



**OIL LUBRICATED  
ROOTS PUMPING SYSTEMS**



## Pumping solutions based on the Alcatel products and experience

The Adixen Roots Pumps are suitable for a wide range of vacuum applications. In combination with primary vane pumps, they achieve low pressures with high pumping speeds.

### Typical applications:

- Glass coating
- Leak detection
- Research & Development
- Sputtering
- Laser applications
- Freeze drying
- Pharmaceutical
- Food industries
- Nuclear applications
- Chemistry



RVP + Roots for Freeze drying (Condensable gas)



Pumping unit integrated in an industrial Leak Detection System



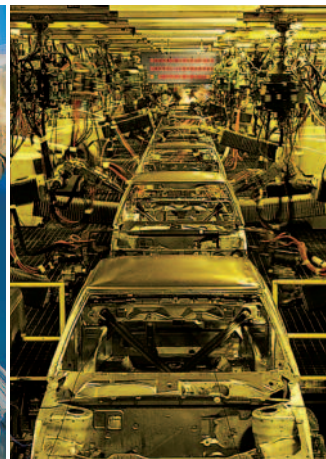
R&D accelerator



Glass coating



Pharmaceutical



Car industry

## From products to pumping solutions

In order to meet the requirements of a wide range of applications, Alcatel has developed a comprehensive range of pumping packages based on the combination of vacuum Roots blowers and lubricated roughing pumps.

### Pressure range : $10^{-3}$ mbar to $10^{-5}$ mbar

From the most simple LRS1 to the most powerful LRS4, these solutions offer optimized pumping capacity and high reliability for high performance applications.

## Lubricated Roots Systems

### LRS 1 300 m<sup>3</sup>/h (177 cfm)

Rotary Vane Pump connected to a roots blower without frame.  
The most compact and cost effective configuration.

see p. 4



### LRS 2 300 m<sup>3</sup>/h (177 cfm)

Wide choice of combinations with flexible design.

see p. 6



### LRS 3 300 - 600 m<sup>3</sup>/h (177-350 cfm)

More pumping speed with modular design and options.

see p. 8



### LRS 4 1000 - 2000 m<sup>3</sup>/h (60-1200 cfm)

Customized configurations for better adaptation to applications requirements.

Configuration on request.

Contact Alcatel.



## LRS 1

### Where compactness is required

Rotary vane pump connected to a Roots blower without frame and without electrical box.

