

Diaphragm Type Dry Vacuum Pumps (DAP/DA/DAT Series)

Diaphragm Type Dry Vacuum Pumps **DAP-6D**

Single-stage / with cord, and switch / with thermal protector



Features

Diaphragm type pump creates vacuum by reciprocating movement of rubber diaphragms.
Pump structure creates an Oil-free environment and easy to maintenance.
DAP series is the smallest diaphragm pump from our product ranges and offers pumping speed at 6L and 18 L/min at 50Hz.

Applications

- Vacuum chucks, wafer and tip handling devices.
- Vacuum tweezers, medical appliances.
- Printing equipment.
- Automatic packing machines.
- Optical appliances.
- Sterilizer.

Specifications

[top of page](#)

	Unit	50Hz	60Hz
Actual Pumping Speed	L/min	6	7
Ultimate pressure	Pa	6.65 × 10 ³	
Motor		Single phase, 100V, 10W, 4P, Capacitor run	
Full load current	A	0.5	
Weight	kg	1.9	
Inlet, outlet pipe diameter		Rc 1/8	
Ambient temperature	°C	0 – 40	
Overall dimensions	mm	91(W) × 163(L) × 100.6(H)	

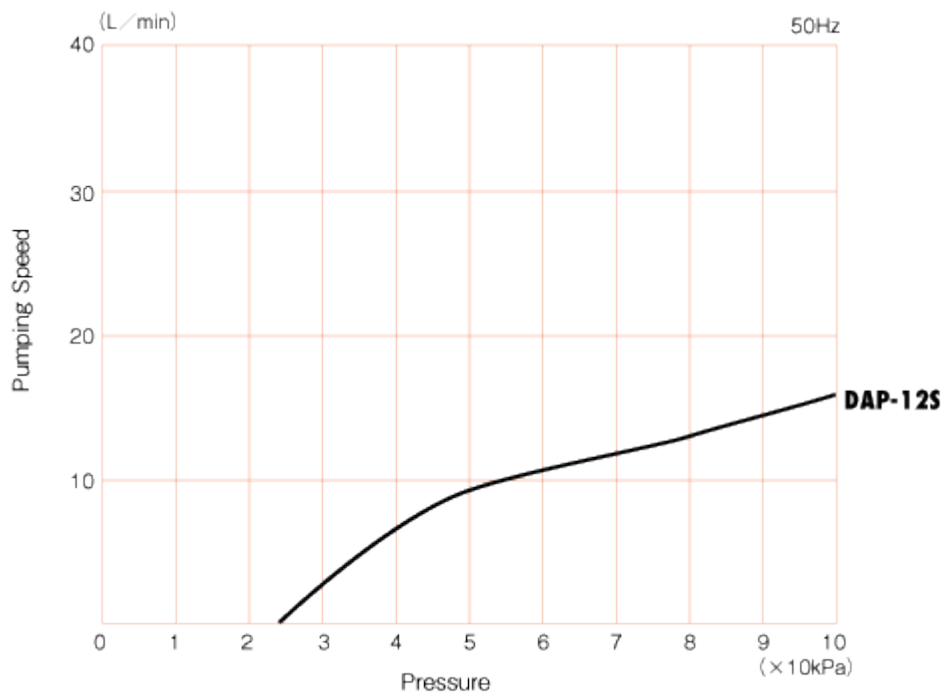
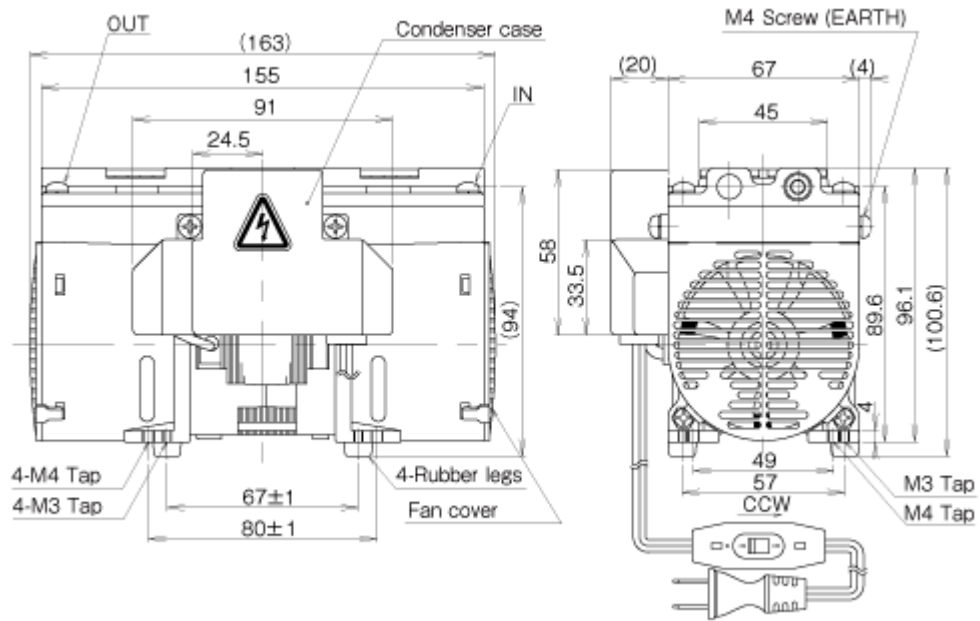
Caution

[top of page](#)

1. The pump is stopped when the load is operated, and the pump can't be operated just after that.
In this case, please return the atmospheric pressure the inside of the pump.
2. The pump will not often operate normally if it is used with corrosive gases, organic solvents, liquids, or condensed gases (eg steam).
The pump will not often operate normally if it is used with gases containing particles or dust etc.
3. The positions and dimensions of the M3 and M4 screws in the "DAP-6D" are varied within the range of tolerances depending on the combination of base component parts.
When this pump is incorporated into equipment, drill oblong mounting holes.
4. It is a pump only in the room.
Please do not set it up in the place, that rain and water splash, and outdoors.

Outline Drawing

[top of page](#)



Optional Voltage				
Voltage	Applicable Volt	CE Marked	TUV Marked	cTUVus Marked
Single phase, 100V	Standard	-	-	-
Single phase, 115V	-	-	-	-
Single phase, 200V	●	-	-	-
Single phase, 220-230V	●	-	-	-

[top of page](#)

[top of page](#)

Diaphragm Type Dry Vacuum Pumps **DAP-12S**



Single-stage / with cord, and switch / with thermal protector



Features

Diaphragm type pump creates vacuum by reciprocating movement of rubber diaphragms.
 Pump structure creates an Oil-free environment and easy to maintenance.
 DAP series is the smallest diaphragm pump from our product ranges and offers pumping speed at 6L and 18 L/min at 50Hz.

Applications

- Vacuum chucks, wafer and tip handling devices.
- Vacuum tweezers, medical appliances.
- Printing equipment.
- Automatic packing machines.
- Optical appliances.
- Sterilizer.

Specifications

[top of page](#)

	Unit	50Hz	60Hz
Actual Pumping Speed	L/min	12	14
Ultimate pressure	Pa	24.0 × 10 ³	
Motor		Single phase, 100V, 10W, 4P, Capacitor run	
Full load current	A	0.5	
Weight	kg	1.9	
Inlet, outlet pipe diameter		Rc 1/8	
Ambient temperature	°C	0 – 40	
Overall dimensions	mm	91(W) × 163(L) × 100.6(H)	

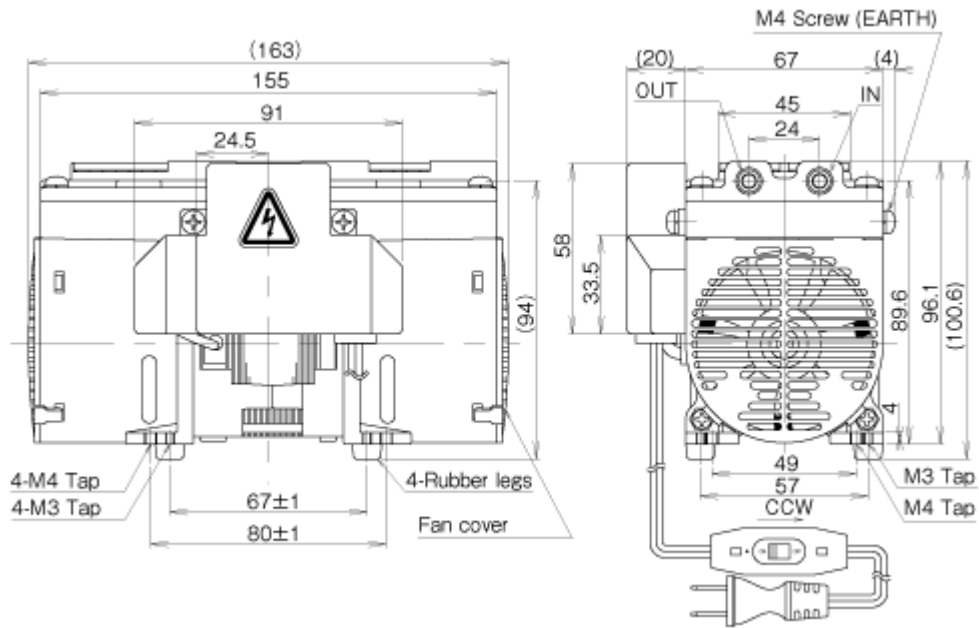
Caution

[top of page](#)

1. The pump is stopped when the load is operated, and the pump can't be operated just after that.
 In this case, please return the atmospheric pressure the inside of the pump.
2. The pump will not often operate normally if it is used with corrosive gases, organic solvents, liquids, or condensed gases (eg steam).
 The pump will not often operate normally if it is used with gases containing particles or dust etc.
3. The positions and dimensions of the M3 and M4 screws in the "DAP-12S" are varied within the range of tolerances depending on the combination of base component parts. When this pump is incorporated into equipment, drill oblong mounting holes.
4. It is a pump only in the room.
 Please do not set it up in the place, that rain and water splash, and outdoors.

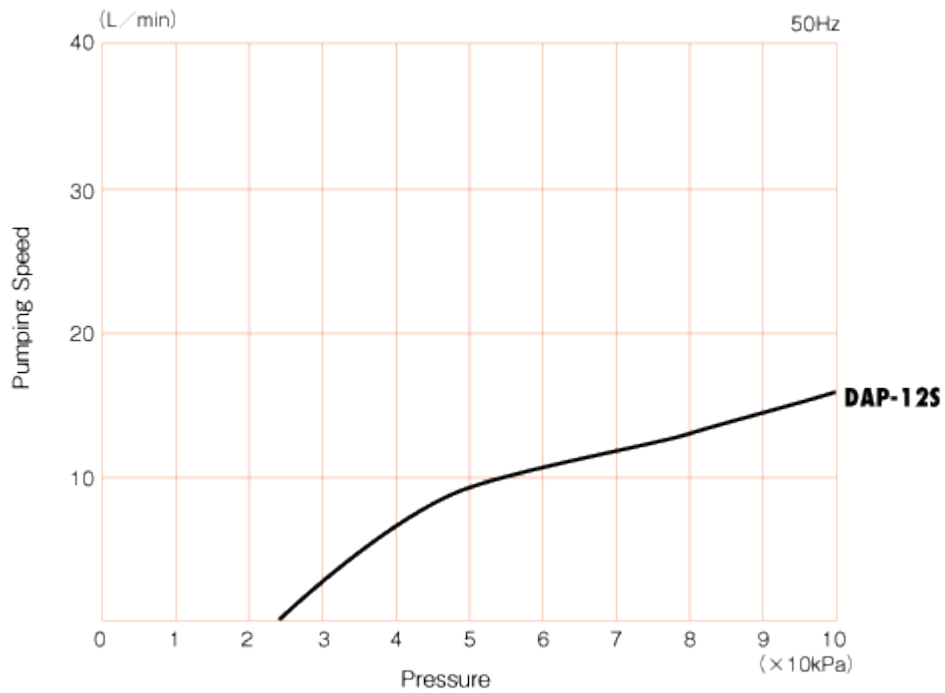
Outline Drawing

[top of page](#)



Pumping Speed Curves

[top of page](#)



Optional Voltage

[top of page](#)

Voltage	Applicable Volt	CE Marked	TUV Marked	cTUVus Marked
Single phase, 100V	Standard	-	-	-
Single phase, 115V	-	-	-	-
Single phase, 200V	●	-	-	-
Single phase, 220-230V	●	-	-	-

DAP-9D-DC24





Features

Diaphragm type pump creates vacuum by reciprocating movement of rubber diaphragms.
 Pump structure creates an Oil-free environment and easy to maintenance.
 DAP series is the smallest diaphragm pump from our product ranges and offers pumping speed at 6L and 18 L/min at 50Hz.

Applications

- Vacuum chucks, wafer and tip handling devices.
- Vacuum tweezers, medical appliances.
- Printing equipment.
- Automatic packing machines.
- Optical appliances.
- Sterilizer.

Specifications

[top of page](#)

	Unit	DAP-9D-DC24
Actual Pumping Speed	L/min	9
Ultimate pressure	Pa	6.65×10^3
Motor		DC Brushless motor, 14W, 4P, 24V
Full load current	A	1.3
Weight	kg	1.75
Inlet, outlet pipe diameter		Rc 1/8
Ambient temperature	°C	0 – 40
Overall dimensions	mm	83.5(W) × 165(L) × 123.8(H)

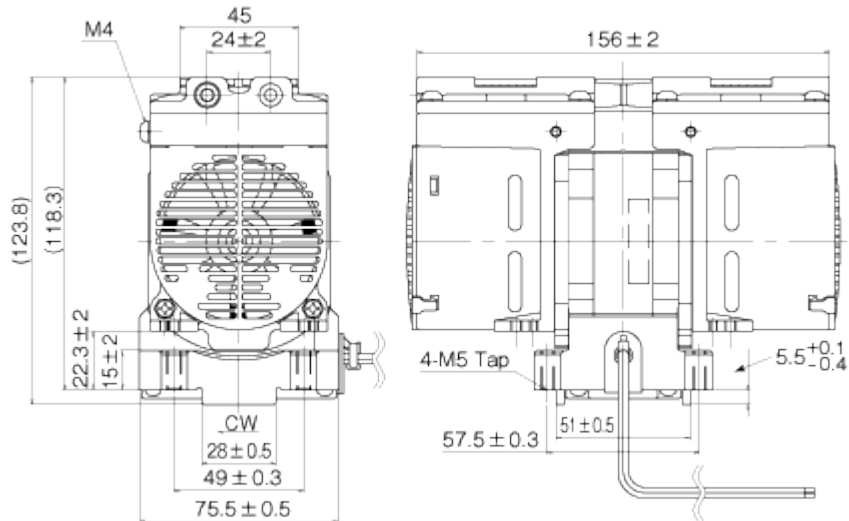
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[top of page](#)

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 In this case, please return the atmospheric pressure the inside of the pump.
2. The pump will not often operate normally if it is used with corrosive gases, organic solvents, liquids, or condensed gases (eg steam).
 The pump will not often operate normally if it is used with gases containing particles or dust etc.
3. The positions and dimensions of the M4 screws in the "DAP-9D-DC24" are varied within the range of tolerances depending on the combination of base component parts.
4. It is a pump only in the room.
 Please do not set it up in the place, that rain and water splash, and outdoors.

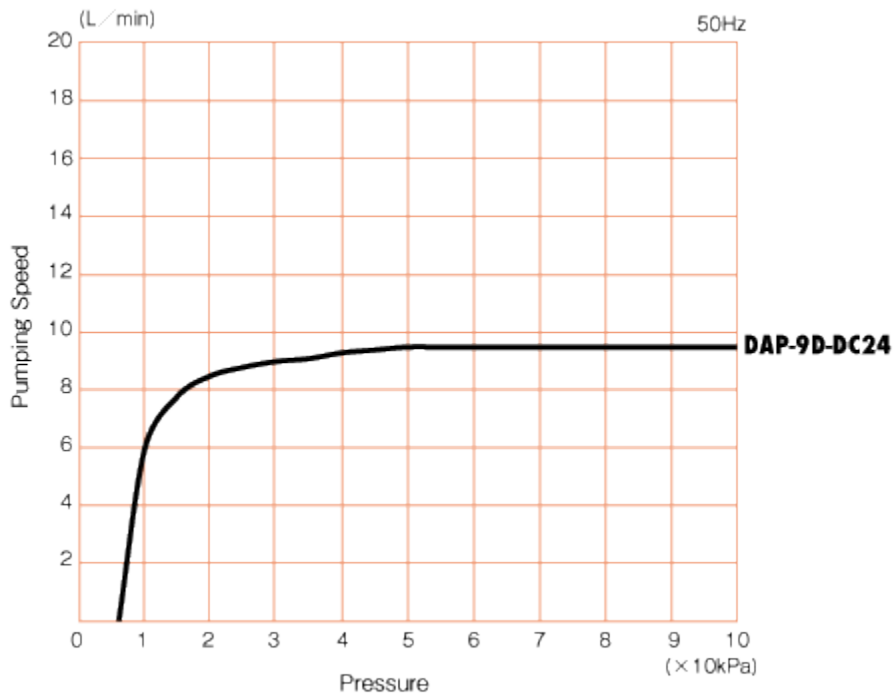
Outline Drawing

[top of page](#)



Pumping Speed Curves

[top of page](#)

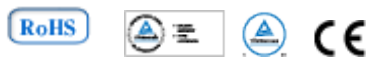


Optional Voltage

[top of page](#)

Voltage	CE Marked	TUV Marked	cTUVus Marked
DC24V	●	●	●

DAP-18S-DC24



Single-stage / DC motor equipped / with interlock protection / with overcurrent protection

Features

Diaphragm type pump creates vacuum by reciprocating movement of rubber diaphragms.
Pump structure creates an Oil-free environment and easy to



maintenance.
DAP series is the smallest diaphragm pump from our product ranges and offers pumping speed at 6L and 18 L/min at 50Hz.

Applications

- Vacuum chucks, wafer and tip handling devices.
- Vacuum tweezers, medical appliances.
- Printing equipment.
- Automatic packing machines.
- Optical appliances.
- Sterilizer.

Specifications

[top of page](#)

	Unit	DAP-18S-DC24
Actual Pumping Speed	L/min	18
Ultimate pressure	Pa	24.0×10^3
Motor		DC Brushless motor, 14W, 4P, 24V
Full load current	A	1.4
Weight	kg	1.75
Inlet, outlet pipe diameter		Rc 1/8
Ambient temperature	°C	0 – 40
Overall dimensions	mm	83.5(W) × 165(L) × 123.8(H)

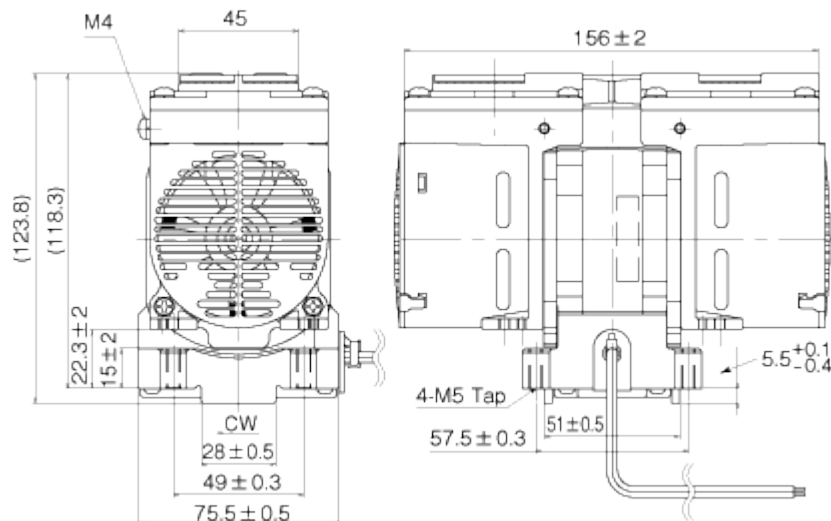
Caution

[top of page](#)

1. The pump is stopped when the load is operated, and the pump can't be operated just after that. In this case, please return the atmospheric pressure the inside of the pump.
2. The pump will not often operate normally if it is used with corrosive gases, organic solvents, liquids, or condensed gases (eg steam). The pump will not often operate normally if it is used with gases containing particles or dust etc.
3. The positions and dimensions of the M4 screws in the "DAP-18S-DC24" are varied within the range of tolerances depending on the combination of base component parts.
4. It is a pump only in the room.
Please do not set it up in the place, that rain and water splash, and outdoors.

