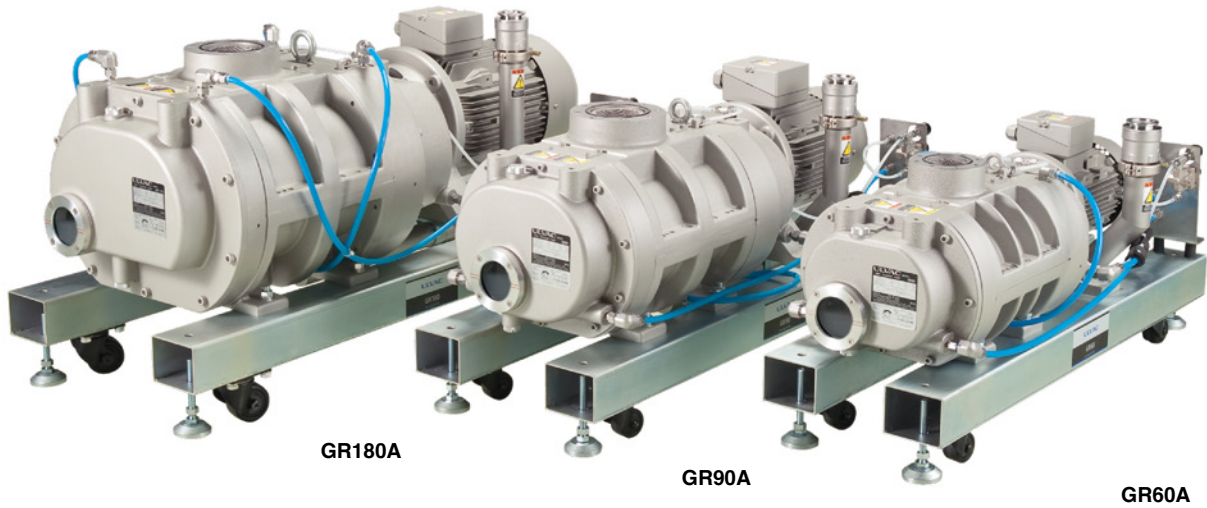


# Dry Vacuum Pump GR Series

Based on many years of experience with the LR/HR series ULVAC, Inc. has introduced the GR series dry vacuum pump with a simple and clean design for general industrial applications.



Vacuum Pump

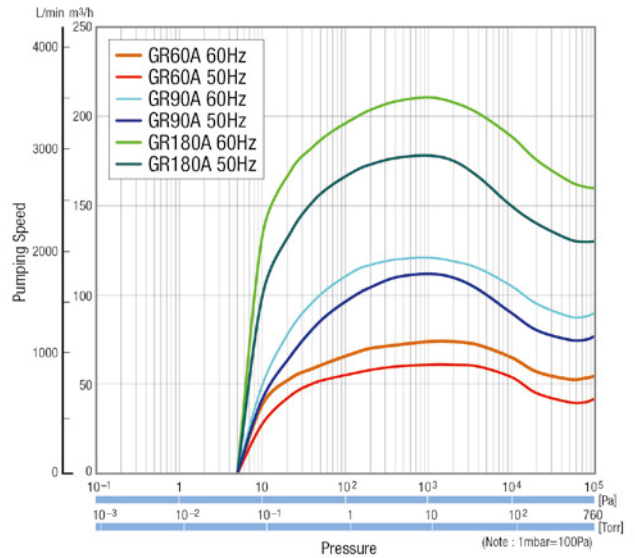
## Features

- Particularly useful for high load applications such as repeated pump down between atmospheric pressure and vacuum and continuous running in the high pressure range.
- Useful for load/unload lock chambers which require high throughput.
- A universal induction motor is used. An explosion proof motor is available as an option.
- For motor power. Specify voltage required when ordering. Either 200 VAC class or Multiple voltage motors are available.

## Applications

- Clean gas vacuum pumping such as air, inert gas
- Load/unload lock chambers of various types of deposition equipment
- General industrial applications such as vacuum dryer, vacuum gas exchange in vacuum heat insulation and gas charging, vacuum degassing, etc.

