

# ***Installation and Operation Manual For Oilfume Purifier of **DE Series*****



**despel**

Engineered Kitchen Ventilation Systems

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1

SAFETY

Safety marks

Before you start to use, familiarize yourself with the icons in this manual.



**HIGH VOLTAGE**



**PUT MASKS ON**



**WEAR PROTECTIVE GLOVES**



**WEAR PROTECTIVE GLASSES**



**SAFETY**



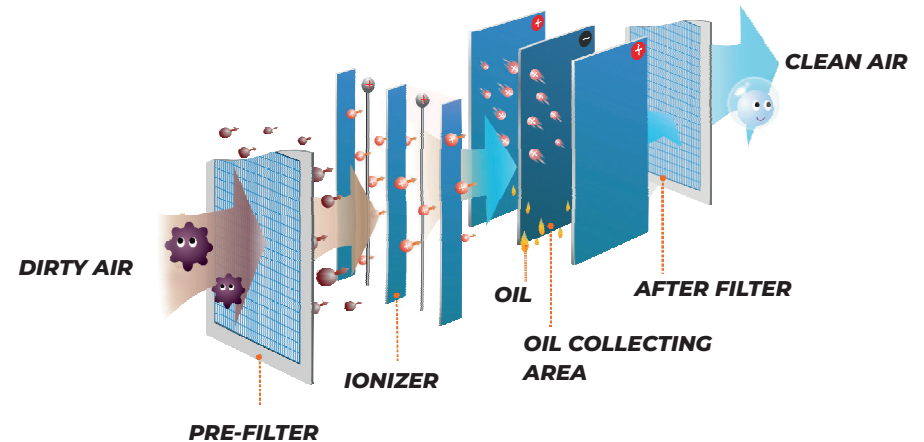
**GROUNDING**

2

GOODS INTRODUCTION

Working principle

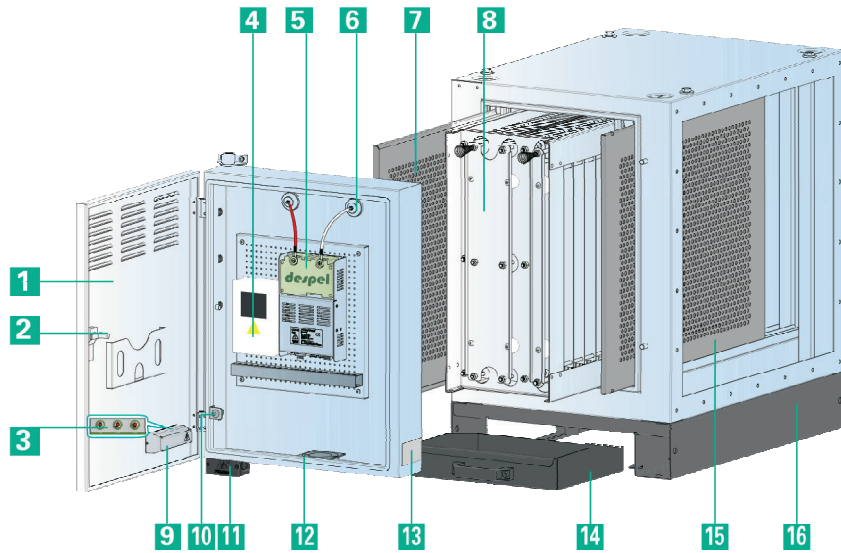
Working principle: E series are two-stage electrostatic adsorption purifier, and used for removing of hydrocarbons and other airborne particles. The two-stage consist of ionization zone and adsorption zone, each ionization zone consists of a series of tungsten wires, installed in a series of grounded plates connected with direct current. When particles flow through the electrostatic field, they are ionized with positive or negative charges. Each adsorption zone is made of a number of parallel plates connected to a high voltage direct current. The charged particles are attracted to the grounded plates, also driven by charged plates. For this reason, the charged particles in air stream can be removed efficiently.



