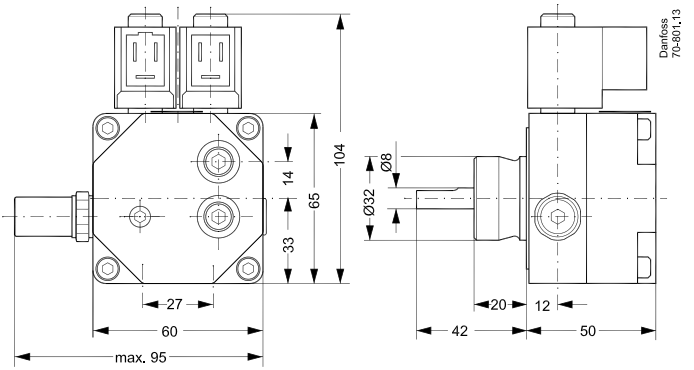
Dimensions – BFP 41

Type 3 and 5



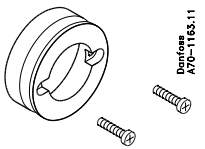
Dimensions – BFP 52 E

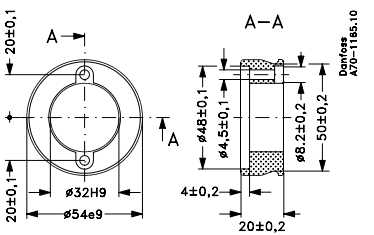
Type 3 and 5



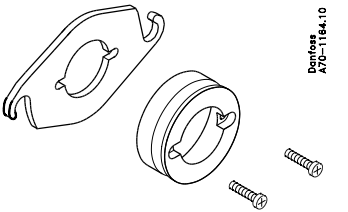
Accessories – BFP

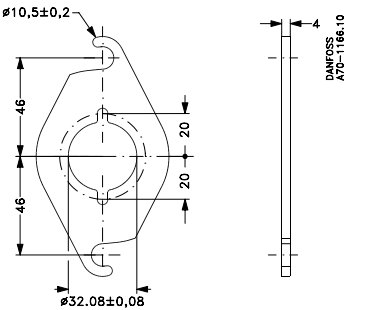
Bush and screws
Code no. 071B0011





Bush, screws and flange
Code no. 071N0047





Spare parts and accessories – BFP (MS)

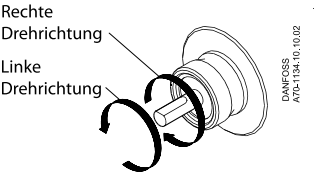
Description		Pump type/size	Code No.	Content
Filter	Cartridge	BFP 20, 21, 31, 41 and 52E	071N0064	Filter and O-ring
	Ring	BFP 11	071N0063	Filter and O-ring
	RIng	BFP 10, 11, 12, 51, 52 and 53. Size 4 - 6 - 8 - 11 - 13	071N0653	Filter, spring and Viton O-ring
O-ring	O-ring 54 mm for cover	All	071N1033	O-ring
Coils	Description on coil			
	NC 071N0051 220/240 V a.c.	BFPC - BFA - BFP 11, 21, 31, 41and 52E. Size 2 - 3 - 4 - 5 - 6	071N0010	Coil, nut and washer
	NC 071N0052 110/120 V a.c.	BFPC - BFPS - BFP 21 and 52E. Size 3 - 5	071N0061	Coil, nut and washer
	NC 071N0053 24 V a.c.	BFA - BFPC - BFPS - BFP 11 and 21. Size 3	071N0062	Coil, nut and washer
	NC 071N0631 230 V a.c.	BFP 11, 12, 51, 52 and 53. Size 4 - 6 - 8 - 11 - 13	071N0640	Coil, nut and washer
	NC 071N0802 24 V d.c.	BFA - BFP 21. Size 3	071N0008	Coil, nut and washer
	NO 071N0054 220/240 V a.c.	BFP 52E. Size 3 - 5	071N0601	Coil, nut and washer
Valves	NC	BFA - BFPC - BFPS - BFP 11, 21, 31, 41 and 52E. Size 3 - 4- 5	071N0050	Valve, nut and washer
	NC for DC coil	BFA - BFPS - BFP 21. Size 3	071N0007	Valve, nut and washer
	NC	BFP 11, 12, 52 and 53. Size 11 - 13	071N0654	Valve, nut and washer
	NC	BFP 11, 12 and 52. Size 4-6-8	071N0641	Valve, nut and washer
	NC	LE-S	071N3011	Valve, nut and washer
	NO for NO coil only	BFP 52E. Size 3 - 5	071N3010	Valve, nut and washer
	NO	BFP 51, 52, 52E and 53. Size 3 - 4 - 5 - 8. Special type	071N0005	Valve, nut and washer
Shaft seal	Shaft seal			
	LH-rotation	All	071N0070	Complete shaft seal
	RH-rotation	All	071N0071	Complete shaft seal
Plugs	Plug (steel) for cartridge filter	BFP 20, 21, 31, 41 and 52E	071N0074	Plug and O-ring
	Plug 1/8" (brass) for P and V port	All	071N0604	Plug and O-ring
	Plug M10 (brass) for NC valve	All	071N0065	Plug
	Plug 1/4" (brass) for 1/4" conection	All	071N1055	Plug and O-ring

Spare parts and accessories – BFP (MS) (continued)

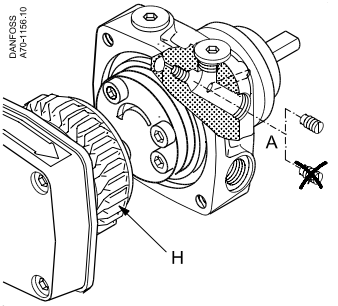
Description		Pump type/size	Code No.	Content
Change	Change over set, 1-pipe operation	BFP Size 8 - 11 - 13	071N0655	Washer and 1/4" plug and O-ring
Spring	For low pressure operation	BFP 10, 11. Size 8 - 11 - 13	071N0656	Low pressure spring
Busch/ flange	Bush 32 - 54 mm and flange	All	071N0047	Bush, flange and screws
	Bush 32 - 54 mm	All	071B0011	Bush and screws
	Bush 32 - 54 mm and flange	BFPH	071B0012	As long as stock are available

Changeover between 1- and 2-pipe operation.
Filter replacement (H)

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



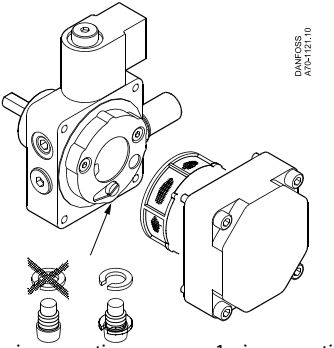
RSA



2-pipe operation:
Screw (A) fitted

1-pipe operation:
Without screw (A)