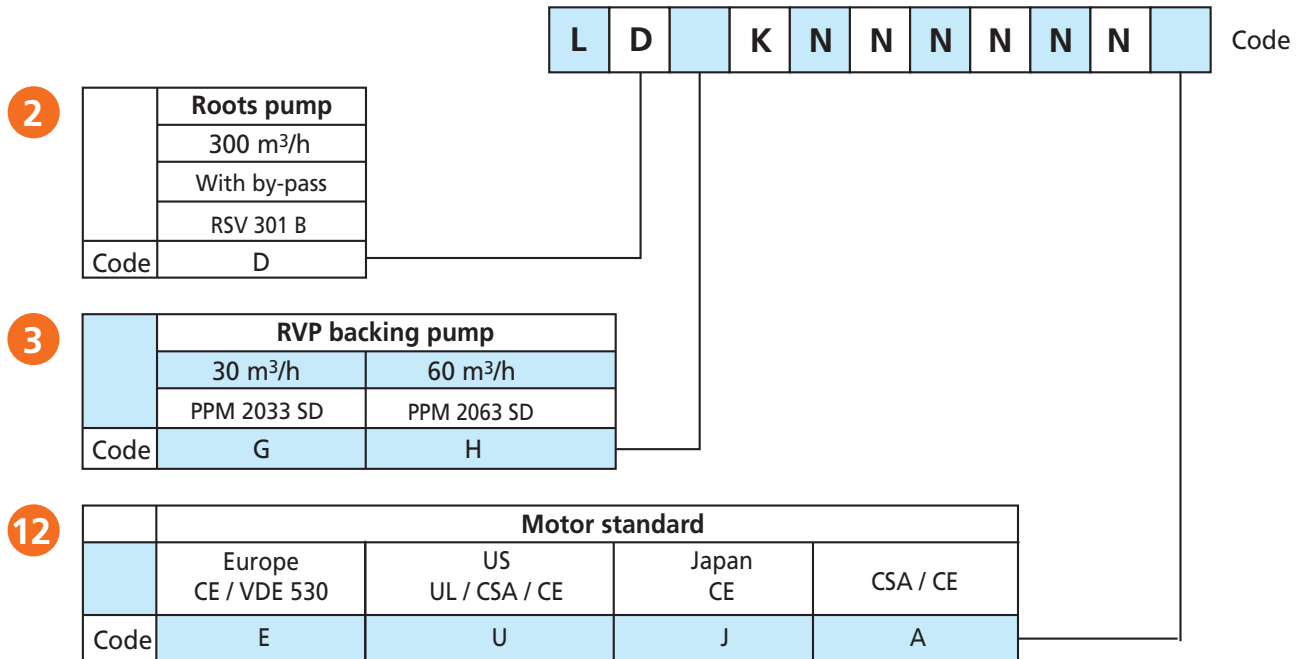


RSV 301B + RVP 2063SD

### Technical data

		Units	RSV 301 B + RVP 2033 SD	RSV 301 B + RVP 2063 SD
Pumping speed (swept volume)	50/60 Hz	m <sup>3</sup> /h	300 / 360	300 / 360
		cfm	177 / 212	177 / 212
Pumping speed at 1 mbar	50/60 Hz	m <sup>3</sup> /h	240 / 290	265 / 320
		cfm	141 / 170	156 / 188
Max. ultimate total pressure		mbar (Torr)	2 x 10 <sup>-4</sup> (1,5 x 10 <sup>-4</sup> )	2 x 10 <sup>-4</sup> (1,5 x 10 <sup>-4</sup> )
Inlet flange		ISO-DN	63	63
Outlet flange		ISO-DN	40	40
Power requirement		KW	2,8	4,1
Voltage	50/60 Hz	Volt	3 phase 200/240 - 380/415 (50 Hz)	
			3 phase 200/240 - 380/480 (60 Hz)	
Oil capacity		liter	4,7	7,7
Oil type		type	A120	A120
Dimensions	L	mm (inch)	786 (31)	856 (33,7)
		mm (inch)	331 (13)	331 (13)
		mm (inch)	652 (25,6)	685 (27)
Weight		kg/lb	154 (338,8)	186 (409,2)

## Ordering information



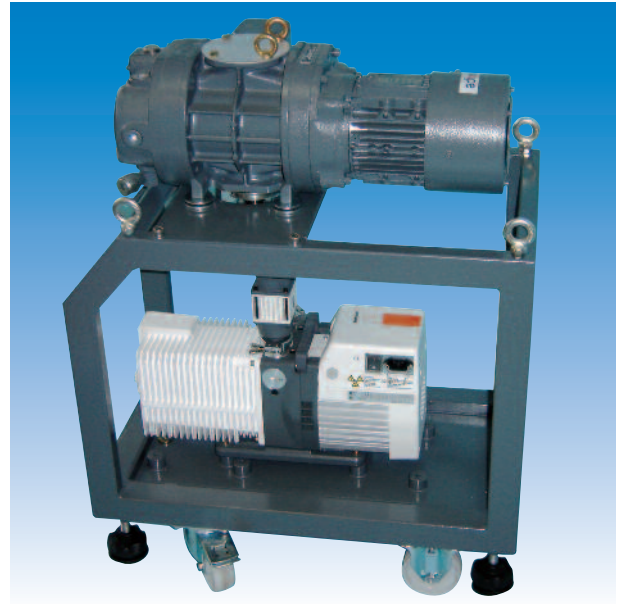
Example: LDGKNNNNNNNE  
RSV 301 B + RVP 2033 SD motor Europe



