

Deep fat Fryer

Metos Marine

EVO-200 (T), EVO-2200 (T), EVO-250 (T), EVO- 2525 (T), EVO-400 (T), EVO-600

User Manual





EVO 250

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Warning:

The information given in these operating instructions may be amended at any time. The manufacturer accepts no liability for errors in these instructions and any consequent damage.

The following operating instructions are based on **EC** and international regulations, as well as on the new product liability.

1. Important information

1.1 Warning

Before using the fryer you must:

- ⇒ study the following operating instructions and follow them closely
- ⇒ instruct the operating personnel and make them aware of the risk presented by food remains.

The manufacturer accepts no liability for damage caused through improper operation and failure to adhere to these operating instructions.

1.2 Risks from food remnants







- Hot oil can cause severe burning.
 Therefore avoid any direct contact with the hot oil.
- Thoroughly drain the food to be fried before frying.
- Never allow water or ice to come into contact with the hot oil, otherwise the oil will spatter.
- Ensure that your face is not near the oil pan when food is immersed in it.
- · Beware of clouds of steam and hot oil spray.
- Never allow anything but food to drop into the oil pan, e.g. gas cartridges, sealed bushings, etc. These explode and cause considerable spattering of oil.
- The fryer must not be operated without supervision. If a large amount of smoke develops, switch off immediately (switch to "0")
- The oil level must not drop below the "MIN" oil level mark. If the oil level is too low there is a fire risk.
- N.B.: Old or frequently used oil/fat has a lower flash point and is more easily ignited. It may suddenly boil over when food is immersed.
- If the fryer catches fire, never extinguish with water. It is recommended that a fire extinguisher or fire extinguishing blanket be installed near the fryer.

Valentine fryers conform to the most stringent safety standards and are equipped with breakage-proof temperature limiters. Damage or fault must be excluded wherever humanly possible.

1.3 Periodic inspections

 Have the operation of the working thermostat and security thermostat checked (see page 10 point 5.3)

2. Technical data

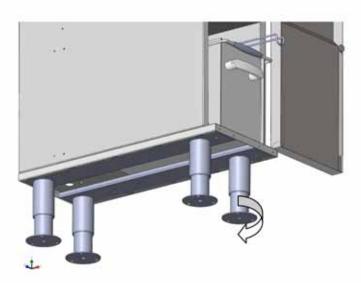
Model:	Power [kW]	Connection 3P+N+T 3x400V [A]	Fréquency [Hz]	Power connection cable	Security circuit cable SOLAS	Capacity in litrer	Working thermostat	Security thermostat	Timer	Protective system	Dimensions [cm]
EVO-200MS	7.2	10	50-60	4x1.5	4x1.5	8	1	1	1	IP X5	20x60x85/90
EVO-200TMS	11	16	50-60	4x1.5	4x1.5	8	1	1	1	IP X5	20x60x85/90
EVO-2200MS	14.4	20	50-60	4x2.5	4x1.5	2x 7-8	2	2	2	IP X5	40x60x85/90
EVO-2200TMS	22	32	50-60	4x4	4x1.5	2x 7-8	2	2	2	IP X5	40x60x85/90
EVO-250MS	7.2	10	50-60	4x1.5	4x1.5	9-10	1	1	1	IP X5	25x60x85/90
EVO-250TMS	11	16	50-60	4x1.5	4x1.5	9-10	1	1	1	IP X5	25x60x85/90
EVO-2525MS	14.4	20	50-60	4x2.5	4x1.5	2x 9-10	2	2	2	IP X5	50x60x85/90
EVO-2525TMS	22	32	50-60	4x4	4x1.5	2x 9-10	2	2	2	IP X5	50x60x85/90
EVO-400MS	14.4	20	50-60	4x2.5	4x1.5	15-18	1	2	1	IP X5	40x60x85/90
EVO-400TMS	22	32	50-60	4x4	4x1.5	15-18	1	2	1	IP X5	40x60x85/90
EVO-600MS	21.6	32	50-60	4x4	4x1.5	25-28	1	3	1	IP X5	60x60x85/90

3. Installation

The fryer need to be on the floor, to level rotate the feet (MIN 850mm, MAX 900mm) See picture A. The fryer must not stand on combustible surfaces. Local safety regulations must be complied with.

