



S T I R R E R S



INSTRUMENTATION LINE 3



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# Electromagnetic stirrers



F 20 MINI

## Without heating

Magnetic stirrers without heating. For volumes from 50 ml to 40 liters.



F 30



F 40 MAXI

Technical data		F 20	F 30	F 40
Power	V/Hz	230/50-60	230/50-60	230/50-60
Stainless steel working surface LxD	mm	110x110	Ø140	260x260
Max stirring capacity with H <sub>2</sub> O	lt	0,800	20	40
Safety class		0	0	0
Variable speed	Rpm	100-1100	100-2500	100-1400
Hole for rod	M 8	No	Yes	No
Motor power	W	10	20	70
Dimension LxWxH	mm	110x115x60	190x260x90	260x270x125
Weight	kg	0,7	2,0	4,8
Stirring bar suggested Ø	mm	6x20	6x30	9x60
<b>Item</b>		<b>601.0101.20</b>	<b>601.0101.30</b>	<b>601.0101.40</b>



CILINDRICAL MAGNETIC STIRRING BARS  
PTFE COATED

Item	Ø mm	length mm
601.0125.23	3	8
601.0125.24	3	13
601.0125.25	3	20
601.0125.26	6	10
601.0125.14	6	20
601.0125.15	6	30
601.0125.19	7	40
601.0125.16	8	40
601.0125.17	8	50
601.0125.18	9	60



CILINDRICAL MAGNETIC STIRRING BARS  
WITH RING - PTFE COATED

Item	Ø mm	length mm
601.0125.40	3	8
601.0125.41	4,5	12
601.0125.42	6	20
601.0125.43	6	30
601.0125.44	8	40
601.0125.45	8	50
601.0125.46	9	60

To complete stirring bar serie see at page 4

# Cilindrical magnetic stirring bars



CILINDRICAL MAGNETIC STIRRING BARS  
PTFE COATED

Item	Ø mm	length mm
601.0125.23	3	8
601.0125.24	3	13
601.0125.25	3	20
601.0125.26	6	10
601.0125.14	6	20
601.0125.15	6	30
601.0125.19	7	40
601.0125.16	8	40
601.0125.17	8	50
601.0125.18	9	60
601.0125.20	12	55
601.0125.21	13	70



CILINDRICAL MAGNETIC STIRRING BARS  
WITH RING - PTFE COATED

Item	Ø mm	length mm
601.0125.40	3	8
601.0125.41	4,5	12
601.0125.42	6	20
601.0125.43	6	30
601.0125.44	8	40
601.0125.45	8	50
601.0125.46	9	60



OVAL MAGNETIC STIRRING BARS  
PTFE COATED

Item	Ø mm	length mm
601.0125.50	10	20
601.0125.51	12	25
601.0125.52	15	30
601.0125.53	15	35



STIRRING BAR REMOVER  
PTFE COATED

Item	Ø mm	length mm
601.0125.12	8-10	300



CILINDRICAL MAGNETIC STIRRING BARS  
GLASS COATED

Item	Ø mm	length mm
601.0125.30	8	15
601.0125.31	8	20
601.0125.32	8	25
601.0125.33	8	30
601.0125.34	8	40
601.0125.35	8	50
601.0125.36	8	55



TRIANGULAR MAGNETIC STIRRING BARS  
PTFE COATED

Item	Ø mm	length mm
601.0125.55	8	12
601.0125.56	8	20
601.0125.57	8	25
601.0125.58	10	35
601.0125.59	12	50



MAGNETIC STIRRING BARS WITH SIDE PLATES  
PTFE COATED

Item	length mm
601.0125.62	37
601.0125.63	55



STAR-SHAPED MAGNETIC STIRRING BARS  
PTFE COATED

Item	HxØ mm
601.0125.66	8x10
601.0125.67	10x14
601.0125.68	13x17
601.0125.69	15x22

# Electromagnetic stirrers



## Multi-position F4 - F8

- Digital feedback controller
- Digital timer, continuous function included timer 99hr 59min
- Digital LCD display with back-light function
- Case in stainless steel coated
- Plate in stainless steel (304)
- Smooth start and change of stirring speed

