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a-dec

A-dec SC Air Compressor

Installation Guide

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Product Models and Versions Covered in This Document

Models	Versions	Description
SC3/SC5/SC7/SC10/SC12	n/a	Air Compressor

86.0890.00 Rev E

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Before You Begin

NOTE Complete all electrical and plumbing connections according to all local codes and regulations.

- Verify the electrical and hose connections.
  - Verify voltage is within specifications, include checking that the ground is good.

Electrical Specifications	SC3/SC3.120	SC5/SC5.120	SC7	SC10	SC12
Voltage	230/120	230/120	230	230	230
Amps	6/11	8.8/16.2	11.1	14.1	16.5
Breaker Size (Amps)	15	15/20	15	20	20

  - Acceptable voltage range is 215-240 VAC. for 230 voltage units and 108-133 for 120 voltage units. Voltage outside of that range will require a buck-boost transformer that provides an incoming voltage adjustment of ± 10%. A buck-boost transformer is to be used only with 230V units.

Model	Size	Transformer p/n
SC3/SC5/SC7/SC10/SC12	2.5 KVA	E0275

  - Ensure the air line is long enough to reach the office's main line connection point.
  - If needed, ensure a fresh air line is available within reach of the Intake hose.
  - Ensure the supply piping is free and clear of obstruction to the fresh air source.
- Evaluate the room's air flow and overall temperature to maintain the recommended 40-104 degrees Fahrenheit. Make adjustments or recommendations if out of range.

Recommended Tools

- Level
- Phillips head screwdriver
- 3/8" hex driver
- 1/2" socket and ratchet
- 7/8" combination wrench

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Site Specifications and Sizing Information

Model	Max Users	Max CFM @80 PSI	PSI Range	Total HP	Voltage Range	Amps	Breaker Size (Amps)
SC3	3	3.7	86-106	1	215-240	6	15
SC5	5	5.8		1.5		8.8	15
SC7	7	7.6		2		11.1	15
SC10	10	8.8		2.5		14.1	20
SC12	12	10.6		3		16.5	20
SC3.120	3	3.7	86-106	1	108-133	11	15
SC5.120	5	5.8		1.5		16.2	20

Model	Dims - WxDxH Installed	Weight Installed (lb)	Dims - WxDxH Packaged	Weight Packaged (lb)	Sound dB(A)*	BTU/Hr Max
SC3	23 x 23 x 27-1/2"	149	24 x 31 x 36"	160	58.6	2,600
SC5	23 x 23 x 27-1/2"	177	24 x 31 x 36"	183	59.4	3,800
SC7	23 x 23 x 27-1/2"	193	24 x 31 x 36"	202	60.6	5,000
SC10	23 x 23 x 39"	265	24 x 31 x 44"	278	61.4	6,400
SC12	23 x 23 x 39"	279	24 x 31 x 44"	292	61.7	7,650

*The sound level increases by 1 dB(A) if the top plate of the compressor is removed. When just the cooling fan runs (no pumps running), the dB(A) level is 54.1.