## LRS 2

### Robust and versatile

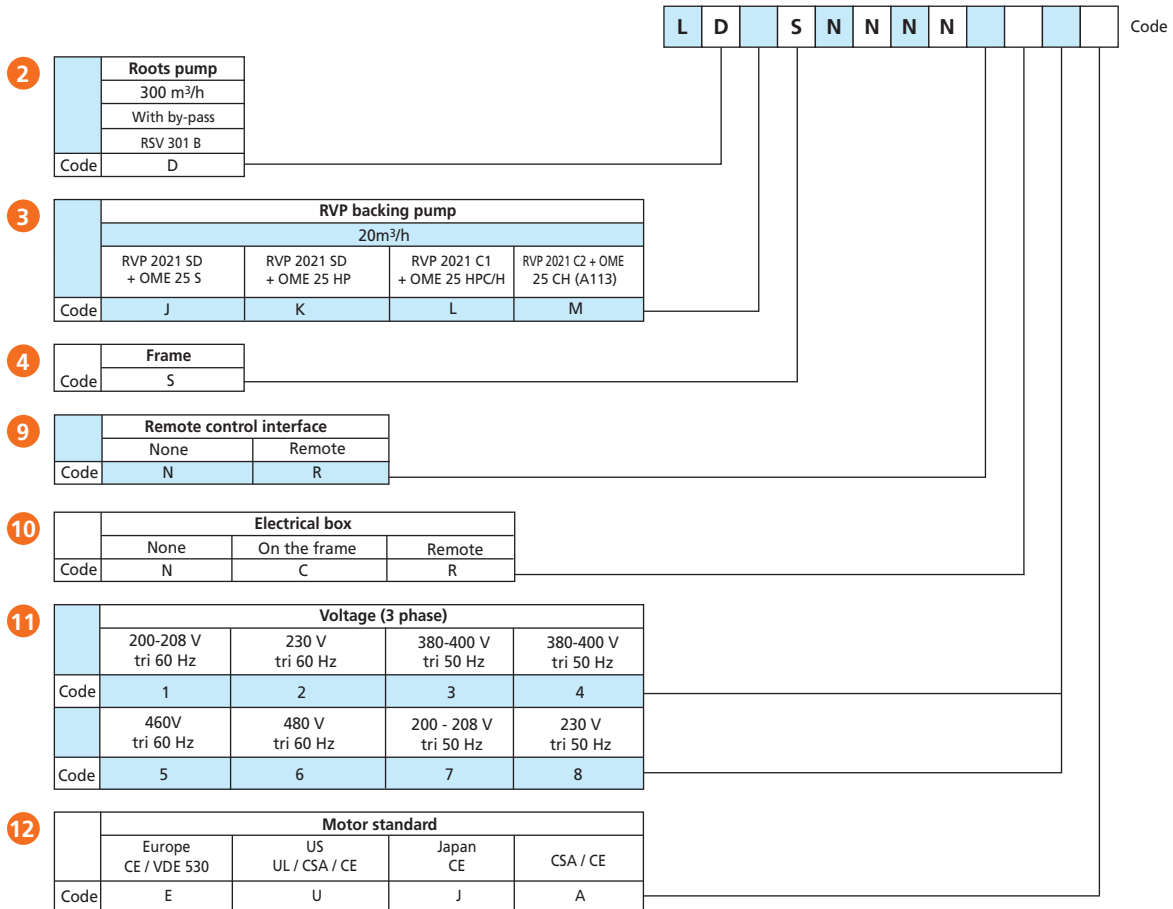
The proven reliability of the Adixen Vacuum Pumps makes these units ideal for a wide range of high-performance applications.