Technical data		F4	F8
Working plate	mm	205x205	205x410
Safety class		0	0
Protection class	IP	40	40
Distance from stirring points	mm	100	100
Max stirring capacity with H <sub>2</sub> O	lt	1x4	1x8
Timer	hh:mm	∞ o 99:59	∞ o 99:59
Variable speed	rpm	80÷1200	80÷1200
Motor Power	W	25	25
External dimension	mm	205x280x70	205x485x70
Power	V/Hz	230/50-60	230/50-60
Weight	kg	2,0	4,0
Suggested stirring bar Ø	mm	6x20	6x20
<b>Item</b>		<b>601.0101.44</b>	<b>601.0101.49</b>



## Multi-position F64 with heating

- 4 Position hot plate stirrer
- Excellent for multi-use and wide range of sample testing
- Independent heating and stirring control
- Aluminium plates for excellent temperature uniformity

Technical data		F64
Working plate Ø	mm	150x4
Safety class		1
Protection class	IP	41
Max stirring capacity with H <sub>2</sub> O	lt	6 × 4
Variable speed	rpm	100– 1800
Hole for rod		Yes
Plate temperature from	±°C	+50 a +350
Precision on the plate	±°C	±3
Motor Power	W	20x4
Heating resistance power	W	400x4
Dimension LxWxH	mm	715 × 255 × 125
Power	V/Hz	230/50-60
Weight	kg	9
Suggested stirring bar Ø	mm	6x30
<b>Item</b>		<b>601.0122.95</b>



Stainless steel rod  
Ø10x400 mm

**Item**  
**601.0125.01**

ACCESSORIES

# Electromagnetic stirrers



F60



F80 DIGIT  
HIGH-PERFORMANCE

## With heating

- F60 model without connection for thermometer
- F80 model with digital thermometer and in-built PT100 probe which provide greater accuracy of the temperature; on the back there is a switch with a jack for connecting the external PT100 probe
- F80 with digital speed control
- F100 model for large capacities, with structure made of metal sheet painted with anti-acid epoxy powder coating
- Equipped with mechanical timer that can be programmed from 0 to 12 hours and infinite

Structure made of cast aluminium alloy painted with anti-acid epoxy powder coating (F60 - F80).

The shaking unit is made up of an electronic system for better adjustment of the rotations.

The heating plate, made entirely of aluminium, guarantees excellent heat diffusion.

### NB

The maximum temperatures indicated refer to the plate

Technical data		F60	F80	F100 MAXI
Working plate Ø	mm	150	150	210
Protection class	IP	41	41	41
Max stirring capacity with H <sub>2</sub> O	lt	20	20	30
Variable speed	rpm	100-1500	100-1500	100-1400
Hole for rod	M8	yes	yes	yes
Thermometer connector		no	yes	no
Plate temperature from	°C	da +50 a +350	da +50 a +350	da +50 a +350
Precision on the plate	°C	±3	±3	±3
Precision whit probe inserted	°C	-	±1	-
Motor Power	W	20	20	70
Heating resistance power	W	400	400	650
Dimension LxWxH	mm	190x260x115	190x260x115	360x270x150
Power	V/Hz	230/50-60	230/50-60	230/50-60
Weight	kg	2,5	2,5	7,5
Stirring bar suggested Ø	mm	6x30	6x30	9x60
<b>Item</b>		<b>601.0122.60</b>	<b>601.0122.80</b>	<b>601.0122.99</b>

## ACCESSORIES FOR F80



Kit for external probe  
(clamp-rod-probe)

Item

601.0125.10

## ACCESSORIES FOR STIRRERS



Stainless steel rod  
Ø10x400 mm

Item

601.0125.01

For complete set of anchors see page 4



# Electromagnetic stirrers



F91



F91 T

## With plate in ceramic glass

- Stainless steel structure painted with anti-acid epoxy powder coating
- PID microprocessor-based temperature control (F91 T)
- Digital reading of the temperature (F91 T)
- LED indicator for hot plate (above 50°C)
- 160x160 support plate in ceramic glass