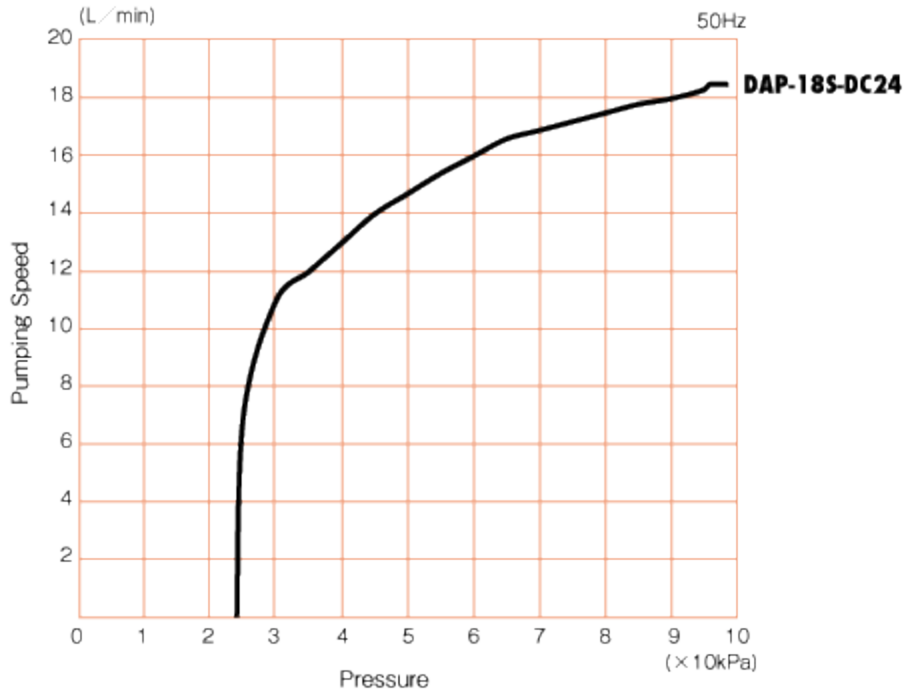
Outline Drawing

[top of page](#)



Pumping Speed Curves

[top of page](#)



Optional Voltage			
Voltage	CE Marked	TUV Marked	cTUVus Marked
DC24V	●	●	●

DA-30D



Standard type / Two-stages / with power cord / with switch / with thermal protector



Features

Diaphragm type pump creates vacuum by reciprocate movement of rubber diaphragms.
 Pump structure makes Oil-free environment and maintenance easy.
 Various pumping speed and two/single stages are selectable depends on your required pressure and pumping volume.

Applications

- Vacuum chucks, wafer and tip handling devices.
- Vacuum tweezers, medical appliances.
- Printing equipment.
- Automatic packing machines.
- Optical appliances.
- Semiconductor industry.
- Injection molding machine.

Specifications

	Unit	50Hz	60Hz
Actual Pumping Speed	L/min	30	36

Ultimate pressure	Pa	6.7 × 10 ³	
Motor		Single phase, 100V, 200W, 4P, Split phase starting	
Full load current	A	5.6	5.0
Weight	kg	11.0	
Inlet, outlet pipe diameter	mm	O.D. dia.9 × I.D. dia.5 (Rc 1/4)	
Ambient temperature	°C	7 – 40	
Overall dimensions	mm	212(W) × 278(L) × 224.5(H)	

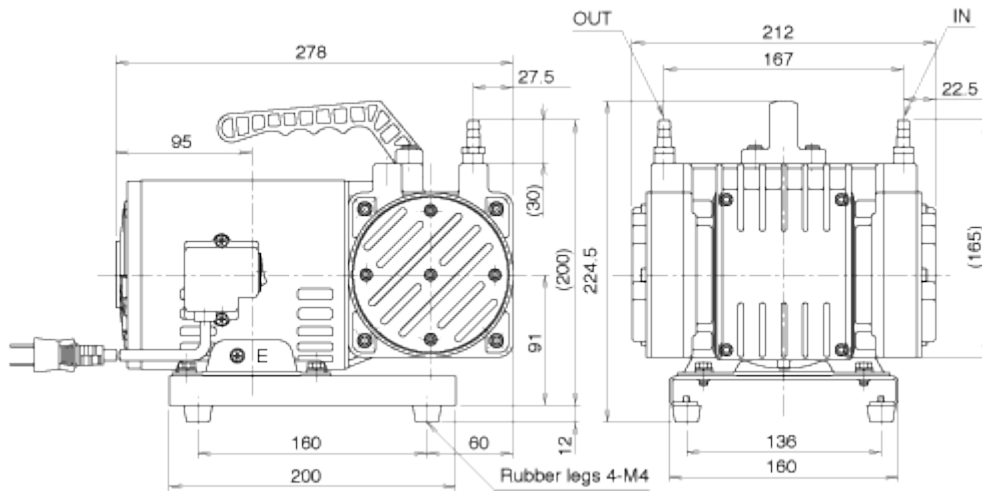
Caution

[top of page](#)

1. The pump is stopped when the load is operated, and the pump can't be operated just after that.
In this case, please return the atmospheric pressure the inside of the pump.
2. Please don't suck a causticity gas, an organic solvent, liquid and condensed gas (steam etc.).
Moreover, garbage, dust and etc. must not enter in the pump.
3. A large current flows when the pump starts.
If ON/OFF of the pump power supply will be frequently done in a short time, trouble might be caused. Please do not turn a frequent power supply on and off in a short time.

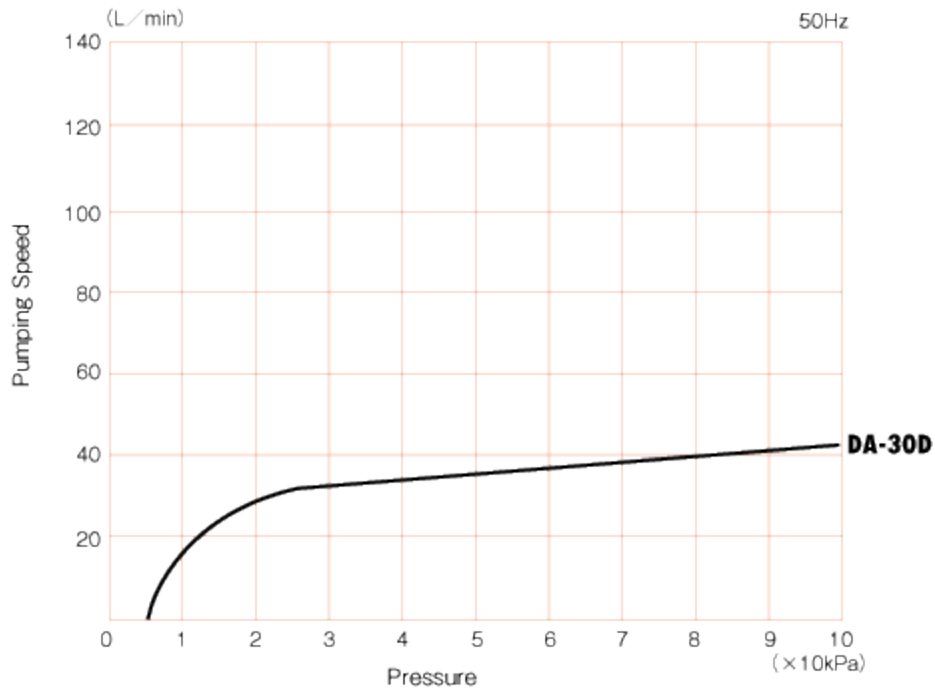
Outline Drawing

[top of page](#)



Pumping Speed Curves

[top of page](#)



Optional Voltage				
Voltage	Applicable Volt	CE Marked	TUV Marked	cTUVus Marked
Single phase, 100V	Standard	-	-	-
Single phase, 115V	-	-	-	-
Single phase, 200V	●	-	-	-
Single phase, 220V	●	-	-	-

DA-60S



Standard type / Single-stages / with power cord / with switch / with thermal protector



Features

Diaphragm type pump creates vacuum by reciprocate movement of rubber diaphragms.
 Pump structure makes Oil-free environment and maintenance easy.
 Various pumping speed and two/single stages are selectable depends on your required pressure and pumping volume.

Applications

- Vacuum chucks, wafer and tip handling devices.
- Vacuum tweezers, medical appliances.
- Printing equipment.
- Automatic packing machines.
- Optical appliances.
- Semiconductor industry.
- Injection molding machine.

Specifications

	Unit	50Hz	60Hz
Actual Pumping Speed	L/min	60	72
Ultimate pressure	Pa	21.3 × 10 ³	

Motor		Single phase, 100V, 200W, 4P, Split phase starting	
Full load current	A	5.6	5.0
Weight	kg	11.0	
Inlet, outlet pipe diameter	mm	O.D. dia.9 × I.D. dia.5 (Rc1/4)	
Ambient temperature	°C	7 – 40	
Overall dimensions	mm	212(W) × 278(L) × 224.5(H)	

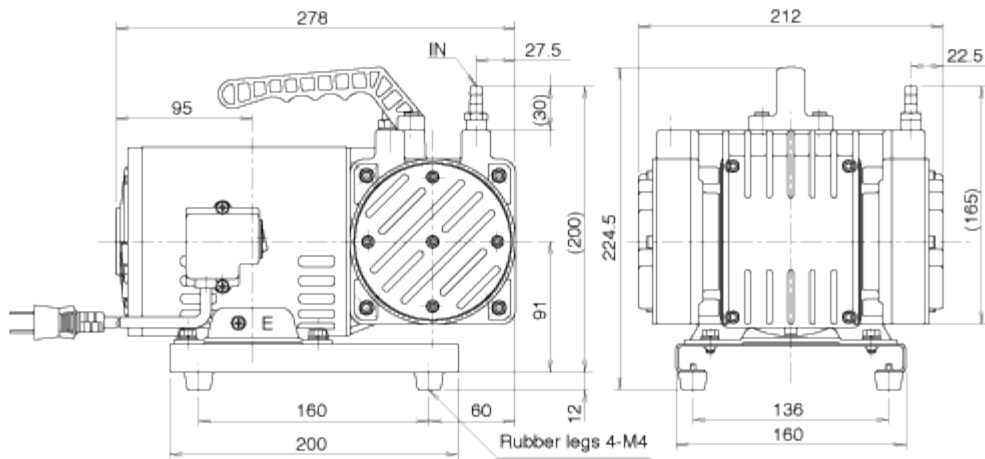
Caution

[top of page](#)

1. The pump is stopped when the load is operated, and the pump can't be operated just after that. In this case, please return the atmospheric pressure the inside of the pump.
2. Please don't suck a causticity gas, an organic solvent, liquid and condensed gas (steam etc.). Moreover, garbage, dust and etc. must not enter in the pump.
3. A large current flows when the pump starts. If ON/OFF of the pump power supply will be frequently done in a short time, trouble might be caused. Please do not turn a frequent power supply on and off in a short time.

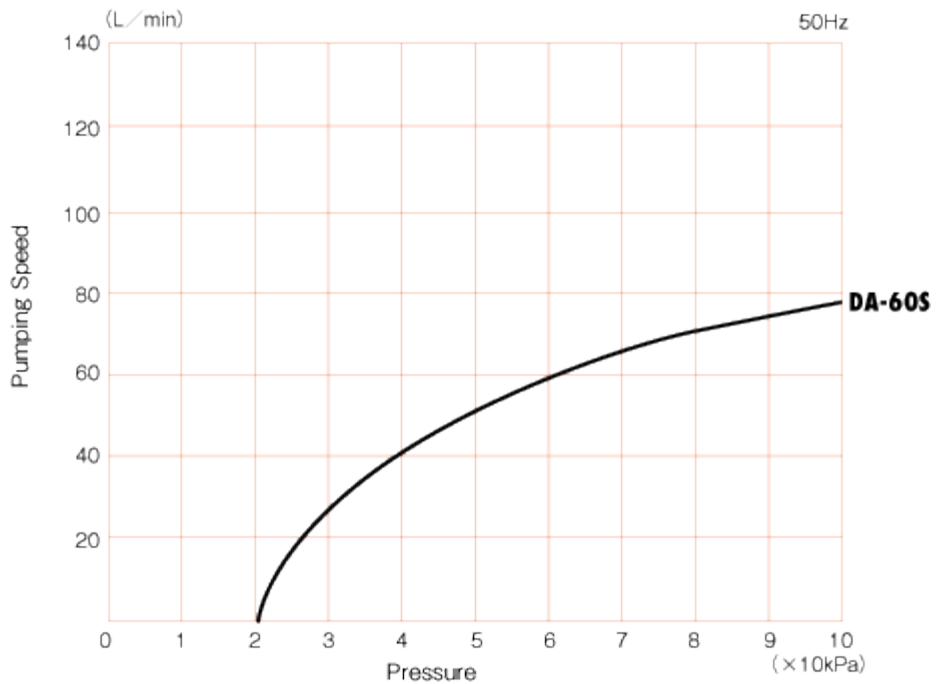
Outline Drawing

[top of page](#)



Pumping Speed Curves

[top of page](#)



[top of page](#)

Optional Voltage

[top of page](#)

Voltage	Applicable Volt	CE Marked	TUV Marked	cTUVus Marked
Single phase, 100V	Standard	-	-	-
Single phase, 115V	-	-	-	-
Single phase, 200V	●	-	-	-
Single phase, 220V	●	-	-	-

DAT-50D



Two-stage / with thermal protector / cord with

Features



Diaphragm type pump creates vacuum by reciprocate movement of rubber diaphragms.
 Pump structure makes Oil-free environment and maintenance easy.
 Various pumping speed and two/single stages are selectable depends on your required pressure and pumping volume.

Applications

- Vacuum chucks, wafer and tip handling devices.
- Vacuum tweezers, medical appliances.
- Printing equipment.
- Automatic packing machines.
- Optical appliances.
- Semiconductor industry.
- Injection molding machine.

Specifications

[top of page](#)

	Unit	50Hz	60Hz
Actual Pumping Speed	L/min	50	55
Ultimate pressure	Pa	3.3 × 10 ³	
Motor		Single phase, 100V, 200W, 4P, Split phase starting	
Full load current	A	5.6	5.0
Weight	kg	11.0	
Inlet, outlet pipe diameter	mm	O.D. dia.12 × I.D. dia.8.5 (Rc 1/4)	
Ambient temperature	°C	7 – 40	
Overall dimensions	mm	150(W) × 232(L) × 305(H)	

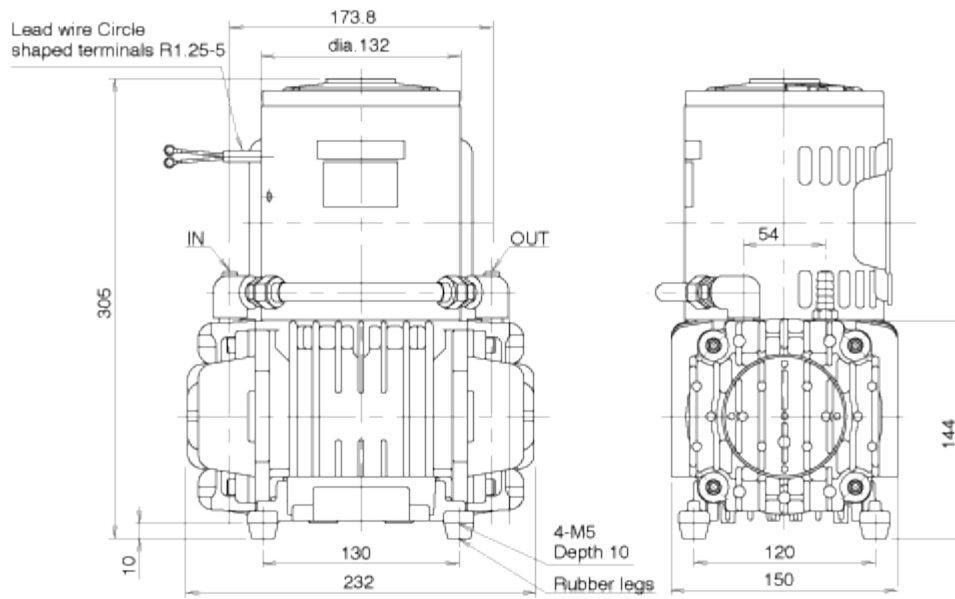
Caution

[top of page](#)

1. The pump is stopped when the load is operated, and the pump can't be operated just after that.
 In this case, please return the atmospheric pressure the inside of the pump.
2. The pump will not often operate normally if it is used with corrosive gases, organic solvents, liquids, or condensed gases (eg steam).
 The pump will not often operate normally if it is used with gases containing particles or dust etc.
3. A large current flows when the pump starts.
 If ON/OFF of the pump power supply will be frequently done in a short time, trouble might be caused.
 Please do not turn a frequent power supply on and off in a short time.
4. It is a pump only in the room.
 Please do not set it up in the place, that rain and water splash, and outdoors.

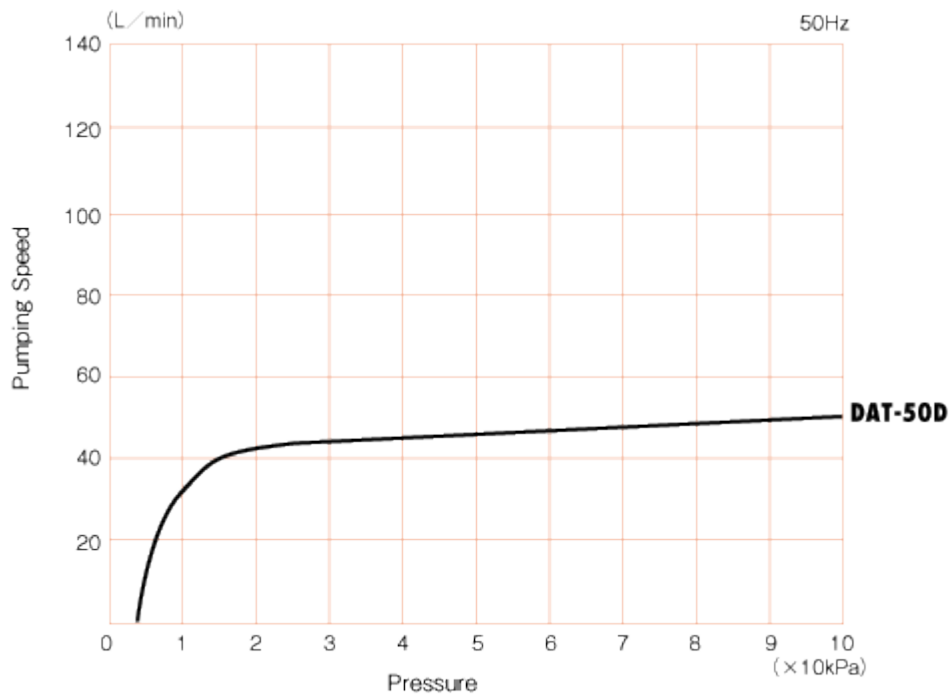
Outline Drawing

[top of page](#)



Pumping Speed Curves

[top of page](#)



Optional Voltage

[top of page](#)

Voltage	Applicable Volt	CE Marked	TUV Marked	cTUVus Marked
Single phase, 100V	Standard	-	-	-
Single phase, 115V	●	-	-	-
Single phase, 200V	●	-	-	-
Single phase, 220V	●	-	-	-
Three phase, 200-220V	●	●	●	●

DAT-100S



Single-stage / with thermal protector / cord with

Features



Diaphragm type pump creates vacuum by reciprocate movement of rubber diaphragms.
Pump structure makes Oil-free environment and maintenance easy.
Various pumping speed and two/single stages are selectable depends on your required pressure and pumping volume.

