

RFV 2000

Electronically-controlled reciprocator



The RFV 2000 reciprocator drives the movement of all automatic spray guns produced by SAMES and other manufacturers.

Customer advantages

- ⌘ Extremely simple construction and operation (very long service life).
- ⌘ Sweeping stroke and speed adjustable remotely over a very wide range.
- ⌘ Optimum safety: the reciprocator is CE, Ex and FM approved.
- ⌘ Reduced maintenance: limited to cleaning the chains and transmission devices.
- ⌘ Installation requiring no special provision (the robot can be positioned or displaced manually without effort).

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93**Use**

:: The RFV 2000 is intended for use automatic powder and paint installations.

There are 2 models of reciprocators in accordance with ATEX directive:

1 > For **liquid application:**

the reciprocator mechanism is usually installed in zone 1, which determines the approval category: 2.

It is used to drive vertical reciprocal movements of powder and paint spray guns such as:

- 2 PPH 308 bell paint automatic spray
- 4, 6 or 8 TRP 501 paint spray guns
- 2, 4 or 6 PRT 101 paint spray guns

2 > For **powder coating:**

the reciprocator mechanism is placed in zone 22.

So that, it is classified in the category: 2

- 4, 6 or 8 Auto Mach-Jet powder spray guns
- 2 or 4 SRV 038 turbine powder spray guns
- 2, 4 or 6 TRV 117 powder spray guns

:: The RFV 2000 is controlled via:

- a control module REV 600
- or a programmable logic controller for the most complex automated installations

Description and Operation

The RFV 2000 reciprocator comprises a vertical frame set into a horizontal base on wheels for ease of movement along the ground. Two optional rails can be added to improve guiding, for displacement perpendicular to the conveyor belt axis or for use over grating.

The frame constitutes a vertical rolling track along which the carriage holding the powder or paint spray guns and the balancing counter-weight moves. The carriage is driven by a transmission chain, an asynchronous electric motor and a reduction gear located on the base.

A potentiometer is used to link the sweeping movement to the control devices. All the controls are grouped in the REV 600 box which can be located remotely from the robot.

A second version is available as an option with a second motorised axis (RFV "forward-back" positioning).





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Technical characteristics

Characteristics	RFV 2000 for liquid paint	RFV 2000 for powder paint
Effective stroke (mm) - Mark: A	1000 to 3000 depending on the version	
Sweeping speed (m/minute) at 50 Hz	adjustable up to 60	adjustable up to 25
Power motor (w)	750	375
Robot weight (kg)	approx. 250	
Single phase supply	220 V / 50-60 Hz	

CE 0080  II 2 G c
Technical file RFV

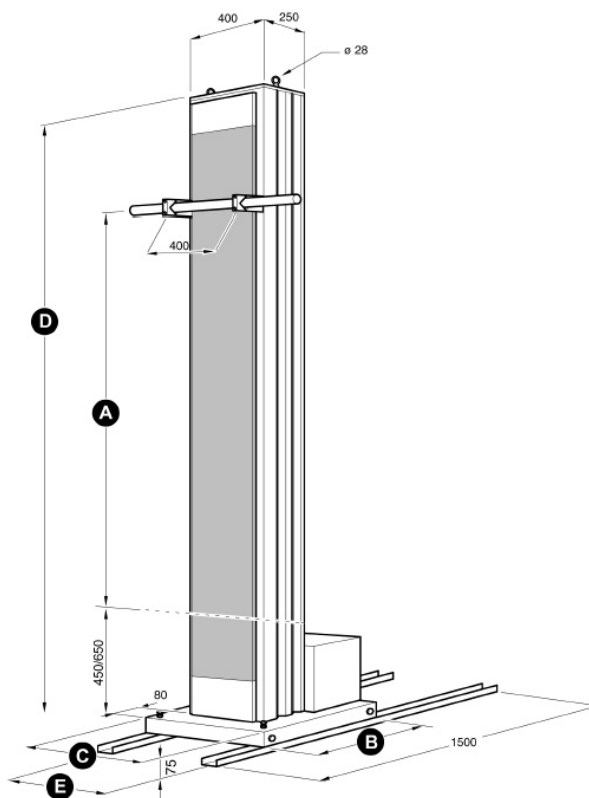
CE 0080  II 2 D c
Technical file RFV

Choice of RFV external dimensions

It is preferable to choose a standard robot, even if the sweeping stroke is well above the height of the items for painting as this can be adapted as the process develops. Conversely, the choice will be based on environmental constraints (example: booth height under 3.1 m) or because of heights in excess of 2 m of items for painting.