2

GOODS INTRODUCTION  
Part description

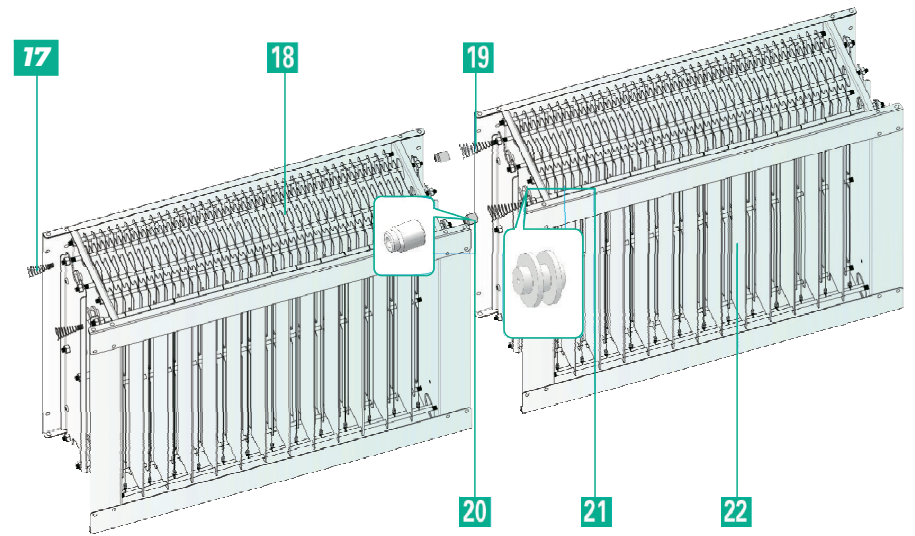
E serie samples



- |                               |                              |
|-------------------------------|------------------------------|
| <b>1</b> Control Cabinet Door | <b>9</b> Indicator Light Box |
| <b>2</b> Locker               | <b>10</b> Travel Switch      |
| <b>3</b> Indicator Light      | <b>11</b> Junction Box       |
| <b>4</b> PCB Board            | <b>12</b> Fan                |
| <b>5</b> Power Supply         | <b>13</b> Label              |
| <b>6</b> Teflon               | <b>14</b> Oil Collector      |
| <b>7</b> Pre Filter           | <b>15</b> Beck Filter        |
| <b>8</b> Cell                 | <b>16</b> Base               |

2

Part of cells



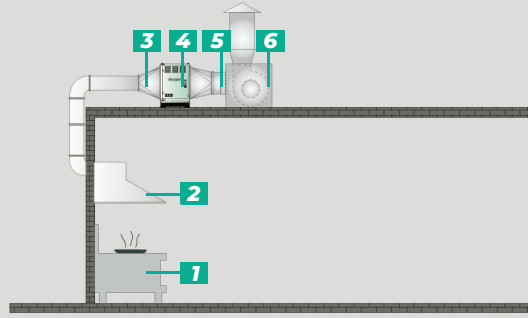
- |                           |
|---------------------------|
| <b>17</b> Spring          |
| <b>18</b> Adsorption Zone |
| <b>19</b> Spring          |
| <b>20</b> Connector       |
| <b>21</b> Teflon          |
| <b>22</b> Ionization Zone |