Applications

- Vacuum chucks, wafer and tip handling devices.
- Vacuum tweezers, medical appliances.
- Printing equipment.
- Automatic packing machines.
- Optical appliances.
- Semiconductor industry.
- Injection molding machine.

Specifications

[top of page](#)

	Unit	50Hz	60Hz
Actual Pumping Speed	L/min	100	110
Ultimate pressure	Pa	13.3 x 10 ³	
Motor		Single phase, 100V, 200W, 4P, Split phase starting	
Full load current	A	5.6	5.0
Weight	kg	11.0	
Inlet, outlet pipe diameter	mm	O.D. dia.12 × I.D. dia.8.5 (Rc 1/4)	
Ambient temperature	°C	7 – 40	
Overall dimensions	mm	150(W) × 232(L) × 305(H)	

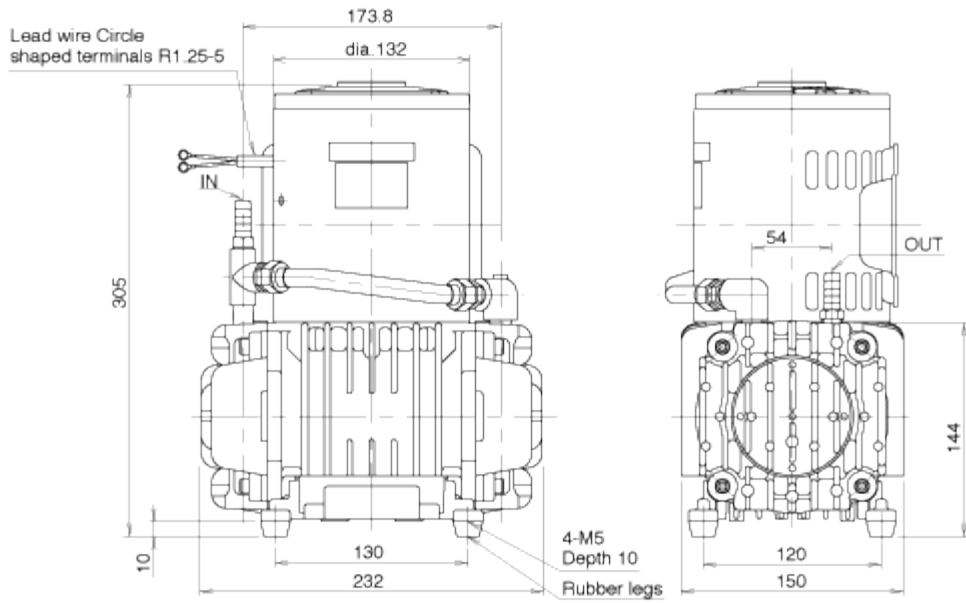
Caution

[top of page](#)

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In this case, please return the atmospheric pressure the inside of the pump.
2. The pump will not often operate normally if it is used with corrosive gases, organic solvents, liquids, or condensed gases (eg steam).
The pump will not often operate normally if it is used with gases containing particles or dust etc.
3. A large current flows when the pump starts.
If ON/OFF of the pump power supply will be frequently done in a short time, trouble might be caused.
Please do not turn a frequent power supply on and off in a short time.
4. It is a pump only in the room.
Please do not set it up in the place, that rain and water splash, and outdoors.

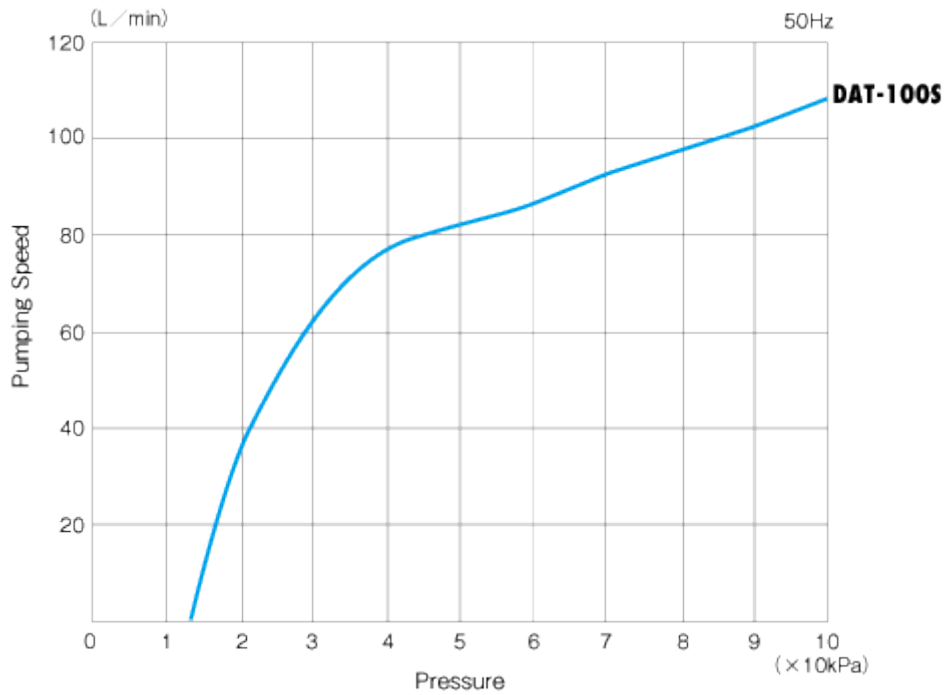
Outline Drawing

[top of page](#)



Pumping Speed Curves

[top of page](#)



Optional Voltage

[top of page](#)

Voltage	Applicable Volt	CE Marked	TUV Marked	cTUVus Marked
Single phase, 100V	Standard	-	-	-
Single phase, 115V	●	-	-	-
Single phase, 200V	●	-	-	-
Single phase, 220V	●	●	●	●

DA-20D



Features



Diaphragm type pump creates vacuum by reciprocate movement of rubber diaphragms.
 Pump structure makes Oil-free environment and maintenance easy.
 Various pumping speed and two/single stages are selectable depends on your required pressure and pumping volume.

Applications

- Vacuum chucks, wafer and tip handling devices.
- Vacuum tweezers, medical appliances.
- Printing equipment.
- Automatic packing machines.
- Optical appliances.

Specifications

[top of page](#)

	Unit	50Hz	60Hz
Actual Pumping Speed	L/min	20	24
Ultimate pressure	Pa	5.33 × 10 ³	
Motor		Single phase, 100V, 60W, 4P, Capacitor run	
Full load current	A	1.6	1.6
Weight	kg	7.2	
Inlet, Outlet port diameter	mm	O.D. dia.9 × I.D. dia.5 (Rc 1/4)	
Ambient temperature	°C	7 – 40	
Overall dimensions	mm	118(W) × 242(L) × 178(H)	

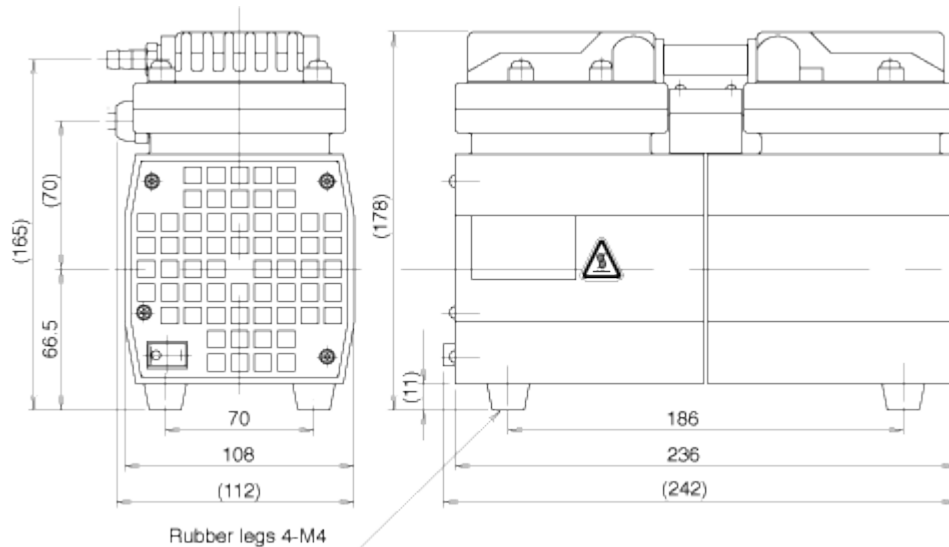
Caution

[top of page](#)

1. The pump is stopped when the load is operated, and the pump can't be operated just after that.
 In this case, please return the atmospheric pressure the inside of the pump.
2. The pump will not often operate normally if it is used with corrosive gases, organic solvents, liquids, or condensed gases (eg steam).
 The pump will not often operate normally if it is used with gases containing particles or dust etc.
3. It is a pump only in the room.
 Please do not set it up in the place, that rain and water splash, and outdoors.

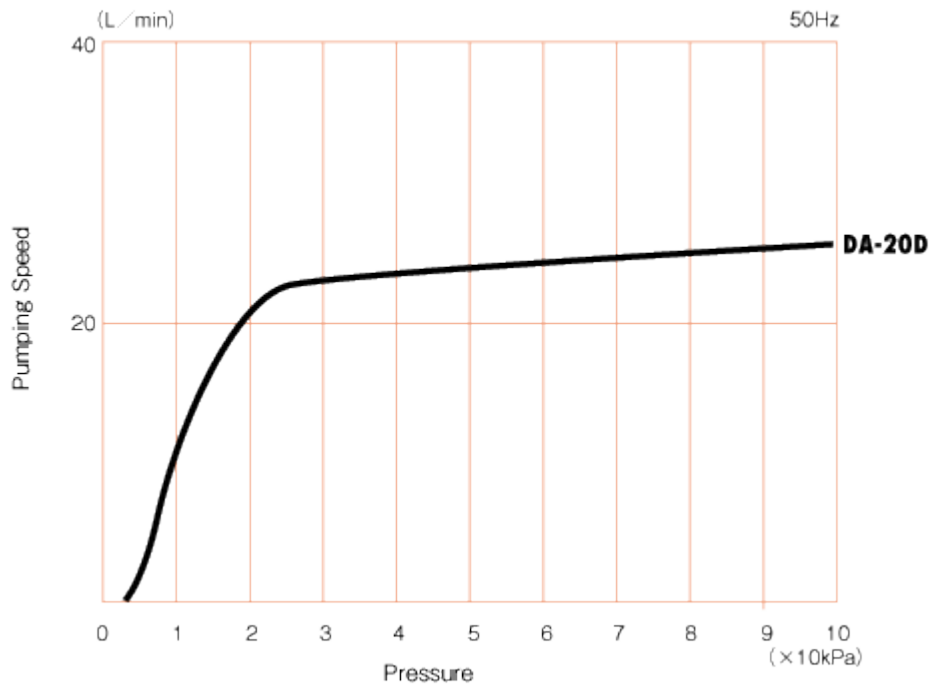
Outline Drawing

[top of page](#)



Pumping Speed Curves

[top of page](#)



Optional Voltage

[top of page](#)

Voltage	Applicable Volt	CE Marked	TUV Marked	cTUVus Marked
Single phase, 100V	Standard	●	●	-
Single phase, 115V	●	●	●	-
Single phase, 200V	●	-	-	-
Single phase, 220V	●	●	●	-

DA-40S



Built-in type / Single-stage / with cord, and switch / with thermal protector/Unloader valve option

Features

Diaphragm type pump creates vacuum by reciprocate movement of rubber diaphragms.
 Pump structure makes Oil-free environment and maintenance easy.
 Various pumping speed and two/single stages are selectable depends on your required pressure and pumping volume.

Applications

- Vacuum chucks, wafer and tip handling devices.
- Vacuum tweezers, medical appliances.
- Printing equipment.
- Automatic packing machines.
- Optical appliances.



Specifications

[top of page](#)

	Unit	50Hz	60Hz
Actual Pumping Speed	L/min	40	46
Ultimate pressure	Pa	19.9 × 10 ³	

Motor		Single phase, 100V, 60W, 4P, Capacitor run
Full load current	A	1.6
Weight	kg	7.2
Inlet, outlet pipe diameter	mm	O.D. dia.9 × I.D. dia.5 (Rc 1/4)
Ambient temperature	°C	7 – 40
Overall dimensions	mm	128(W) × 242(L) × 178(H)

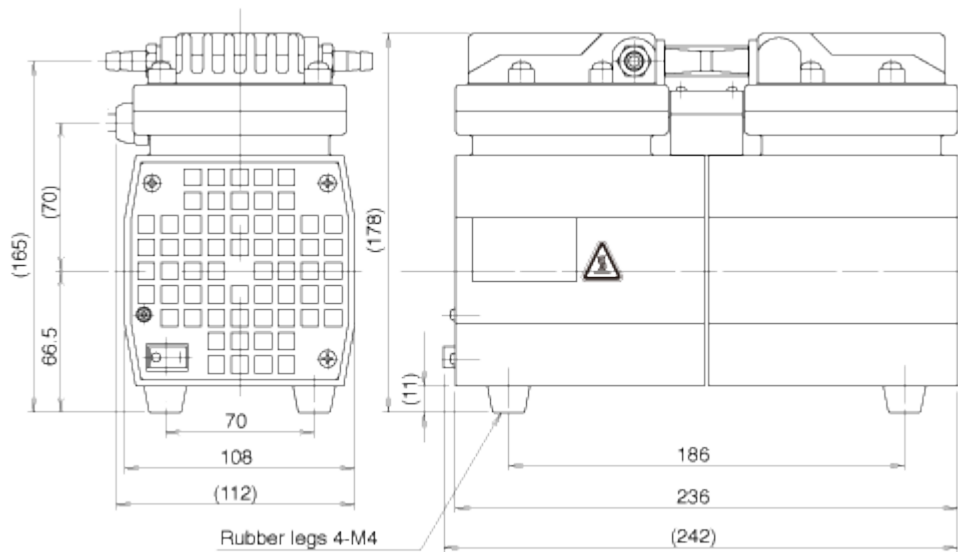
Caution

[top of page](#)

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In this case, please return the atmospheric pressure the inside of the pump.
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Please do not set it up in the place, that rain and water splash, and outdoors.

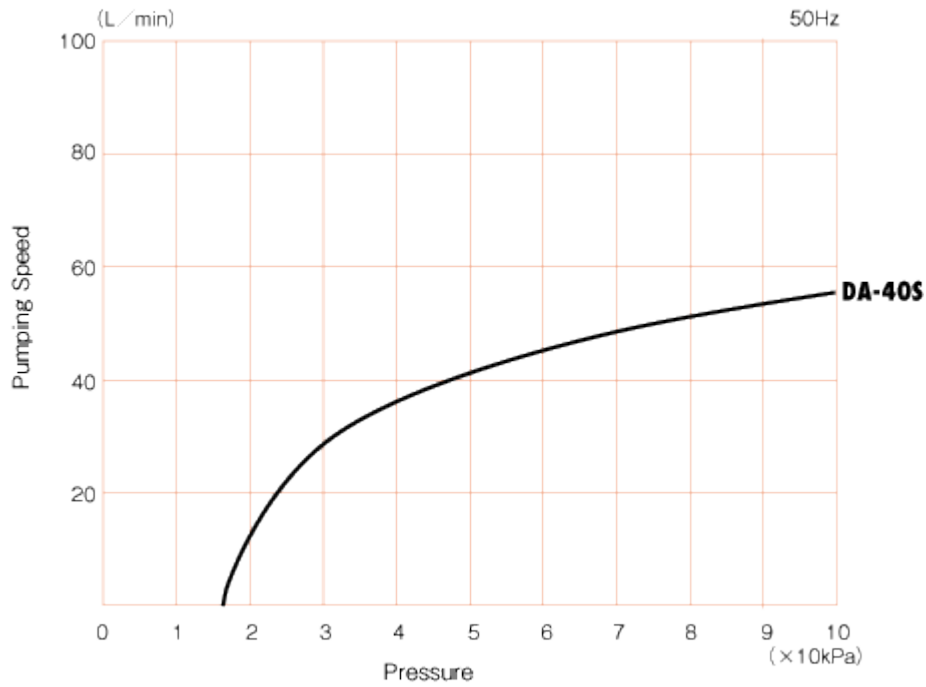
Outline Drawing

[top of page](#)



Pumping Speed Curves

[top of page](#)



Optional Voltage				
Voltage	Applicable Volt	CE Marked	TUV Marked	cTUVus Marked
Single phase, 100V	Standard	●	●	-
Single phase, 115V	●	●	●	-
Single phase, 200V	●	-	-	-
Single phase, 220V	●	●	●	-

DA-41D



Standard type / Two-stages / with power cord / with switch / with thermal protector



Features

Diaphragm type pump creates vacuum by reciprocate movement of rubber diaphragms.
 Pump structure makes Oil-free environment and maintenance easy.
 Various pumping speed and two/single stages are selectable depends on your required pressure and pumping volume.

Applications

- Vacuum chucks, wafer and tip handling devices.
- Vacuum tweezers, medical appliances.
- Printing equipment.
- Automatic packing machines.
- Optical appliances.

Specifications

	Unit	50Hz	60Hz
Actual Pumping Speed	L/min	40	46
Ultimate pressure	Pa	3.3 × 10 ³	
Motor		Single phase, 100V, 100W, 4P, Capacitor run	
Full load current	A	2.5	2.7

Weight	kg	10.3
Inlet, outlet pipe diameter	mm	O.D. dia.12 × I.D. dia.8 (G1/4)
Ambient temperature	°C	0 – 40
Overall dimensions	mm	157(W) × 336.5(L) × 217(H)

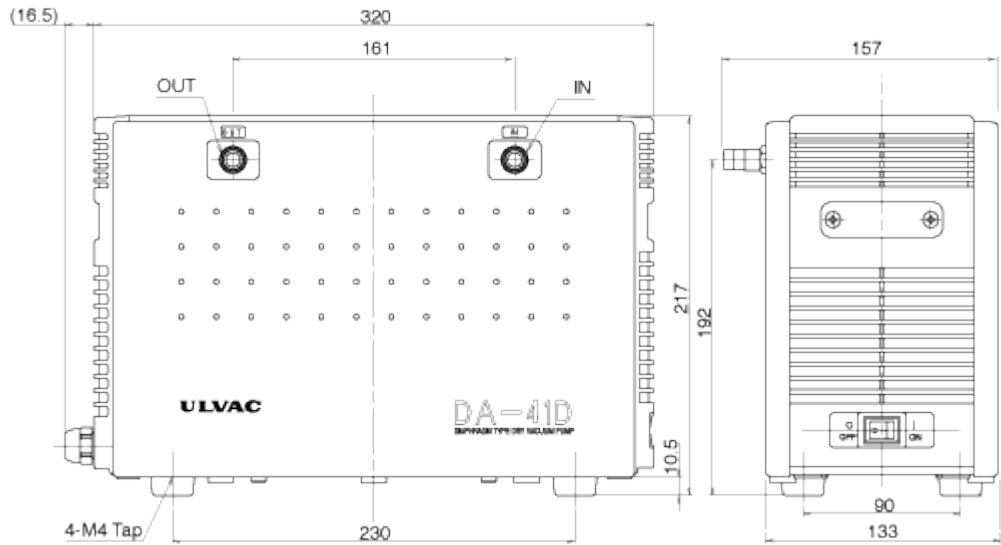
Caution

[top of page](#)

1. The pump is stopped when the lord is operated, and the pump can't be operated just after that. In this case, please return the atmospheric pressure the inside of the pump.
2. It is a pump only in the room. Please do not set it up in the place, that rain and water splash, and outdoors.

