



Preheaters

FPHE 3 / FPHE 5 / FPHE 10

Description

FPHE oil preheaters are designed for oil burners with capacity up to 12 kg/h using standard fuel oil with viscosity up to 10 cSt. The preheaters are available with different heating elements and thermostats for selection of release time and temperature.

Features & Benefits

- Standard types of gasoil with viscosity of max. 10 cSt. (at 20°C)
- Capacity up to 12 kg/h
- Max. temperature limitation
- Improved atomisation
- High average efficiency of the burner

Applications

- Oil burners with capacity up to 12 kg/h using standard fuel oil with viscosity up to 10 cSt.

Ordering

Product code numbers

Product Type	Connections	Neck diameter [mm]	PTC element	Thermostat	Code number
FPHE 5	G 1/8	18.5	1 x 70	60/32	030N5004
FPHE 5	G 1/8	18.2	1 x 120	73/60	030N5006
FPHE 5	G 1/8	18.2	1 x 70	60/32	030N5011
FPHE 10	G 1/8	18.5	2 x 120	60/32	030N5012
FPHE 5	M16 x 1	18.5	1 x 120	60/32	030N5013
FPHE 5	G 1/8	18.5	1 x 50	60/32	030N5022
FPHE 5	M8 x 1	18.5	1 x 50	60/32	030N5048
FPHE 5	M16 x 1	18.5	1 x 70	60/32	030N5056
FPHE 5	G 1/8	18.5	1 x 50	60/32	030N5067
FPHE 5	M8 x 1	18.5	1 x 50	60/32	030N5085
FPHE 5	M10 x 1	18.4	1 x 70	73/60	030N5088
FPHE 3	G 1/8	18.5	1 x 90	60/32	030N5089
FPHE 3	M8 x 1	18.5	1 x 90	60/32	030N5093
FPHE 3	M8 x 1	18.6	1 x 90	60/32	030N5100
FPHE 3	M8 x 1	18.5	1 x 90	60/32	030N5102
FPHE 5	G 1/8	18.5	1 x 50	60/32	030N5108
FPHE 5	M10 x 1	18.4	1 x 70	73/60	030N5109
FPHE 5	M8 x 1	18.5	1 x 50	60/32	030N5163
FPHE 3	M8 x 1	18.6	1 x 90	60/32	030N5304
FPHE 5	M8 x 1	18.5	1 x 50	60/32	030N5518
FPHE 5	G 1/8	18.5	1 x 70	60/32	030N6004
FPHE 5	G 1/8	18.2	1 x 70	60/32	030N6011
FPHE 10	G 1/8	18.5	2 x 120	60/32	030N6012
FPHE 5	M16 x 1	18.5	1 x 120	60/32	030N6013



Identification

The preheater is laser engraved with the following information (example):

FPHE 5	Type
030N5004	Code no.
230 V	Voltage
30-110 W	Power consumption
130805	Date of manufacture

Accessories code numbers

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



030N0184
FPHB/E CABLE L=600
FPHB/E CABLE L=600

Related products

- 030N5003
- 030N5014
- 030N5017
- 030N5025
- 030N5027
- 030N5036
- 030N5037
- 030N5038
- 030N5042
- 030N5047
- 030N5050
- 030N5057
- 030N5058
- 030N5071
- 030N5075
- 030N5089
- 030N5095
- 030N5098
- 030N5103
- 030N5105
- 030N5115
- 030N5118
- 030N5122
- 030N5161
- 030N5305
- 030N5519



030N0900
PLUG FOR FPHB/E
PLUG FOR FPHB/E

Related products

- 030N5003
- 030N5014
- 030N5017
- 030N5025
- 030N5027
- 030N5036
- 030N5037
- 030N5038
- 030N5042
- 030N5047
- 030N5050
- 030N5057
- 030N5058
- 030N5071
- 030N5075
- 030N5089
- 030N5095
- 030N5098
- 030N5103
- 030N5105
- 030N5115
- 030N5118
- 030N5122
- 030N5161
- 030N5305
- 030N5519