Technical data		F91	F91 T
Ceramic-glass plate	mm	160x160	160x160
Safety class		0	0
Protection class	IP	40	40
Heating elements power	mm	120x120	120x120
Max stirring capacity	lt	15	15
Variable speed	rpm	150÷1500	150÷1500
Plate temperature	°C	50÷550	50÷550
Temperature controller		analogic	digitale
			resolution 1°C
			precision ± 1°C
External probe		no	yes*
Power	W	550	550
External dimension	mm	220x240x145	220x240x145
Power	V/Hz	230/50-60	230/50-30
Weight	kg	3,6	3,6
<b>Item</b>		<b>601.0122.91</b>	<b>601.0122.93</b>

## ACCESSORIES

### Kit for external probe for F91 T (clamp-rod-probe)

It allows you to directly control the temperature in the liquid.

- Maximum temperature: 200 °C
- Display Resolution: 0.1 °C

The instrument beeps and turns off in the case where the probe is extracted from the liquid, if the level is not sufficient or breaks the probe.

Can only be used with the model F91 T.



#### Item

**601.0125.08**

# Overhead stirrers



AT - ANALOGICAL



AT - DIGITAL  
REMOTE  
CONTROLLER



AT - DIGITAL

## AT series

- Rod stirrers with continuous regulation of speed. Suitable for routine and continuous works.
- Smooth start and change of the stirring speed.
- Overload protection and over-heat protection functions for motor.

Technical data		AT-M 10	AT-M 20	AT-MD 10	AT-MD 20	AT-MCD 10
Protection class	IP	43	43	43	43	43
Safety class		0	0	0	0	0
Set lecture values		analogical	analogical	digital	digital	digital
Variable speed	rpm	200-3000	200-3000	200-3000	200-3000	200-3000
Max couple torsion spindle	ncm	85	145	85	145	30
Max Ø probe insertion	mm	10	10	10	10	10
Max stirring capacity with H <sub>2</sub> O	lt	10	20	10	20	10
Max viscosity	mPas	10000	50000	10000	50000	10000
Absorbed power	W 83/120	75	120	75	120	30***
Dimension LxWxH	mm	90x145x180	90x145x180	90x145x180	90x145x180	90x100x180
Power	V/Hz	230/50-60	230/50-60	230/50-60	230/50-60	230/50-60
Weight	kg	4,5	5,3	4,5	5,0	3,5
Item		<b>605.0150.10</b>	<b>605.0150.12</b>	<b>605.0150.18</b>	<b>605.0150.20</b>	<b>605.0150.15</b>



# Accessories for overhead stirrers



## Stainless steel stirring rods

Item	Photo n°	Rotor mm length x H mm	Ø rod mm	Overall length mm
605.0152.02	1	50x10	7	300
605.0152.03	2	50x20	7	300
605.0152.04	3	70x50	7	300
605.0152.05	4	45x40	8	350
605.0152.06	5	100x10	7	300
605.0152.07	1	100x20	7	300
605.0152.08	6	50	7	300
605.0152.10	4	90x80	8	350



## Stainless steel stirring shafts - PTFE coated

Item	Rotor mm length x H mm	Ø rod mm	PTFE thickness	Overall length mm
605.0152.12	90x20	6,5	1,5	450
605.0152.13	90x20	6,5	1,5	600



## Stainless steel stirring shafts with rigid paddle - PTFE coated

Item	Rotor mm length x H mm	Ø rod mm	PTFE thickness	Overall length mm
605.0152.15	80x12	6,5	1,5	450
605.0152.16	80x12	6,5	1,5	600



## Stainless steel U-shaped stirrer shafts - PTFE coated

Item	Rotor mm length x H mm	Ø rod mm	PTFE thickness	Overall length mm
605.0152.17	60x40	6,5	1,5	350
605.0152.18	60x40	6,5	1,5	450
605.0152.19	80x50	6,5	1,5	450