## Pumping Speed Curves



**Specifications**

Model		GR60A	GR90A	GR180A		
Max. pumping speed	50Hz	m <sup>3</sup> /h	62	112	183	
		60Hz	80	126	237	
	50Hz	L/min	1030	1860	3100	
		60Hz	1333	2100	3950	
	50Hz	CFM		36.4	65.7	109.5
			60Hz		47.1	74.2
Ultimate pressure *1		Pa	5.0			
		Torr	3.7 × 10 <sup>-2</sup>			
		mbar	5.0 × 10 <sup>-2</sup>			
Maximum inlet pressure		Atmospheric pressure				
Maximum exhaust pressure		Pa	1.0 to Atmospheric pressure			
		Torr	7.5 × 10 <sup>-3</sup> to Atmospheric pressure			
		mbar	1.0 × 10 <sup>-2</sup> to Atmospheric pressure			
Inlet		VG50 or ISO63F	Equivalent to VG80 or ISO80F			
Outlet		NW40				
Surface treatment		Standard option				
Weight		kg	128	188	268	
Cooling water	Supply pressure	MPa	0.1 to 0.3			
		psi	14.5 to 43.5			
	In/Out difference pressure	MPa	> 0.1			
		psi	> 14.5			
Temperature	°C	10 to 30 *2				
	°F	50 to 86				
Flow rate	L/min	> 5.0				
N <sub>2</sub>	Primary side Supply pressure	MPa	0.1 to 0.5			
		psi	14.5 to 72.5			
	Primary side supply pressure *3	MPa	0.05 to 0.1 (at running)			
		psi	7.3 to 14.5			
Shaft	SLM	5.0 *4				

\*1 Ultimate pressure is a value when nitrogen gas (shaft seal gas) is 5.0SLM.

\*2 Non condensing.

\*3 Value in pressure gauge adjusted by regulator.

\*4 Flow rate of nitrogen gas (shaft seal gas) is fixed 5.0SLM.

**Motor** Specify a motor from following table when ordering. (Common motor is used for the GR180)

Model		GR60A													
Selectable motor		200V class motor						Multiple voltage motor							
Frequency	Hz	50		60		50		60		50		60			
		200	220	240	220	240	208	220	240	380	400	415	380	440	460
Voltage		V	200	220	240	200	208	220	240	380	400	415	380	440	460
Rated current		A	9.2	8.8	8.1	8.1	8.1	8.5	8.1	7.4	4.8	4.7	4.6	4.3	4.1
Wiring		Delta wiring				Delta wiring				Star wiring					

Model		GR90A													
Selectable motor		200V class motor						Multiple voltage motor							
Frequency	Hz	50		60		50		60		50		60			
		200	220	240	220	240	208	220	240	380	400	415	380	440	460
Voltage		V	200	220	240	200	208	220	240	380	400	415	380	440	460
Rated current		A	14.2	14.1	12.8	12.8	12.7	13.4	12.8	11.8	7.5	7.4	7.3	7.0	6.3
Wiring		Delta wiring				Delta wiring				Star wiring					

Model		GR180A															
Selectable motor		Common multiple volt motor available for this pump															
Frequency	Hz	50				60				50				60			
		200	220	240	200	208	220	240	380	400	415	380	440	460			
Voltage		V	200	220	240	200	208	220	240	380	400	415	380	440	460		
Rated current		A	26.1	25.1	25.7	26.3	24.9	23.9	22.5	14.5	14.7	14.9	13.9	13.3	12.5		
Wiring		Delta wiring						Star wiring									



RS-01, 02

**Silencer (Option)**

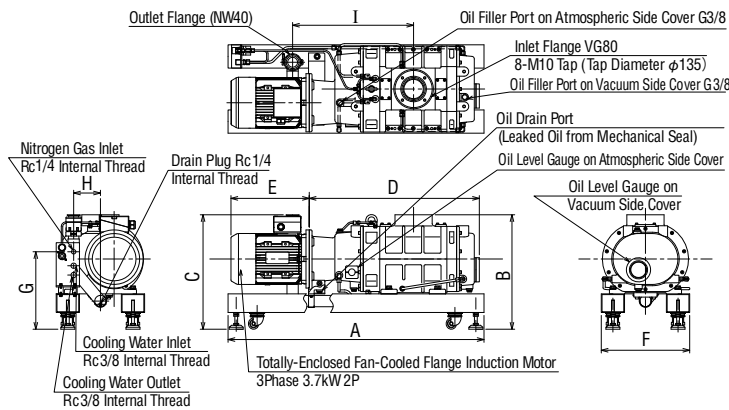
Model	Material	Surface treatment	Weight	Flange
RS-01	Stainless steal 304	GBB treatment	4.1kg	NW40
RS-02	Stainless steal 304	GBB treatment	8.3kg	NW40

**Selection table**

Type	Applicable model	Clamp	Outer ring	Connecting pipe	Stay
RS-01 Kit A	GR60A, GR90A	1	1	-	-
RS-02 Kit C	GR180A	2	2	1	1

**Dimensions**

(unit: mm)



	A	B	C	D	E	F	G	H	I
GR60A	1000	439	439	670	289	320	333	85	480
GR90A	1100	492	492	731	336	380	333	115	520
GR180A	1300	579	579	789	422	470	353	160	599