030N0181
FPHB/E CABLE L=400
FPHB/E CABLE L=400

Related products

- 030N5003
- 030N5014
- 030N5017
- 030N5025
- 030N5027
- 030N5036
- 030N5037
- 030N5038
- 030N5042
- 030N5047
- 030N5050
- 030N5057
- 030N5058
- 030N5071
- 030N5075
- 030N5089
- 030N5095
- 030N5098
- 030N5103
- 030N5105
- 030N5115
- 030N5118
- 030N5122
- 030N5161
- 030N5305
- 030N5519



030N0182
FPHB/E CABLE L=450
FPHB/E CABLE L=450

Related products

- 030N5003
- 030N5014
- 030N5017
- 030N5025
- 030N5027
- 030N5036
- 030N5037
- 030N5038
- 030N5042
- 030N5047
- 030N5050
- 030N5057
- 030N5058
- 030N5071
- 030N5075
- 030N5089
- 030N5095
- 030N5098
- 030N5103
- 030N5105
- 030N5115
- 030N5118
- 030N5122
- 030N5161
- 030N5305
- 030N5519



030N0180
FPHB/E CABLE L=350
FPHB/E CABLE L=350

Related products

- | | | | |
|----------|----------|----------|----------|
| 030N5003 | 030N5014 | 030N5017 | 030N5025 |
| 030N5027 | 030N5036 | 030N5037 | 030N5038 |
| 030N5042 | 030N5047 | 030N5050 | 030N5057 |
| 030N5058 | 030N5071 | 030N5075 | 030N5089 |
| 030N5095 | 030N5098 | 030N5103 | 030N5105 |
| 030N5115 | 030N5118 | 030N5122 | 030N5161 |
| 030N5305 | 030N5519 | | |



030N0185
FPHB/E CABLE L=700
FPHB/E CABLE L=700

Related products

- | | | | |
|----------|----------|----------|----------|
| 030N5003 | 030N5014 | 030N5017 | 030N5025 |
| 030N5027 | 030N5036 | 030N5037 | 030N5038 |
| 030N5042 | 030N5047 | 030N5050 | 030N5057 |
| 030N5058 | 030N5071 | 030N5075 | 030N5089 |
| 030N5095 | 030N5098 | 030N5103 | 030N5105 |
| 030N5115 | 030N5118 | 030N5122 | 030N5161 |
| 030N5305 | 030N5519 | | |



030N0183
FPHB/E CABLE L=500
FPHB/E CABLE L=500

Related products

- | | | | |
|----------|----------|----------|----------|
| 030N5003 | 030N5014 | 030N5017 | 030N5025 |
| 030N5027 | 030N5036 | 030N5037 | 030N5038 |
| 030N5042 | 030N5047 | 030N5050 | 030N5057 |
| 030N5058 | 030N5071 | 030N5075 | 030N5089 |
| 030N5095 | 030N5098 | 030N5103 | 030N5105 |
| 030N5115 | 030N5118 | 030N5122 | 030N5161 |
| 030N5305 | 030N5519 | | |

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



Spare parts code numbers

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



030N4030
LE6 VALVE SERVICE
LE6 VALVE SERVICE

Related products

030N5003	030N5004	030N5006	030N5010
030N5011	030N5012	030N5013	030N5014
030N5017	030N5018	030N5019	030N5020
030N5022	030N5023	030N5024	030N5025
030N5027	030N5030	030N5034	030N5036
030N5037	030N5038	030N5042	030N5043
030N5044	030N5047	030N5048	030N5049
030N5050	030N5052		



030N4031
LE5 VALVE SERVICE
LE5 VALVE SERVICE

Related products

030N5003	030N5004	030N5006	030N5010
030N5011	030N5012	030N5013	030N5014
030N5017	030N5018	030N5019	030N5020
030N5022	030N5023	030N5024	030N5025
030N5027	030N5030	030N5034	030N5036
030N5037	030N5038	030N5042	030N5043
030N5044	030N5047	030N5048	030N5049
030N5050	030N5052		



030N4027
LE-VALVE OEM
LE-VALVE OEM

Related products

030N5003	030N5004	030N5006	030N5010
030N5011	030N5012	030N5013	030N5014
030N5017	030N5018	030N5019	030N5020
030N5022	030N5023	030N5024	030N5025
030N5027	030N5030	030N5034	030N5036
030N5037	030N5038	030N5042	030N5043
030N5044	030N5047	030N5048	030N5049
030N5050	030N5052		