Warning: The slimline fryers EVO-200, EVO-200T, EVO-250 and EVO-250T must not be freely erected (risk of tipping over). They must be installed between 2 units of furniture, or they must be supported on the sides.

3.1 Feet for Valentine Fryers in SOLAS version



3.1 Electrical connection for Valentine Fryers in SOLAS version

Only experts may connect and commission the fryers. Your mains data (voltage, current, fuse protection) must conform to the data on the fryer rating plate. The rating plate is mounted on the inside of the door (page 6, n°2).

Valentine Marine Fryers in SOLAS version are equipped with 2 main blocs :

a) SOLAS security circuit

Terminal 1 2 3 4 5 6

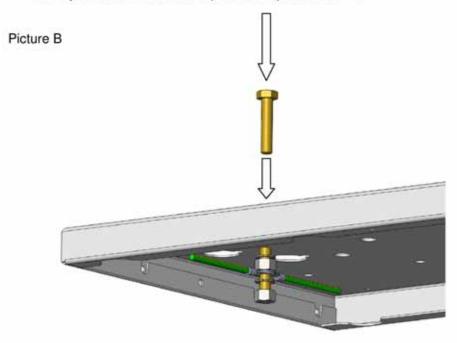
This fryer is equipped with a universal SOLAS security circuit, different solutions are possible! See wiring diagram page

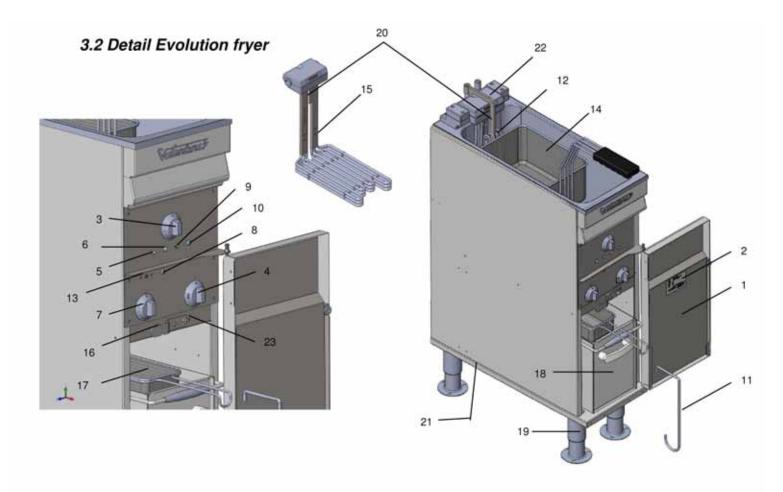
b) Power connecting cable

Terminals L1 L2 L3 + See wiring diagram page

The electrical connection must conform to local regulations, essentially as follows:

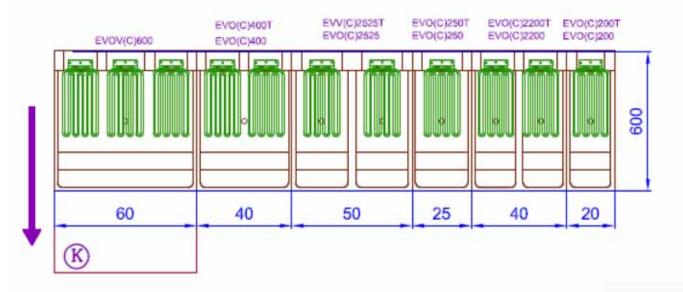
- Fitting a mains plug on the connecting cable. Earth conductor = yellow/green, neutral conductor = blue
- Any fixed connection must be made via a mains switch with all-pole isolation (min. contact distance 3 mm.).
- Before connection is made to the mains, check that the main switch (page 5, n°4) on « 0 ». Never heat without oil!
- The fryer can be connect to a potential equalisation .