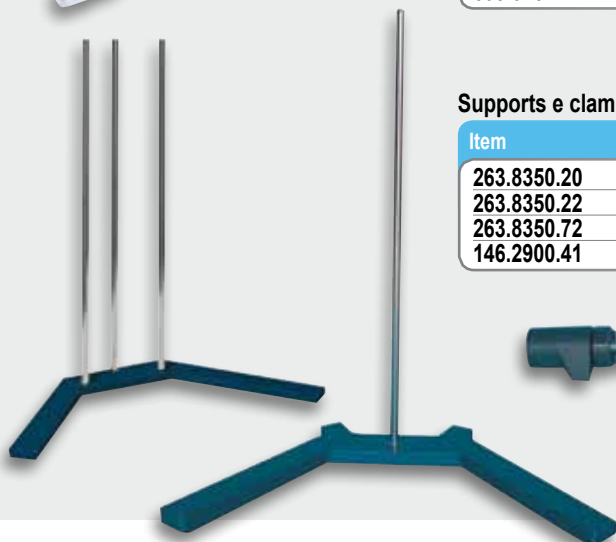


## Stainless steel fan shaped stirrer shafts - PTFE coated

Item	Rotor mm length x H mm	Ø rod mm	PTFE thickness	Overall length mm
605.0152.23	38	6,5	1,5	300
605.0152.22	24	6,5	1,5	300

## Supports e clamps

Item	Description
263.8350.20	Support opening 130x280 mm with one rod ØxH 12x600 mm
263.8350.22	Support opening 180x460 mm with one rod ØxH 15x750 mm
263.8350.72	Support opening 230x600 mm with three rods ØxH 15x1000 mm
146.2900.41	Claw clamp with maximum opening Ø18 mm for rods



# Shaking water baths



## WB-MF series Shaking water baths

Baths with Dubnoff type shaking action are made entirely of sheet steel which has been oven coated with acid-resistant epoxy paint whilst the inner tank is made of stainless steel.

The front panel features a temperature control switch with digitally preset temperature selection thanks to the PID microprocessor.

The temperature is controlled by the PT 100 sensor, whilst shaking action can be controlled by the knob with linear LED display.

Safety thermostat with manual reset.

Technical data		WB-MF
Capacity	lt	20
Shaking stroke	mm	15
Protection class	IP	42
Safety class	DIN 12879	1
Frequency shaking	Rpm	0-200
Heating power	W	2100
Precision	°C	±0.5
Temperature	amb.	da +5 a +100
External dimension	mm	670x400x290
Internal dimension	mm	440x240x200
Power	V/Hz	230/50-60
Weight	kg	16
<b>Item</b>		<b>610.1007.74</b>

**N.B.**  
The bath is supplied without lid,  
support plate and fixing springs

## ACCESSORIES



Plexiglass gable lid

Item  
**610.1007.76**



Supporting plates without clips  
for flasks and beakers

Capacity		LxP 365 x 235 mm
ml	n. pieces	max supports for plates
25 e 50		24-20
100		15
250		12
500		6
1000		4
2000		2
<b>Item</b>		<b>610.1007.83</b>



General purpose container  
LxW 325x235x60 mm

Item  
**610.1007.81**



Fixing clips for flasks and beakers

Capacity	Item
ml 25	<b>603.0131.03</b>
ml 50	<b>603.0131.05</b>
ml 100	<b>603.0131.10</b>
ml 250	<b>603.0131.25</b>
ml 500/1000	<b>603.0131.50</b>
ml 2000	<b>603.0131.70</b>

# Stirring heating mantles



## Heaters with stirring

Heaters with agitation for flask. Ideal to heat and stir the liquid in the flask, at the same time or separately

- Heating element are built in a single block of ceramic fiber and covered by a cap of stainless steel that ensure excellent insulation even in case of accidental breaking of the flask
- Thermoregulator with numbered scale to set and control the temperature
- Electronic temperature controller
- Clamp to fasten the rod

**N.B.**

The maximum temperature values refer to the shell

Technical data		MF100	MF250	MF500	MF1000	MF2000
Flask	ml	100	250	500	1000	2000
Temperature	°C	+350	+350	+350	+350	+350
Precision	°C	± 5	± 5	± 5	± 5	± 5
Heating res. capacity	W	130	180	250	450	600
External dimension	mm	185x175	205x190	245x210	245x210	310x230
Variable speed	rpm	100-2500	100-2500	100-2500	100-2500	100-2500
Motor Power	W	20	20	20	20	20
Power	V/Hz	230/50-60	230/50-60	230/50-60	230/50-60	230/50-60
Protection class	IP	32	32	32	32	32
Safety class		0	0	0	0	0
Weight	kg	2,6	2,8	3,3	3,7	6,6
Suggested stirring bar Ø	mm	6x20	6x20	6x20	6x20	6x20
<b>Item</b>		<b>625.0510.01</b>	<b>625.0510.02</b>	<b>625.0510.05</b>	<b>625.0510.10</b>	<b>625.0510.20</b>