030N4029
LE9 VALVE OEM
LE9 VALVE OEM

Related products

030N5003	030N5004	030N5006	030N5010
030N5011	030N5012	030N5013	030N5014
030N5017	030N5018	030N5019	030N5020
030N5022	030N5023	030N5024	030N5025
030N5027	030N5030	030N5034	030N5036
030N5037	030N5038	030N5042	030N5043
030N5044	030N5047	030N5048	030N5049
030N5050	030N5052		



030N4026

LE-VALVE SERVICE

LE-VALVE SERVICE

Related products

- 030N5003
- 030N5004
- 030N5006
- 030N5010
- 030N5011
- 030N5012
- 030N5013
- 030N5014
- 030N5017
- 030N5018
- 030N5019
- 030N5020
- 030N5022
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- 030N5034
- 030N5036
- 030N5037
- 030N5038
- 030N5042
- 030N5043
- 030N5044
- 030N5047
- 030N5048
- 030N5049
- 030N5050
- 030N5052

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

Functions

Operation

Cold start

When the boiler thermostat cuts-in, voltage is applied to the PTC heating element and the oil in the heat exchanger is heated until it reaches the cut-in temperature of the preheater thermostat (see below table). Now the burner performs a normal starting sequence.

Warm start

If the oil temperature in the preheater is higher than the cut-out temperature of the preheater thermostat, the burner starts immediately.

Operation

If the oil temperature is low and the flow rate is high, compared with the preheater capacity, the preheater thermostat might cut off during operation. To avoid this an oil burner control with holding function must be used.

Release times and temperatures

Type	PTC	Thermostat 60/32 & 60/45		Thermostat 73/60	
		Release time, seconds	Release temp. in outlet, [°C]	Release time, [seconds]	Release temp. in outlet, [°C]
FPHE 3	40	80	22	-	-
FPHE 5	50	130	36	-	-
	70	75	26	130	43
	120	50	22	80	32
FPHE 10	2 x 50	120	44	-	-
	2 x 70	110	41	150	60
	2 x 120	65	39	85	49

The figures given are measured average values on cold start and without blown air
Note that the PTC element continues to heat during prepurge.



Product details

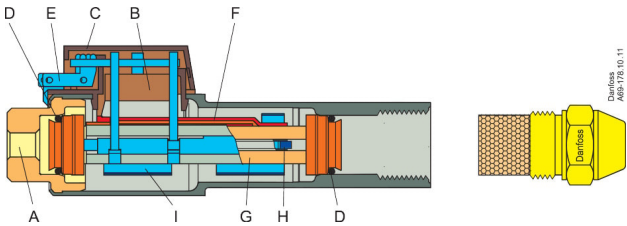
General data

	FPHE 3	FPHE 5	FPHE 10
Oil types	Standard fuel gas oil and fuel gas oil acc. to DIN 51603-6 EL A (bio content, FAME)		
Nominal voltage*	230 V, 50-60 Hz		
Contact load, thermostat	10 (3) A - 250 V		
Max. permissible pressure	30 bar		
Capacity	max. 3 kg/h	max. 6 kg/h	max. 12 kg/h
Max. ambient temperature	105°C		
Storage temperature	-20 to 105°C		
Max. pressure drop	0.03 bar at 3 kg/h	0.05 bar at 5 kg/h	0.25 bar at 10 kg/h
Recommended tightening torque	15 to 20 Nm		
Viscosity	max. 10 cSt. at 20°C		

* Working voltage: 100 to 265 V, 50-60 Hz

Design

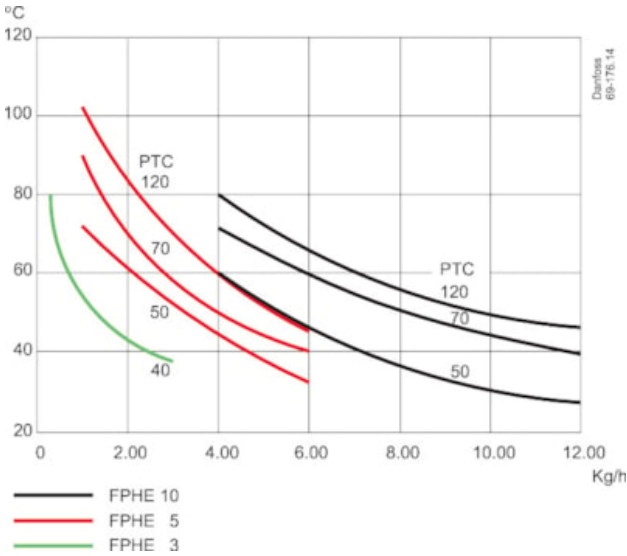
- A. Connection port
- B. Thermostat
- C. Cover
- D. O-ring
- E. Electrical connection
- F. Heat conductor (not FPHE 3)
- G. Heat exchanger
- H. PTC element
- I. Clamp



