



EFS 200, EFS 400, EFS 402 FRYERS

Installation and Operating Instructions

IMPORTANT

The installer must ensure that the installation of the appliance is in conformity with these instructions and National Regulations in force at the time of installation. Particular attention **MUST** be paid to -

**BS7671 IEE Wiring Regulations
Electricity At Work Regulations
Health And Safety At Work Act
Fire Precautions Act**

This appliance has been CE-marked on the basis of compliance with the Low Voltage and EMC Directives for the voltages stated on the Data Plate.

WARNING - THIS APPLIANCE MUST BE EARTHED

On completion of the installation these instructions should be left with the Engineer-in-Charge for reference during servicing. Further to this, The Users Instructions should be handed over to the User, having had a demonstration of the operation and cleaning of the appliance.

IT IS MOST IMPORTANT THAT THESE INSTRUCTIONS BE CONSULTED BEFORE INSTALLING AND COMMISSIONING THIS APPLIANCE. FAILURE TO COMPLY WITH THE SPECIFIED PROCEDURES MAY RESULT IN DAMAGE OR THE NEED FOR A SERVICE CALL.

PREVENTATIVE MAINTENANCE CONTRACT

In order to obtain maximum performance from this unit we would recommend that a Maintenance Contract be arranged with FALCON SERVICE LINE. Visits may then be made at agreed intervals to carry out adjustments and repairs. A quotation will be given upon request to the FALCON SERVICE LINE contact numbers below.

**Falcon Catering Equipment
Head Office and Works**
PO Box 37, Foundry Loan, Larbert
Stirlingshire, Scotland FK5 4PL

Service Line Contact

PHONE - 01438 751111
FAX - 01438 369900

1. Models and variants

Models

EFS200 - Single Pan (200mm wide)

EFS400 - Single Pan (400mm wide)

EFS402 - Double Pan (400mm wide)

2. Technical Specifications

Model	Oil Capacity (minimum)	Oil Capacity (maximum)	Weight
EFS 200	7 litres	9 litres	34 kg
EFS 400	15 litres	18 litres	49 kg
EFS 402	2 x 7 litres	2 x 9 litres	52 kg

Cable Length - 2 metres (without plug)

Power Ratings

EFS 200 - 7.5 kW

EFS 400 - 15 kW

EFS 402 - 2 x 7.5 kW (15 kW)

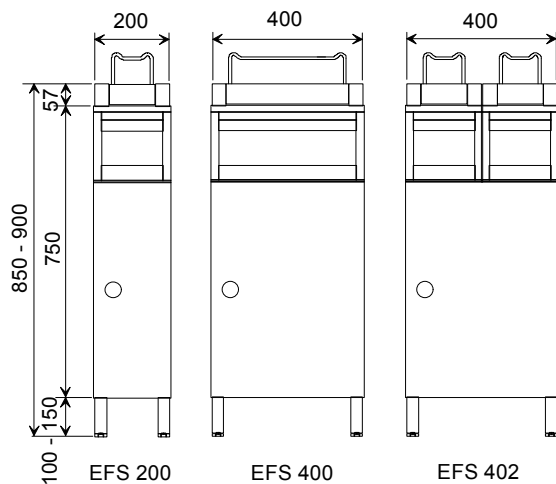
Dimensions

Height ex factory: 900 mm

By adjustment of the feet: 850 mm

Spec. execution of feet: 800 mm

(To place the fryer under the working surface)



3. Installing The Appliance

3.1 Free standing fryers

When installing the unit please observe the following instructions (refer to diagram below):

a) Ensure that the fryer is level by means of the two feet with adjustable screws (27 mm fork wrench). To change the height from 900 mm to 850 mm or vice versa:

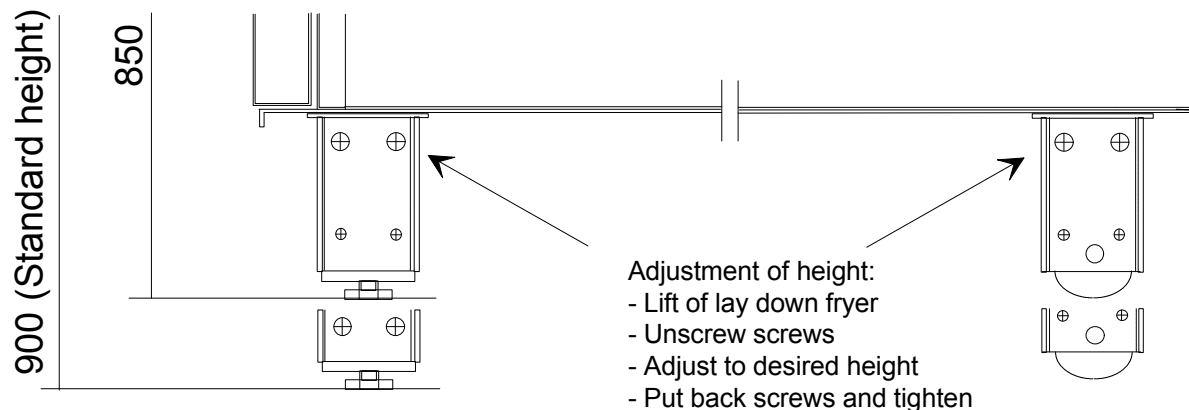
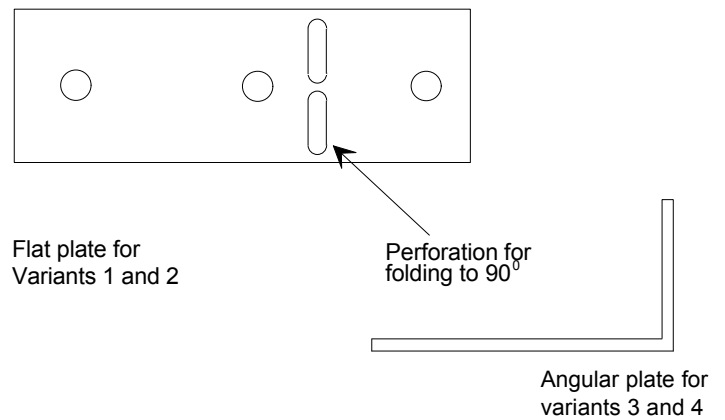
b) Minimum distances to be observed between the fryer and the wall or other units; at the rear: 30 mm.

c) The fryer should not rest on an inflammable surface. Observe the local security and building regulations.

d) The fryer position should be fixed. The castors are only intended to facilitate servicing or cleaning of the unit. When installing a fryer equipped with four castors, the two front castor brakes must be locked.

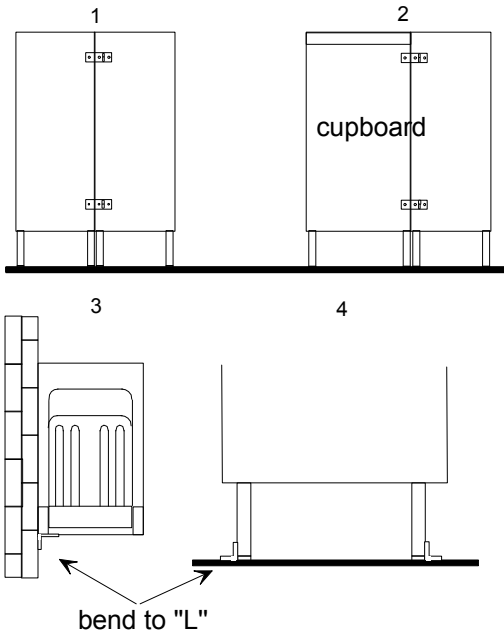
Warning

The EFS 200 model cannot be left without any form of permanent fixture and should be secured by means of the two plates supplied.