- 1. Lid mounted in the door
- 2. Rating plate
- Timer
- 4. Main switch (behind the door)
- 5. Colourless Imap = Melting
- 6. Colourless control lamp = Frying
- 7. Working thermostat (behind the door)
- 8. Red lamp, security thermostat
- 9. Yellow lamp = heating
- 10. Green lamp = immersing basket
- 11. Hook for increasing heating

- 12. Basket hook
- 13. Reset button for security thermostat
- 14. Basket
- 15. Oil level mark MAX MIN
- 16. Oil cock level
- 17. Filter (behind the door)
- 18. Discharge tank (behind the door)
- 19. Foot
- 20. Heating element interlock (picture F)
- 21. Potential equalisation (picture B page 5)
- 22. Basket suspension bracket
- 23. Safety oil cock



4. Instructions for use

4.1 Pouring in oil

Grip lid (page 6, n°1) by handle and place ◊ inside the door.

Whilst working, the folded lid is supported inside the

Peanut oil into the fryer basin as far as the 0 MAX level mark (page 6, n°15)

Solid fat must be melted in a pan, not on the heating element

4.2 Operation : Melting - frying

Open the door, move the main switch (page 6, \Rightarrow The left colourless signal lamp (page 6, n° 5) comes on. n°4) to "ECO" position.

Reduced power for block of fat in fryer. Also economic heating of oil, approx 10-15 minutes.

Switch thermostat to 150°, for exemple

⇒ The yellow signal lamp comes on

n°4) turn the main switch to "I" Switch thermostat to approx. 180°

As soon as the first order is taken (page 6, ⇒ The colourless signal lamp (page 6, n°6) comes on.

As soon as the green lamp (page 6, n°10) comes on, immerse basket.

⇒ The yellow lamp « heating » comes on. The temperature reaches 180° in 2-3 minutes.

sounds (page 6, n3), raise basket, shake and suspend.

Set timer, e.g. 3 minutes. As soon as the timer \Rightarrow After half the frying time raise and shake basket. Do not knock against oil pan.

Always top up with oil after use. When the oil level is too low the power drops considerably and the oil is overheating.

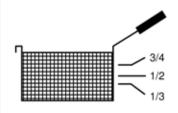
Never operate below the "MIN" oil level mark.

Never overfill basket. Follow filling stages 1, 2, 3 in table



- oil is cooled excessively
- frying time is extended
- the food being fried absorbs oil

Temp. °C	Food being fried	Minutes	Basket filling height
190	Deep frozen chips	3 (1+1)	-1/3-
160	Prefrying raw chips	4 – 6	-3/4-
190	Finish frying, blanching chips	2-3	-1/3-
170	Veal pork schnitzel, cutlets	3	-1/2-
170	Deep frozen chicken legs	6 – 8	-1/2-
180	Fish	2 – 4	-1/2-



4.3 How to save oil

- Do not heat the fryer for hours before or after service (The heating time is only 5-6 minutes).
 - → High temperatures ruin the oil, not the food!
- Limit oil temperature to 180 °C instead of 200 °C
 - → Oil life is extended by approx. 40 %!
- After each service pour oil through a microfilter (optional extra). This retains even microscopic waste. Working time = 1 minute, including cleaning of filter!

4.4 Care of oil

Filter the oil after each use, approx. at 60 °C. N.B: Risk of combustion!

Open the door, turn main switch (page 6, n°4) to « 0 » ⇒ Do not heat when oil pan is empty! position. Turn red lever (page 6, n°16) of oil cock ⇒ Is the cleaning filter on the tank? complete downward (page 6, n°23) and at the same ⇒ Pour oil back into the fryer time push the safety pin to the right. Oil flows through the ⇒ Clean filter and tank filter (page 6, n°17 et 18) into the tank.

Finally cover the oil pan with the lid mounted in the door Frying basket is in stainless

⇒ The lid protects the oil from dust and light.

⇒ Is washed once a week

If you do not open the drain cock completely * Important: (red lever in vertical position), the drain cock can be damaged!