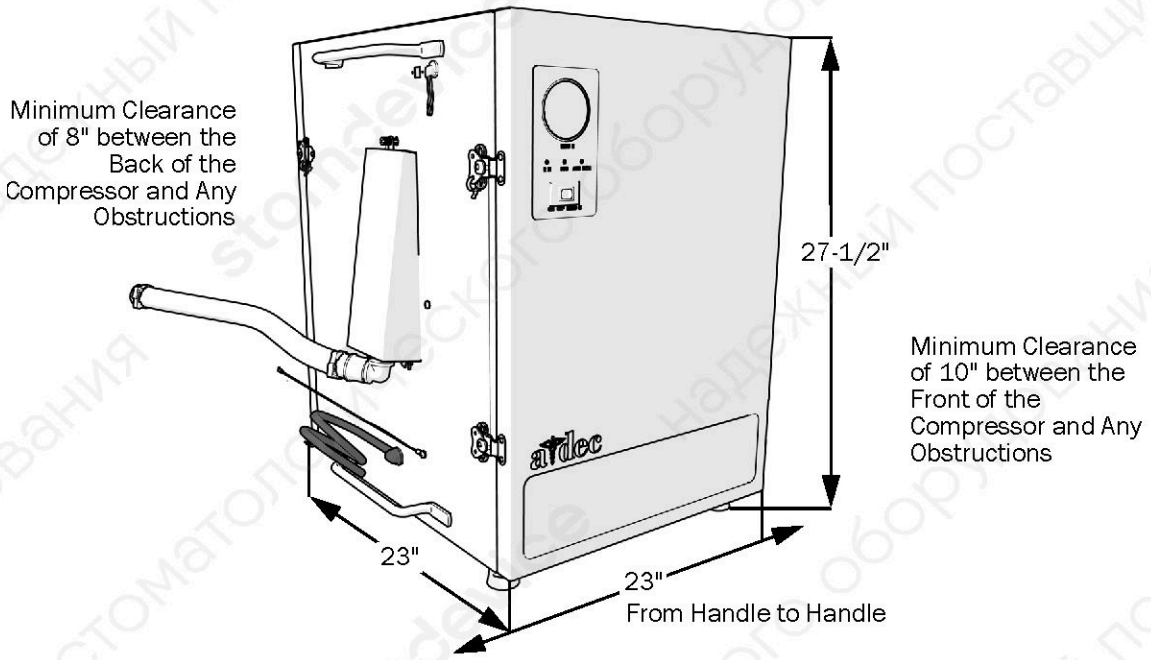
Site Requirements

- Indoor use only.
- Dust free, climate controlled room.
- Do not install/operate in an enclosed area where ambient temperature could exceed temperature specifications of below 40 °F or above 104 °F.
- Maintain a minimum of 8" of clearance in the back of the compressor and 10" in the front, for service access and cooling. If the back clearance is less than 8", remove the top plate to create proper air flow.
- Ensure unit stands level and firmly on the floor.

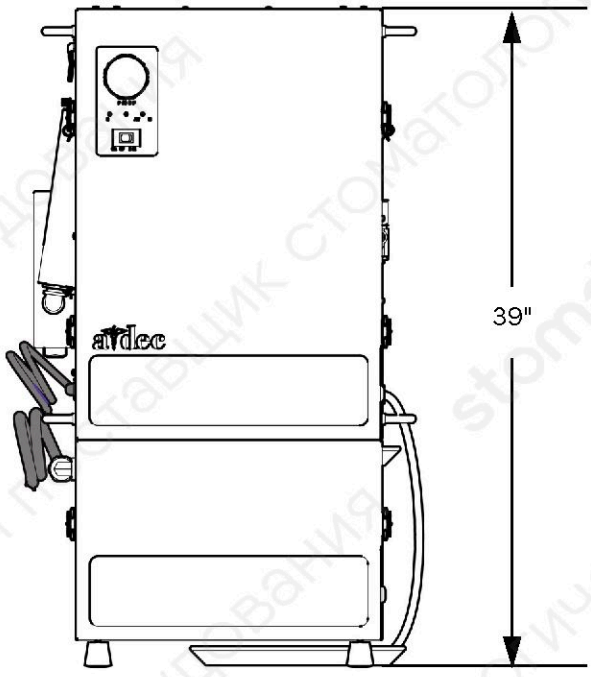
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Compressor Dimensions