3

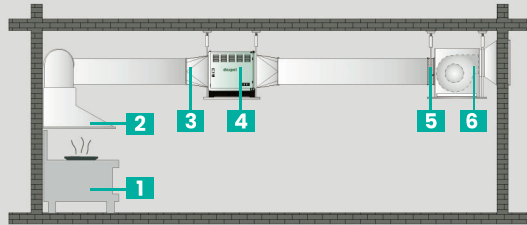
INSTALLATION  
Installation icon



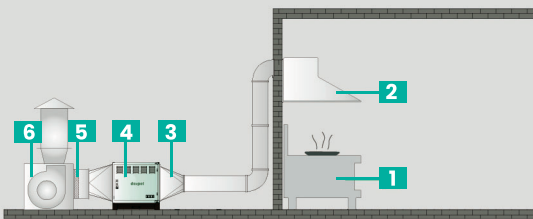
Outdoor on the roof



Indoor ceiling installation



Outdoor on the ground

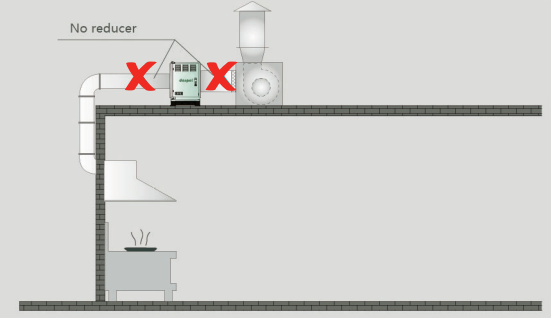


- 1** Smoke Mouth
- 2** Fume Collector
- 3** Reducer
- 4** Air Purifier
- 5** Flex Connection
- 6** Fan

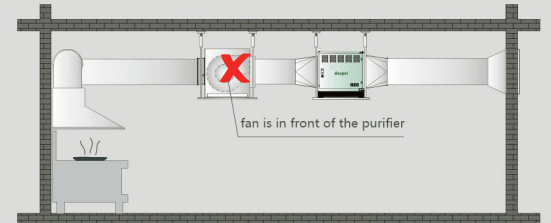
3

Common wrong installation

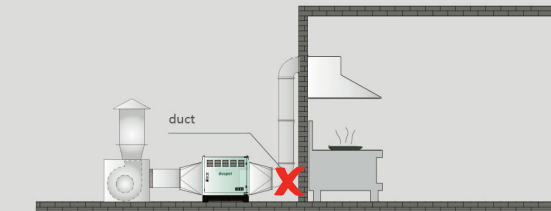
Add reducer on both sides of the air purifier



Install the fan on the air outlet, make air purifier work under negative pressure



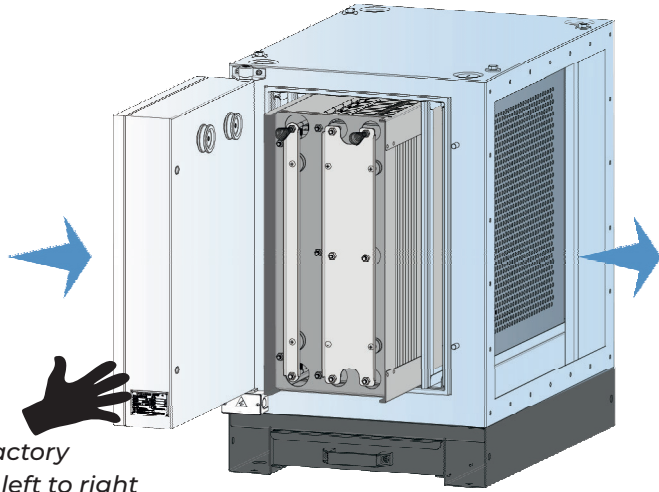
Add a duct (length 3-4D) if it is hard to add a duct, then choose the following solutions  
A: Add baffle  
B: Change the mesh to special-made air uniform plate



- 1** The total switch capacity and the power supply path must be specified.
- 2** The zero line should be same as the phase line, and well-connected.
- 3** The equipment must be grounded.