4.5 Maintenance of fryer, changing oil

The fryer must be thoroughly cleaned when the oil is changed. As soon as the oil turns brown and begins to smoke (after approx. 20 to 40 operating hours, according to the operating temperature and grade of oil), the oil must be changed.

Waste oil must not be poured into the drain.

You must deliver waste oil to a disposal service.

Open the door. Turn the main switch (page 6, n°4) to => Do not lift heating element fully, otherwise « 0 », Lift the heating element into the drain position « see picture C ». Drain oil, remove tank and clean filter.

oil will run along the rod to the heating element box = additional cleaning

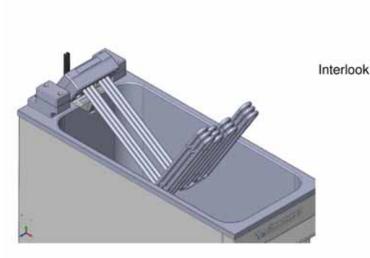
Boiling the water 95° with a degreasing agent or => Allow the oil to operate for 1-2 hours, and pastigras into the pan up to approx. 5 cm above the "MAX" (page 6, n°15) oil level mark. If you clean daily you will never have encrustation on the heating element or oil pan!

clean heating element with a brush with a handle. Do not damage the thermostat sensor. Now raise heating element fully and clean oil pan down to the bottom. After cleaning, rinse thoroughly with hot water. Residues of cleaning agents or detergents ruin the fresh oil you are pouring in.

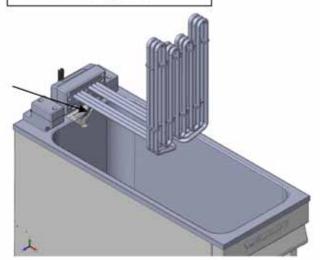
Wipe the oil pan and heating element clean with a dry => Raise the heating element. Push back the cloth. Close oil cock, put in fresh oil up to the "MAX" level (page 6, n°15)

interlock page 8, picture D and tilt the heating element fully down above the drain position.

Picture C drain position



Picture D clean position



5. Repairs

5.1 Simple faults

Fault	Possible cause	Remedy
The fryer is no longer heating.		
No lamp lights up	* No power	♦ Check fuses, plugs and socket
The red lamp lights up	Safety thermostat has switched off	♦ Press reset button (see 5.3)
The fryer is not heating sufficiently	 One phase is missing on the power supply cable 	♦ Check fuses
The fryer is not heating sufficiently	* The switch has remained on "ECO"	♦ Turn button to "I"
Oil cock is sticking	Sticking due to old oil residues	Actuate frequently with hot oil. i.e. filter oil daily

The special mains cable must only be replaced by the manufacturer or his customer service representative.

5.2 Complex faults

Fault	Possible cause	Remedy
The signal lamps come on, but	* Heating element defective	♦ Call the service centre *
the fryer is no longer heating	_	
The fryer is not heating	 Interruption of a phase 	♦ Call the service centre *
sufficiently	 Heating element defective 	
The fuses blow when fryer is	* Short-circuiting	♦ Call the service centre *
switched on	_	
The fault current safety switch	 Moisture or poor insulation 	♦ Call the service centre *
(FI) in the fuse box switches off	in the electrical circuit	
The colourless signal lamp does	 Main switch defective 	♦ Call the service centre *
not come on or is flashing		
The yellow signal lamp does not	* Thermostat defective	♦ Call the service centre *
come on or is flashing		
The green signal lamp does not	* Thermostat defective	♦ Call the service centre *
come on or is flashing		

* **Important:** If you call the customer service dept, you must give the following information:

- Type of fryer - EVO-250

- Serial Nr.. - *U253A111K3* - Volts, amps, kilowatts - *3x415V*, *10.5A*, *7.5kW*

You will find this information on the fryer rating plate.

If the information is correct the fitter gains time, the customer saves money!

5.3 Safety thermostat

Every heating element is fitted with a breakage-proof temperature limiter. The reset button (page 6, $n^{\circ}13$) is located behind the door on the upper edge of the control panel. The red lamp (page 6, $n^{\circ}8$) to the right of the reset button (page 6, $n^{\circ}13$) lights up as soon as the temperature limiter switches off.