BFP 10/11 type 3, 5

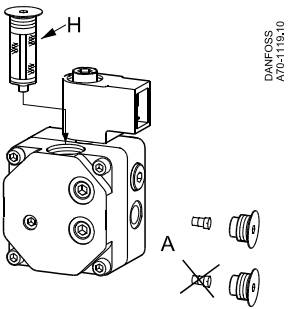


2-pipe operation:
Screw (A) without
bypass washer

1-pipe operation:
bypass washer
fitted on screw (A)

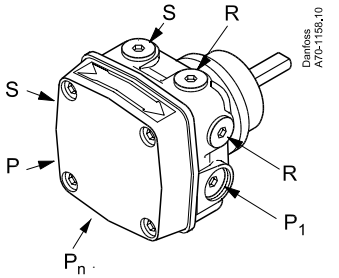
Changeover between 1- and 2-pipe operation, Filter replacement (H)

BFP 20/21 type 3, 5
BFP 41 type 3, 5
BFP 52E type 3, 5



2-pipe operation:
Screw (A) fitted

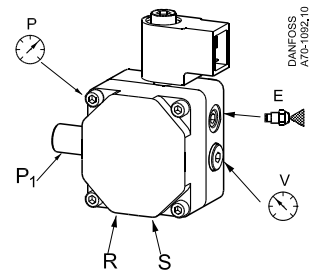
1-pipe operation:
Without screw (A)



P_1	Pressure adjustment
S	Suction inlet G 1/4
R	Return outlet G 1/4
P	Pressure outlet G 1/8
P_n	Pressure gauge port G 1/8

Connections – BFP 10/11

Type 3 and 5



P_1 Pressure adjustment

S Suction inlet G 1/4

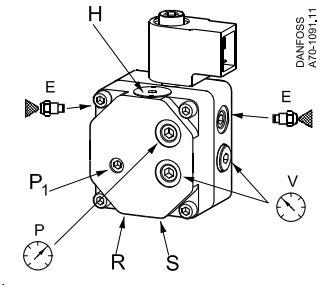
R Return outlet G 1/4

E Nozzle outlet G 1/8

P Pressure gauge port G 1/8

V Vacuum gauge port G 1/8

Type 3 and 5
Servicepumpe



P_1 Pressure adjustment

S Suction inlet G 1/4

R Return outlet G 1/4

E Nozzle outlet G 1/8

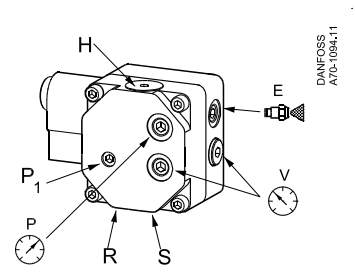
P Pressure gauge port G 1/8

V Vacuum gauge port G 1/8

H Filter

Connections – BFP 41

Type 3 and 5



P_1 Pressure adjustment

S Suction inlet G 1/4

R Return outlet G 1/4

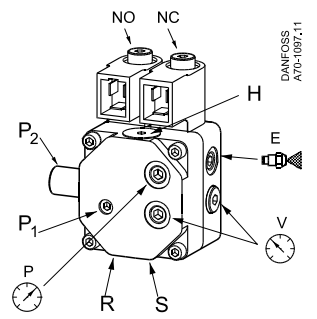
E Nozzle outlet G 1/8

P Pressure gauge port G 1/8

V Vacuum gauge port G 1/8

H Filter

Type 3 and 5



P_1 Pressure adjustment stage 1

P_2 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

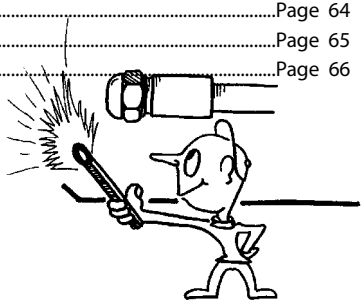
V Vacuum gauge port G 1/8

H Filter

2. Oil burner controls

Contents

Introduction		Page 57
Conversion	57F, 57H, 57L → BHO 70 series	Page 58
Conversion	BHO, older series → BHO 70 series	Page 59
Conversion	BHO 1 WLE and BHO 4 WLE → BHO 70 series	Page 59
Conversion	BHO 21/25 and BHOV 22 → BHO 70 series	Page 60
Conversion	LOA → BHO 70 series	Page 61
Conversion	BHO → BHO 70 series	Page 62
Dimensions	BHO 70 series	Page 63
Photo units		Page 64
Service kit		Page 65
Flash codes		Page 66



Oil burner control conversions are given in the tables below:

The following old Danfoss oil burner controls can be replaced: types 57F, 57H, 57L and BHO.

According to the European standard EN 230: 2005, oil burner controls must have undervoltage protection. BHO 70 serie does incorporate this protection.



Therefore it is this oil burner control that most often replaces the old Danfoss types.

The overview is built up as follows:

- Column 1 always gives the old oil burner control types that are to be replaced.
- Column 2 gives the code numbers of the oil burner controls that are to be replaced.
- Column 4 gives the new types of Danfoss oil burner controls.
- Column 5 gives the corresponding code numbers.
- The last column gives the code numbers of the corresponding accessories.

Oil burner controls

Older Danfoss series		➡	Relevant Danfoss oil burner controls		
Type	**Code no.**	➡	**Type**	**Code no.**	**Comments/accessories**
57F1	057F0001	➡	BHO 72.10	057H6102	+ 057H7224
57F3	057F0003	➡	BHO 72.10	057H6102	
57H1	057H0062	➡	BHO 72.10	057H6102	
57H1	057H0072	➡	BHO 72.10	057H6102	
57H1	057H1002	➡	BHO 72.10	057H6102	
57H3	057H1003	➡	BHO 72.10	057H6102	
57H1 WLE	057H0042	➡	BHO 74.10	057H6105	
57H1	057H0052	➡	BHO 72.10	057H6102	
57H2	057H0053	➡	BHO 72.10	057H6102	
57H2	057H0063	➡	BHO 72.10	057H6102	
57H3	057H1005	➡		No repl.	
57H3	057H0054	➡	BHO 72.10	057H6102	+ 057H7224
57H3	057H0064	➡	BHO 72.10	057H6102	
57H5	057H0045	➡	BHO 74.10	057H6105	
57H5	057H0055	➡	BHO 72.10	057H6102	
57H5	057H0065	➡	BHO 72.10	057H6102	
57H6	057H0032	➡		No repl.	
57L 1	057L0001	➡	BHO 72.10	057H6102	+ 057H7224 Use motor starter on 380 V
57L 1d	057L0002	➡	BHO 72.10	057H6102	
57L 3	057L0003	➡	BHO 72.10	057H6102	
57L 3d	057L0004	➡	BHO 72.10	057H6102	
BCG 1d	057L1001	➡		No repl.	
BCG 1d	057L1002	➡		No repl.	
BCG 1d	057L1003	➡		No repl.	
BCG 3,3d	057L1004	➡		No repl.	