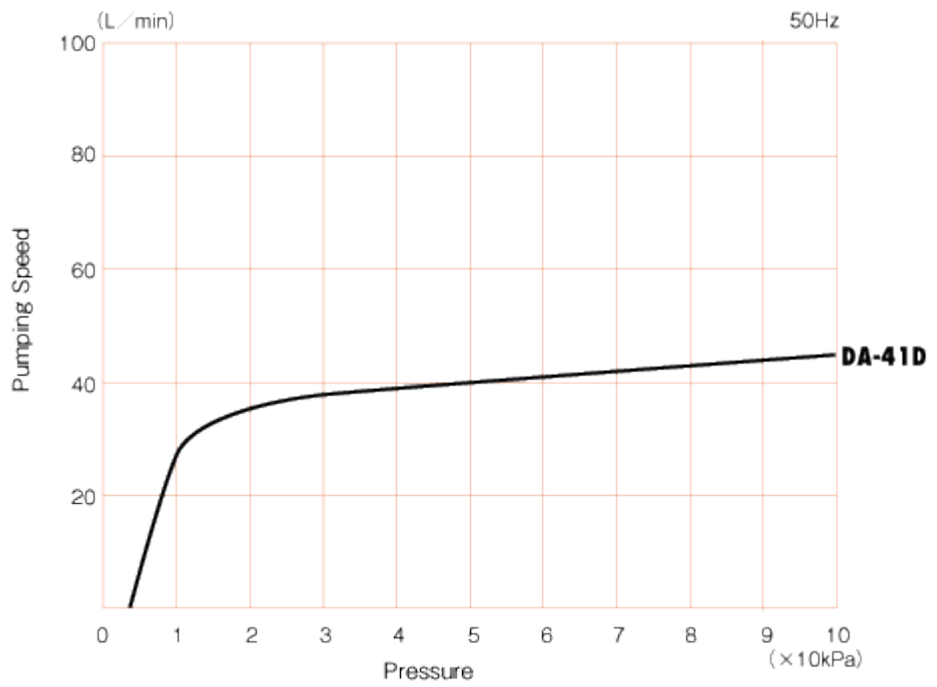
Outline Drawing

[top of page](#)



Pumping Speed Curves

[top of page](#)



Optional Voltage

[top of page](#)

Voltage	Applicable Volt	CE Marked	TUV Marked	cTUVus Marked
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Single phase, 100V	Standard	-	-	-
Single phase, 115V	●	-	-	-
Single phase, 200V	●	-	-	-
Single phase, 220V	●	-	-	-

DA-81S

Standard type / Single-stage / with power cord/ with switch / with thermal protector

Features



Diaphragm type pump creates vacuum by reciprocate movement of rubber diaphragms.
Pump structure makes Oil-free environment and maintenance easy.
Various pumping speed and two/single stages are selectable depends on your required pressure and pumping volume.

Applications

- Vacuum chucks, wafer and tip handling devices.
- Vacuum tweezers, medical appliances.
- Printing equipment.
- Automatic packing machines.
- Optical appliances.

Specifications

[top of page](#)

	Unit	50Hz	60Hz
Actual Pumping Speed	L/min	75	85
Ultimate pressure	Pa	13.3 × 10 ³	
Motor		Single phase, 100V, 100W, 4P, Capacitor run	
Full load current	A	2.5	2.7
Weight	kg	10.3	
Inlet, outlet pipe diameter	mm	O.D. dia.12 × I.D. dia.8 (G1/4)	
Ambient temperature	°C	0 – 40	
Overall dimensions	mm	181(W) × 336.5(L) × 217(H)	

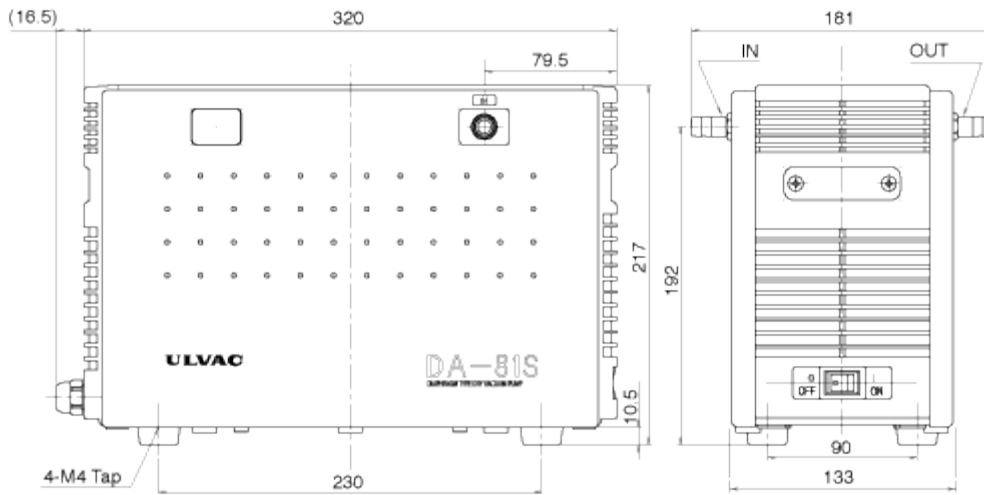
Caution

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1. The pump is stopped when the load is operated, and the pump can't be operated just after that.
In this case, please return the atmospheric pressure the inside of the pump.
2. It is a pump only in the room.
Please do not set it up in the place, that rain and water splash, and outdoors.

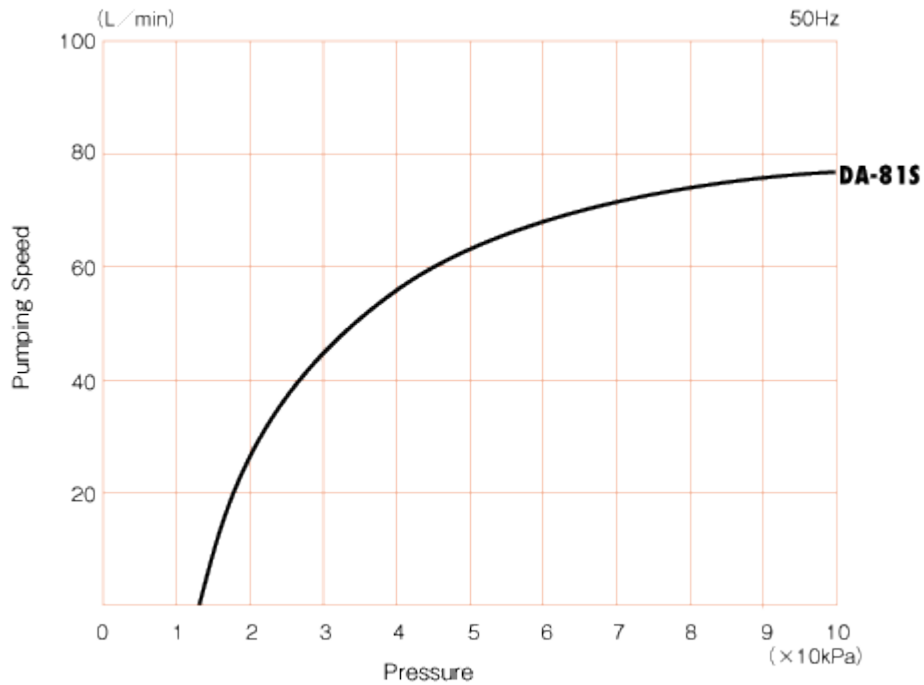
Outline Drawing

[top of page](#)



Pumping Speed Curves

[top of page](#)



Optional Voltage

[top of page](#)

Voltage	Applicable Volt	CE Marked	TUV Marked	cTUVus Marked
Single phase, 100V	Standard	-	-	-
Single phase, 115V	●	-	-	-
Single phase, 200V	●	-	-	-
Single phase, 220V	●	-	-	-

DA-60D



Built-in type / Two-stage / with cord, and switch / with thermal protector (manual-reset) / Unloader valve option

Features

Diaphragm type pump creates vacuum by reciprocate movement of rubber diaphragms.
 Pump structure makes Oil-free environment and maintenance easy.



Various pumping speed and two/single stages are selectable depends on your required pressure and pumping volume.

Applications

- Vacuum chucks, wafer and tip handling devices.
- Vacuum tweezers, medical appliances.
- Printing equipment.
- Automatic packing machines.
- Optical appliances.
- Semiconductor industry.

Specifications

[top of page](#)

	Unit	50Hz	60Hz
Actual pumping speed	L/min	60	72
Ultimate pressure	Pa	3.32 × 10 ³	
Motor		Single phase, 100V, 200W, 4P, Capacitor run	
Full load current	A	5.0	
Weight	kg	19.0	
Inlet, outlet pipe diameter	mm	O.D. dia.14 × I.D. dia.9 (G3/8)	
Ambient temperature	°C	7 – 40	
Overall dimensions	mm	156(W) × 358(L) × 238(H)	

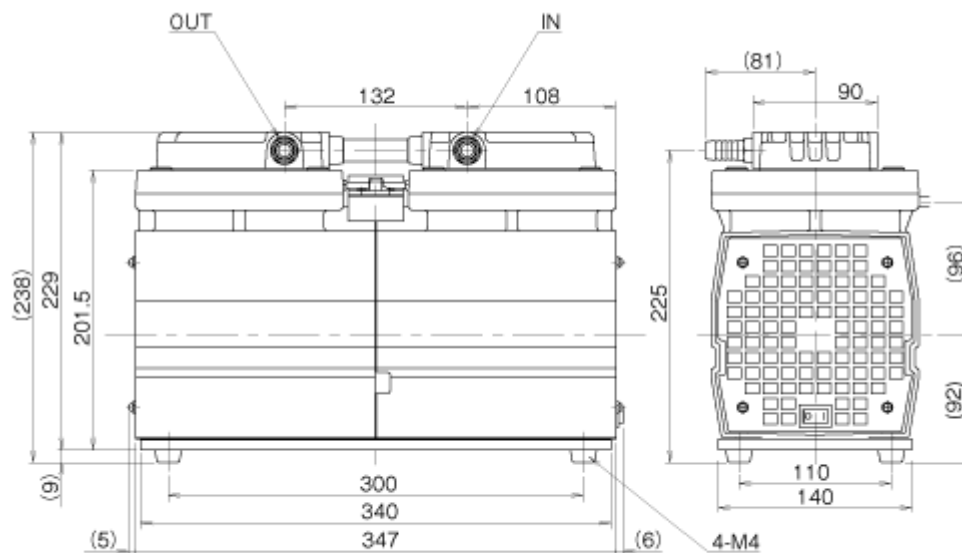
Caution

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1. The pump will not often operate normally if it is used with corrosive gases, organic solvents, liquids, or condensed gases (eg steam).
The pump will not often operate normally if it is used with gases containing particles or dust etc.
2. It is a pump only in the room.
Please do not set it up in the place, that rain and water splash, and outdoors.

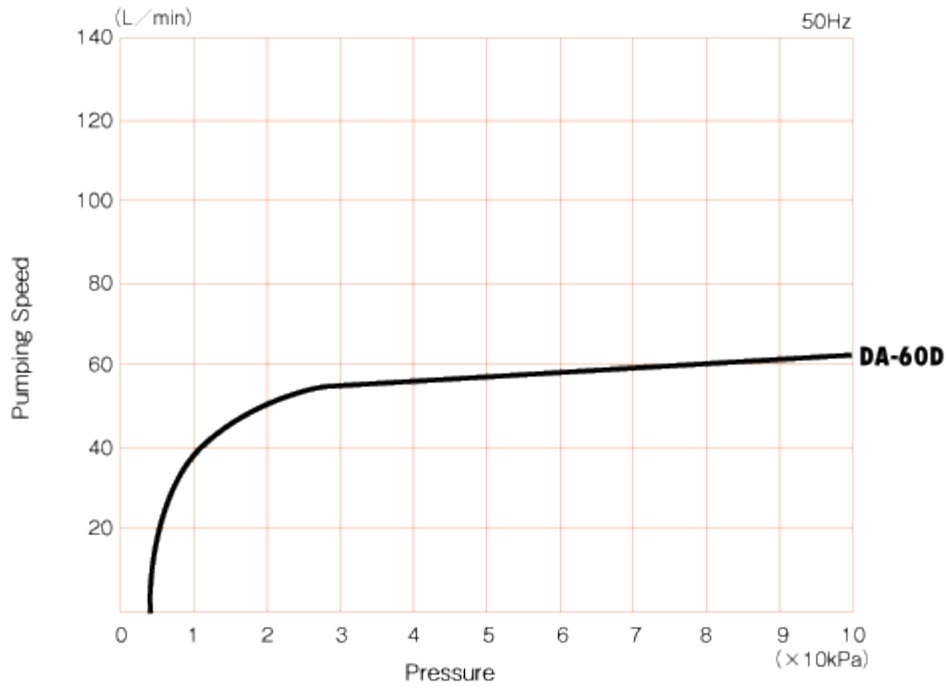
Outline Drawing

[top of page](#)



Pumping Speed Curves

[top of page](#)



Optional Voltage				
Voltage	Applicable Volt	CE Marked	TUV Marked	cTUVus Marked
Single phase, 100V	Standard	-	-	-
Single phase, 115V	-	-	-	-
Single phase, 200V	●	-	-	-
Single phase, 220V	●	-	-	-

DA-120S



Built-in type / Single-stage / with cord, and switch / with thermal protector (manual-reset) / Unloader valve



Features

Diaphragm type pump creates vacuum by reciprocate movement of rubber diaphragms.
 Pump structure makes Oil-free environment and maintenance easy.
 Various pumping speed and two/single stages are selectable depends on your required pressure and pumping volume.

Applications

- Vacuum chucks, wafer and tip handling devices.
- Vacuum tweezers, medical appliances.
- Printing equipment.
- Automatic packing machines.
- Optical appliances.
- Semiconductor industry.

Specifications

		Unit	
		50Hz	60Hz
Actual Pumping Speed	L/min	120	144
Ultimate pressure	Pa	13.3 × 10 ³	
Motor		Single phase, 100V, 200W, 4P, Capacitor run	

Full load current	A	5.0
Weight	kg	19.0
Inlet, outlet pipe diameter	mm	O.D. dia.14 × I.D. dia.9 (G3/8)
Ambient temperature	°C	7 – 40
Overall dimensions	mm	162(W) × 358(L) × 238(H)

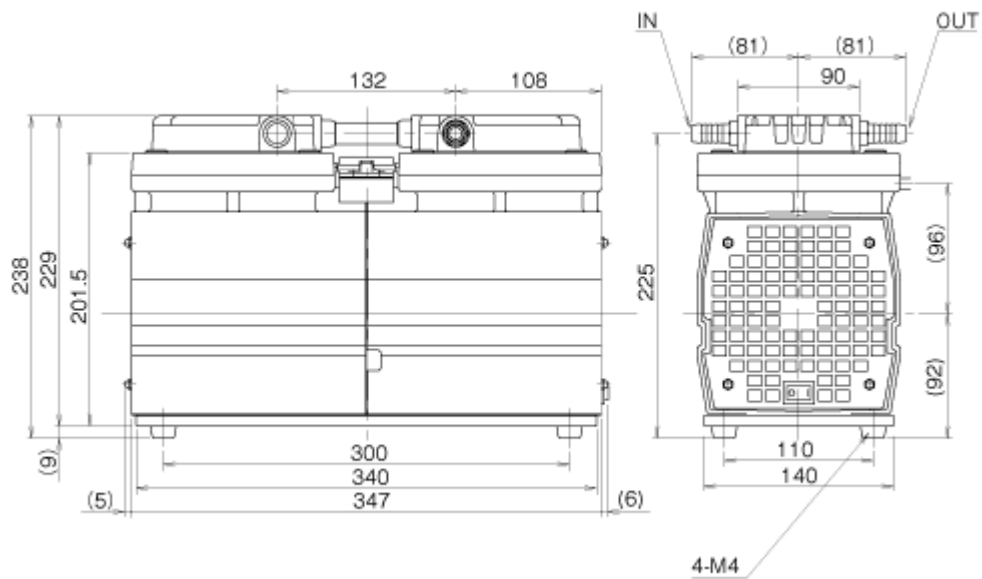
Caution

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1. The pump will not often operate normally if it is used with corrosive gases, organic solvents, liquids, or condensed gases (eg steam).
The pump will not often operate normally if it is used with gases containing particles or dust etc.
2. It is a pump only in the room.
Please do not set it up in the place, that rain and water splash, and outdoors.

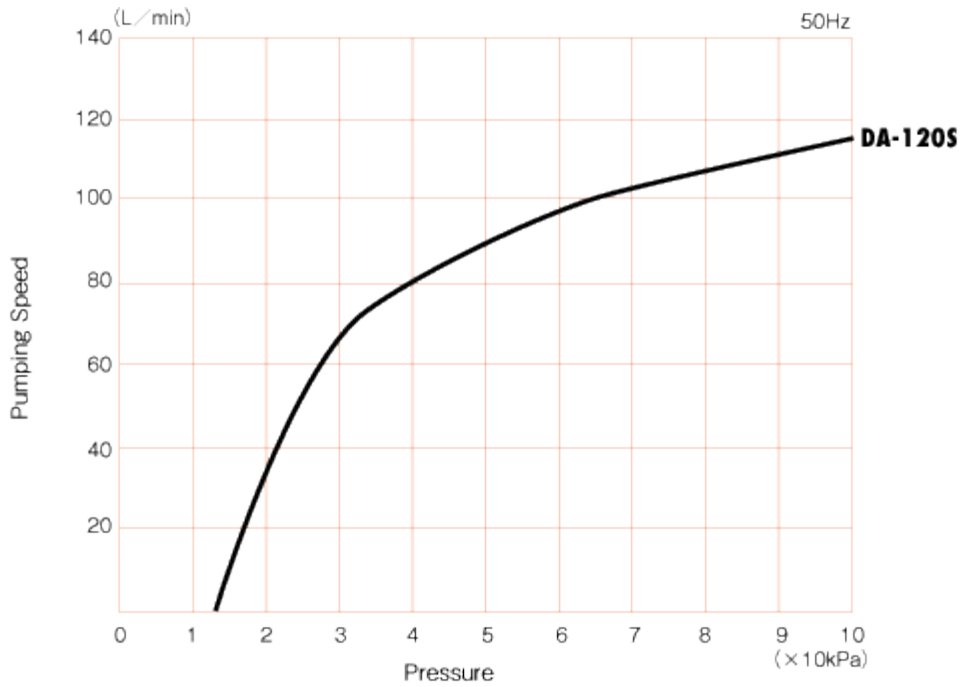
Outline Drawing

[top of page](#)



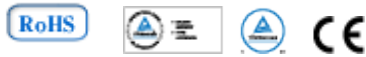
Pumping Speed Curves

[top of page](#)



Optional Voltage				
Voltage	Applicable Volt	CE Marked	TUV Marked	cTUVus Marked
Single phase, 100V	Standard	-	-	-
Single phase, 115V	-	-	-	-
Single phase, 200V	●	-	-	-
Single phase, 220V	●	-	-	-

DA-121D



Built-in type / Two-stage/with cord, and switch / with thermal protector



Features

Diaphragm type pump creates vacuum by reciprocate movement of rubber diaphragms.
 Pump structure makes Oil-free environment and maintenance easy.
 Various pumping speed and two/single stages are selectable depends on your required pressure and pumping volume.

Applications

- Vacuum chucks, wafer and tip handling devices.
- Vacuum tweezers, medical appliances.
- Printing equipment.
- Automatic packing machines.
- Optical appliances.
- Semiconductor industry.