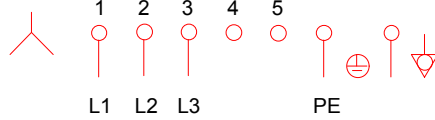
Various Fixing Methods:

- 1 - From one fryer to another (view from the back)
- 2 - To a kitchen cupboard (view from the back)
- 3 - To the wall (view from top)
- 4 - To the floor

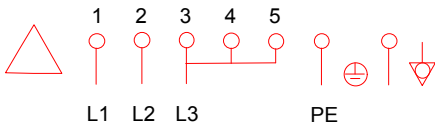


b) Special power supplies

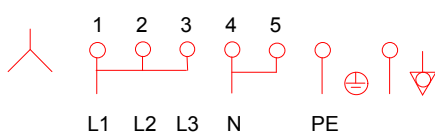
3AC 400V, 50Hz, 3L+PE



3AC 230V, 3L+PE



AC 230V, L+N+PE



Fuse Sizes

Model	EFS 200	EFS 400	EFS 402
Rating	7.5 kW	15 kW	2 x 7.5 kW
Supply	3N~400	3N~400	3N~400
Fuse	16A	25A	16A*/25A**
Supply	3N~230	3N~230	3N~230
Fuse	20A	40A	20A*/40A**

* denotes 2 cables

** denotes 1 cable

4. Electrical connection

Connection and initial unit start-up should be carried out by a qualified person who can ensure that the installation meets the required standards.

Proceed as follows:

- a) Check if the specification of the electrical mains corresponds to the information given on the data plate located on the control panel inside the door.
- b) Connect according to IEC or CEI 335-1 standards and local regulations, i.e.:

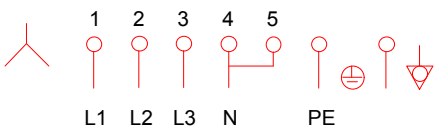
Fit a mains plug to the connection cable which corresponds to the power of the rated current. Plug into the mains socket.

For permanent installation: connect to a main switch with all the poles isolated; minimum distance of the contacts: 3 mm.

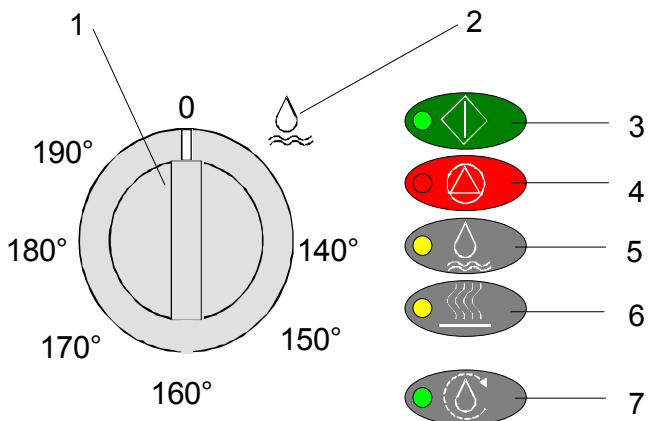
The connection cable should at least be an H05RN-F type.

4.1 System of Connection

- a) Normal power supply: 3NAC 400V, 50Hz 3L+N+PE



5. Control Elements



- 1 Switch / temperature selector 0 - 190°C
- 2 Fat melting cycle. Temperature up to 100°C machine in operation »
- 4 Light « overheating » Oiltemperatur >215°C
- 5 Light « fat melting cycle » and stand-by position
- 6 Light « heater operating »
- 7 Startbutton for the pump (Option)

6. Starting up



Button to the left side to select a temperature from 0: **Wrong!**



Button to the right side to select a temperature from 0: **Right**

Remove the pan lid.
Take the basket out of the pan.
CLOSE THE DRAIN VALVE.
Fill the pan to the MAX level with oil or place the frying fat on top of the heating elements.
The MIN/MAX level is visible inside of the pan.

Warning

If you are in the "fat melting cycle" (FMC), always remove the fish plate. Fat should be in direct contact with the element.
Before using the fryer for the first time:
Clean the pan thoroughly. Secure the support bar of the basket (1), which you will find in the frying basket.

