

## RV ROTARY VANE PUMPS FOR AGILENT TECHNOLOGY

### 1 INTRODUCTION

#### 1.1 Scope of this amendment

This amendment describes the installation, operation and maintenance for the RV rotary vane pumps for Agilent Technology (referred to as Agilent RV pumps in the rest of this amendment). Unless specified in this amendment, all information in the instruction manual also applies to the Agilent RV pumps. Read this amendment before you use the pump.

The Item Numbers for the Agilent RV pumps are as follows:

<b>Pump</b>	<b>Item Number</b>
Agilent RV3 Rotary Vane Pump, 110-120/220-240 V, 50/60 Hz, single-phase	A652-02-903 or -906
Agilent RV5 Rotary Vane Pump, 110-120/220-240 V, 50/60 Hz, single-phase	A653-02-903 or -906
Agilent RV8 Rotary Vane Pump, 110-120/220-240 V, 50/60 Hz, single-phase	A654-02-903 or -906
Agilent RV12 Rotary Vane Pump, 110-120/220-240 V, 50/60 Hz, single-phase	A655-02-903 or -906
Agilent RV3 Rotary Vane Pump, 100/200 V, 50/60 Hz, single-phase	A652-02-904
Agilent RV5 Rotary Vane Pump, 100/200 V, 50/60 Hz, single-phase	A653-02-904
Agilent RV8 Rotary Vane Pump, 100/200 V, 50/60 Hz, single-phase	A654-02/22-904
Agilent RV8 Rotary Vane Pump, 110-120/220-240 V, 50/60 Hz, single phase	A654-22-903
Agilent RV12 Rotary Vane Pump, 100/200 V, 50/60 Hz, single-phase	A655-02-904

Note that the Declaration of Conformity for the Agilent RV pumps is shown on page 7 of this amendment.

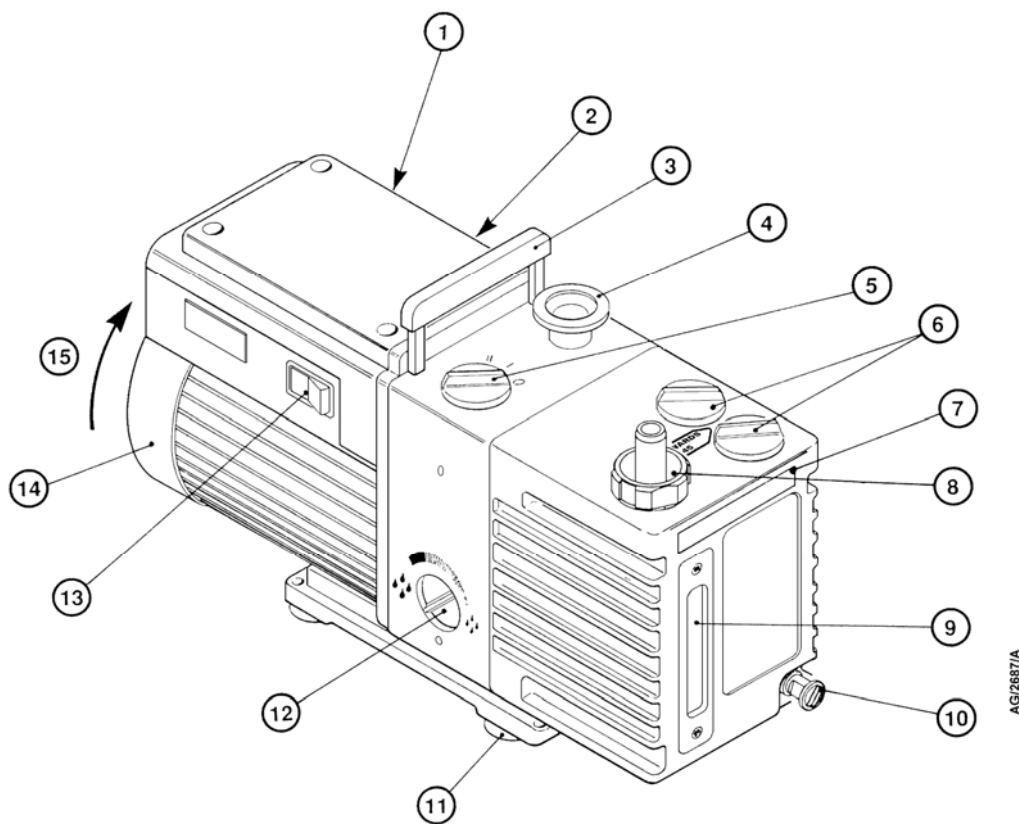
#### 1.2 Description

The Agilent RV pumps differ from the standard RV pumps as follows:

- The Agilent RV pumps are supplied with single-phase motors only, not with three-phase motors.
- The Agilent RV pumps are supplied with the pump configured for a specific electrical supply voltage. A label over the electrical inlet-connector identifies this voltage.
- The Agilent RV pumps are filled with Edwards 45 oil and have a label next to the oil filler-plugs which states that you should only use Edwards 45 oil in the pump.