Specifications

		Unit	
		50Hz	60Hz
Actual Pumping Speed	L/min	120	145
Ultimate pressure	Pa	3.3 × 10 ³	
Motor		Single phase, 100V, 400W, 4P, Capacitor run	

Full load current	A	4.8	5.8
Weight	kg	26.0	
Inlet, outlet pipe diameter	mm	O.D. dia.16 × I.D. dia.12 (G1/2)	
Ambient temperature	°C	0 – 40	
Overall dimensions	mm	193.5(W) × 411(L) × 285(H)	

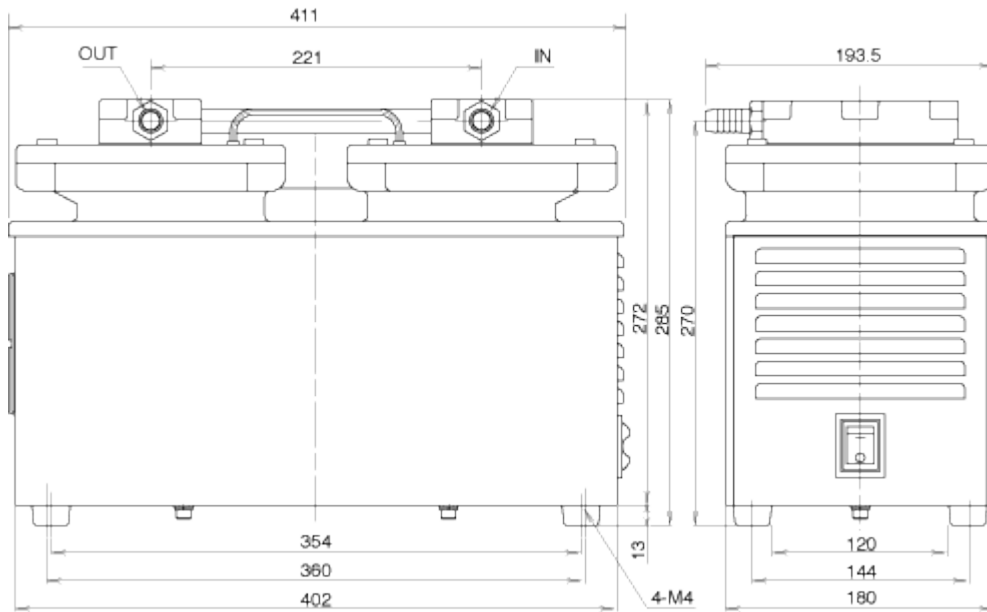
Caution

[top of page](#)

1. The pump will not often operate normally if it is used with corrosive gases, organic solvents, liquids, or condensed gases (eg steam).
The pump will not often operate normally if it is used with gases containing particles or dust etc.
2. It is a pump only in the room.
Please do not set it up in the place, that rain and water splash, and outdoors.

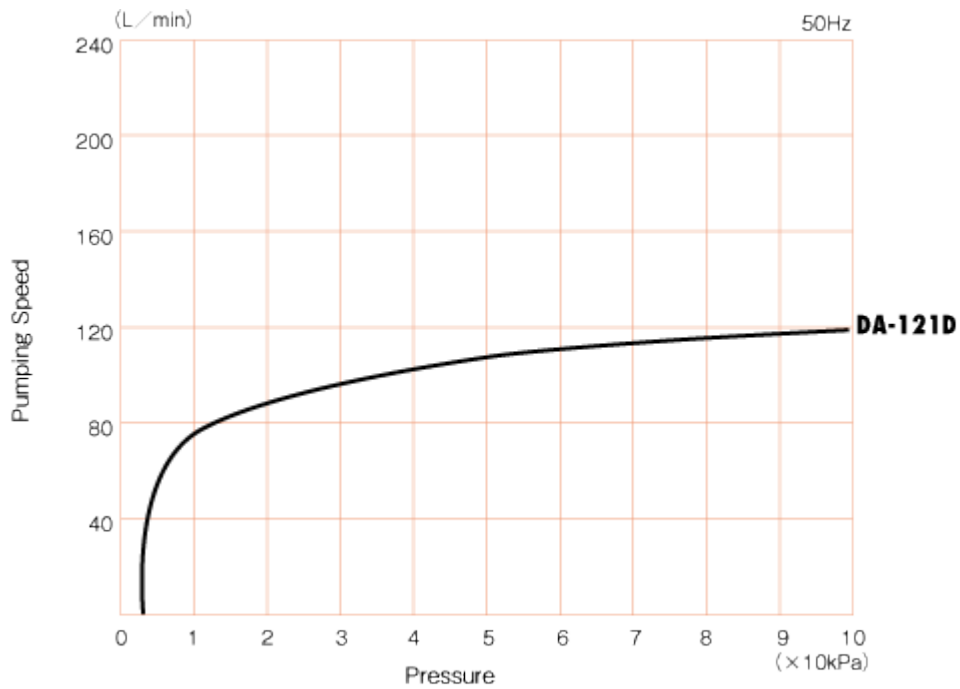
Outline Drawing

[top of page](#)



Pumping Speed Curves

[top of page](#)



Optional Voltage

[top of page](#)

Voltage	Applicable Volt	CE Marked	TUV Marked	cTUVus Marked
Single phase, 100V	Standard	●	●	●
Single phase, 115V	●	●	●	●
Single phase, 200V	●	●	●	●
Single phase, 220–230V	●	●	●	●

DA-241S



Built-in type / Single-stage / with cord, and switch / with thermal protector

Features



Diaphragm type pump creates vacuum by reciprocate movement of rubber diaphragms.
Pump structure makes Oil-free environment and maintenance easy.
Various pumping speed and two/single stages are selectable depends on your required pressure and pumping volume.

Applications

- Vacuum chucks, wafer and tip handling devices.
- Vacuum tweezers, medical appliances.
- Printing equipment.
- Automatic packing machines.
- Optical appliances.
- Semiconductor industry.

Specifications

[top of page](#)

	Unit	50Hz	60Hz
Actual Pumping Speed	L/min	240	260
Ultimate pressure	Pa	16.0 × 10 ³	
Motor		Single phase, 100V, 400W, 4P, Capacitor run	
Full load current	A	5.2	6.0
Weight	kg	26.0	
Inlet, outlet pipe diameter	mm	O.D. dia.16 × I.D. dia.12 (G1/2)	
Ambient temperature	°C	0 – 40	
Overall dimensions	mm	207(W) × 411(L) × 285(H)	

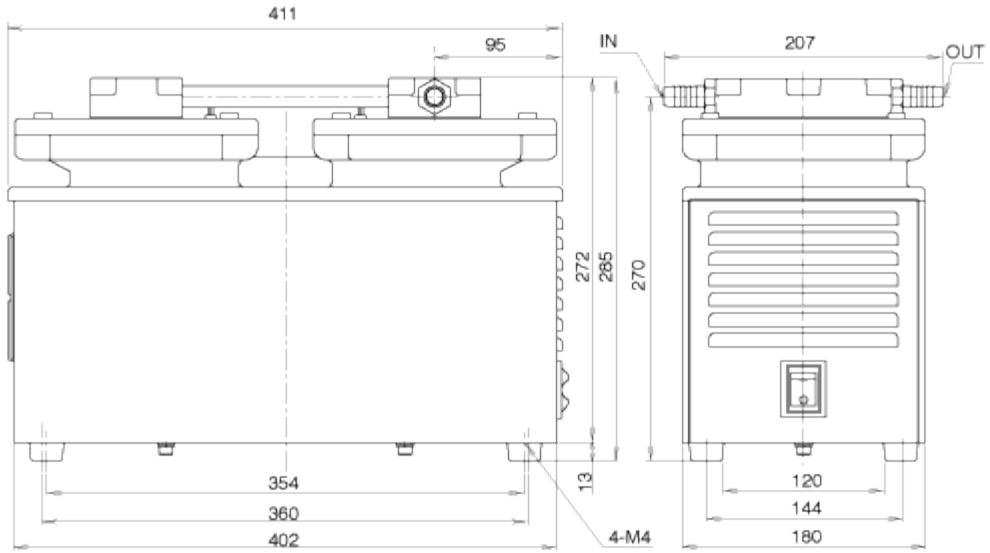
Caution

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1. The pump will not often operate normally if it is used with corrosive gases, organic solvents, liquids, or condensed gases (eg steam).
The pump will not often operate normally if it is used with gases containing particles or dust etc.
2. It is a pump only in the room.
Please do not set it up in the place, that rain and water splash, and outdoors.

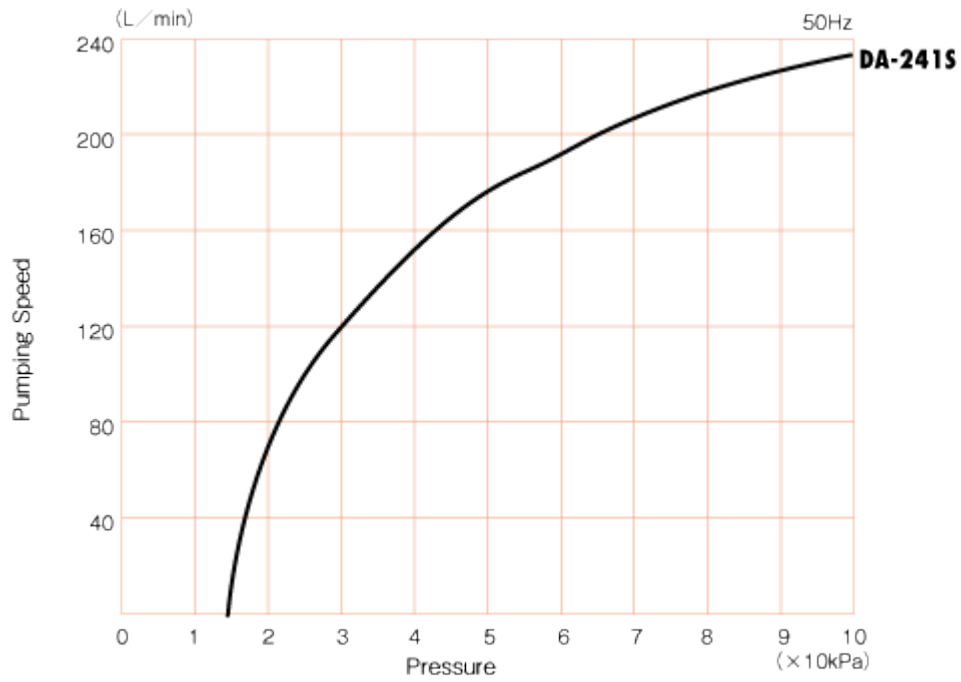
Outline Drawing

[top of page](#)



Pumping Speed Curves

[top of page](#)



Optional Voltage

[top of page](#)

Voltage	Applicable Volt	CE Marked	TUV Marked	cTUVus Marked
Single phase, 100V	Standard	●	●	●
Single phase, 115V	●	●	●	●
Single phase, 200V	●	●	●	●
Single phase, 220–230V	●	●	●	●

Diaphragm Type Dry Vacuum Pumps (DAU/DTU Series)

DAU-20



High vacuum type / Three-stages / with power cord / with switch / with thermal protector



Features

- High vacuum type diaphragm pump.
- Low vibration.

Applications

- Backing pump for TMP.
- Analytical equipment.
- Biochemical analysis.
- Gas charging.
- Vacuum drying systems.
- Evaporators etc.

Specifications

[top of page](#)

	Unit	50Hz	60Hz
Actual Pumping Speed	L/min	20	23
Ultimate pressure	Pa	200	
Motor		Single phase, 100V, 80W, 4P, Capacitor run	
Full load current	A	1.46	
Weight	kg	7.5	
Inlet, outlet pipe diameter	mm	O.D. dia.10 × I.D. dia.6 (Rc1/8)	
Ambient temperature	°C	5– 40	
Overall dimensions	mm	161(W) × 327(L) × 217(H)	

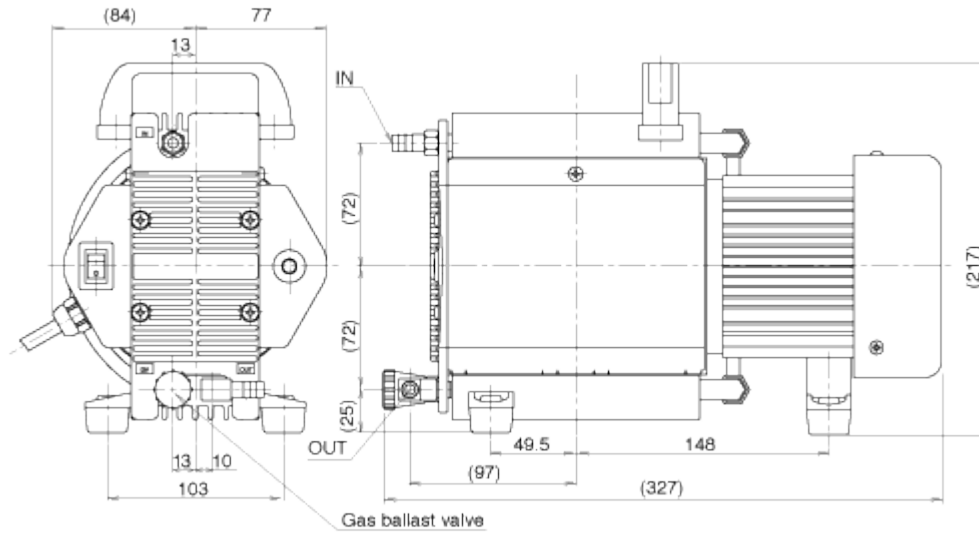
Caution

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1. The pump is stopped when the load is operated, and the pump can't be operated just after that. In this case, please return the atmospheric pressure the inside of the pump.
2. Please don't suck a causticity gas, an organic solvent, liquid and condensed gas (steam etc.). Moreover, garbage, dust and etc. must not enter in the pump.
3. It is a pump only in the room. Please do not set it up in the place, that rain and water splash, and outdoors.

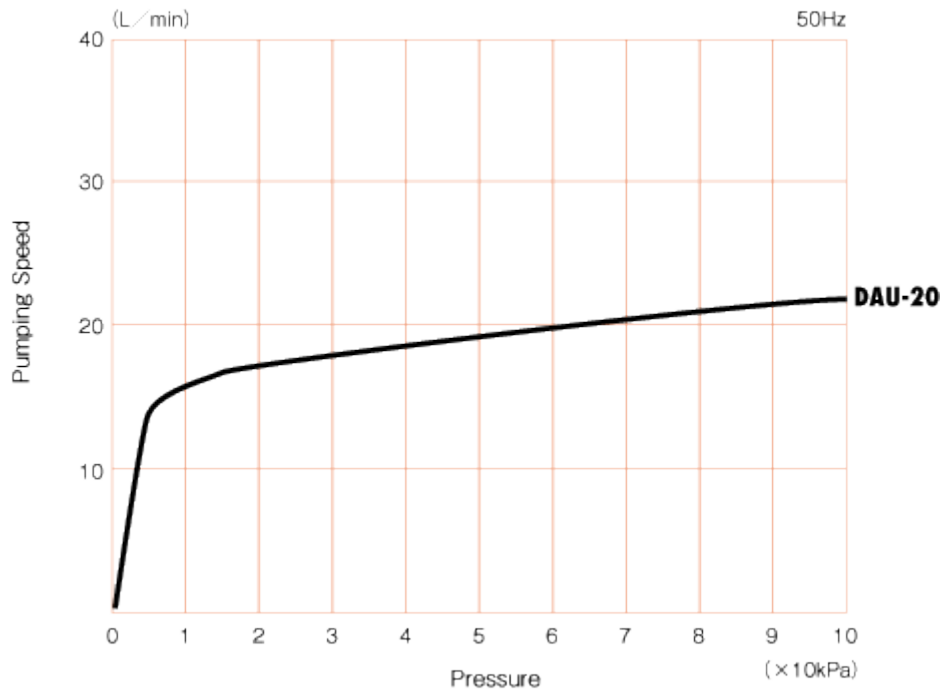
Outline Drawing

[top of page](#)



Pumping Speed Curves

[top of page](#)



Optional Voltage

[top of page](#)

Voltage	Applicable Volt	CE Marked	TUV Marked	cTUVus Marked
Single phase, 100V	Standard	●	●	●
Single phase, 115V	●	●	●	●
Single phase, 200V	●	●	●	●
Single phase, 220V	●	●	●	●
Single phase, 230V	●	●	●	●

DTU-20



High vacuum chemical type / Three-stages / with power cord / with switch / with thermal protector

Features



- High vacuum type diaphragm pump.
- Low vibration.
- High corrosion resistant.

Applications

- Backing pump for TMP.
- Analytical equipment.
- Biochemical analysis.
- Gas charging.
- Vacuum drying systems.
- Evaporators etc.

Specifications

[top of page](#)

	Unit	50Hz	60Hz
Actual Pumping Speed	L/min	20	23
Ultimate pressure	Pa	200	
Motor		Single phase, 100V, 80W, 4P, Capacitor run	
Full load current	A	1.46	
Weight	kg	7.5	
Inlet, outlet pipe diameter	mm	O.D. dia.10 × I.D. dia.6 (Rc1/8)	
Ambient temperature	°C	5 – 40	
Overall dimensions	mm	161(W) × 327(L) × 217(H)	

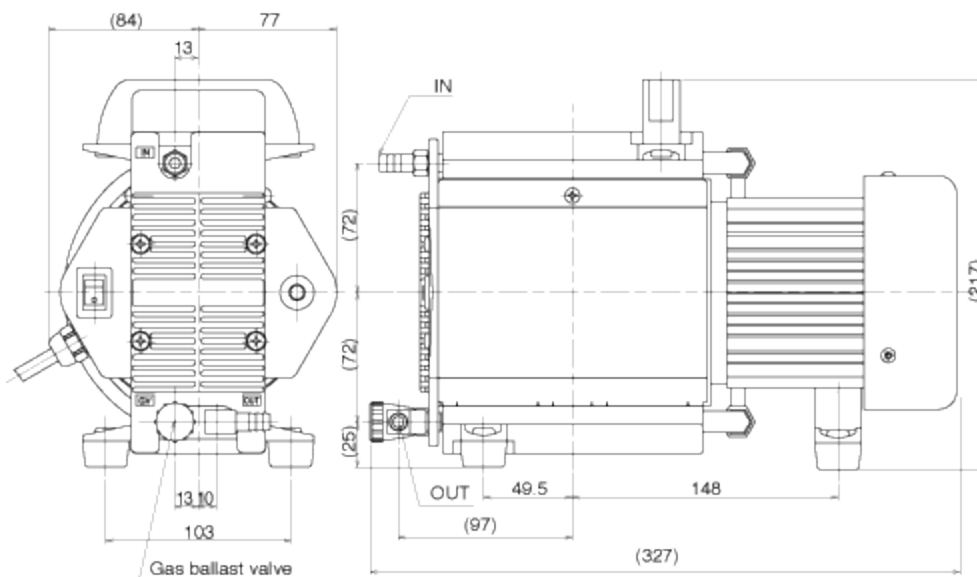
Caution

[top of page](#)

1. The pump is stopped when the load is operated, and the pump can't be operated just after that. In this case, please return the atmospheric pressure the inside of the pump.
2. Please don't suck a causticity gas, an organic solvent, liquid and condensed gas (steam etc.). Moreover, garbage, dust and etc. must not enter in the pump.
3. It is a pump only in the room. Please do not set it up in the place, that rain and water splash, and outdoors.