Oil burner controls

Older Danfoss series		➡	Relevant Danfoss oil burner controls		
Type	**Code no.**	➡	**Type**	**Code no.**	**Comments/accessories**
BCG 3.5d	057L1005	➡		No repl.	
BHO 1A	057H3013	➡	BHO 72.10	057H6102	
BHO 1B	057H3014	➡	BHO 72.10	057H6102	
BHO 1	057H3011	➡	BHO 72.10	057H6102	
BHO 1 WLE	057H3010	➡	BHO 74.10	057H6105	
BHO 1 WLE	057H3054	➡	BHO 74.10	057H6105	
BHO 3B	057H3018	➡	BHO 72.11	057H6103	
BHO 3B	057H3020	➡	BHO 72.11	057H6103	
BHO 4	057H4104	➡	BHO 72.10	057H6102	+ 057H7224
BHO 4B	057H4144	➡	BHO 72.10	057H6102	
BHO 4 WLE	057H4110	➡	BHO 74.10	057H6105	
BHO 4.1	057H3012	➡	BHO 72.10	057H6102	
BHO 4.1B	057H3039	➡	BHO 72.10	057H6102	
BHO 4.1B	057H3044	➡	BHO 72.10	057H6102	
BHO 5	057H4105	➡	BHO 72.10	057H6102	
BHO 5.1	057H3015	➡	BHO 72.10	057H6102	
BHO 6	057H3032	➡		No repl.	
BHO 11	057H2011	➡	BHO 72.10	057H6102	
BHO 11.1	057H2011	➡	BHO 72.10	057H6102	
BHO 11.1	057H2013	➡	BHO 72.10	057H6102	
BHO 11.1	057H2014	➡	BHO 72.10	057H6102	+ 057H7224
BHO 12	057H2031	➡	BHO 72.10	057H6102	
BHO 12	057H2012	➡	BHO 72.10	057H6102	
BHO 12.1	057H2005	➡	BHO 72.10	057H6102	
BHO 12.1	057H2012	➡	BHO 72.10	057H6102	

Oil burner controls

Older Danfoss series		➡	Relevant Danfoss oil burner controls		
Type	**Code no.**	➡	**Type**	**Code no.**	**Comments/accessories**
BHO 15	057H2015	➡	BHO 72.10	057H6102	
BHO 21	057H2042	➡	BHO 74.10	057H6105	
BHO 25	057H2045	➡	BHO 74.10	057H6105	
BHOV 1	057H3016	➡	BHO 72.10	057H6102	
BHOV 4	057H3030	➡	BHO 72.10	057H6102	
BHOV 4A	057H3033	➡	BHO 72.10	057H6102	+ 057H7224
BHOV 4B	057H3034	➡	BHO 72.10	057H6102	
BHOV 12.2	057H2030	➡	BHO 72.10	057H6102	
BHOV 12.2	057H2033	➡	BHO 72.10	057H6102	
BHOV 12.2	057H2034	➡	BHO 72.10	057H6102	
BHOV 22	057H2054	➡	BHO 74.10	057H6105	
FRA	086B0090	➡	LAE 10 LFE 10	Landis & Stäfa[1)]	Not supplied by Danfoss
FRU	086B0091	➡	LFE	Landis & Stäfa	Not supplied by Danfoss

[1)] Ionisation

Oil burner controls

Landis & Stäfa		Relevant Danfoss oil burner controls		
Type		**Type**	**Code no.**	**Comments/accessories**
LOA 21.171B27	➨	BHO 72.10	057H6102	
LOA 21.171B17	➨		No repl.	110 V
LOA 21.173A27	➨	BHO 73.10	057H6104	
LOA 22.171B27	➨	BHO 72.10	057H6102	
LOA 22"DF"	➨	BHO 72.10	057H6102	
LOA 24.171B27	➨	BHO 72.10	057H6102	
LOA 24.571C27	➨	BHO 72.11	057H6103	
LOA 44.252A27	➨	BHO 74.10	057H6105	
LMO 14.111B2	➨	BHO 71.10	057H6101	
LMO 24.111B2	➨	BHO 72.10	057H6102	
LMO 24.011B2	➨	BHO 72.11	057H6103	
LMO 24.113B2	➨	BHO 73.10	057H6104	
LMO 44.255C2	➨	BHO 74.10	057H6105	



Oil burner controls

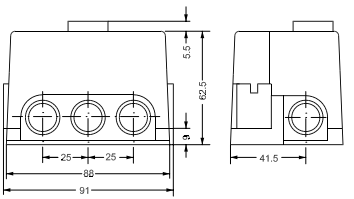
BHO			➨	BHO		
Type	**Code no.**	**Comments/ accessories**	➨	**Type**	**Code no.**	**Comments/ accessories**
BHO 61A	057H7031		➨	BHO 73.10	057H6104	
BHO 61	057H7032		➨	BHO 72.10	057H6102	
BHO 62	057H7034		➨	BHO 72.10	057H6102	
BHO 62D	057H7035		➨	BHO 72.10	057H6102	
BHO 61	057H7033	110 V	➨		No repl.	
BHO 64	057H7036		➨	BHO 72.10	057H6102	
BHO 64A	057H7030		➨	BHO 73.10	057H6104	
BHO 64.1	057H7037		➨	BHO 72.11	057H6103	

Concerning controls of the BHO 60 series:
Please note:
If only the upper part is replaced, it must be ensured that the LD/LDS flame sensor is connected to the terminals 11 and 12 in the base part.

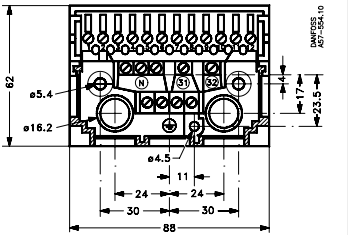
Defective components	Replacement components
Older oil burner controls	BHO 70 series + photo unit
BHO 60-Serie	Only BHO 70
Old LD/LDS 057H002x + 057H202x	BHO 70 series + photo unit
New LD/LDS 057H70xx	Photo unit only

In burners without solenoid valve the motor must be connnected to the solenoid valve terminals so that instead of prepurge, only pre-ignition takes place.
E.g. during maintenance work on the burner, if the oil burner control or photo unit shows defects it must be noted that there are different series of these components.
In some circumstances both components must be replaced even though only one of them is defective. See table.