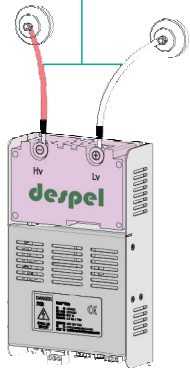
3

Airflow direction

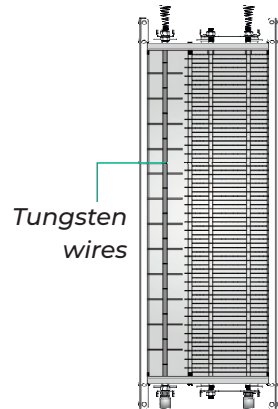


Notice: Factory setting is left to right

High voltage connection line



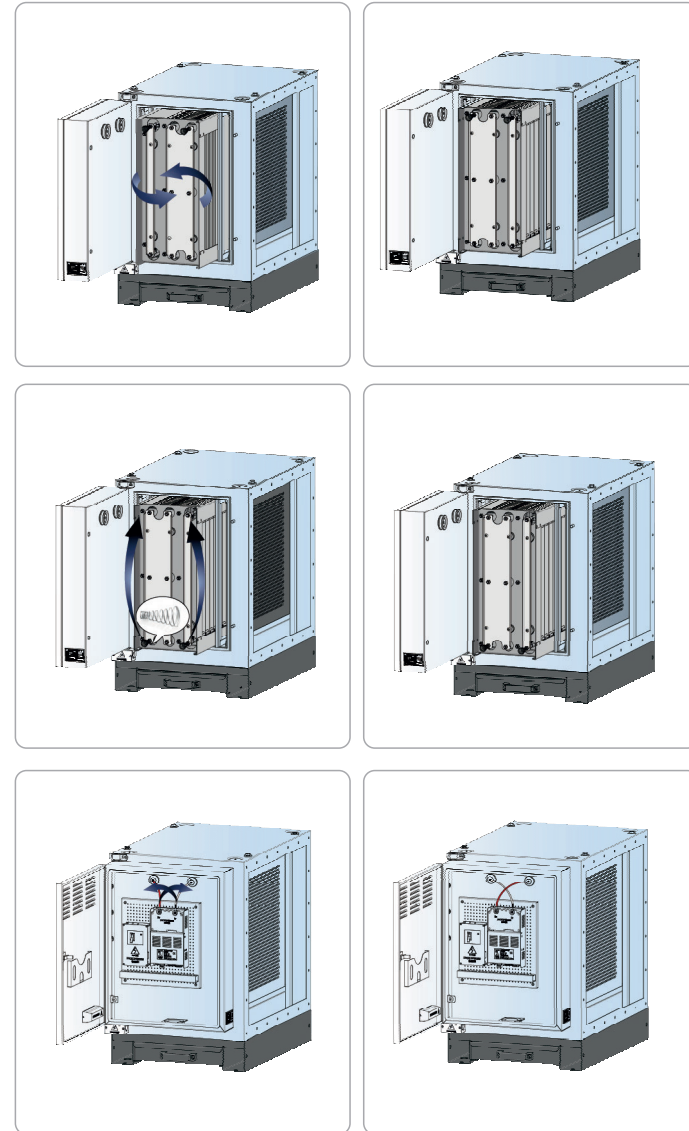
High voltage connection line when the left is red and the right is white. The airflow is left to right. When the right is red and the left is white, the airflow is right to left.



Cell direction: when the tungsten wires are at left side, the airflow is left to right. When the tungsten wires are at right side, the airflow is right to left

3

Way to change airflow



1

Rotate the cell by 180° and pull it in the frame

2

Move the springs and connectors from downside to upside

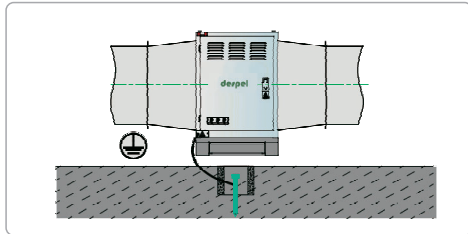
3

Change the way of connection of high voltage line in the cabinet

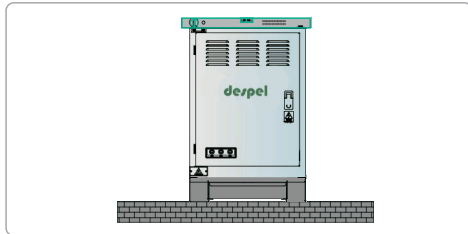
Notice: Please do as the instructions to avoid errors caused by changing the airflow direction.