- The Agilent RV pumps are supplied with an oil-drain extension fitted to the oil drain-port.
- The Agilent RV pumps may be supplied with a transit-plug fitted to the outlet-port of the pump to prevent the spillage of oil during transit. You will remove the transit-plug and fit a nozzle (supplied) to the outlet-port.
- The Agilent RV8 and RV12 pumps are fitted with a special lifting bracket (see Figure 2).
- The Agilent RV pump is supplied with the mode selector set to the High Vacuum position.

The pump shown in Figure 1 of the instruction manual is therefore incorrect; the correct Figure 1 is shown below.



- |   |                          |                                   |
|---|--------------------------|-----------------------------------|
| 1. Electrical inlet-connector                                   | 6. Oil-filler plug       | 11. Rubber feet (4 off)           |
| 2. Voltage indicator  | 7. Identification plate* | 12. Mode selector                 |
| 3. Lifting handle (lifting bracket on Agilent RV8 & RV12 pumps) | 8. Outlet-nozzle         | 13. On/off switch                 |
| 4. NW25 inlet-port  | 9. Oil-level sight-glass | 14. Motor fan-cover               |
| 5. Gas-ballast control  | 10. Oil drain-plug       | 15. Correct direction of rotation |

\* The plate shows the Agilent and Edwards part numbers

Figure 1 - The Agilent RV Pump (Agilent RV3 or Agilent RV5 shown)

## 2 TECHNICAL DATA

- The Agilent RV pumps have only single-phase motors; ignore all of the data which applies to three-phase motors and electrical supplies in Section 2 of the instruction manual.
- You must use Edwards 45 oil and not Edwards Ultragrade 19 as recommended in Section 2.6 of the instruction manual.
- Figure 3 in the instruction manual is now incorrect. Figure 2 of this amendment shows the correct dimensions for the Agilent RV pumps.

## 3 INSTALLATION

### 3.1 Introduction

Unless otherwise specified in the following sections of this amendment, you must use the procedures in Section 3 of the instruction manual to install the Agilent RV pump. Ignore all of the procedures in Section 3 which apply to three-phase pumps.

### 3.2 Unpack and Inspect

When you unpack and inspect the Agilent RV pump, take note of the following:

- There is no protective cover on the outlet-port. The pump may be supplied with a red transit-plug fitted to the outlet-port (refer to Section 3.6 of this amendment).
- An outlet nozzle is supplied separately.