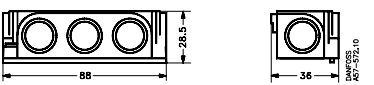
Dimensions



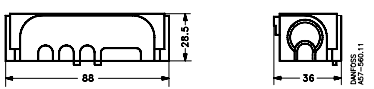
Oil burner control with base
Cable entry 057H7211



Base 057H7210.
The cross-hatched part can be replaced.

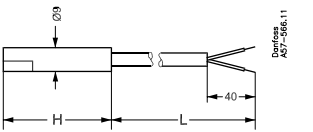


Cable entry 057H7211



Cable entry 57H7212

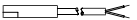
Photo units

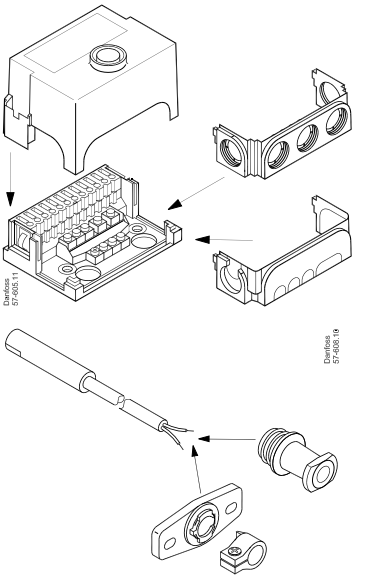




Type	Colour	H	L	Code no.
LD	Black	65.5	2000	057H7278
LD	Black	65.5	780	057H7279
LD	Black	50	500	057H7281
LDS	Red	50	500	057H7285
LDS	Red	65.5	520	057H7287
LDS	Red	105	350	057H7291
LDS	Red	65.5	800	057H7292
LDS	Light blue	50	500	057H7293
LDS	Light blue	65.5	600	057H7294

Content Service kit 057H7224

	057H7010
	057H7011
	057H7012
	057H7087
	057H7071
	057H7072
	–



Flash codes



Flash codes

Event	Code
False light	2 flashes
No flame when safety time elapses	3 flashes
More than three restarts in the same cycle	4 flashes
Max. waiting time on preheater overrun (10 min)	5 flashes
Supply voltage above 264 V AC	6 flashes

The reason for the burner control lockout can be read by means of flash codes (see the table below). Press the button and keep it down for min. 5 sec. The flash code will be shown as a number of flashes which will be repeated at intervals of 2 sec.
It is not possible to reset the burner control in this mode. To stop the flash code, keep the reset button down again for min. 5 sec. It will then be possible to reset the burner control.

In case of undervoltage, a flash code of 8 flashes is shown automatically (without changing over to flash mode).

3. Ignition units

Contents

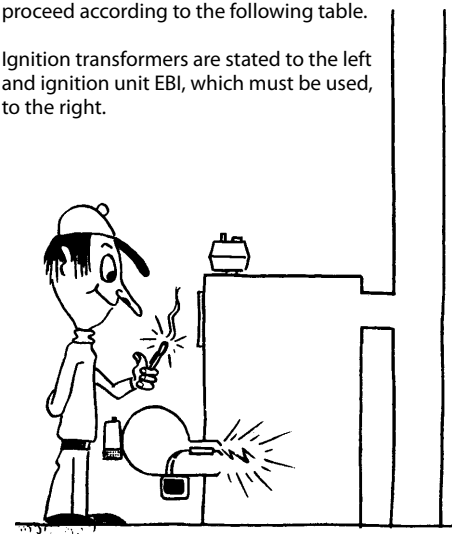
Introduction ..... Page 68
Conversion ..... Page 70
Dimensions ..... Page 75
Service ..... Page 77

Ignition/units

Introduction

When a Danfoss ignition transformer or an electronic ignition unit must be replaced, please proceed according to the following table.

Ignition transformers are stated to the left and ignition unit EBI, which must be used, to the right.



When replacing an ignition unit from a competitor, please take the below criterions into consideration:

In order to choose the right ignition unit, make sure that the ignition unit is designed for a supply voltage (primary voltage) of 220/230 V and that a ignition unit with higher or equal ED is choosen (ED = cutting in time).

Danfoss' electronic ignition units

EBI4 Series
Electronic ignition units for oil burners
- ED 33% at 60°C
- 1or 2 pole ignition
- Complies with the RoHs and WEEE directives
- 230 V or 120 V



EBI4 C Series
Electronic ignition units for constant ignition
- ED 100% at 35°C
- 1 or 2 pole ignition
- Complies with the RoHs and WEEE directives

EBI4 HP Series
Electronic ignition units for large oil burners
- 50% stronger spark compared to other ignition units
- ED 33% at 60°C
- 1 or 2 pole ignition
- Complies with the RoHs and WEEE directives

Conversion

EBI Series		➡	EBI Series		
Type	**Code no.**	➡	**Type**	**Code no.**	**Comments/accessories**
EBI	052F0030	➡	EBI4 M S	052F4045	
EBI	052F0036	➡	EBI4	052F4031	
EBI	052F0037	➡	EBI4 M S	052F4045	
EBI	052F0052	➡	EBI4 CM S	052F4047	
EBI	052F0058	➡	EBI4	052F4031	
EBI 1P	052F0040	➡	EBI4 1P S	052F4046	
EBI 1P	052F0043	➡	EBI4 1P S	052F4046	
EBI 1P	052F0044	➡	EBI4 1P S	052F4046	
EBI 1P	052F0045	➡	EBI4 1P	052F4044	
EBI 1P (120 V)	052F0057	➡	EBI 1P (120 V)	052F0057	
EBI M	052F0033	➡	EBI4 M S	052F4045	
EBI M	052F0034	➡	EBI4 M S	052F4045	
EBI M	052F0035	➡	EBI4 M S	052F4045	
EBI M	052F0039	➡	EBI4 M S	052F4045	
EBI M	052F0050	➡	EBI4 M S	052F4045	
EBI M	052F0074	➡	EBI4 M S	052F4045	
EBI M (120 V)	052F0055	➡	EBI M (120 V)	052F0055	

Conversion

EBI C Series		➨			
Type	**Code no.**	➨	**Type**	**Code no.**	**Comments/accessories**
EBI C	052F0070	➨	EBI4 CM S	052F4047	
EBI C	052F0071	➨	EBI4 CM S	052F4047	
EBI C1P	052F0079	➨	EBI4 C1P S	052F4048	
EBI CM	052F0077	➨	EBI4 CM S	052F4047	
EBI CM	052F0078	➨	EBI4 CM	052F4035	

EBI HP Series		➨			
Type	**Code no.**	➨	**Type**	**Code no.**	**Comments/accessories**
EBI HP1P	052F0084	➨	EBI4 1P S	052F4046	
EBI HPM	052F0075	➨	EBI4 M S	052F4045	
EBI HPM	052F0076	➨	EBI4 HPM	052F4033	