# 3

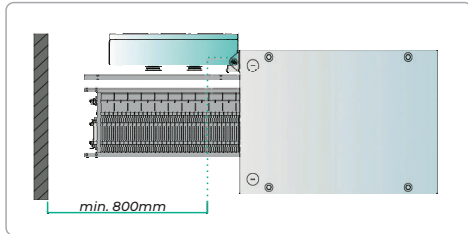
## Other notice



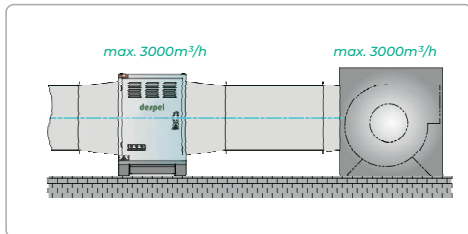
1. The purifier's electrical system must be grounded



2. Horizontal installation



3. Must left enough space for the cabinet for cells maintenance

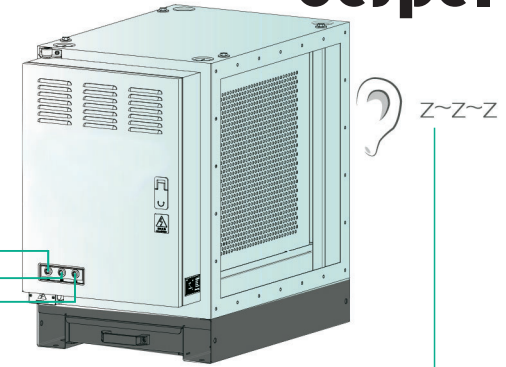


4. Fan and purifier should be matched

- 5. If the system is installed on the trestle, it should be well-connected with the trestle.
- 6. Flange connection between purifier and pipeline should be sealed.
- 7. Non-professionals disassembly/debugging/repairing are forbidden. When error occurs, turn off the power and ask for professional people's help.

# 4

## Daily use



Power light is on: power-supply is working **1**

High-voltage light is on: ionization is working **2**

Low-voltage light is on: adsorption zone is working **3**

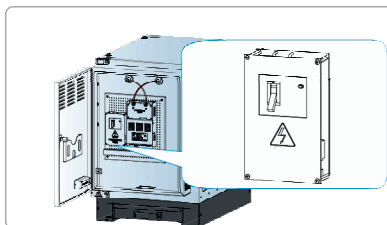
There's slightly and stable "rip" sound when connected with power

<p>power</p>	light is on	power supply is working	<b>1</b>
	light is off	power supply is working	common error and causes
<p>high voltage</p>	light is on	ionization zone is working	<b>2</b>
	light is off	ionization zone is abnormal	common error and causes
<p>low voltage</p>	light is on	adsorbtion zone is working	<b>3</b>
	light is off	adsorbtion zone is abnormal	common error and causes

- 1** Inspect and clean the oil pot regularly.
- 2** Wash the cells regularly.
- 3** Wash the cells immediately:
  - A: When the purification efficiency get lower and heavy fumes exhaust.
  - B: When the equipment bruises frequently.
  - C: When the high-voltage or low-voltage light flashes or turns off for a long time.
- 4** Inspect and wash the front air uniform plate and back orifice plate.