Dimensions for A-dec SC3/SC5/SC7Air Compressor



Height Dimensions for A-dec SC10/SC12

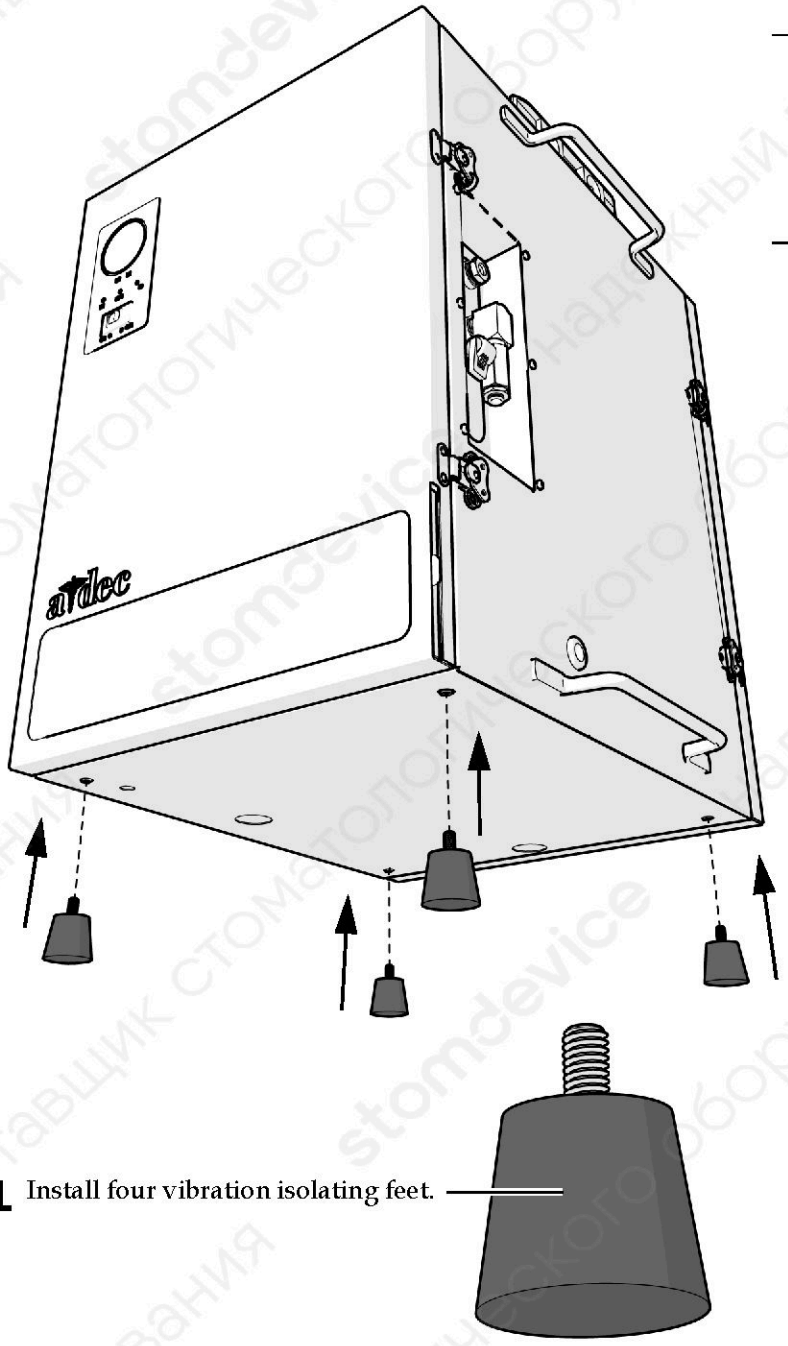
The other dimensions are the same as the above A-dec SC3/SC5/SC7 Air Compressor

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Install a Compressor

Install the Vibration Isolating Feet



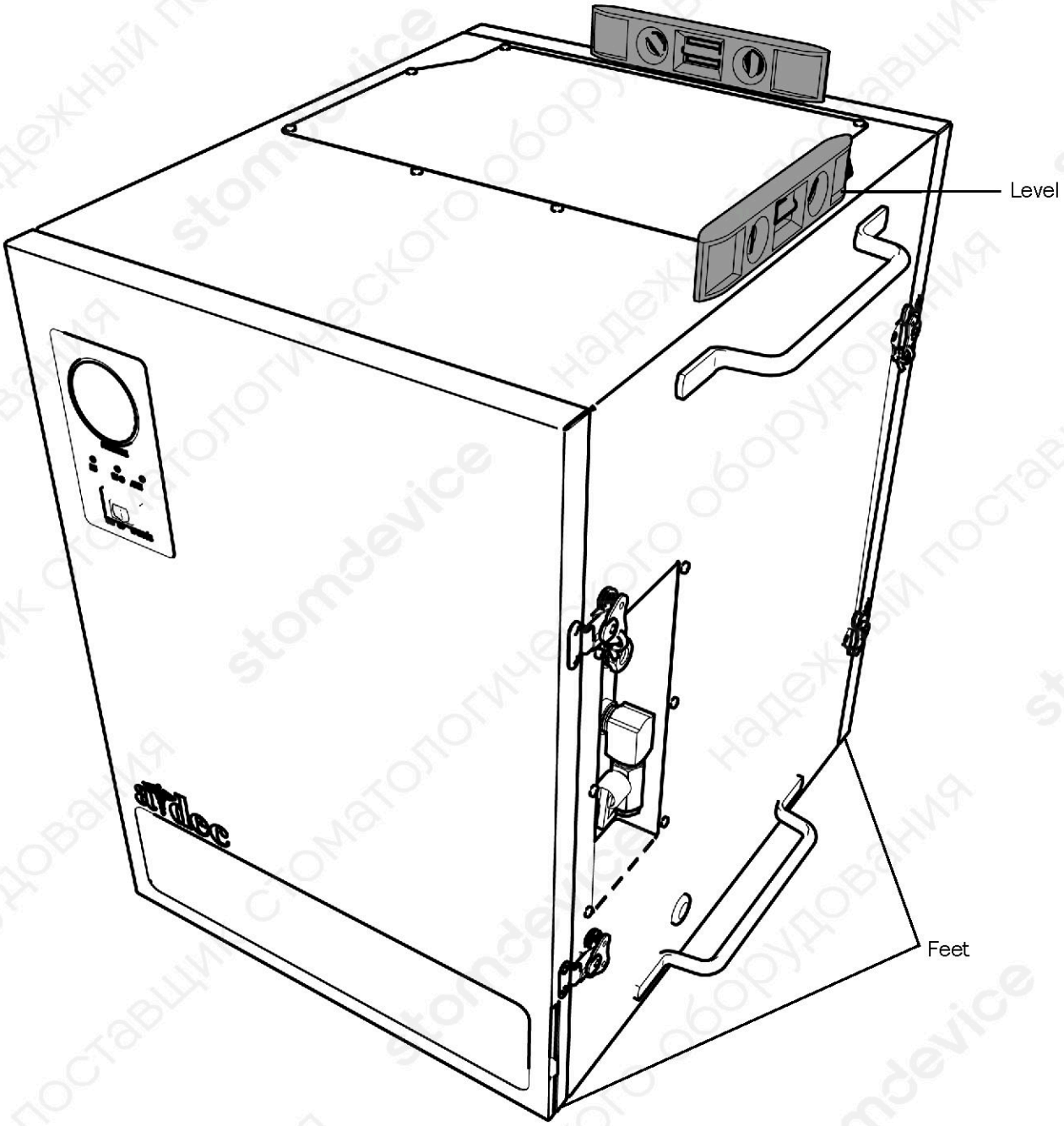
TIP To help protect the rubber material on the feet, install the feet while the compressor is on the pallet. Slide the compressor to the side of the pallet to access the screw holes for the feet.