6.1 Filling the tank

Refer to Section 2 for minimum and maximum pan capacities.
DO NOT FILL the pan above the MAXIMUM level mark. Add oil or fat when the MINIMUM level is indicated.
To melt the fat, turn the knob to Position 2. The lights (3) and (5) will illuminate. The fat will melt at about 100°C and the process will take about 60 minutes.
When using oil, it is recommended that it will be heated slowly using the fat melting cycle.

6.2 Frying

Select the temperature required (ideal setting: 180°C)
The pilot lights (3) and (4) will come on. When the selected temperature is reached, the heating control light will extinguish. Put the food to be fried in the basket. Fill to a third or half of the basket capacity. Give frozen products a good shake to remove ice crystals before placing the basket into the oil. Place the basket into the oil.
As soon as the food attains the required colour, remove the basket and hang it upon the support bar to drain.

Caution

Never leave the unit operating unsupervised!

If it is necessary to add oil during operation, use cold oil. Pour it into the pan very slowly to avoid splashing, such a condition can cause a risk of burns.

Never mix fresh oil or fat with an old frying medium!

7. Warnings

The unit should never be operated when the pan is empty. Should such a condition occur by mistake, the safety thermostat will cut off power to the fryer.

Danger of fire if oil level does reach the lower mark!

An overfilled basket or a basket filled with products which are too wet (eg. ice crystals on frozen food) will froth up the oil and reduce the quality of the fried food!

If the oil catches fire, use the lid to extinguish the flames. Put the main switch on 0 and remove the plug!

NEVER POUR WATER ON TO BURNING OIL !

To extinguish burning oil, it is necessary to have a fire extinguisher or a fixed extinguishing system at hand.

Never attempt to move the unit when hot!

Before removal of the regeneration container to change the oil, wait for it cool to 60°C.

Old or spoiled oil will foam more easily and could catch fire.

8. Daily maintenance



Open the drain valve (1) by rotating the lever a quarter turn anti-clockwise.

Let the oil run at a minimum temperature of 60°C into the regeneration container. The frying residues will be retained by the coarse filter.

CLOSE THE DRAIN VALVE AGAIN.

Wipe the pan with a cloth.
Pour the filtered medium back into the pan, adding oil if required, up to the MAXIMUM level mark.
Cover the pan with the lid provided.

Note:

Never mix fresh oil or fat with old. Mix oil with oil only when no longer than half of the specified lifetime of the medium has elapsed.

9. Cleaning / Maintenance



Regular cleaning of the fryer will help prolong its life.

Turn the switch to 0.

Swing the heating element to the "draining" position (see Fig. 1).

Empty the oil into the receptacle and remove it.

Place a bucket below the drain valve and swing the element up to its cleaning position (see Fig. 2).

Clean the pan and the element with water and a recommended detergent. Rinse well and dry.

Caution

Do not use a metal brush to clean the element.

The elements should never be cleaned by running the unit empty. This will invalidate the guarantee.

The metal parts of the casing are made of stainless steel and can be cleaned with an appropriate cleaning product.

The fryer should not be washed with a water jet or high pressure jet.

10. Electronic Safety Thermostat

The unit is fitted with an electronic safety thermostat according to the latest regulations.

If the operating thermostat does not work correctly or if the level of oil is too low, the safety thermostat will react at 215°C and automatically cut off the power supply.

If the safety thermostat stops the machine several times in succession, call Falcon Service-line.

Notice

The safety thermostat can only be reset after the oil has cooled down to 190°C.

11. Options



11.1 Oil Pumping System with Integrated Filters

The system is composed of the following components:

1. Drain valve
2. Switch to oil pump
3. Induction pipe with fast coupling
4. Fast coupling with stop valve
5. Drain pipe

Filter package :

6. Micro-filter with frame
7. Strainer

Drawer for oil receptacle:

8. Drawer
9. Oil receptacle
10. Oil pump
11. Barrel for used oil (not included)

11.1.1 Pumping the Oil

Open the drain valve (1).