Move switch to « 0 » position and the red lamp and acoustic alarm goes out.

The safety thermostat breaks the heating circuit

- When oil temperature is over 230 °C
- When capillary tube is damaged
- When temperature drops below 0 °C

And also in the case of improper use

- * If the fryer is heated without oil
- * If the oil level is too low
- * If the heating element is not in the correct position in the oil pan
- * If a lock of fat is melted on the heating element

Resetting the safety thermostat

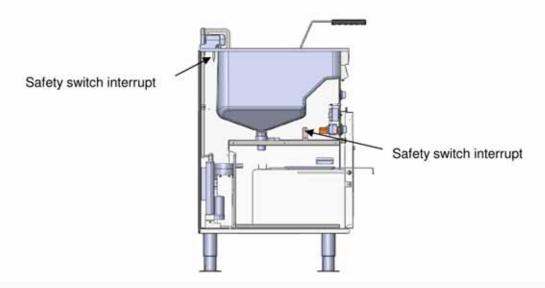
Before resetting, find out why it has switched off (see above list).

- Allow fryer to cool. The thermostat sensor on the heating element cannot be switched on if it
 has not cooled down (to accelerate cooling raise heating element to the drain position).
- Push the red button (page 6, n°13). Lamp (page 6, n°8) will go out. N.B. Fryer is heating! If the safety thermostat switches off again the fryer must be switched off. Inform the service centre.

5.4 Safety switch

As soon as the heating element is raised to the drain position (page 8, picture D), the safety switch interrupts the power supply. When the heating element is again in the work position the fryer work again.

Also, if you open the drain valve, the safety switch interrupts the power supply. When you close again the drain valve the fryer work again.



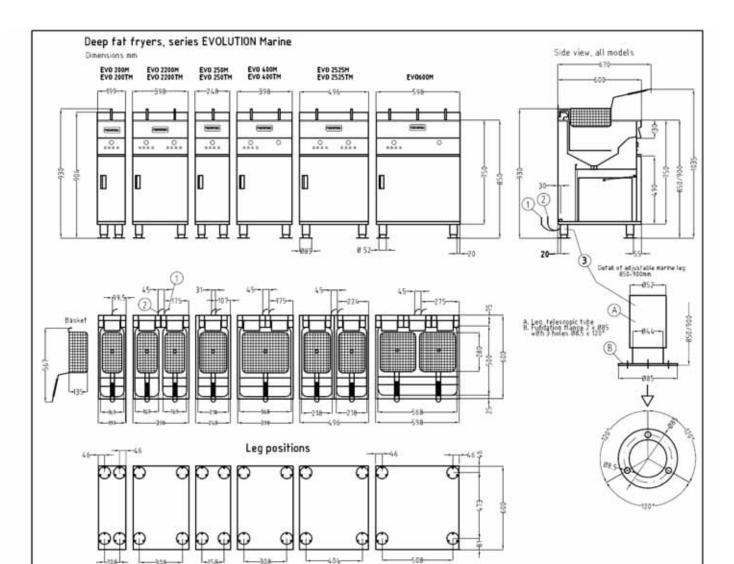
5.5 Spare parts

Only use original spare parts. When ordering spares parts indicate not only the unit no. but also the article no. given in the table.