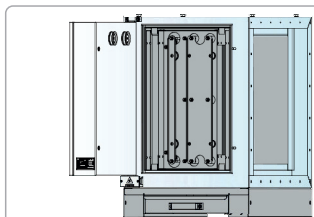
5

Cell's washing



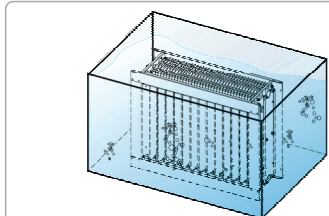
1

Open the cabinet and turn off the power



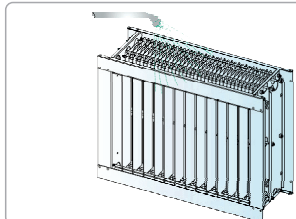
2

Take the cell and mesh filter out after 10 minutes



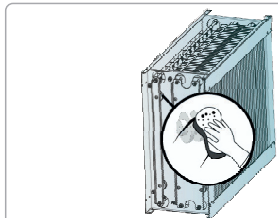
3

Soak the cell in the water with 1-2% caustic soda for 3-5 minutes, the water should submerge the cells



4

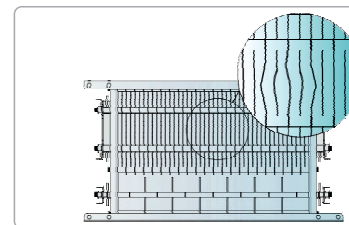
Rise the cell after soaking



5

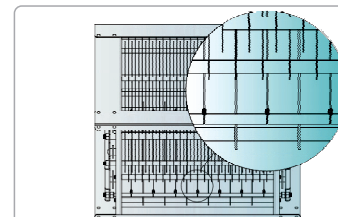
Wipe the teflons on the cell

Warning: While washing the cells, you must wear protective glasses/rain boots/anti-acid and alkali gloves.



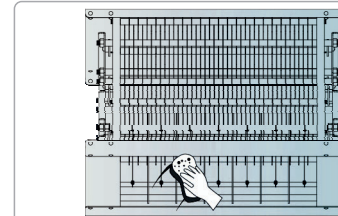
6

Check the plates, if there is deformation, please rectify



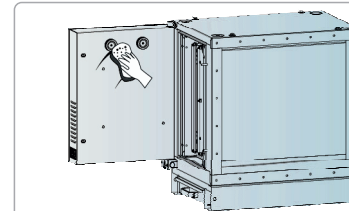
7

Check the tungsten wires if they are moved or sheared



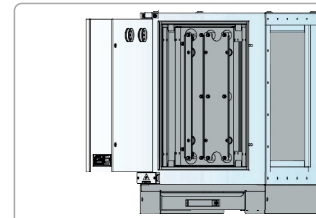
8

Check if there is junk on the tungsten wires and clean them up with soft towel



9

Wipe the teflon on the cabinet with industrial alcohol



10

Put the parts back as before

Warning: While washing the cells, you must wear protective glasses/rain boots/anti-acid and alkali gloves.



5

Common error and causes

<p><b>1</b></p> <p>Three lights are all off</p>	<p>A- No power</p>	<p>1- Check if the voltage is 220V 2- Check the control circuit and restore power</p>
	<p>B- Power-supply error</p>	<p>3- Change power-supply</p>
<p><b>2</b></p> <p>Power light is on, HV and LV lights are off</p>	<p>Cell's ionization and adsorption zone are snapped</p>	<p>1- Check if the cell's plates are out of shape</p>
		<p>2- Check if the tungsten wires are moved or broken</p>
		<p>3- Clean the junk on the plates</p>
<p><b>3</b></p> <p>Power light is on, HV and LV lights gleam together for 1 second</p>	<p>Cell is open-circuit</p>	<p>1- Check cell's installation</p>
		<p>2- Check the springs &amp; connectors position</p>
		<p>3- Check if the high-voltage terminal is connected with spring</p>

<p><b>4</b></p> <p>Power light is on, HV light is on, LV light is off</p>	<p>Adsorption zone of cell is in short circuit</p>	<p>1- Check if cell's plate is out of shape</p>
		<p>2- Clean the junk on the plates</p>

<p><b>5</b></p> <p>Power light is on, HV light is off, LV light is on</p>	<p>Ionization zone of cell is in short circuit</p>	<p>1- Check if the tungsten wires are moved or broken</p>
		<p>2- Check if the teflon is broken</p>