Drain the oil into the oil receptacle at a minimum temperature of 60°C. Floating particles depending of size, will be retained by the strainer (7) or the micro-filter (6).

CLOSE THE DRAIN VALVE (1).

Fix the drain pipe (3) into the fast coupling (4).

Start the pump by pressing the button (2) to process the oil back into the tank.

Switch off the pump by pressing button (2) again.

Attention!

The pump operation time is limited to 6 minutes. Pressing the pump switch (2) will interrupt the process required. If the pump operates for the full 6 minutes, press the switch twice.

11.1.2 Changing the Oil

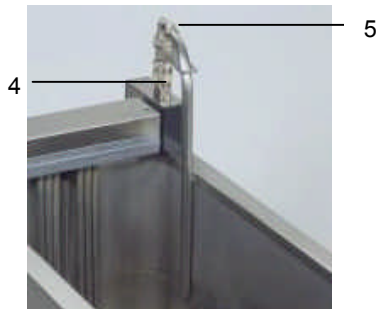
Open the drain valve and drain the oil at min. 60°C into the receptacle.

CLOSE THE DRAIN VALVE.

Attention!

Used oil should be treated according to local regulations. IT SHOULD NEVER be poured down a drain.

11.1.3 Pumping of Spoiled Oil



The system allows the pumping of spoiled oil into a transport container or special barrel for used oil .

Proceed as follows:

1. Release the drain pipe (5) from fast coupling (4) and secure it to the disposal hose.

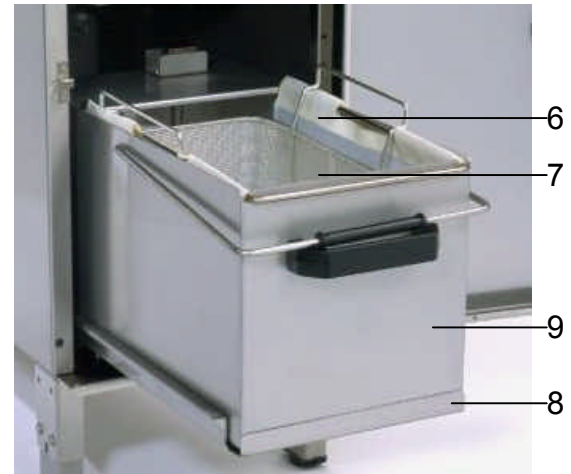
Attention - This will be hot.

2. Secure the other end of the disposal hose to the fast coupling (4).
3. Hang the drain pipe (5) over into the transport container or barrel.
4. Start the pump by pressing button (2).
5. When the oil tank is empty, release the disposal hose and reposition the drain pipe (5) on the fast coupling (4).

Attention!

When frying and also when putting the cover plate over the pan, please remove the drain pipe (5).

11.1.4 Cleaning of the Oil Pumping System



The oil receptacle (9) and the filters (6 & 7) can be removed from the drawer (8) and put into the dishwasher.

Note

Before refilling fresh oil or fat, the system has to be cleaned with water and a recommended detergent. Rinse well (to avoid foaming) and dry.

12. After-Sales Service

In the case of a breakdown, contact the nearest repair centre. However, before contacting it check:

- That the fuses have not blown.
- If the electric plug is pushed right into the socket.
- If the unit has been started correctly.
- If the safety thermostat is switched on, otherwise press the red re-start button.
- If the oil level is correct.

Important!

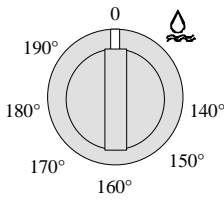
If you call the repair centre, state the type and serial number of the unit. This information can be found on a small plate, located on the panel behind the door.