EBI4 Series		➨			
Type	**Code no.**	➨	**Type**	**Code no.**	**Comments/accessories**
EBI4	052F4030	➨	EBI4 M S	052F4045	
EBI4	052F4031	➨	EBI4	052F4031	
EBI4	052F4041	➨	EBI4 M S	052F4045	
EBI4	052F4037	➨	EBI4 M S	052F4045	
EBI4 1P	052F4040	➨	EBI4 1P S	052F4046	
EBI4 1P	052F4044	➨	EBI4 1P	052F4044	
EBI4 1P	052F4050	➨	EBI4 1P S	052F4046	
EBI4 M	052F4038	➨	EBI4 M S	052F4045	
EBI4 M	052F4039	➨	EBI4 M S	052F4045	
EBI4 M	052F4043	➨	EBI4 M S	052F4045	
EBI4 M	052F4042	➨	EBI4 M S	052F4045	
EBI4 M	052F4042	➨	EBI4 M S	052F4045	

Conversion

EBI4C Series		➡			
Type	**Code no.**	➡	**Type**	**Code no.**	**Comments/accessories**
EBI4 C1P	052F4036	➡	EBI4 C1P S	052F4048	
EBI4 CM	052F4034	➡	EBI4 CM S	052F4047	
EBI4 CM	052F4035	➡	EBI4 CM	052F4035	

EBI4 HP Series		➡			
Type	**Code no.**	➡	**Type**	**Code no.**	**Comments/accessories**
EBI HP1P	052F4049	➡	EBI4 1P S	052F4046	
EBI HPM	052F4032	➡	EBI4 M S	052F4045	
EBI HPM	052F4033	➡	EBI4 HPM	052F4033	

Conversion

52L		➡			
Type	**Code no.**	➡	**Type**	**Code no.**	**Comments/accessories**
52L	052L0000-03	➡	EBI4	052F0063	
52L	052L0005	➡	EBI4	052F0063	
52L	052L0007-09	➡	EBI4	052F0063	
52L	052L0014-15	➡	EBI4	052F0063	
52L	052L0017	➡	EBI4	052F0063	
52L	052L0019-20	➡	EBI4	052F0063	
52L	052L0023	➡	EBI4	052F0063	
52L	052L0028	➡	EBI4	052F0063	
52L	052L0034	➡	EBI4	052F0063	
52L	052L0036-39	➡	EBI4	052F0063	
52L	052L0041-42	➡	EBI4	052F0063	
52L	052L0045-48	➡	EBI4	052F0063	
52L	052L0050-56	➡	EBI4	052F0063	
52L	052L0058-61	➡	EBI4	052F0063	
52L	052L0063-64	➡	EBI4	052F0063	
52L	052L0066-79	➡	EBI4	052F0063	
52L	052L0082	➡	EBI4	052F0063	
52L	052L0086-87	➡	EBI4	052F0063	
52L	052L0089-93	➡	EBI4	052F0063	
52L	052L0095-98	➡	EBI4	052F0063	
52L	052L1011	➡	EBI4	052F0063	
52L	052L1033	➡	EBI4	052F0063	
52L	052L1050-51	➡	EBI4	052F0063	
52L	052L1054-57	➡	EBI4	052F0063	
52L	052L1075-76	➡	EBI4	052F0063	
52L	052L1080	➡	EBI4	052F0063	
52L	052L1085	➡	EBI4	052F0063	

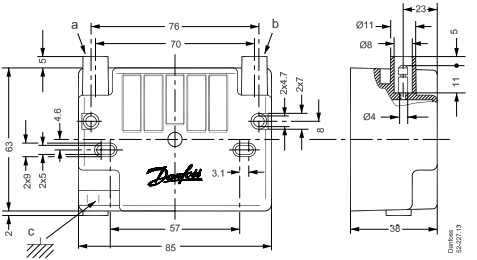
Conversion

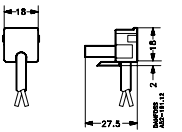
52L		➡			
Type	**Code no.**	➡	**Type**	**Code no.**	**Comments/accessories**
52L	052L0018	➡	EBI4 1P S	052F4046	Primary cable + 052F5002 and accessory set
52L	052L0026	➡	EBI4 1P S	052F4046	
52L	052L0030	➡	EBI4 1P S	052F4046	
52L	052L0040	➡	EBI4 1P S	052F4046	
52L	052L0049	➡	EBI4 1P S	052F4046	
52L	052L0065	➡	EBI4 1P S	052F4046	
52L	052L0088	➡	EBI4 1P S	052F4046	
52L	052L1058	➡	EBI4 1P S	052F4046	
52L	052L0006	➡	EBI M (120 V)	052F0055	
52L	052L0013	➡	EBI M (120 V)	052F0055	
52L	052L0016	➡	EBI M (120 V)	052F0055	
52L	052L0021	➡	EBI M (120 V)	052F0055	
52L	052L0044	➡	EBI M (120 V)	052F0055	
52L	052L0062	➡	EBI M (120 V)	052F0055	
52L	052L0099-1002	➡	No repl.		
52L	052L1007-08	➡	No repl.		
52L	052L1010	➡	No repl.		
52L	052L1019	➡	No repl.		
52L	052L1021-22	➡	No repl.		
52L	052L0010	➡	No repl.		
52L	052L0027	➡	No repl.		

Dimensions

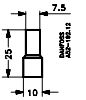
EBI4	EBI4 M, EBI4 CM, EBI4 HPM	EBI4 1P, EBI4 C1P, EBI4 HP1P	a: Lefthand secondary connection b: Righthand secondary connection c: Earth terminal
a + b+ c	a + b + c	b + c	

Secondary front connection





Primary plug

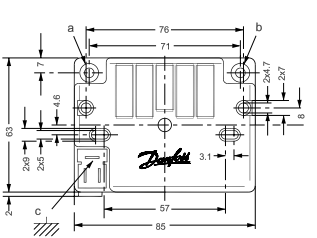


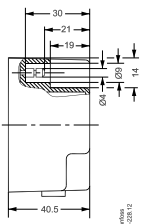
Bush, secondary

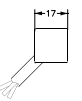
Dimensions

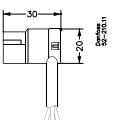
EBI4	EBI4 CM, EBI4 HPM	EBI4 1P	a: Lefthand secondary connection b: Righthand secondary connection c: Earth terminal
a + b + c	a + b + c	b + c	

Secondary top connection

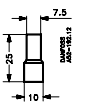








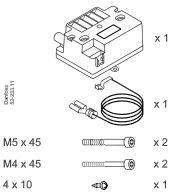
Primary plug



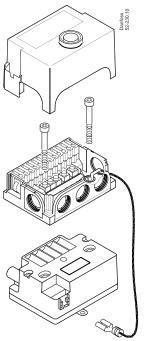
Bush, secondary

EBI4 Service Kits
The EBI4 Service Kits are used when replacing ignition units of the EBI Series.