## ACCESSORIES



Stainless steel rod Ø10x500 mm

Item

**263.7120.05**



Holder

Item

**180.4300.56**



Clamp

Item

**146.2900.05**

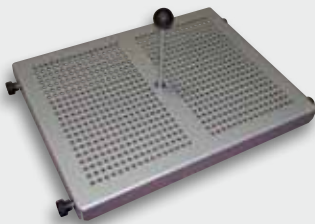


## F320 series

- Shaker for "micro plates"
- Standard platform for 4 "micro plates"
- Deep well plates can be used
- LED display (for reading current speed or time)

Technical data		F320
Orbit diameter	mm	3
Variable speed	rpm	300÷1600
Capacity		
Number of plate positions		4
Test tubes of 1,5 ml		96
Timer	hh:min	99:59
Power	W	25
Dimension LxWxH	mm	290x330x141
Power	V/Hz	100-240/50-60
Weight	kg	6
<b>Item</b>		<b>603.0130.50</b>

## ACCESSORIES



Supporting plates without fixing clips

LxP 280x220 mm

**Item**      **603.0131.80**



Fixing clips

Capacity ml	Item
25	<b>603.0131.03</b>
50	<b>603.0131.05</b>
100	<b>603.0131.10</b>
250	<b>603.0131.25</b>
500/1000	<b>603.0131.50</b>
2000	<b>603.0131.70</b>

# Shakers

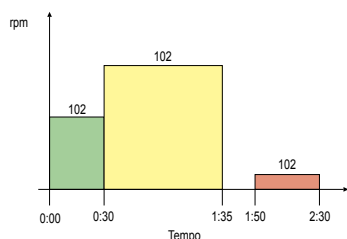


## F340 - F350 - F355 - F365 series

- The movement is provided by a motor inductance (therefore maintenance-free), very quiet
- The mail application allows you to maintain a constant speed set even with loads of different weight
- The LCD display gives an excellent view and a quick reference parameters
- Help Programming options

### SAMPLE PROGRAM

step	rpm	time
0	102	00:30
1	178	01:05
2	0	00:15
3	20	00:40



### HOW TO USE

#### SHAKING MODE

The instrument shakes at the set speed

#### TIMER MODE

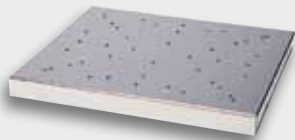
The instrument shakes at the set speed and it works for the set time

#### PROGRAM MODE

You can store the instrument up to 6 programs with 10 steps each

Technical data		F340	F350	F355	F365
Plate	mm	350x350	350x350	350x350	350x350
Safety class		0	0	0	0
Protection class	IP	30	30	30	30
Motion		linear	orbital	linear	orbital
Orbit diameter	mm	10	10	25	25
Programs	n/step	6/10	6/10	6/10	6/10
Variable speed	colpi/min	10-300	10-300	10-300	10-300
Digital timer	hh:min	00:00 (∞) - 99:59	00:00 (∞) - 99:59	00:00 (∞) - 99:59	00:00 (∞) - 99:59
Maximum load	kg	10	10	10	10
Dimension LxWxH	mm	410x490x140	410x490x140	410x490x140	410x490x140
Power	V/Hz	230/50	230/50	230/50	230/50
Weight	kg	20,5	20,5	20,5	20,5
<b>Item</b>		<b>603.0130.35</b>	<b>603.0130.30</b>	<b>603.0130.25</b>	<b>603.0130.20</b>