### Technical data

		Units	RSV 301 B RVP 2021 SD/C1	RSV 301 B RVP 2021 C2
Pumping speed (swept volume)	50/60 Hz	m <sup>3</sup> /h	300 / 360	300 / 360
		cfm	177 / 212	177 / 212
Pumping speed at 1 mbar	50/60 Hz	m <sup>3</sup> /h	240 / 265	240 / 265
		cfm	140 / 156	140 / 156
Max. ultimate total pressure		mbar (Torr)	2 x 10 <sup>-4</sup> (1,5 x 10 <sup>-4</sup> )	2 x 10 <sup>-4</sup> (1,5 x 10 <sup>-4</sup> )
Inlet flange		ISO-DN	63	63
Outlet flange		ISO-DN	25	25
Power requirement		KW	1,75	1,75
Voltage	50/60 Hz	Volt	3 phase 180/250 - 360/480	
Oil capacity		liter	2,05	2,05
Oil type		type	A120	A113
Dimensions	L	mm (inch)	800 (31,5) or 1100 (43) with elec.box	800 (31,5) or 1100 (43) with elec.box
	W	mm (inch)	400 (16)	400 (16)
	H	mm (inch)	992 (39)	992 (39)
Weight		kg/lb	150 (330)	150 (330)

## Ordering information



**Example: LDLSNNNNRC3E**

**RSV 301 B + RVP 2021 C1 Electrical box with remote control plug, motor Europe 400 V 50 Hz.**

## LRS 3

Designed for reliability, performance, easy maintenance

The 300/600 Roots pumps are combined with a two-stage Pascal Rotary Vane Pumps in a robust frame that can accommodate several options.



### Technical data

		Units	RSV 301 B + RVP 2033	RSV 601 B + RVP 2033
Pumping speed (swept volume)	50/60 Hz	m <sup>3</sup> /h	300 / 360	600 / 720
		cfm	177 / 212	354 / 424
Pumping speed at 1 mbar	50/60 Hz	m <sup>3</sup> /h	240 / 290	330 / 415
		cfm	141 / 170	194 / 244
Max. ultimate total pressure		mbar (Torr)	2 x 10 <sup>-4</sup> (1,5 x 10 <sup>-4</sup> )	2 x 10 <sup>-4</sup> (1,5 x 10 <sup>-4</sup> )
Inlet flange		ISO-DN	63	100
Outlet flange		ISO-DN	40	40
Power requirement		KW	2,2 / 2,4	2,6 / 2,8
Voltage	50/60 Hz	Volt	3 phase 180/250 - 360/480	
Oil capacity		liter	4,3	
Oil type		type	A120 or A113 with C2 pump	
Dimensions	L	mm (inch)	1020 (40) or 1320 (52) with elec.box	1020 (40) or 1320 (52) with elec.box
	W	mm (inch)	400 (16) or 600 (24) with DE filter	400 (16) or 600 (24) with DE filter
	H	mm (inch)	1090 (43)	1090 (43)
Weight		kg/lb	187 (411,4)*	206 (453,2)*

		Units	RSV 301 B + RVP 2063	RSV 601 B + RVP 2063
Pumping speed (swept volume)	50/60 Hz	m <sup>3</sup> /h	300 / 360	600 / 720
		cfm	177 / 212	354 / 424
Pumping speed at 1 mbar	50/60 Hz	m <sup>3</sup> /h	265 / 320	400 / 490
		cfm	156 / 188	235 / 288
Max. ultimate total pressure		mbar (Torr)	2 x 10 <sup>-4</sup> (1,5 x 10 <sup>-4</sup> )	2 x 10 <sup>-4</sup> (1,5 x 10 <sup>-4</sup> )
Inlet flange		ISO-DN	63	100
Outlet flange		ISO-DN	40	40
Power requirement		KW	3,3 / 3,7	3,7 / 4,1
Voltage	50/60 Hz	Volt	3 phase 180/250 - 360/480	
Oil capacity		liter	7,7	
Oil type		type	A120 or A113 with C2 pump	
Dimensions	L	mm (inch)	1020 (40) or 1320 (52) with elec.box	1020 (40) or 1320 (52) with elec.box
	W	mm (inch)	400 (16) or 600 (24) with DE filter	400 (16) or 600 (24) with DE filter
	H	mm (inch)	1090 (43)	1090 (43)
Weight		kg/lb	219 (481,8)*	238 (523,6)*