A	B	C	D	E
1000	700	550	2100	510
1200	700	550	2300	510
1400	700	550	2500	510
1600	700	550	2700	510
1800	700	550	2900	510
2000 ⁽¹⁾	700	550	3100	510
2200	850	750	3300	660
2400	850	750	3500	660
2600	850	750	3700	660
2800	850	750	3900	660
3000	850	750	4100	660

(1): standard robot with effective stroke of 2000 mm.
We can supply a height for a specific installation on request.

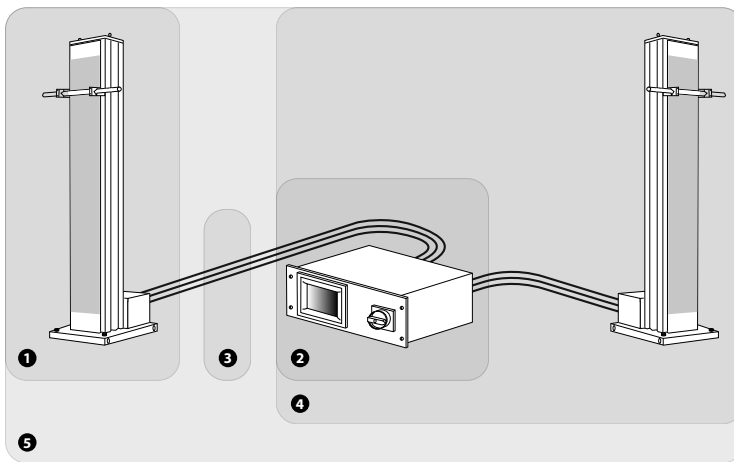


- A: effective stroke (mm)
- B: base length (mm)
- C: base width (mm)
- D: total height (mm)
- E: distance between rails (mm)

$$D = A + 1100$$

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- 1** = Zone 1 (RFV for liquid paint)
Zone 22 (RFV for powder paint)
- 2** = REV 600: External to ATEX zone or zone 1/2 and 22 with explosion proof module (1 524 220)
- 3** = Motor control reciprocator:
motor cable: 1 411 222 (4G1,5mm²)
sensor cable: 1 411 223 (2x1mm²)
potentiometer cable: 1 409 971 (4G0,75mm²)
- 4** = REV 611 (RFV 2000 + REV 600)
- 5** = REV 621 (2 x RFV 2000 + REV 600)

ATEX certified "RFV 2000" reciprocator mechanism

Description	Mark	Number of axes	Height = A (mm)	Reference
RFV 2000 for liquid paint	1	1	2000	910 002 075-200
			100 < xx0 < 300	910 002 075-xx0
RFV 2000 for powder paint	1	1	2000	910 002 076-200
			100 < xx0 < 300	910 002 076-xx0

RFV 2000 reciprocator mechanism + REV 600 control module

The assembly includes the electrical control cables (approx. 30 m) and the REV 600 (delivered as a rack version)

Description	Mark	Number of RFV	Number of axes	Application for	Height = A (mm)	Reference
REV 611	4	1	1	liquid	2000	910 002 370
				powder	2000	910 002 373
REV 621 ⁽¹⁾	5	2	1	liquid	2000	910 002 371
				powder	2000	910 002 374
REV 611 + kit PPH405 ⁽²⁾	4	1	1	liquid	2000	910 002 372

(1): REV 600 module is used to drive two RVF robots on one axis.

(2): Configuration for use with PPH 405 vertical disk spray gun.

RFV 2000 robot components

Description	Length (mm)	Reference
Unwinder kit	hoses < 2000	1 514 325
	hoses > 2000	1 525 208

The reference includes a single unwinder (provide for 2 unwinders per reciprocator)



Components for fixed spraying

Description	Mark	Length (mm)	Reference
Fixed foot (base + pipe)	F	1500	459 127
Pipe only	G	1200	744 097
		1500	1 410 592
Nut \varnothing 50x50 mm	H	-	429 104