<p><b>6</b></p> <p>Bruise frequently</p>	<p>Junk in cell's collecting zone</p>	<p>Take cell out and clean it</p>
	<p>Cell is out of shape</p>	<p>Rectify deformation</p>
	<p>There's too much junk on plates</p>	<p>Wash cells</p>
	<p>HV zone doesn't connect well</p>	<p>Reinstall cell and connectors</p>

<p><b>7</b></p> <p>If the oil cannot be drained</p>	<p>Oil drain pipe inducts air</p>	<p>Clean the pipe</p>
		<p>Put the pipe orifice in water</p>
		<p>Make grease seal on the pipe</p>

Warning: While washing the cells, you must wear protective glasses/rain boots/anti-acid and alkali gloves.

Warning: While washing the cells, you must wear protective glasses/rain boots/anti-acid and alkali gloves.

6

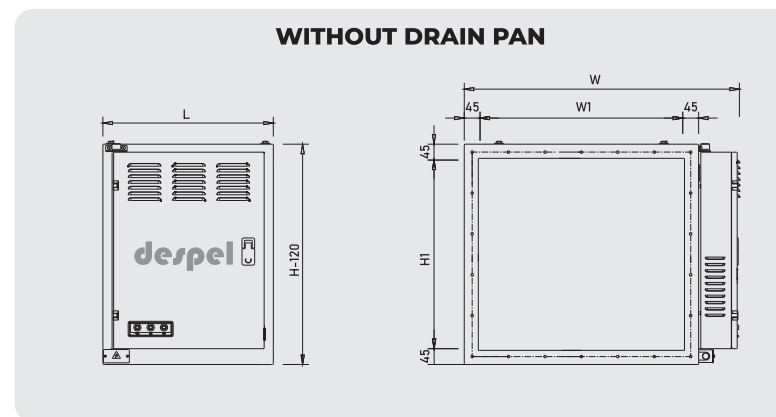
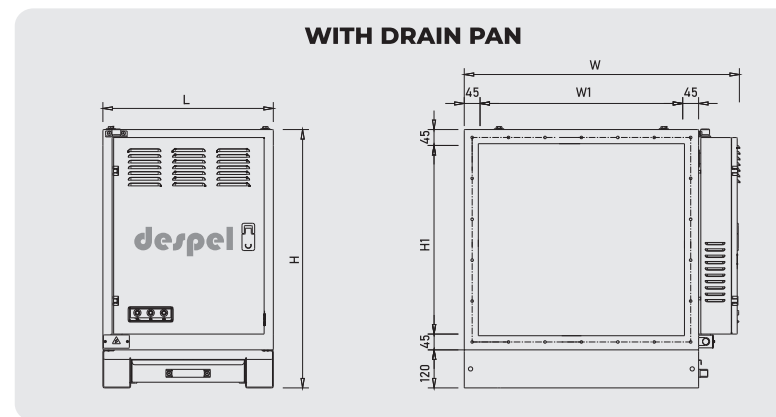
Parameter table of E series

Your air cleaner is a high efficiency contaminant collector designed to remove up to 95% of the dust, smoke, liquid aerosol and other pollutants from the air passing through it.

MODELS	Cell Quantity	Input Power (V)	Power Rating (W)	Weight (kg)
DE 30	1	220V-50Hz	77	73
DE 60	2	220V-50Hz	154	119
DE 80	2	220V-50Hz	182	129
DE 100	3	220V-50Hz	231	165

6

Dimensions



MODELS	Measurement (mm) L x W x H	Flange (mm) W1 x H1
DE 30	538x815x815	600x606
DE 60	538x1490x815	1276x606
DE 80	538x1595x815	1380x606
DE 100	538x2170x815	1955x606



**notes**

Lined writing area with horizontal dashed lines for notes.

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Lined writing area with horizontal dashed lines for notes.