Enter the type and number of your fryer below:

- Type _____
- Apparatus no. _____
- Power supply _____
- Service Telephone number _____

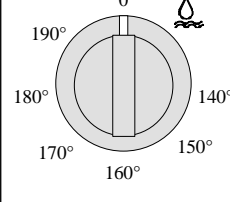
Operation Manual

Off position, ready to work



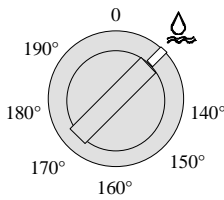
Selection of fat melting cycle
Selection of working temperature
Start of the pump

Pump in operation



Waiting period; Temperature of the oil too high >180°C
Pump is working

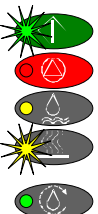
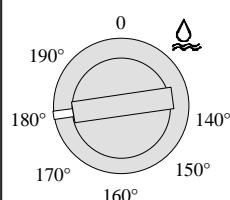
Fat melting cycle



Heating time 100 °C
"Stand-by"

Section of fat melting cycle

Selection of working temperature



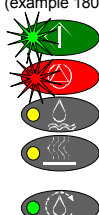
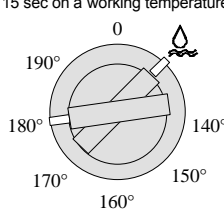
Heating time 180 °C
You can fry now!

Working temperature selected, example 180°C

Indication of Error's

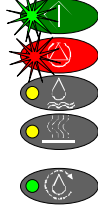
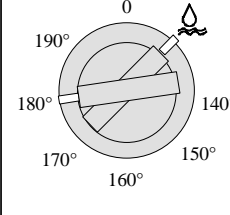
Wrong connection of the control probe

Error indication after 15 sec. at fat melting cycle or 15 sec on a working temperature. (example 180°C)



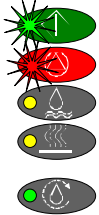
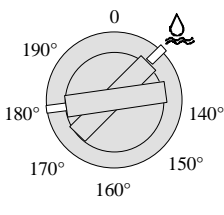
12x
6x

Overheating security



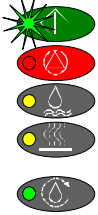
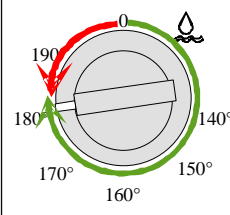
Control probe broken or not connected

1 or 2 wires of the control probe not connected
1 or 2 wires of the control probe broken

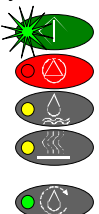
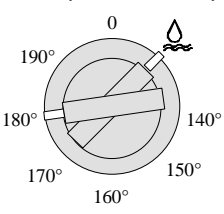


Operation error

Turning the button left from O to select a temperature = Error
Turning the button right from O to select a temperature = OK



Interruption of the supply network

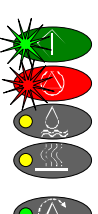
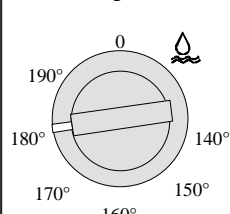


4" 4" 4" 4"

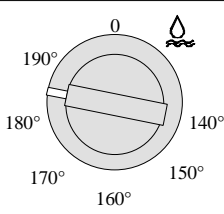
Working temperature selected, example 180°C

Should an interruption in the supply network arrive, the fryer does not restart automatically. The green control lamp flashes during 4", lightens constantly during 4" a.s.o. Turno the knob on OFF position and reselect the requested frying temperature.

No heating reaction



During frying time, the fryer does not heat up more than 2°C during 2 minutes.
The fryer stops heating



Control button between two temperatures.
Control button damaged.
The fryer stops heating.

WIRING DIAGRAM - THREE PHASE CONNECTION - 3L+N+PE

Code	Description
X11	Mains terminals
SW21	Safety switch
R1-6	Heating element
K21	Relay heating elements
K11	Relay safety
S1	Probe type K (Control-and safety thermostat)
A - B	Energie control terminals