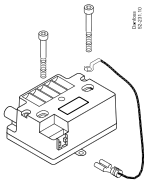
Code no.	Service kits
052F4045	EBI4 M S
052F4046	EBI4 1P S
052F4047	EBI4 CM S
052F4048	EBI4 C1P S



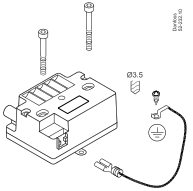
Example 1



Example 2

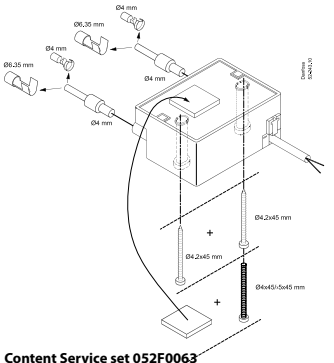


Example 3



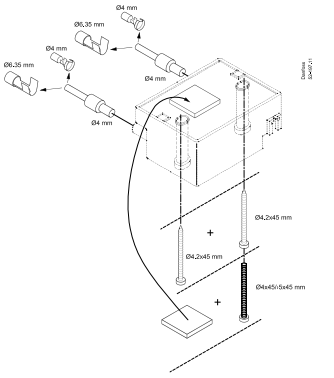
Service

The EBI4 sets 052F0061 and 052F0063 are used, for example, when replacing a Danfoss type 52L ignition transformer or another make.



Content Service set 052F0063

2 ×	Ignition service kit with ∅4 mm electrode plugs
2 ×	∅4 mm electrode plugs
2 ×	∅4 mm electrode plugs
2 ×	M4 screws
2 ×	M5 screws
2 ×	4.2 mm self-tapping screws
1 ×	double-sided adhesive pad
1 ×	Primary cable
1 ×	EBI4



Content Accessory set 052F0061

2 ×	Ignition cables with ∅4 mm electrode plugs
2 ×	∅4 mm electrode plugs
2 ×	∅4 mm electrode plugs
2 ×	M4 screws
2 ×	M5 screws
2 ×	4.2 mm self-tapping screws
1 ×	double-sided adhesive pad

4. Oil nozzles – conversion

Contents

Oil nozzles, programme		Page	80
Capacities	Oil nozzles, brass	Page	81
Capacities	Oil nozzles, steel	Page	82
Conversion		Page	83
Marking		Page	85





Danfoss Oil Nozzles Programme

- Capacities from 0.3 to 35 USgal/h
- EN standardised from 1.46 to 6.55 kg/h
- 30°/45°/60°/80°spray angles
- H/S/B/N spray patterns
- HFD/HD and SFD/SD round headed nozzles in Stainless Steel
- HFD/SFD with double filter



Hollow Spray Pattern
The hollow spray pattern is represented in the following nozzle types: OD-H, LE, EH, AH, KH, HFD, HD



Solid Spray Pattern
The solid spray pattern is represented within the following nozzle types: OD-S, LE, ES, AS, SFD, SD



Semi-Solid Spray Pattern
The semi-solid spray pattern is found in types: OD-B and AB.



Special Hollow Spray Pattern
This special hollow spray pattern,with slightly larger droplets in the middle, is only found in types LN and LN-LE.

Oil nozzles OD-H/-S/-B

USgal/h	30°	45°	60°	80°	EN kg/h
0.30			H S	H S	1.15
0.35			H S	H S	1.35
0.40		S	S	H S	1.46
0.45		S	H S	H S	1.66
0.50	H S	H S	H S	H S	1.87
0.55	H S	H S	H S	H S	2.11
0.60	H S	H S	H S B	H S B	2.37
0.65	H S B	H S B	H S B	H S B	2.67
0.75	H S B	H S B	H S B	H S B	2.94
0.85	H S B	H S B	H S B	H S B	3.31
1.00	H S B	H S B	H S B	H S B	3.72
1.10	H S	H S	H S	H S	4.24
1.20	H S	H S	H S	H S	4.45
1.25	H S B	H S B	H S B	H S B	4.71
1.35	H S B	H S B	H S B	H S B	5.17
1.50	H S B	H S B	H S B	H S B	5.84
1.65	H S	H S	H S	H S	6.08
1.75	H S	H S	H S	H S	6.55
2.00	H S B	H S B	H S B	H S B	
2.25	H S B	H S B	H S B	H S B	
2.50	H S B	H S B	H S B	H S B	
2.75	H S B	H S B	H S B	H S B	
3.00	H S B	H S B	H S B	H S B	

These oil nozzles are manufactured in accordance with European standard EN 293

USgal/h	30°	45°	60°	80°	kg/h
3.50	S	S	S	S	12.9
3.75	B	S B	B	B	13.8
4.00		S	S	S	14.2
4.50		S B	S B	S B	16.1
5.00		S B	S B	S B	18.5
5.50		S B	S B	S B	20.9
6.00		S B	S B	S B	23.4
6.50		B	B	B	26.1
7.00			S		27.9
7.50		B	B	B	29.8
8.00			S		31.5
8.50		B	B	B	33.1
9.00			S		35.4
10.00		B	B	B	37.7
11.00		B	B	B	42.5
12.00		B	B	B	47.7
13.50		B	B	B	54.3
15.00		B	B	B	60.4
17.00			B	B	67.4
19.50			B	B	76.2
22.00			B	B	86.4
25.00			B	B	96.7
28.00			B	B	109.5
31.50		B	B	B	122.5
35.00		B			133.5

Oil nozzles HFD/HD and SFD/SD

	USgal/h	45°	60°	80°	kg/h
HFD	0.40	030H4004	030H6004	030H8004	1.50
	0.45	030H4006	030H6006	030H8006	1.68
	0.50	030H4008	030H6008	030H8008	1.87
	0.55	030H4010	030H6010	030H8010	2.06
	0.60	030H4012	030H6012	030H8012	2.24
	0.65	030H4014	030H6014	030H8014	2.43
	0.75	030H4016	030H6016	030H8016	2.81
	0.85	030H4018	030H6018	030H8018	3.18
	1.00	030H4020	030H6020	030H8020	3.74
HD	1.10	030H4022	030H6022	030H8022	4.12
	1.25	030H4024	030H6024	030H8024	4.68
	1.35	030H4026	030H6026	030H8026	5.05
	1.50	030H4028	030H6028	030H8028	5.61
	1.65	030H4029	030H6029	030H8029	6.17
	1.75	030H4030	030H6030	030H8030	6.55
	2.00	030H4032	030H6032	030H8032	7.48
	2.25	030H4034	030H6034	030H8034	8.42
	2.50	030H4036	030H6036	030H8036	9.35