Fryer type	Type
Unit number	No
Voltage, current and power	U, I, P

This information is given on the fryer rating plate

Name	EVO-200	EVO-200T	EVO-2200	EVO-2200T	EVO-250	EVO-250T	EVO-2525	EVO-2525T	EVO-400	EVO-400T	EVO-600	Art. Nr.	
Colourless control lamp (melt, fry)	2	2	4	4	2	2	4	4	2	2	2	B0060-01	1
Yellow control lamp (heat)	2	2	4	4	2	2	4	4	2	2	2	B0060-02	1
Green control lamp (immerse)	1	1	2	2	1	1	2	2	1	1	1	B0060-04]
Red control lamp (Security)	1	1	2	2	1	1	2	2	2	2	3	B0060-03]
Resistance for control lamp	4	4	8	8	4	4	8	8	3	3	3	6328]
Safty temperatur limitor, sensor Ø4	1	1	2	2	1	1	2	2	2	2	3	6313-SA]
Working thermostat, sensor Ø4	1	1	2	2	1	1	2	2	1	1	1	B0040-11SA	
Main switch 10A	1		2		1		2		1	1	1	6316-52	
Main switch 16A		1		2		1		2				6317-51	
Resistance for security control lamp	1	1	2	2	1	1	2	2	1	1	1	B0060-06]
Proximity main switch MS-228-3-1	2	2	4	4	2	2	4	4	3	3	4	B0045-20	
Magnet MSM -228	2	2	4	4	2	2	4	4	3	3	4	B0045-21]
Accoustic alarm SOLAS	1	1	1	1	1	1	1	1	1	1	1	6338]
Contactor 3 x 20A coil 400/440V	1	1	1	1	1	1	1	1	1	1	1	6281-12	
Resistance for security circuit SOLAS	1	1	1	1	1	1	1	1	1	1	1	6339-27	
Fuse 1AT 5x20 mm	2	2	2	2	2	2	2	2	2	2	2	6847	
Three-phase supply 400V-24V	1	1	1	1	1	1	1	1	1	1	1	B0045-04	
Contactor 3 x 20 A coil 24V	1	1	2	2	1	1	2	2	1	1	1	B0045-01	
Fuse 0.5A 5x20 mm	1	1	1	1	1	1	1	1	1	1	1	6847-01	
Fuseholder	3	3	3	3	3	3	3	3	3	3	3	6401-SA	
Heating element													
H E 7.2kW 3x400V	1		2		1		2		2		3	B0030-01SA	
H E 11kW 3x400V		1		2		1		2		2		B0030-31SA	
H E 5.9 kW 3x230V	1		2		1		2		2			B0030-10SA	
HE 8.5 kW 3x 480V	1		2		1		2		2		3	B0030-40SA]
H E 7.2kW 3x440V	1		2		1		2		2		3	B0030-02SA]
H E 11kW 3x440V		1		2		1		2		2		B0030-22SA	1
Miscellaneous													1
Timer 15 minutes		1		2		1		2		2	2	6341	1
Knob for timer 15 min.		1		2		1		2		2	2	B0090-03	1
Knob for thermostat 110-190 ℃		1		2		1		2		1	1	B0090-02	1
Knob for switch 0-ECO-1		1		2		1		2		1	1	B0090-01	1
Ball cock 1"G (oil cock)		1		2		1		2		1	1	6431	1
Nut 1" G for oil cock		1		2		1		2		1	1	6432	1
Baskets, filters]
Basket EVO-200 280x157xH135		1		2						2		B2080-01]
Basket EVO-250 280x202xH135						1		2				B2580-01]
Basket EVO-400 large 280x350 xH135									1	•		B4080-01	*(option)
Basket EVO-600 small 280x255xH135											2	B6080-01	1
Metal filter for drain tank EVO-200		1		2								B2080-02]
Metal filter for drain tank EVO-250						1		2				B2580-02]
Metal filter for drain tank EVO-400										1	1	B4080-02	1



- Electrical connection, 2 m cable without plug
 Solas security connection 2m electric cord cable without plug
 Marine leg, see detail drawing