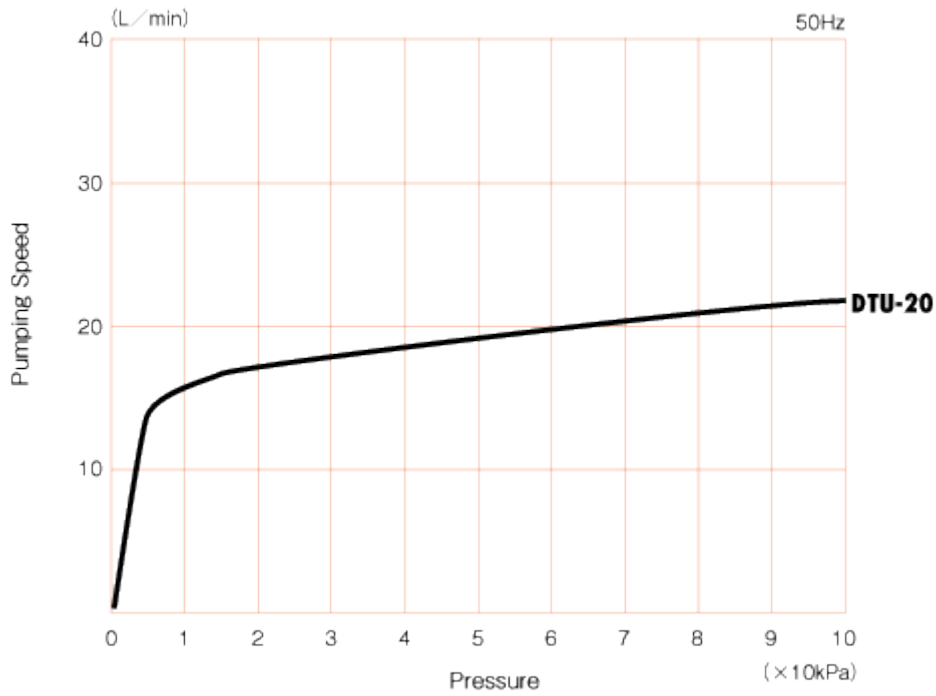
Outline Drawing

[top of page](#)



Pumping Speed Curves

[top of page](#)



Optional Voltage				
Voltage	Applicable Volt	CE Marked	TUV Marked	cTUVus Marked
Single phase, 100V	Standard	●	●	●
Single phase, 115V	●	●	●	●
Single phase, 200V	●	●	●	●
Single phase, 220V	●	●	●	●
Single phase, 230V	●	●	●	●

Diaphragm Type Dry Vacuum Pumps (DTC Series)

DTC-22    

Two-stage / with thermal protector



Features

- All contacted parts of the gas are made of PTFE and FPM.
- Suitable for pumping out corrosive gas or organic solvent.
- High vacuum down to 1000Pa.
- Compact.

Applications

- Rotary evaporator.
- Evaporating system.
- Vacuum Concentrator.
- Vacuum filtration.
- Exhaust of gas-transfer tube.
- Vacuum drying system.
- Laser-gas circulation.
- Centrifuge.
- Medical/Pharmaceutical equipments.
- Analysis/scientific equipment.

Specifications

[top of page](#)

	Unit	50Hz	60Hz
Actual Pumping Speed	L/min	20	24
Ultimate pressure	Pa	1.0×10^3	
Motor		Single phase, 100V, 50W, 4P, Capacitor run	
Full load current	A	1.3	
Weight	kg	7.3	
Inlet, outlet pipe diameter	mm	O.D. dia.10 × I.D. dia.6 (G1/4)	
Ambient temperature	°C	0 – 40	
Overall dimensions	mm	142(W) × 288.5(L) × 202(H)	

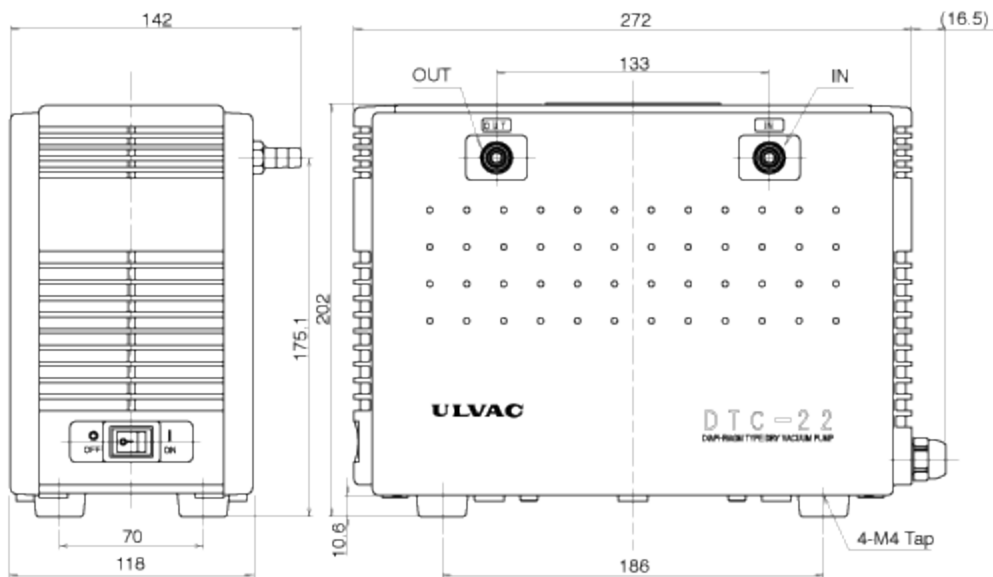
Caution

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1. The pump is stopped when the load is operated, and the pump can't be operated just after that. In this case, please return the atmospheric pressure the inside of the pump.
2. Please don't suck a causticity gas, an organic solvent, liquid and condensed gas (steam etc.). Moreover, garbage, dust and etc. must not enter in the pump.
3. It is a pump only in the room. Please do not set it up in the place, that rain and water splash, and outdoors.

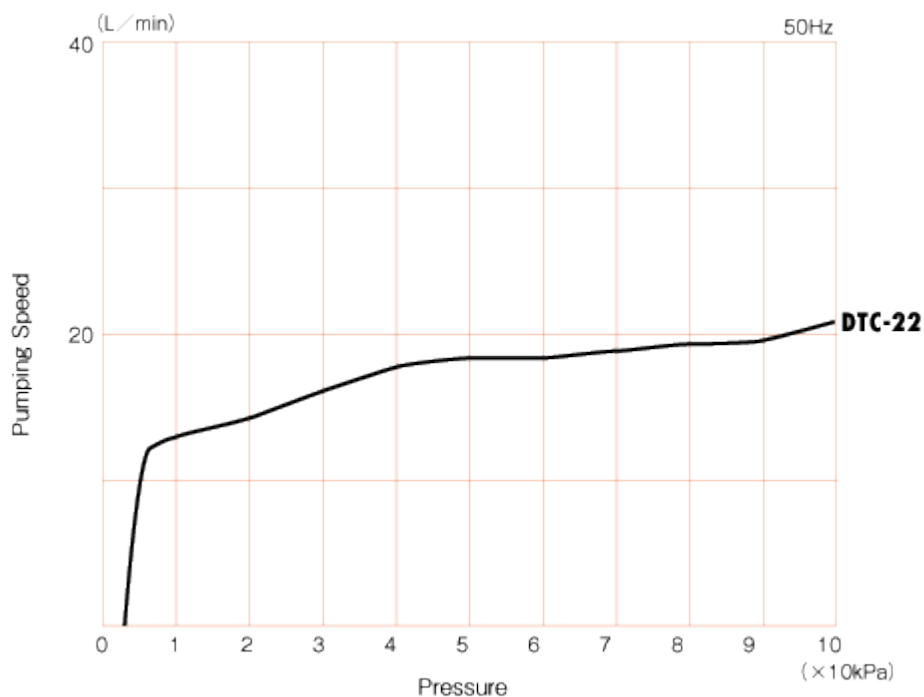
Outline Drawing

[top of page](#)



Pumping Speed Curves

[top of page](#)



Optional Voltage				
Voltage	Applicable Volt	CE Marked	TUV Marked	cTUVus Marked
Single phase, 100V	Standard	-	-	-
Single phase, 115V	●	●	●	●
Single phase, 200V	●	-	-	-
Single phase, 220V	●	●	●	●
Single phase, 230V	●	●	●	●

DTC-41

Two-stage / with thermal protector



Features

- All contacted parts of the gas are made of PTFE and FPM.
- Suitable for pumping out corrosive gas or organic solvent.
- High vacuum down to 1000Pa.
- Compact.

Applications

- Rotary evaporator.
- Evaporating system.
- Vacuum Concentrator.
- Vacuum filtration.
- Exhaust of gas-transfer tube.
- Vacuum drying system.
- Laser-gas circulation.
- Centrifuge.
- Medical/Pharmaceutical equipments.
- Analysis/scientific equipment.

Specifications

Unit	50Hz	60Hz

Actual Pumping Speed	L/min	40	46
Ultimate pressure	Pa	1.0 × 10 ³	
Motor		Single phase, 100V, 100W, 4P, Capacitor run	
Full load current	A	2.2	2.3
Weight	kg	10.3	
Inlet, outlet pipe diameter	mm	O.D. dia.10 × I.D. dia.6 (G1/4)	
Ambient temperature	°C	0 – 40	
Overall dimensions	mm	155(W) × 336.5(L) × 217(H)	

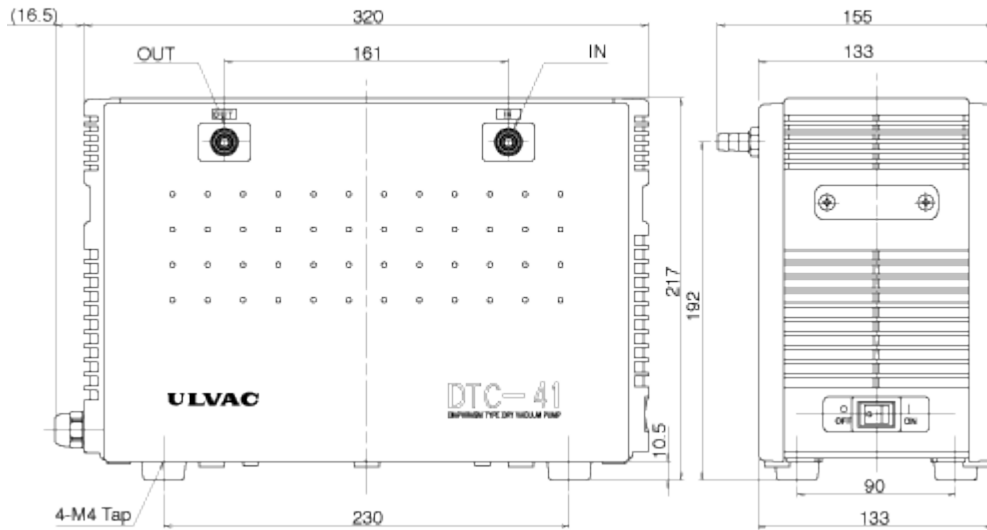
Caution

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1. The pump is stopped when the load is operated, and the pump can't be operated just after that. In this case, please return the atmospheric pressure the inside of the pump.
2. Please don't suck a causticity gas, an organic solvent, liquid and condensed gas (steam etc.). Moreover, garbage, dust and etc. must not enter in the pump.
3. It is a pump only in the room. Please do not set it up in the place, that rain and water splash, and outdoors.

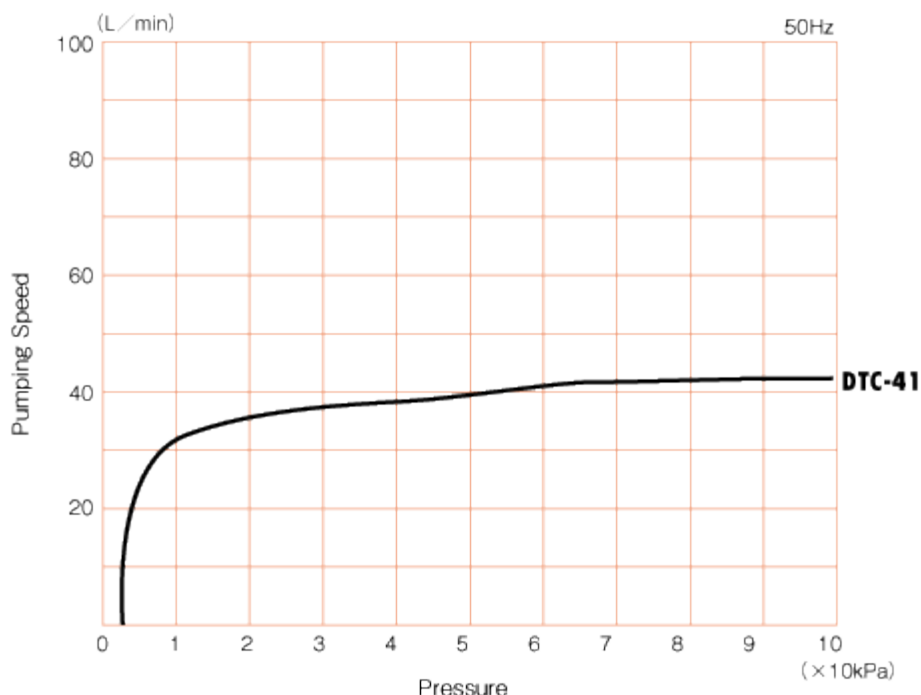
Outline Drawing

[top of page](#)



Pumping Speed Curves

[top of page](#)



Optional Voltage				
Voltage	Applicable Volt	CE Marked	TUV Marked	cTUVus Marked
Single phase, 100V	Standard	●	–	–
Single phase, 200V	●	–	–	–
Single phase, 220V	●	–	–	–
Single phase, 230V (50Hz)	●	●	–	–

DTC-60



Two-stage / with thermal protector



Features

- All contacted parts of the gas are made of PTFE and FPM.
- Suitable for pumping out corrosive gas or organic solvent.
- High vacuum down to 1000Pa.
- Compact.

Applications

- Rotary evaporator.
- Evaporating system.
- Vacuum Concentrator.
- Vacuum filtration.
- Exhaust of gas-transfer tube.
- Vacuum drying system.
- Laser-gas circulation.
- Centrifuge.
- Medical/Pharmaceutical equipments.
- Analysis/scientific equipment.

Specifications

	Unit	50Hz	60Hz
Actual Pumping Speed	L/min	60	70
Ultimate pressure	Pa	1.0 × 10 ³	

Motor		Single phase, 100V, 200W, 4P, Capacitor run	
Full load current	A	3.8	3.9
Weight	kg	18.0	
Inlet, outlet pipe diameter	mm	O.D. dia.14 × I.D. dia.9 (G3/8)	
Ambient temperature	°C	0 – 40	
Overall dimensions	mm	158(W) × 340(L) × 242(H)	

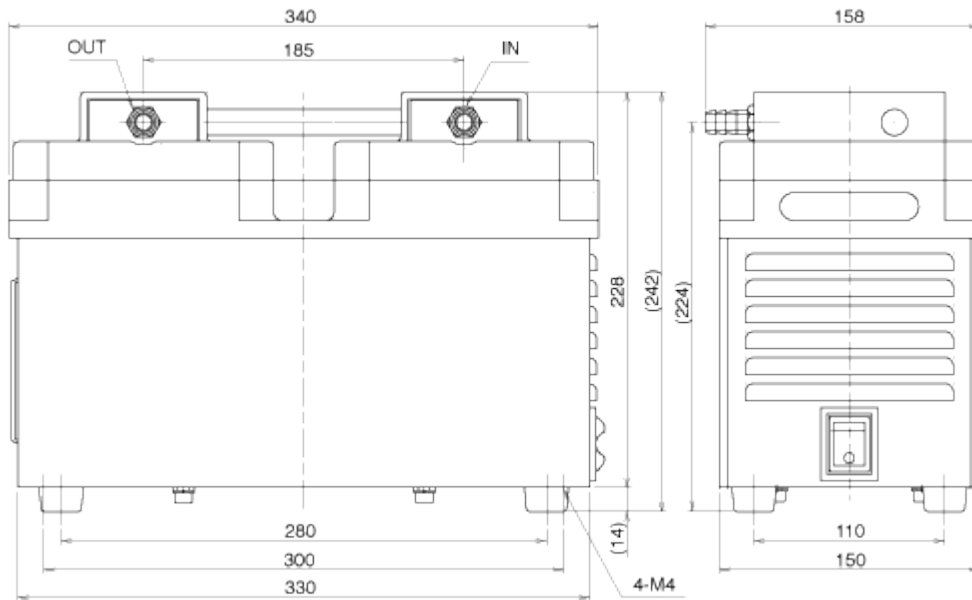
Caution

[top of page](#)

1. The pump is stopped when the load is operated, and the pump can't be operated just after that. In this case, please return the atmospheric pressure the inside of the pump.
2. Please don't suck a causticity gas, an organic solvent, liquid and condensed gas (steam etc.). Moreover, garbage, dust and etc. must not enter in the pump.
3. There is a possibility that the pump breaks down in the short time, if an operating is continuously for 24 hours in the automated production line or excluding the vicinity of the ultimate pressure. Please avoid a continuous operating for 24 hour and excluding the vicinity of the ultimate pressure to prevent this beforehand.
4. It is a pump only in the room. Please do not set it up in the place, that rain and water splash, and outdoors.

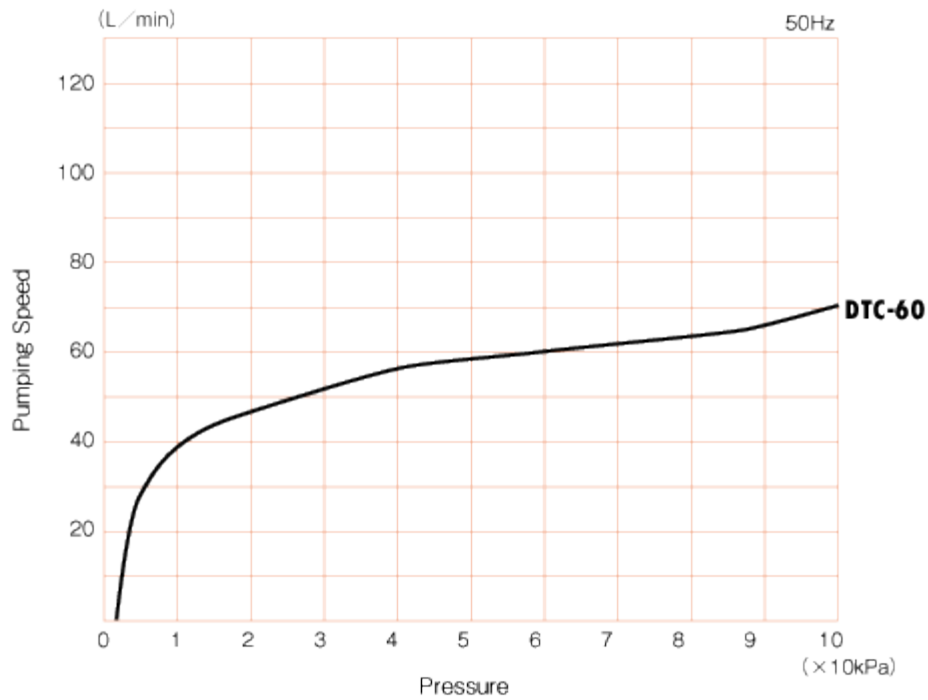
Outline Drawing

[top of page](#)



Pumping Speed Curves

[top of page](#)



Optional Voltage				
Voltage	Applicable Volt	CE Marked	TUV Marked	cTUVus Marked
Single phase, 100V	Standard	–	–	–
Single phase, 115V (60Hz)	●	–	–	–
Single phase, 200V	●	–	–	–
Single phase, 220V	●	–	–	–

4. Rocking Piston type Dry Vacuum Pumps (DOP Series)

DOP-40D

Single-stage / with cord / with thermal protector



Features

Rocking piston type vacuum pump creates vacuum by reciprocal motion of cup packing inside the cylinder.

Applications

- Vacuum chuck, vacuum tweezers.
- Absorption and transfer of automatic machines.
- Vacuum packing printing machines.
- Tip mounter.
- Medical equipments.
- Oxygen generator.