These oil nozzles are manufactured in accordance with European standard EN 293

USgal/h	45°	60°	80°	kg/h	
0.30	030F4002	030F6002	030F8002	1.12	SFD
0.35	030F4003	030F6003	030F8003	1.31	
0.40	030F4004	030F6004	030F8004	1.50	
0.45	030F4006	030F6006	030F8006	1.68	
0.50	030F4008	030F6008	030F8008	1.87	
0.55	030F4010	030F6010	030F8010	2.06	
0.60	030F4012	030F6012	030F8012	2.24	
0.65	030F4014	030F6014	030F8014	2.43	
0.75	030F4016	030F6016	030F8016	2.81	
0.85	030F4018	030F6018	030F8018	3.18	
1.00	030F4020	030F6020	030F8020	3.74	
1.10	030F4022	030F6022	030F8022	4.12	SD
1.25	030F4024	030F6024	030F8024	4.68	
1.35	030F4026	030F6026	030F8026	5.05	
1.50	030F4028	030F6028	030F8028	5.61	
1.65	030F4029	030F6029	030F8029	6.17	
1.75	030F4030	030F6030	030F8030	6.55	
2.00	030F4032	030F6032	030F8032	7.48	
2.25	030F4034	030F6034	030F8034	8.42	
2.50	030F4036	030F6036	030F8036	9.35	

Danfoss oil nozzles can be used to replace the following nozzles of other makes:

Conversion to Danfoss oil nozzles (European Market)		1. choice	2. choice
Delavan A	➨	Danfoss H	Danfoss HFD/HD
Delavan B	➨	Danfoss S	Danfoss SFD/SD
Delavan W	➨	Danfoss B	–
Fluidics SF	➨	Danfoss SFD	Danfoss S
Fluidics HF	➨	Danfoss HFD	Danfoss H
Fluidics S	➨	Danfoss SD	Danfoss S
Fluidics H	➨	Danfoss HD	Danfoss H
Monarch NS	➨	Danfoss HFD	Danfoss H
Monarch PL	➨	Danfoss H/B	–
Monarch PLP	➨	Danfoss B	–
Monarch AR	➨	Danfoss SFD/SD	Danfoss S
Monarch R	➨	Danfoss SFD/SD	Danfoss S
Steinen PH	➨	Danfoss H/B	–
Steinen H, HT	➨	Danfoss HFD/HD	Danfoss H
Steinen SS	➨	Danfoss B	–
Steinen Q	➨	Danfoss SFD/SD	Danfoss B/S
Steinen S, ST	➨	Danfoss SFD/SD	Danfoss S

This interchange is based on experience and should therefore only be considered as a guide

Danfoss oil nozzles can be used to replace the following nozzles of other makes:

Conversion to Danfoss oil nozzles (Worldwide except Europe)		Danfoss
Delavan A	➨	Danfoss H, Danfoss Hago H
Delavan B	➨	Danfoss S, Danfoss Hago B
Delavan W	➨	Danfoss B, Danfoss Hago W, SS
Fluidics SF	➨	Danfoss Hago DFN-B/B, Danfoss S
Fluidics HF	➨	Danfoss Hago DFN-H/H, Danfoss H
Fluidics S	➨	Danfoss Hago B, Danfoss S
Fluidics H	➨	Danfoss Hago H, Danfoss H
Monarch NS	➨	Danfoss Hago H, Danfoss H
Monarch PL	➨	Danfoss Hago H / SS, Danfoss H/B
Monarch PLP	➨	Danfoss Hago P, Danfoss B
Monarch AR	➨	Danfoss Hago SS, Danfoss S
Monarch R	➨	Danfoss Hago B, Danfoss S
Steinen PH	➨	Danfoss Hago H, Danfoss H/B
Steinen H, HT	➨	Danfoss Hago DFN-H/H, Danfoss H
Steinen SS	➨	Danfoss Hago W/SS, Danfoss B
Steinen Q	➨	Danfoss Hago W/SS, Danfoss B
Steinen S, ST	➨	Danfoss Hago DFN-B/B/ES, Danfoss S

This interchange is based on experience and should therefore only be considered as a guide

Marking and lid colour of the Danfoss oil nozzles

0.60 60°S DANFOSS

S-nozzle, red lid, white lettering

0.75 60°H DANFOSS

H-nozzle, blue lid, white lettering

8.50 80°B DANFOSS

B-nozzle, transparent lid, black lettering

CEN Marking and the current marking



Danfoss A30-166.11

Marking of the standard nozzle



Danfoss 30-295.10

0.60 60° SFD Danfoss

SFD/SD-nozzle, black lid, white lettering

0.60 60° HFD Danfoss

HFD/HD-nozzle, red lid, white lettering

Marking SF, SD, HFD, HD-nozzles



Danfoss 30-294.10

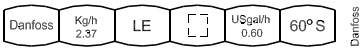
0.55 60°S DANFOSS

S LE-nozzle, green lid, white lettering

0.75 60°H DANFOSS

H LE-nozzle, green lid, white lettering

Marking of the LE-nozzles

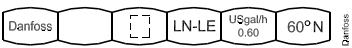


Danfoss A30-162.1

0.45 60°N DANFOSS

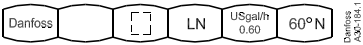
LN-nozzle, light blue lid, LN LE green lid, white lettering

Marking LN LE-nozzles



Danfoss A30-185.12

Marking LN-nozzles

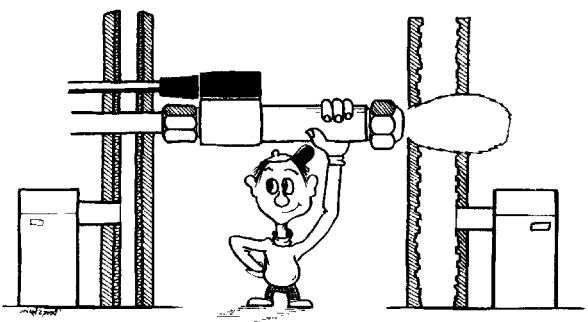


Danfoss A30-184.1

5. Oil preheaters

Contents

Standard types		Page	87
Dimensions	FPHB 3 and 5	Page	88
Dimensions	FPHB 10	Page	89
Dimensions	FPHB LE	Page	90



Oil preheaters

If the preheater needs replacing, consult the burner manufacturer. If a standard preheater is involved, it can also be purchased from an oil burner stockist.