Spécification										-	
Model	Prod. N°	Oil capally litres	Output kg chipsh	Voltage *	Heating element kW	Imput kW	Fuse A	Weig	ht kgs	Shipping volume m	
EVO 200M	8400M		19-23	400 3-50	7.2	7.2	10				
210200	8404M	7-8	10-65	440 3-60	***	***		27	41	0.165	
EVO 200TM	8405M	100	26-32	400 3-50	- 11	11.	16		175	0.100	
E40 2001M	8407M	1	20-32	440 3-60		1,19.5	1.00			I.	
EVO 2200M	8410M		30-46	400 3-50	2 x 7.2	14.4	20				
EVO 2200M	8414M	1	30-46	440 3-60	21.12	34.4	20	62	227	12422	
	8415M	2 x 7-6	22.5	400 3-50	1992	- 220	-		66	0.308	
EVO 2200TM	8417M	1	52-64	440 3-60	2 x 11	22	32				
	8420M		and and	400 3-50				40		1	
EVO 250M	8424M	9-10	21-25	440 3-60	7.2	7.2	10		- 44	0.201	
-	8425M	9-10		400 3-50			122	40	44		
EVO 250TM	5427M	1	28-34	440 3-60	- 11	- 11	16				
	5430M			400 3-50							
EV 0 2525M	8434M	1	42-50	440 3-60	2 x 7.2	14.4	20				
	8435M	2 x 9-10		400 3-50	4.744			- 60	72	0.380	
EVO 2525TM	8437M	1	56-68	440 3-60	2 x 11	22	32			1	
25200	844004		725725	400 3-50		1880					
EVO 400M	5444M	1	38-46	440 3-60	2 x 7.2	14.4	20			201	1.00
	8445M	15:18	****	400 3-50				59	63	0.308	
EVO 400TM	8447M	1	52-64	440 3-60	2 x 11	22	32			1	
ENGRESS C	5450M	10000	1201217	400 3-50	10000000	1202	7223	7627	1500	10.0000	
EV 0 600M	8454M	25-26	57-68	440 3-60	3 x 7.2	21.6	32	75	79	0.452	

Front

× Voltage 480 3-60 available on request

Spécification	41					
		1	Baskets inclu	ded in deliver	rý	
			Quantity	for model		7.15
Dimensions mm	EVO 200M	EVO 2200M	EVO 250M	EVO 2525M	EVO 400M	EVO 600M
270 X 160 X 135	1	2			2	
270 X 205 X 135			1	2		
270 X 255 X 135						2

Subject to change without notice

N*	Date	Rév.	Validé
Val_DT0040	14.02.2012	a	HG
Valenti	ne Fabri	que SA	

5.7 Wiring diagram

Only experts may connect and commission the fryer!

Valentine Marine Fryers in SOLAS version are equipped with 2 main blocs:

a) SOLAS security circuit

Terminals 1 2 3 4 5 6

To adjust fryer diagram to Galley Fire Control Board diagram (GFCB) you have 3 solutions:

A. Solution MSO3

Connection when GFCB controls main power of the fryer 2 jumpers 1-2 + 3-4 are installed

B. Solution MSO1

Connection when GFCB does not provide 440/400/230V supply Remove jumper 3-4

C. Solution MSO2

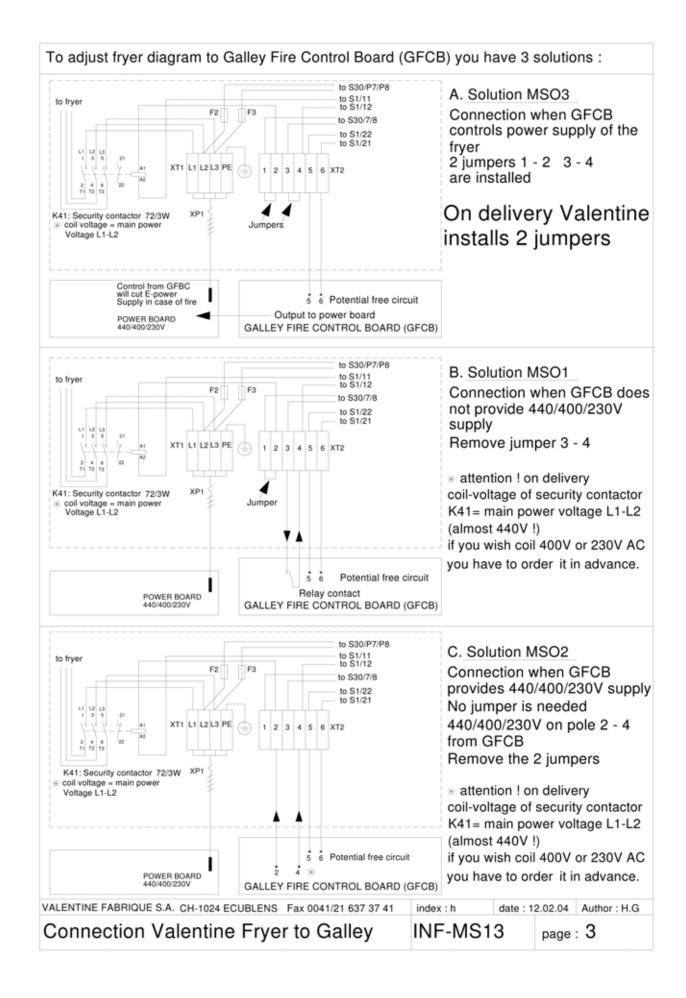
Connection when GFCB provides 440/400/230V supply No jumper is needed 440/400/230V supply on pole 2-4 from GFCB Remove the 2 jumpers