### 3.3 Locate the Pump



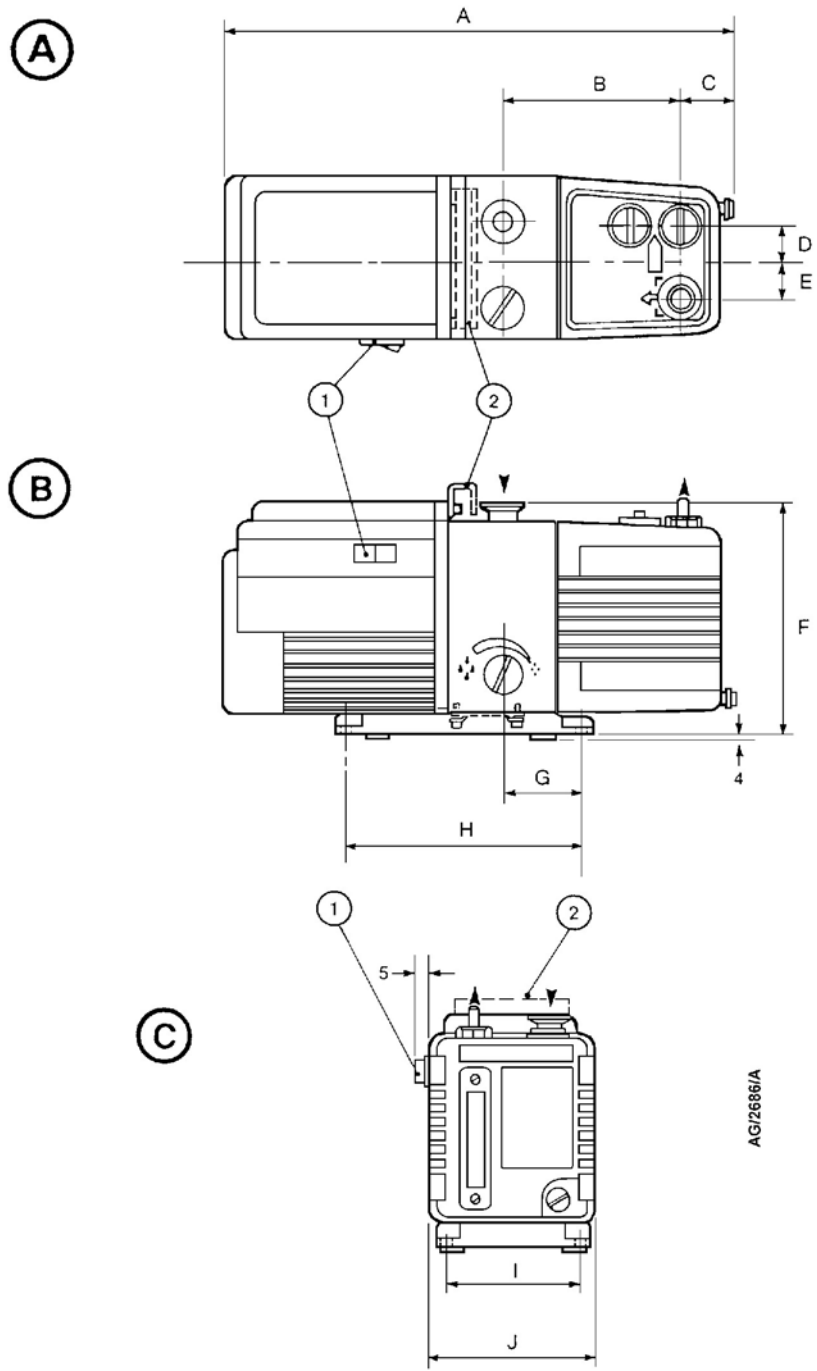
#### WARNING

**Use suitable lifting equipment to move the Agilent RV8 or Agilent RV12 pump. The mass of the Agilent RV8 and Agilent RV12 pumps is approximately 26 kg.**

Locate the pump as described in Section 3.4 of the instruction manual. Note however that the Agilent RV8 and Agilent RV12 pumps have a special lifting bracket, suitable for use with your lifting equipment.

### 3.4 Fill the Pump With Oil

You will need to fill the pump with Edwards 45 oil, using the funnel provided. Then follow the instructions as described in Section 3.5 of the instruction manual.



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- 1. On/off switch
  - 2. Lifting bracket (Agilent RV8 and RV12 pumps only)
- A Top view
  - B Side view
  - C Front view

Pump	A	B	C	D	E	F	G	H	I	J
Agilent RV3	429	127	57	37	32	225	78	230	120	158
Agilent RV5	429	127	57	37	32	225	78	230	120	158
Agilent RV8	469	161	63	37	32	225	78	230	120	158
Agilent RV12	489	181	63	37	32	225	78	230	120	158

Figure 2 - Dimensions (mm)

### 3.5 Check and Configure The Motor

The Agilent RV pump is supplied with a label fixed over the electrical inlet-connector on the pump motor; this label specifies which electrical supply voltage the pump is configured for.

1. Before you remove the label, check that the voltage specified on the label is suitable for use with your electrical supply.
2. If the voltage is not suitable for use with your electrical supply, reconfigure the motor as described in Section 3.6.1 of the instruction manual.
3. Remove the label before you connect the pump to your electrical supply.

### 3.6 Fit the outlet nozzle

#### CAUTION

**You must remove the red transit-plug before you operate the pump. If you do not, the oil box will become pressurised and may fracture.**

*Note: The red transit-plug fitted to the outlet-port has a label attached. The label (shown in Figure 3 of this amendment) reminds you that you must remove the transit-plug and fit the outlet nozzle before you switch on and use the pump.*

The pump may be supplied with a red transit-plug fitted to the outlet-port of the pump. Before you operate the pump, unscrew the transit-plug from the 3/4 inch BSP threaded outlet-port and screw the outlet nozzle (supplied) into the outlet-port.

### 3.7 Outlet Connection

You cannot use NW25 fittings to connect to the outlet, as described in Section 3.8 of the instruction manual. The outlet nozzle supplied is suitable for use with 10 mm bore vacuum hose or 12 mm bore plastic hose.