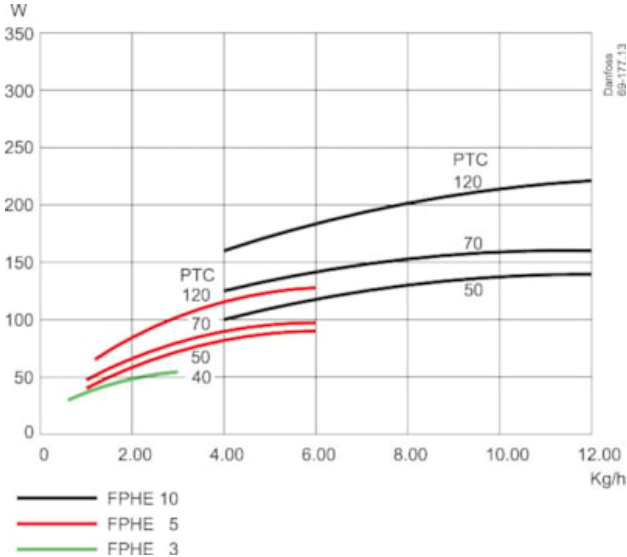


Capacity

Temperature / capacity



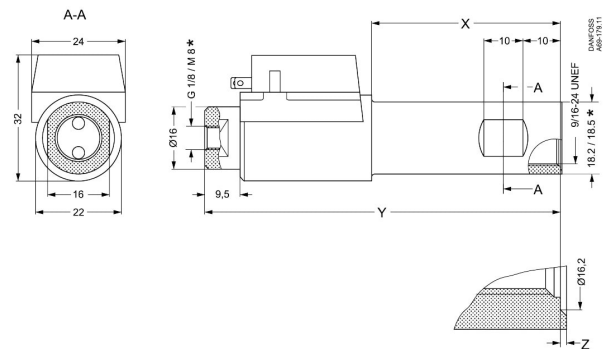
Power consumption / capacity



Dimensions & weights

Type	X	Y	Z
FPHE 3	50	92	0.3
FPHE 5	50	92	0.3
FPHE 10*	88	131	-

* FPHE 10 has no recessed sealing surface



Weight	Oil Preheaters Types FPHE 3, 5 and 10	
	Gross weight	0.108 kg
	Net weight	0.107 kg
	Volume	0.146 Liter

Connections

Electrical connection

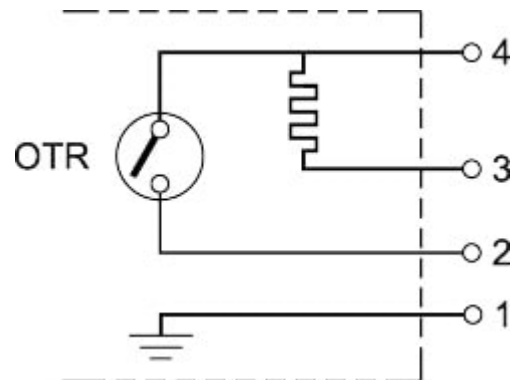
4 = Black

3 = Blue

2 = Brown

1 = Yellow / Green

OTR: Thermostat in oil preheater



Certificates, declarations and approvals

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

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

Approval type	Title	Certification body	Approval topic
Manufacturer's Declaration	Danfoss MD MA EU-UK 030N.05	Danfoss	EU RoHS
EU-UK Declaration	Danfoss EU-UK 030N.05	Danfoss	LVD
Export Control Declaration	Oil preheaters	Danfoss	

Contact details

Online support

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



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Danfoss A/S

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