\* Add 40 kg (88 lb) for option elec.box. • \* Add 12 kg (24,6 lb) for option DE1. • \* \* Add 17 kg (37,4 lb) for option DE2.



## Ordering information

				L			A	N	N					Code
--	--	--	--	---	--	--	---	---	---	--	--	--	--	------

- |      |                    |           |
|------|--------------------|-----------|
| 2    | <b>Roots pump</b>  |           |
|      | 300 m³/h           | 600 m³/h  |
|      | With by-pass valve |           |
|      | RSV 301 B          | RSV 601 B |
| Code |                    | D      F  |
  
- |   |   |                                   |  |
|---|---|-----------------------------------|--|
| 3 | <b>Rotary vane pump and oil mist eliminator</b> |                                   |  |
|   | 33 m³/h (19 cfm)                                |                                   |  |
|   | RVP 2033 SD standard OME 40 S                   | RVP 2033 C1 corrosive 1 OME 40 C1 | RVP 2033 C2 Corrosive 2 (A113) OME 40 C2 |
|   | Code  | N                                 | O      P                                 |
| 3 | 33 m³/h (19 cfm)                                |                                   |  |
|   | RVP 2033 SD standard OME 40 S                   | RVP 2063 C1 corrosive 1 OME 40 C1 | RVP 2063 C2 Corrosive 2 (A113) OME 40 C2 |
|   | Code  | Q                                 | R      S                                 |
  
- |   |              |   |
|---|--------------|---|
| 4 | <b>Frame</b> |   |
|   | Code         |   |
|   |              | A |
  
- |   |                       |             |              |
|---|-----------------------|-------------|--------------|
| 7 | <b>Oil filtration</b> |             |              |
|   | None                  | DE 1 filter | DE 2 filters |
|   | Code                  | N           | 1      2     |
  
- |   |                 |       |
|---|-----------------|-------|
| 8 | <b>N2 purge</b> |       |
|   | None            | Purge |
|   | Code            | N     |
  
- |   |                                 |        |
|---|---------------------------------|--------|
| 9 | <b>Remote control interface</b> |        |
|   | None                            | Remote |
|   | Code                            | N      |
  
- |    |                       |              |          |
|----|-----------------------|--------------|----------|
| 10 | <b>Electrical box</b> |              |          |
|    | None                  | On the frame | Remote   |
|    | Code                  | N            | C      R |
  
- |    |                          |                 |                       |                 |
|----|--------------------------|-----------------|-----------------------|-----------------|
| 11 | <b>Voltage (3-phase)</b> |                 |                       |                 |
|    | 200-208 V tri 60 Hz      | 230 V tri 60 Hz | 380-400 V tri 50 Hz   | 415 V tri 50 Hz |
|    | Code                     | 1               | 2                     | 3      4        |
|    | 460 V tri 60 Hz          | 480 V tri 60 Hz | 200 - 208 V tri 50 Hz | 230 V tri 50 Hz |
|    | Code                     | 5               | 6                     | 7      8        |
  
- |    |                       |                  |          |          |
|----|-----------------------|------------------|----------|----------|
| 12 | <b>Motor standard</b> |                  |          |          |
|    | Europe CE / VDE 530   | US UL / CSA / CE | Japan CE | CSA / CE |
|    | Code                  | E                | U        | J      A |

**Example: LFSANNNRC3E**

**RSV 601 B + RVP 2063 C2 Electrical box with remote control plug, motor Europe 400 V 50 Hz.**



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