Specifications

	Unit	50Hz	60Hz
Actual Pumping Speed	L/min	40	44

Ultimate pressure	Pa	1.2 × 10 ³	
Motor		Single phase, 100V, 210W, 4P, Capacitor run	
Full load current	A	3.2	3.9
Weight	kg	7.0	
Inlet, outlet pipe diameter	mm	O.D. dia.9 × I.D. dia.5 (Rc 1/4)	
Ambient temperature	°C	7 – 40	
Overall dimensions	mm	160(W) × 270(L) × 179(H)	

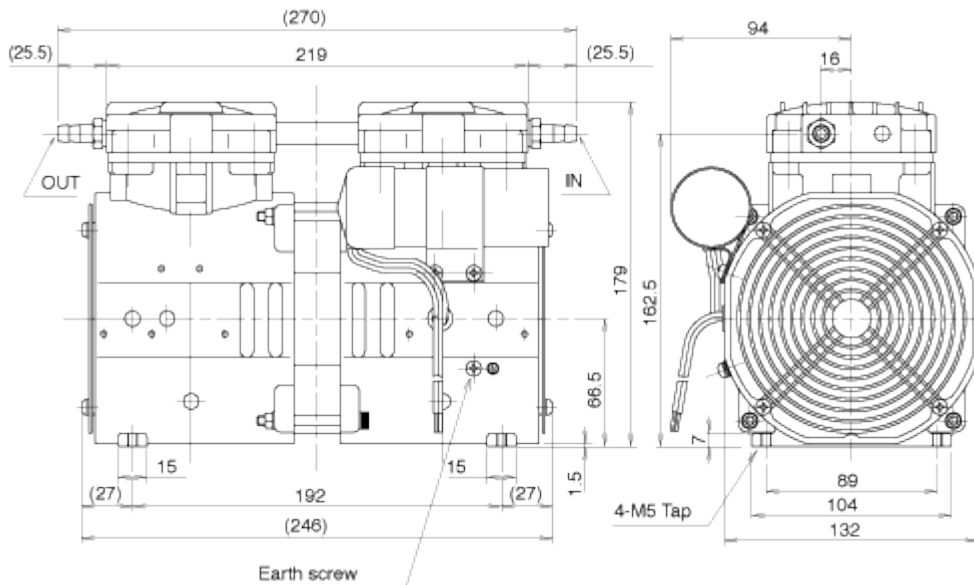
Caution

[top of page](#)

1. The pump is stopped when the load is operated, and the pump can't be operated just after that. In this case, please return the atmospheric pressure the inside of the pump.
2. The pump will not often operate normally if it is used with corrosive gases, organic solvents, liquids, or condensed gases (eg steam). The pump will not often operate normally if it is used with gases containing particles or dust etc.
3. Cup packing that is the sliding material of the pump will be worn out by operating, and microscopic particles result from wear of component. Moreover, wear is promoted because the sliding material is weak in moisture, and the pump life decreases if the vacuum gas is moisture. Please suck neither moisture nor condensed gas (steam etc.).
4. It is a pump only in the room. Please do not set it up in the place, that rain and water splash, and outdoors.

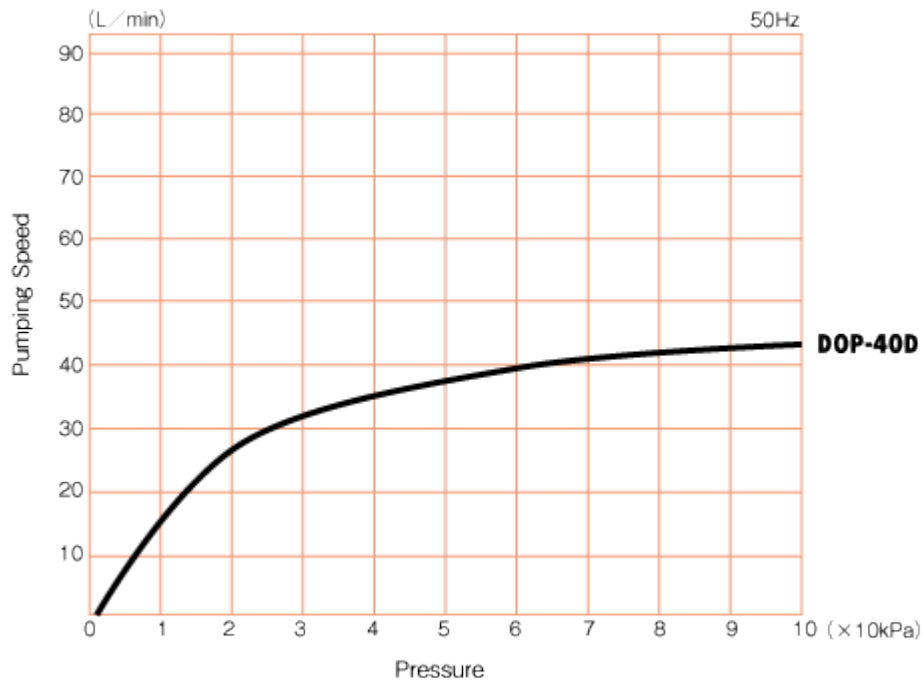
Outline Drawing

[top of page](#)



Pumping Speed Curves

[top of page](#)



Optional Voltage

[top of page](#)

Voltage	Applicable Volt	CE Marked	TUV Marked	cTUVus Marked
Single phase, 100V	Standard	-	-	-
Single phase, 115V	●	-	-	-
Single phase, 200V	●	-	-	-
Single phase, 220V	●	-	-	-

DOP-80S



Single-stage / with cord / with thermal protector

Features

Rocking piston type vacuum pump creates vacuum by reciprocal motion of cup packing inside the cylinder.

Applications

- Vacuum chuck, vacuum tweezers.
- Absorption and transfer of automatic machines.
- Vacuum packing printing machines.
- Tip mounter.
- Medical equipments.
- Oxygen generator.



Specifications

[top of page](#)

	Unit	50Hz	60Hz
Actual Pumping Speed	L/min	80	88
Ultimate pressure	Pa	5.33 × 10 ³	
Motor		Single phase, 100V, 210W, 4P, Capacitor run	
Full load current	A	3.2	3.9

Weight	kg	7.0
Inlet, outlet pipe diameter	mm	O.D. dia.9 × I.D. dia.5 (Rc 1/4)
Ambient temperature	°C	7– 40
Overall dimensions	mm	160(W) × 270(L) × 179(H)

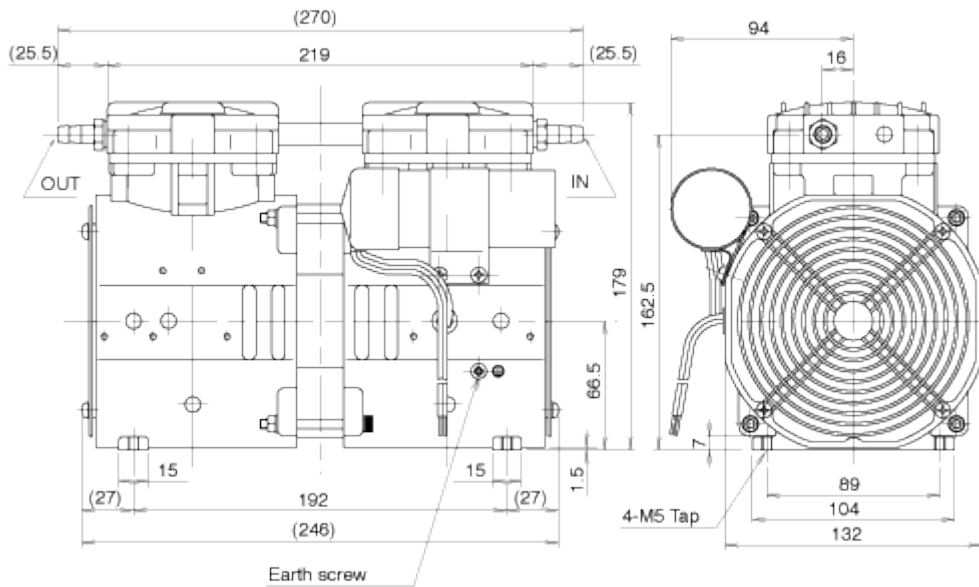
Caution

[top of page](#)

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In this case, please return the atmospheric pressure the inside of the pump.
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Moreover, wear is promoted because the sliding material is weak in moisture, and the pump life decreases if the vacuum gas is moisture.
Please suck neither moisture nor condensed gas (steam etc.).
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Please do not set it up in the place, that rain and water splash, and outdoors.

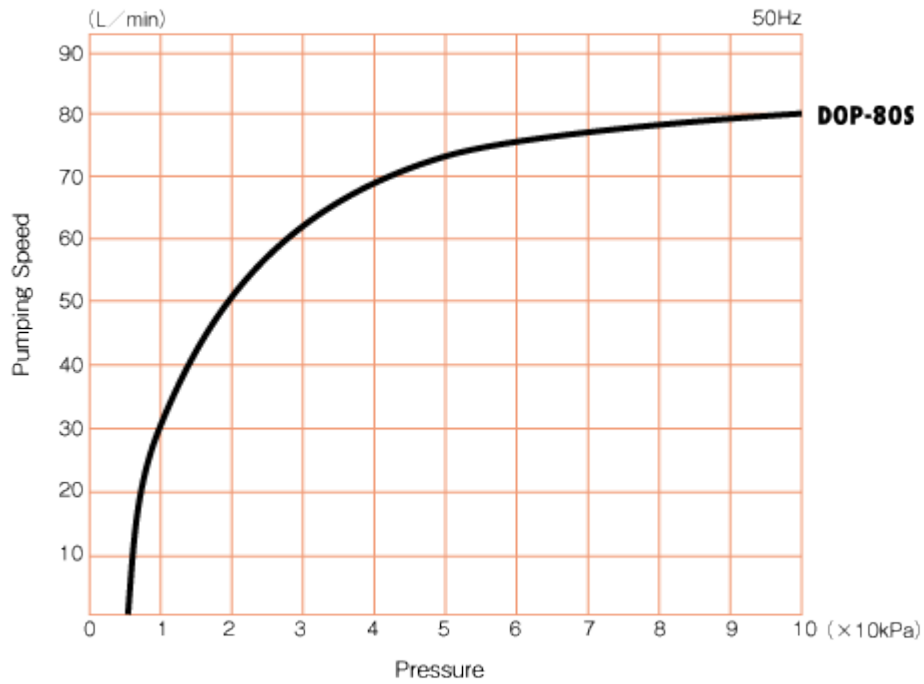
Outline Drawing

[top of page](#)



Pumping Speed Curves

[top of page](#)



Optional Voltage

[top of page](#)

Voltage	Applicable Volt	CE Marked	TUV Marked	cTUVus Marked
Single phase, 100V	Standard	-	-	-
Single phase, 115V	●	-	-	-
Single phase, 200V	●	-	-	-
Single phase, 220V	●	-	-	-

DOP-80SP



Single-stage / with cord / with thermal protector

Features

Specialized Pressure Pump that utilizes with a piston structure.

Applications

- Pressure source for automatic machines.
- Air pressure unit.
- Printing machine.
- Otorhinolaryngology,dental unit.
- Air pressure meter.



Specifications

[top of page](#)

	Unit	50Hz	60Hz
Actual Pumping Speed	L/min	80	84
Maximum pressure	MPa	0.5	
Motor		Single phase, 100V, 300W, 4P, Capacitor run	
Full load current	A	5.0	5.5
Weight	kg	9.0	

Inlet, outlet pipe diameter	mm	O.D. dia.9 × I.D. dia.5 (Rc 1/4)
Ambient temperature	°C	7– 40
Overall dimensions	mm	168.5(W) × 288(L) × 181(H)

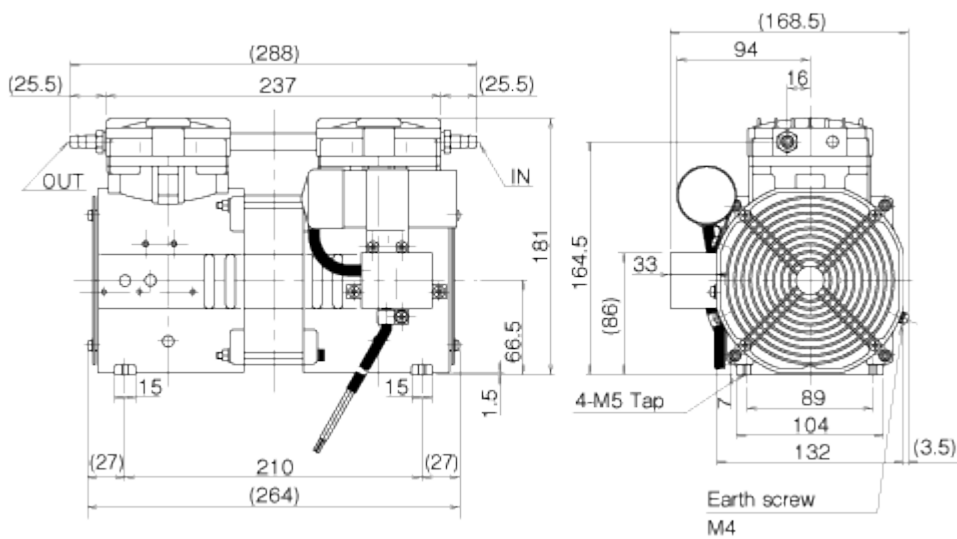
Caution

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Please suck neither moisture nor condensed gas (steam etc.).
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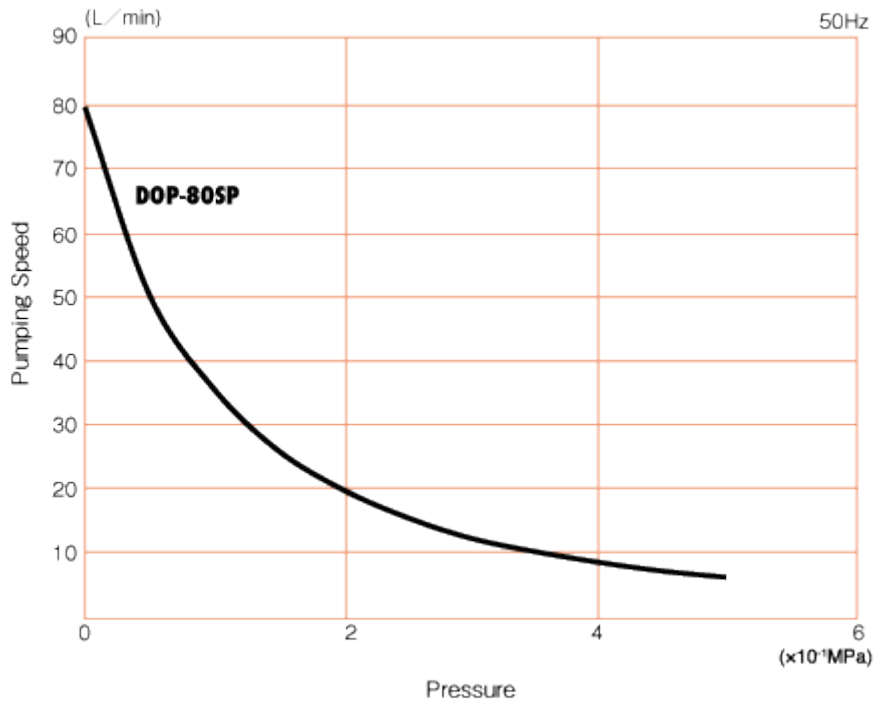
Outline Drawing

[top of page](#)



Pumping Speed Curves

[top of page](#)



Optional Voltage				
Voltage	Applicable Volt	CE Marked	TUV Marked	cTUVus Marked
Single phase, 100V	●	-	-	-
Single phase, 200V	●	-	-	-
Single phase, 220V	●	-	-	-

DOP-181S



Single-stage / Thermal Protector Installed / with power cable



Features

Rocking piston type vacuum pump creates vacuum by reciprocal motion of cup packing inside the cylinder.

Applications

- Vacuum chuck, vacuum tweezers.
- Semiconductor industry. (Handler, Mounter)
- FPD industry. (Bonder)
- Printing machine.
- Injection molding.
- Suction and transfer.

Specifications						
Model		DOP-181SA	DOP-181SB	DOP-181SC	DOP-181SD	DOP-181SE
Actual Pumping Speed (50/60Hz)	L/min	180/200				
Ultimate pressure	Pa	10.0 × 10 ³				
Motor		Single phase 100V, 400W 4P	Single phase 115V, 400W 4P	Single phase 200V, 400W 4P	Single phase 220V, 400W 4P	Three phase 200-220V 400W, 4P
Full load current	A	6.3/5.8	5.3/5.1	3.2/2.9	2.9/2.6	2.0-1.9/1.9-1.8

Weight	kg	12		
Inlet, outlet pipe diameter	mm	Rc 3/8		
Ambient temperature	°C	7 – 40		
Overall dimensions	mm	172(W)×266(L)×235(H)	162(W)×266(L)×235(H)	160(W)×266(L)×235(H)

Caution

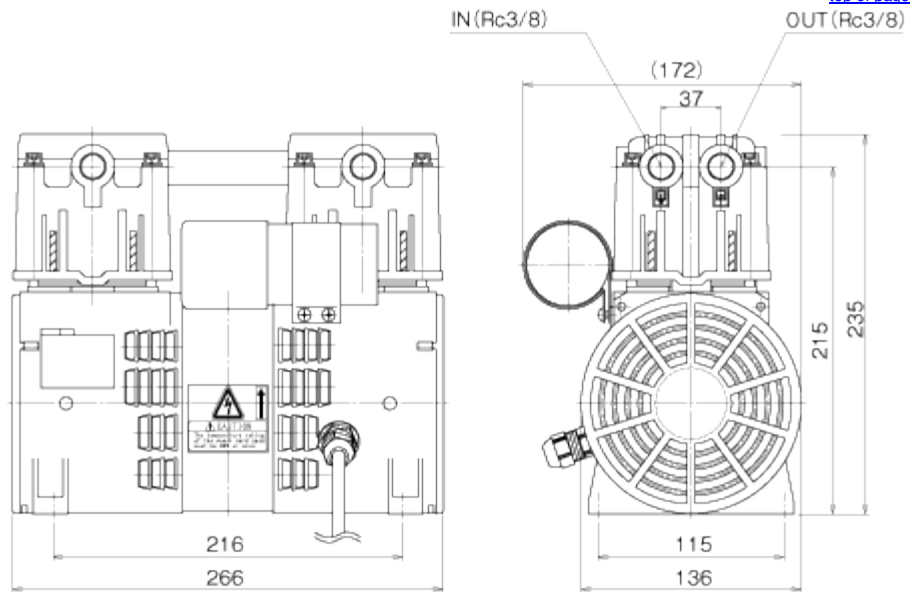
[top of page](#)

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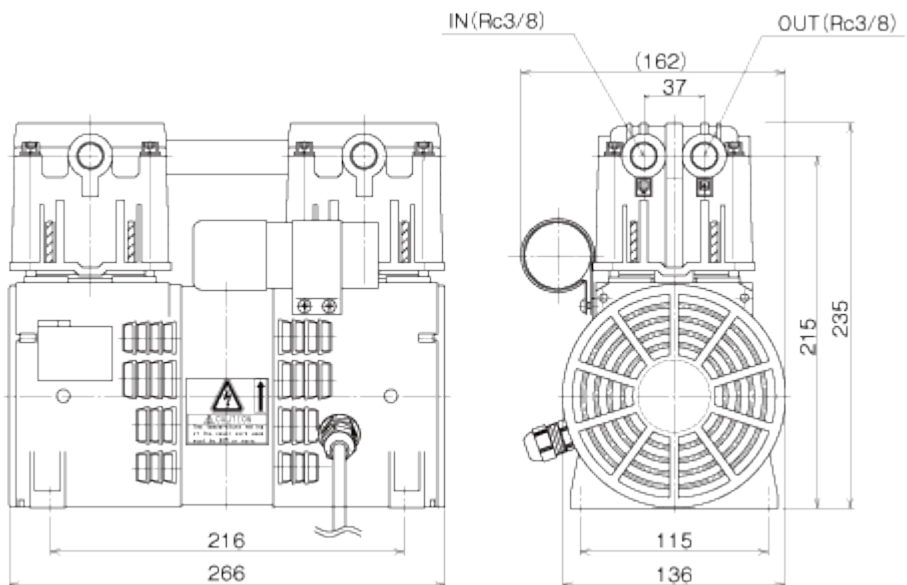
Outline Drawing

[top of page](#)