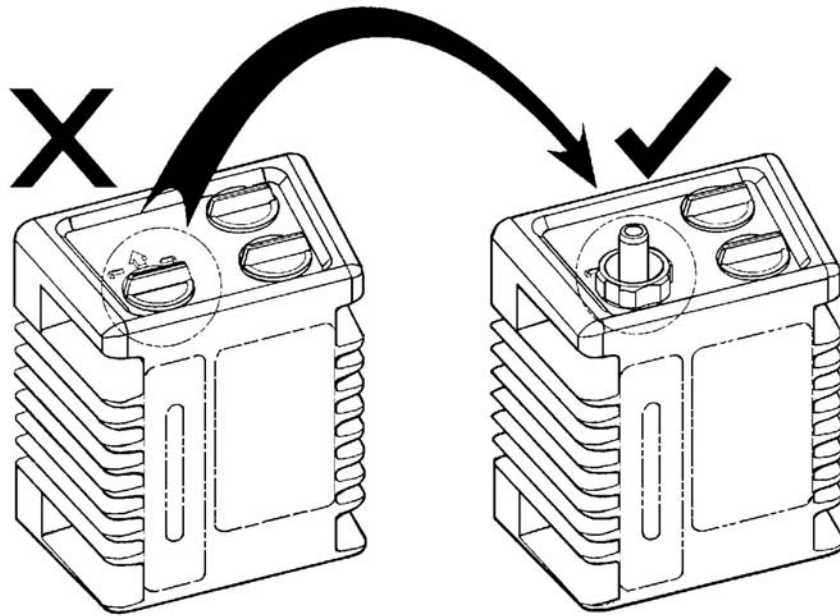
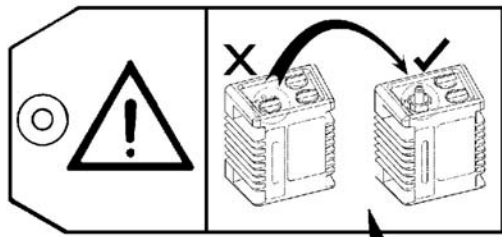
## 4 OPERATION

Operate the pump as described in Section 4 of the instruction manual. Note that the Agilent RV pump is supplied with the mode selector (Figure 1, item 12) in the High Vacuum mode position.

## 5 MAINTENANCE

You must only use Edwards 45 oil:

- When you check the oil-level and need to add more oil (Section 5.3 of the instruction manual).
- When you replace the oil in the pump (Section 5.4 of the instruction manual).



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Figure 3 - Label attached to the transit-plug in the outlet port.



## Declaration of Conformity

We, BOC Edwards,  
Manor Royal,  
Crawley,  
West Sussex RH10 2LW, UK

declare under our sole responsibility that the product(s)

RV3, RV5, RV8 and RV12 Rotary Vane Pumps for Agilent Technologies:

A652-02-903	A653-02-906	A654-22-904
A652-02-904	A654-02-903	A655-02-903
A652-02-906	A654-02-904	A655-02-904
A653-02-903	A654-02-906	A655-02-906
A653-02-904	A654-22-903	

to which this declaration relates is in conformity with the following standard(s)  
or other normative document(s)

EN292	Safety of machinery: basic concepts, general principles for design.
EN1012-2	Compressors and vacuum pumps – safety requirements part 2.
EN61010-1	Safety requirements for electrical equipment for measurement, control and laboratory use.
IEC34 Parts 1,5,8 <sup>*</sup> ,11 <sup>*</sup>	General requirements for rotating electrical machines.
C22.2 No 77-1988 <sup>*</sup>	Motors with inherent overheating protection.
C22.2 No 100-92 <sup>*</sup>	Motors and generators.
C22.2 No 1010.1-92 <sup>*</sup>	Safety requirements for electrical equipment for measurement control and laboratory use, Part 1: General requirements.
UL3101-1 <sup>*</sup>	Electrical equipment for laboratory use, Part 1: General requirements.
UL1004 <sup>*</sup>	Electric motors.

<sup>\*</sup> The pumps comply with IEC 1010-1 (1990) when installed in accordance with the instruction manual supplied with the pumps.

<sup>\*</sup> Generic and standard class dependent on Controller (see Controller manual for details)

<sup>\*</sup> Single-phase pumps only. Canadian Standards Authority and Underwriters Laboratory.

following the provisions of

98/37/EC	Machinery Safety Directive
73/023/EEC	Low Voltage Directive
89/336/EEC	Electromagnetic Compatibility Directive

Dr. J. D. Watson, Senior Technical Manager, VED

27 February 2003 SHonenkan

Date and Place

This product has been manufactured under a quality system registered to ISO9001

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