b) Power connecting cable

Terminals L1 L2 L3 ±

Your mains data (voltage, current, fuse protection) must conform to the data on the fryer rating plate (The rating plate is mounted on the inside of the door, see page 6, no. 2).

CAUTION! THIS UNIT HAS SEPARATE CONTROL POWER SUPPLY!



Declaration of conformity

We manufacturer Valentine Fabrique SA

6, Avenue d'Epenex CH - 1024 ECUBLENS

Tél.: +41 21 637 37 40 Fax: +41 21 637 37 41 Mail: info@valentine.ch

hereby declare that these products comply with the following directives and standards:

Low voltage directive: 2006/95/CE
EMC directive: 2004/108/CE
ROHS directive: 2002/95/CE
Food contact 2004/1935/CE

Applicable standards IEC 60335-2-37 : 2002 (ed. 5) avec IEC 60335-1:2001 (ed. 4)

corr. + A1:2004 + A2:2006

EN 60335-2-37:2002 avec EN 60335-1:2002 + A11:2004 +

A12:2006 + A2:2006 + A1:2004

EMC: EN 55014-1:06 / CISPR 14-1:05 (ed.5)

EN 50366:03+A1:06 / IEC 62233:05 (ed.1) EN 61000-3-12:05 / IEC 61000-3-12:04 (ed.1) EN 61000-3-11:00 / IEC 61000-3-11:00 (ed.1)

EN 55014-2:97+A1:01 / CISPR14-2:97+A1:01 (cons. ed.1.1)

Ecublens, Avril 2012

Valentine Fabrique SA

B. Paris President

Approval Certificate



This is to certify, that the undernoted products have been approved in accordance with the relevant requirements of the GL Approval System.

Certificate No. 36 922 - 12 HH

Company Valentine Fabrique SA

6, avenue d'Epenex

1024 Ecublens, SWITZERLAND

Product Schematic Wiring Diagram for Valentine Deep-Fat Fryer

(Marine Design)

Type EVO-200, EVO-200T, EVO-250, EVO-250T, EVO-400, EVO-400T, EVO-600, EVO-2200,

EVO-2200T, EVO-2525, EVO-2525T

Technical Data / This certificate confirms compliance of the deep fat

Application fryers with the requirements of the IMO SOLAS Consolidated Edition

2011, Chapter II-2, Part C, Regulation 10, § 6.4.2

Approval Standard IMO SOLAS Consolidated Edition 2011, Chapter II-2, Part C, Regulation 10, § 6.4.2

Documents Schematic Diagram: INF-MS15 dated 25.11.2011.

Wiring Diagrams nos.: 8404-M(a), 8408-M(a), 8405-M(a), 8407(a), 8414-M(a), 8415-M(a), 8417-M(a), 8424-M(a), 8425-M(a), 8427-M(a), 8428-M(a), 8434-M(a), 8435-M(a), 8437-M(a), 8444-M(a), 8445-M(a), 8447-M(a), 8450-M(a), 8454-M(a).

Remarks None

Valid until 2017-01-15

File No. XI.A.15

Germanischer Lloyd

Hamburg, 2012-01-16

Burkhard Lilienthal Dariusz Lesniewski

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