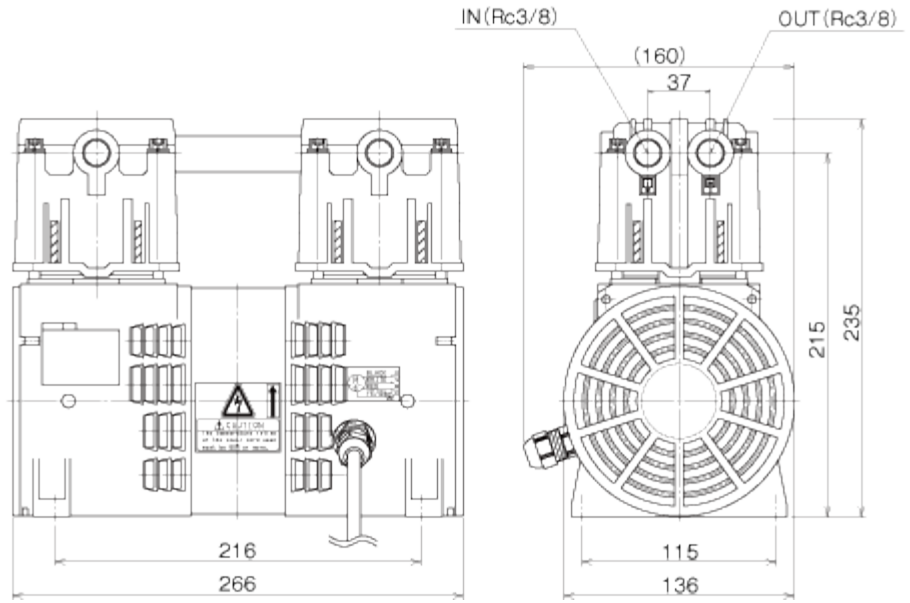
● DOP-181SA/SB



● DOP-181SC/SD

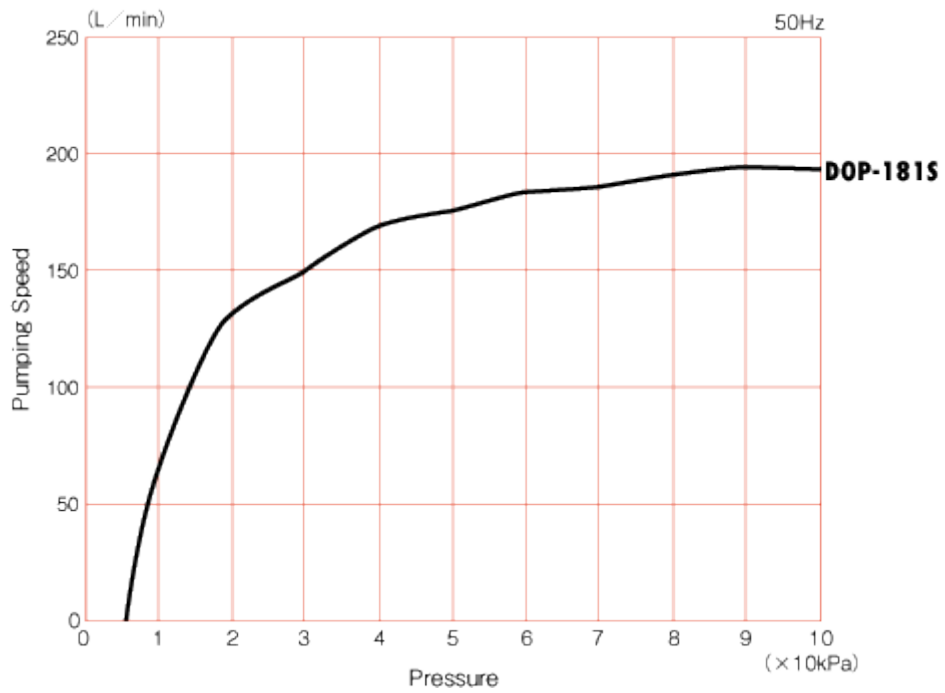


● DOP-181SE



Pumping Speed Curves

[top of page](#)



Optional Voltage

[top of page](#)

Model	Voltage	Applicable Volt	CE Marked	TUV Marked	cTUVus Marked
DOP-181SA	Single phase 100V, 400W, 4P	Standard	●	●	●
DOP-181SB	Single phase 115V, 400W, 4P	Standard	●	●	●
DOP-181SC	Single phase 200V, 400W, 4P	Standard	●	●	●
DOP-181SD	Single phase 220V, 400W, 4P	Standard	●	●	●
DOP-181SE	Three phase 200-220V, 400W, 4P	Standard	●	●	●

DOP-301SB



Three-stage / Actual pumping speed / terminal only (without cord) / with thermal protector

Features

Rocking piston type vacuum pump creates vacuum by reciprocal motion of cup packing inside the cylinder.
Bigger volume of pumping speed with increased number of pump heads.



Applications

- Vacuum chuck, vacuum tweezers.
- Semiconductor industry. (Handler, Mounter)
- FPD industry. (Bonder)
- Printing machine.
- Injection molding.
- Adsorption and transfer.

Specifications

[top of page](#)

	Unit	50Hz	60Hz
Actual Pumping Speed	L/min	300	330
Ultimate pressure	Pa	8.0 × 10 ³	
Motor		Three phase, 200-230V, 400W, 4P	
Full load current	A	2.1	2.5
Weight	kg	20.0	
Inlet, outlet pipe diameter	mm	O.D. dia.16.0 × I.D. dia.12.0 (Rc 1/2)	
Ambient temperature	°C	0 – 40	
Overall dimensions	mm	315(W) × 443(L) × 231(H)	

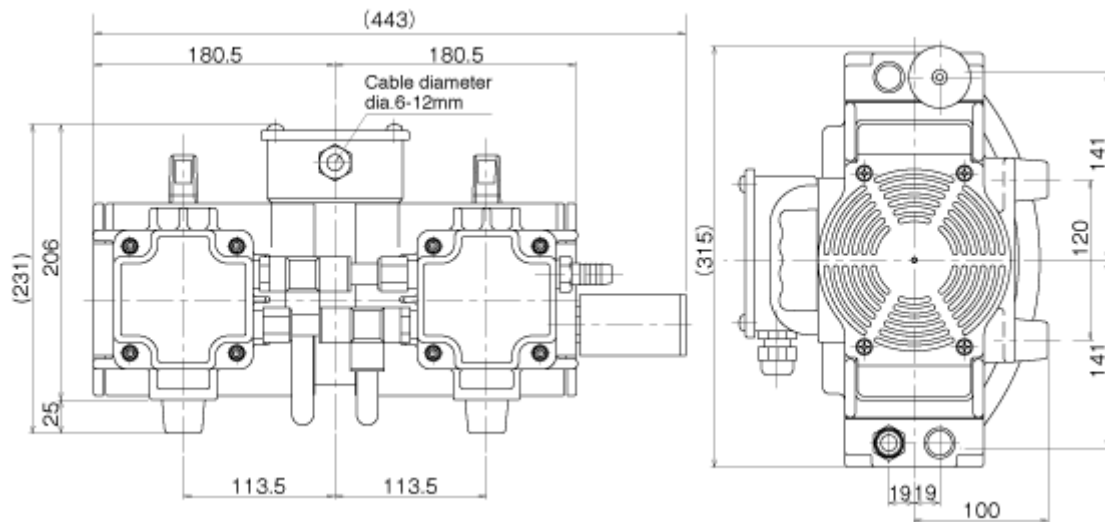
Caution

[top of page](#)

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3. Cup packing that is the sliding material of the pump will be worn out by operating, and microscopic particles result from wear of component.
Moreover, wear is promoted because the sliding material is weak in moisture, and the pump life decreases if the vacuum gas is moisture.
Please suck neither moisture nor condensed gas (steam etc.).
4. It is a pump only in the room.
Please do not set it up in the place, that rain and water splash, and outdoors.

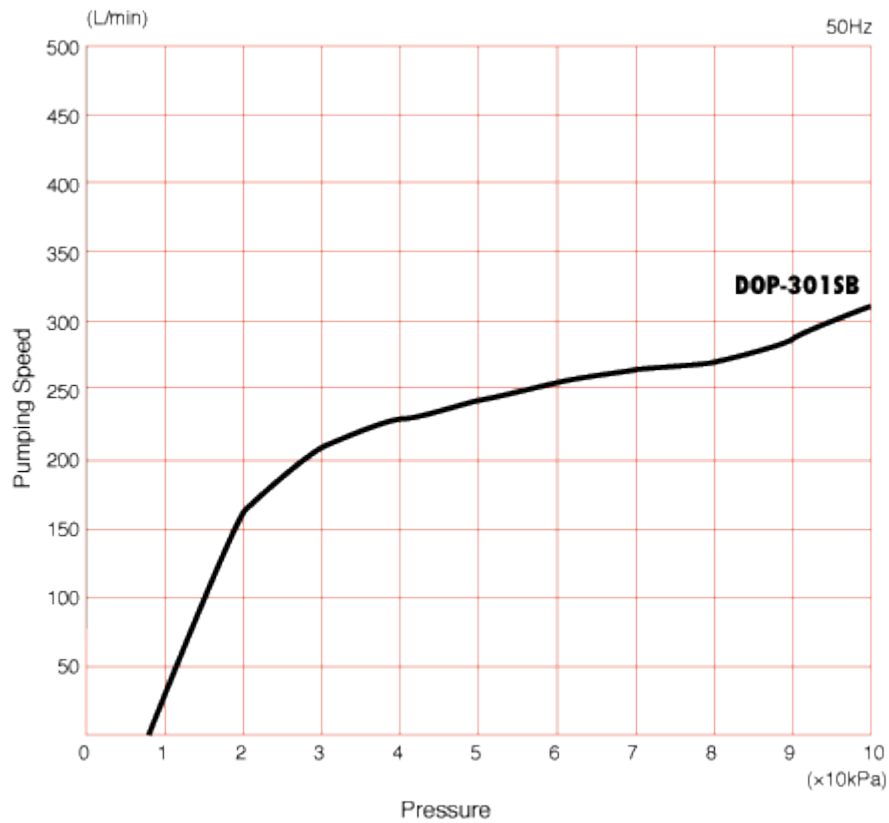
Outline Drawing

[top of page](#)



Pumping Speed Curves

[top of page](#)



Optional Voltage

[top of page](#)

Model	Voltage	Applicable Volt	CE Marked	TUV Marked	cTUVus Marked
DOP-301SB	Three phase, 200-230V	Standard	●	●	●

DOP-400SB



Three-stage / Actual pumping speed / terminal only (without cord) / with thermal protector

Features

Rocking piston type vacuum pump creates vacuum by reciprocal motion



of cup packing inside the cylinder. Bigger volume of pumping speed with increased number of pump heads.

Applications

- Vacuum chuck, vacuum tweezers.
- Semiconductor industry. (Handler, Mountor)
- FPD industry. (Bonder)
- Printing machine.
- Injection molding.
- Adsorption and transfer.

Specifications

[top of page](#)

	Unit	50Hz	60Hz
Actual Pumping Speed	L/min	400	440
Ultimate pressure	Pa	12.0 × 10 ³	
Motor		Three phase, 200–220V, 400W, 4P	
Full load current	A	2.4	2.8
Weight	kg	23.0	
Inlet, outlet pipe diameter	mm	Adapted tubing O.D. dia.16 (Rc1/2)	
Ambient temperature	°C	0 – 40	
Overall dimensions	mm	316(W) × 434(L) × 231(H)	

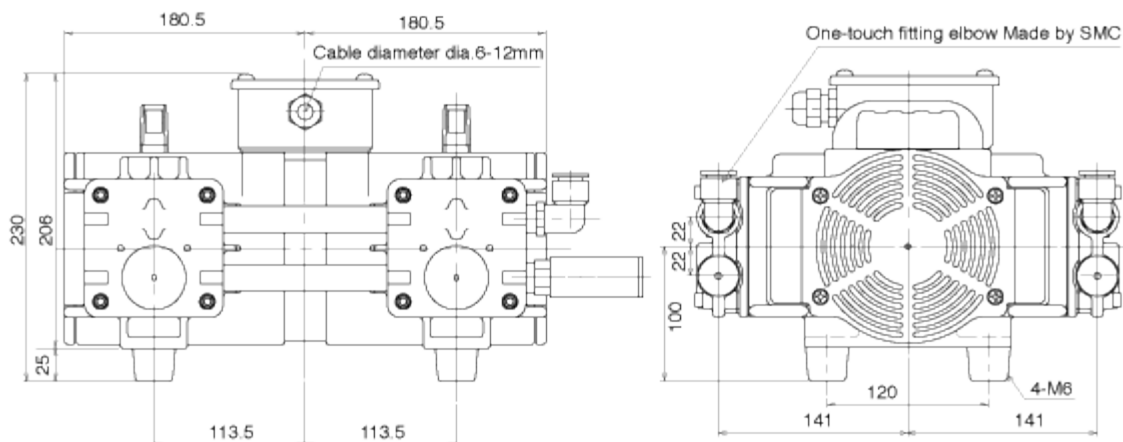
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[top of page](#)

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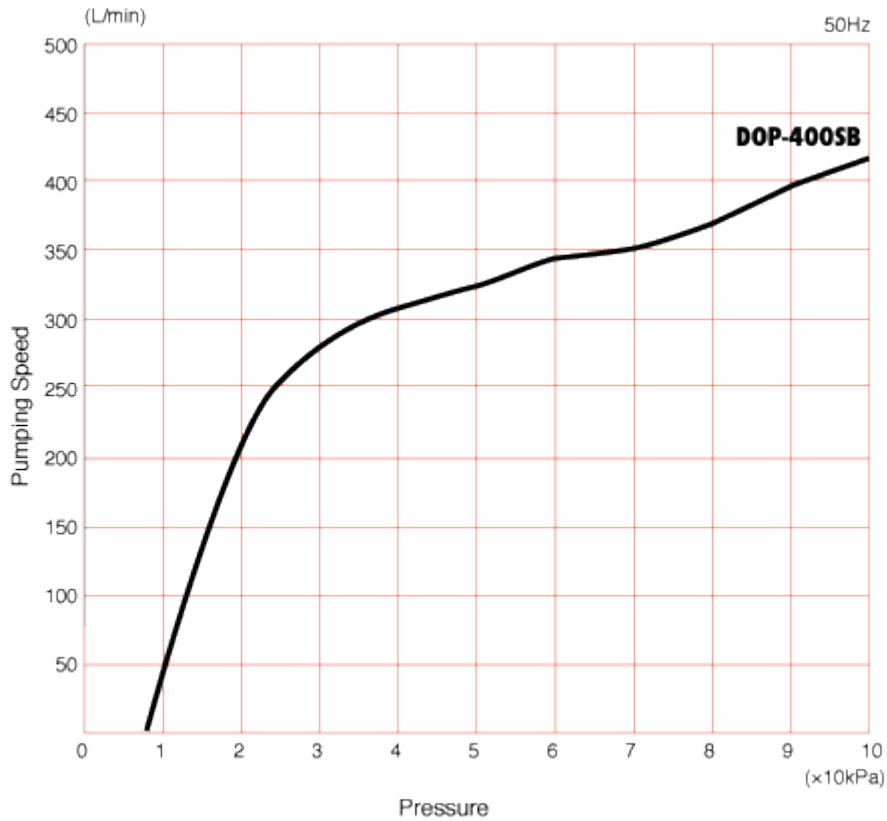
Outline Drawing

[top of page](#)



Pumping Speed Curves

[top of page](#)



Optional Voltage				
Voltage	Applicable Volt	CE Marked	TUV Marked	cTUVus Marked
Three phase, 200-220V	Standard	●	●	●

DOP-420SA



Three-stage / Actual pumping speed / terminal only (without cord) / with thermal protector



Features

Rocking piston type vacuum pump creates vacuum by reciprocal motion of cup packing inside the cylinder. Bigger volume of pumping speed with increased number of pump heads.

Applications

- Vacuum chuck, vacuum tweezers.
- Semiconductor industry. (Handler, Mountor)
- FPD industry. (Bonder)
- Printing machine.
- Injection molding.
- Adsorption and transfer.

Specifications

	Unit	50Hz	60Hz
Actual Pumping Speed	L/min	420	460
Ultimate pressure	Pa	17.3×10^3	
Motor		Three phase, 200V, 550W, 4P	
Full load current	A	3.5	3.1

Weight	kg	33.0
Inlet, outlet pipe diameter	mm	O.D. dia.26 × I.D. dia.20 (Rc 3/4)
Ambient temperature	°C	0 – 40
Overall dimensions	mm	310(W) × 523(L) × 253(H)

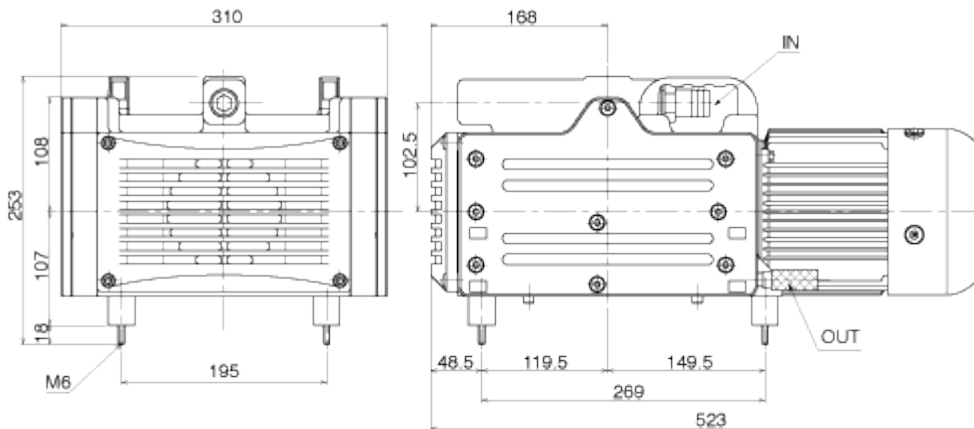
Caution

[top of page](#)

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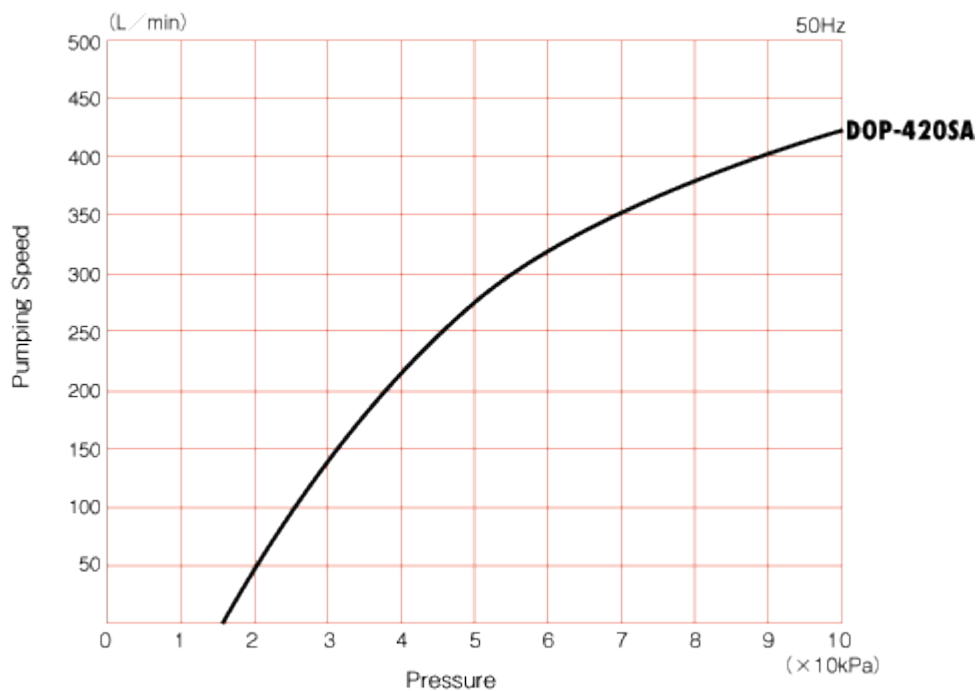
Outline Drawing

[top of page](#)



Pumping Speed Curves

[top of page](#)



Optional Voltage

[top of page](#)

Voltage	Applicable Volt	CE Marked	TUV Marked	cTUVus Marked
Three phase, 200V	Standard	●	●	-