## ACCESSORIES



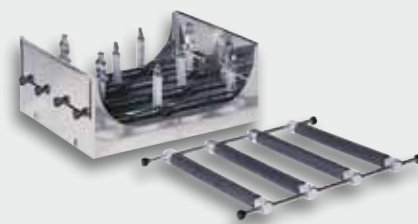
### Supporting plates without fixing clips

Capacity ml	LxP 340x290 places n°	LXP 600x310 places n°
25 e 50	30	55
100	20	36
250	12	21
500	6	15
1000	4	8
2000	2	5
<b>Item</b>	<b>603.0131.01</b>	<b>603.0131.02</b>



### Fixing clips

Capacity ml	Item
25	<b>603.0131.03</b>
50	<b>603.0131.05</b>
100	<b>603.0131.10</b>
250	<b>603.0131.25</b>
500/1000	<b>603.0131.50</b>
2000	<b>603.0131.70</b>



### Universal support for containers

N. places	Funnels of ml
4	250
3	500
2	1000
<b>Item</b>	<b>603.0131.00</b>

Dimension 340x290x110

The bars are adjustable fastening in height and total length



## F205 series rotator

- Rotary shaker for test tubes suitable for mixing different sized tubes via a “tumbling” motion and “rolling” motion
- Ideal to use in laboratories for preparation protocols
- Suitable for using with incubators, even refrigerated
- Adjustable angle rotation
- Digital speed control
- 0-90 min or ∞

Technical data		F205
Speed	rpm	tra 2 e 40
Timer	min	0 ÷ 90 o ∞
Display		digital
Rotation control		digital
Working temperature	°C	da +4 a +60
Power	W	80
Dimension LxWxH	mm	210 x270x240
Power	V/Hz	230/50
Weight	kg	3,2
<b>Item</b>		<b>603.0129.26</b>

## ACCESSORIES

### Rotating plate tube holder

Item	n. tubes	for ml
<b>603.0129.41</b>	48	1,5
<b>603.0129.42</b>	12	50

### Rotating plate tube holder

Item	n. tubes	Ø mm
<b>603.0129.43</b>	20	9÷20

### Rack tube holder for cell culture

Item	n. tube	Ø mm
<b>603.0129.44</b>	63	12
<b>603.0129.45</b>	63	16
<b>603.0129.46</b>	30	26





## Roller

- Provides a rocking and rolling motion to test tubes
- Digital speed control
- 540 min digital timer
- Digital speed control with a resolution of 1 rpm
- Audible and visual alarm for motor overload
- Can be used with Bijoux, Universal containers, and bottles with diameters up to 135 mm

Technical data		F406	F409
Speed	rpm	5-60	5-60
Power	W	50	50
Timer	min	540	540
Amplitude excursion	mm	16	16
Rollers	n	6	9
Maximum load	kg	10	10
Internal dimension	mm	340x30	340x30
Total dimension LxWxH	mm	565x240x110	565x360x110
Environment	°C	da +4 a +60	da +4 a +60
Operating temperature	%	80	80
Power	V/Hz	230/50	230/50
Weight	kg	5,1	6,9
<b>Item</b>		<b>603.0129.80</b>	<b>603.0129.82</b>

# Vortex mixer



## Mix

- Ideal for mixing solutions in test tubes. It functions automatically by exerting pressure on the small stirring cup.
- Continuous operation can be selected by pushing the switch on the front panel. Stirring frequency can also be selected by the knob on the front panel.
- The Mixer is fitted with four small suction cups providing a firm grip on the work to.

Technical data		Mix
Rotary motion	mm	4+
Variable speed	rpm	100-3000
Safety class		0
Protection class	IP	41
Motor Power	W	30
Dimension LxWxH	mm	145×175×140
Power	V/Hz	220/240 – 50/60
Weight	Kg	1,9
<b>Item</b>		<b>603.0129.02</b>

## ACCESSORIES



Clamp

Item

603.0129.06



Spring lock tube

Item

603.0129.10



Rod

Item

601.0125.01



FALC INSTRUMENTS s.r.l.

Via G. M. Compagnoni, 2 | 24047 Treviglio (BG) - Italy  
+39 0363 304660 | [falc@falcinstruments.it](mailto:falc@falcinstruments.it) | [falcinstruments.it](http://falcinstruments.it)