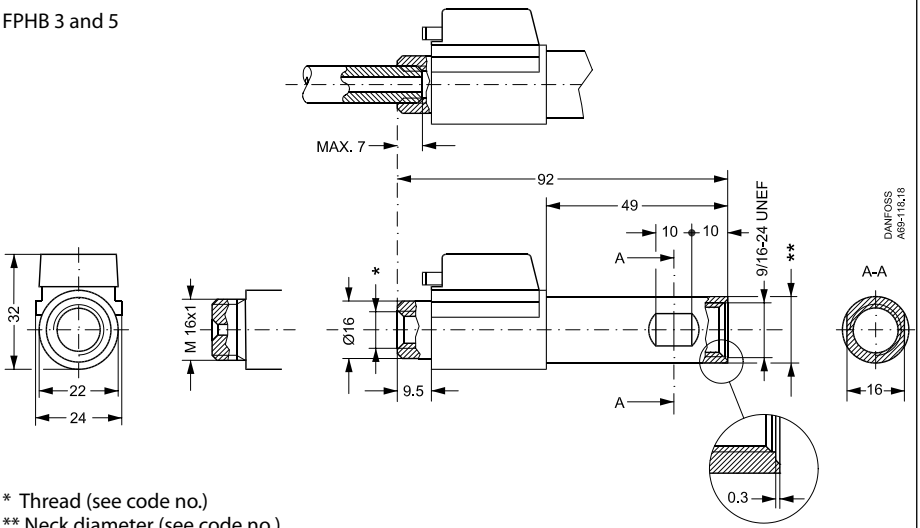
Danfoss Standard Types

Marked on product Code no.	Multi pack Code no.	Type	Connection	PTC (°C)	Thermostat	Neck diameter
030N2302	030N6302	FPHB 3	G 1/8	1 x 90	60/32	18.5
030N1201	030N6201	FPHB 5	M8 x 1	1 x 70	60/32	18.5
030N1202	030N6202	FPHB 5	G 1/8	1 x 70	60/32	18.5
030N1218	030N6218	FPHB 5	G 1/8	1 x 70	60/32	18.2
030N1223	030N6223	FPHB 5	M16 x 1	1 x 120	60/32	18.5
030N2057	030N6057	FPHB 3	G 1/8	1 x 50	60/32	18.5
030N1220	030N6220	FPHB 10	G 1/8	1 x 120	60/32	18.5
030N1224	030N6224	FPHB 10	M8 x 1	1 x 120	60/32	18.2
030N4101	030N6101	FPHB LE	G 1/8	1 x 70	60/32	18.5

LE valve	Description/Application
030N4013	For FPHB LE and nozzle holder for build-in LE valve

Dimensions

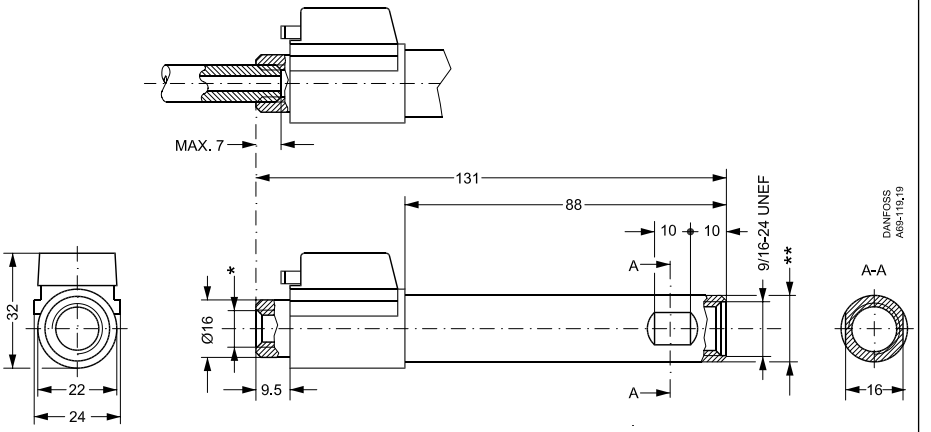
FPHB 3 and 5



* Thread (see code no.)
** Neck diameter (see code no.)

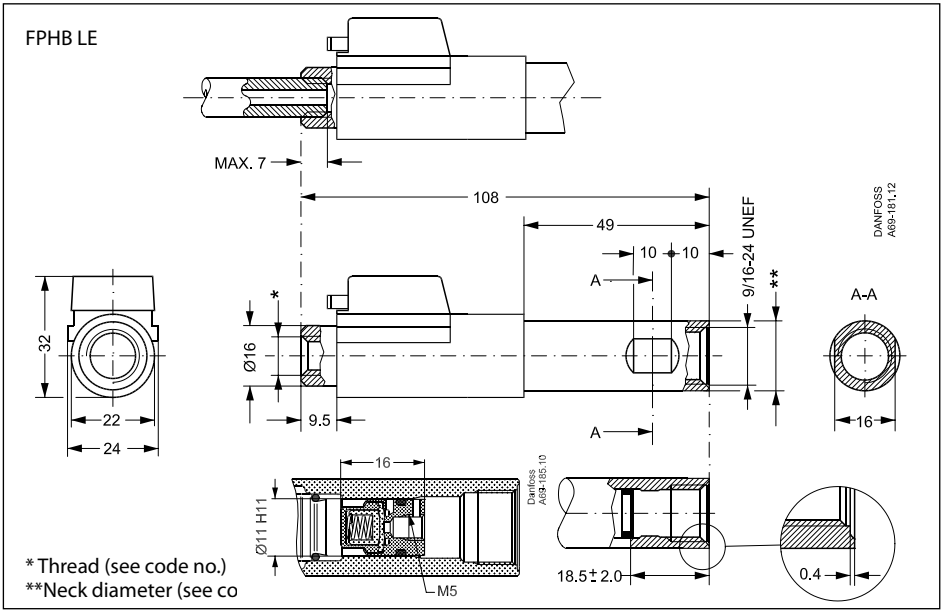
Dimensions

FPHB 10



* Thread (see code no.)
** Neck diameter (see code no.)

Dimensions


FPHB LE
MAX. 7
108
49
10
10
A
9/16-24 UNEF
**
*
Ø16
9.5
32
22
24
A
A-A
16
DANFOSS
A09-181.12
16
Ø11 H11
M5
Danfoss
A09-185.10
18.5±2.0
0.4
* Thread (see code no.)
**Neck diameter (see co



On burner.danfoss.com
you can find instructions, datasheets and brochures to download.

Our Service Manual is intended as an aid in your daily routine.
We therefore hope that the manual will make your work with
Danfoss Burner Components easier.

Four times a year we publish a newsletter with news,
practical tips and valuable information.
You can sign up for the newsletter at
newsletter.burner.danfoss.com

Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequential changes being necessary in specifications already agreed.
All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.