1 Install four vibration isolating feet.

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Place and Level the Compressor



1 Position the compressor and place a level on the top of it.

2 Move the level from side to side and front to back while adjusting the height of the feet until the compressor is level.

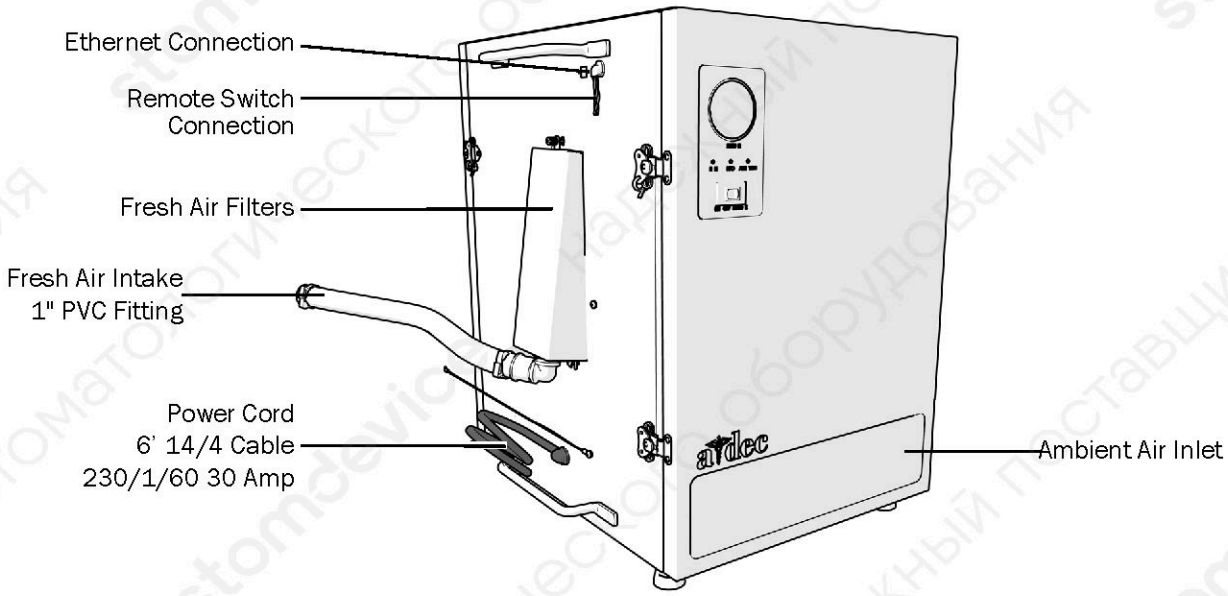
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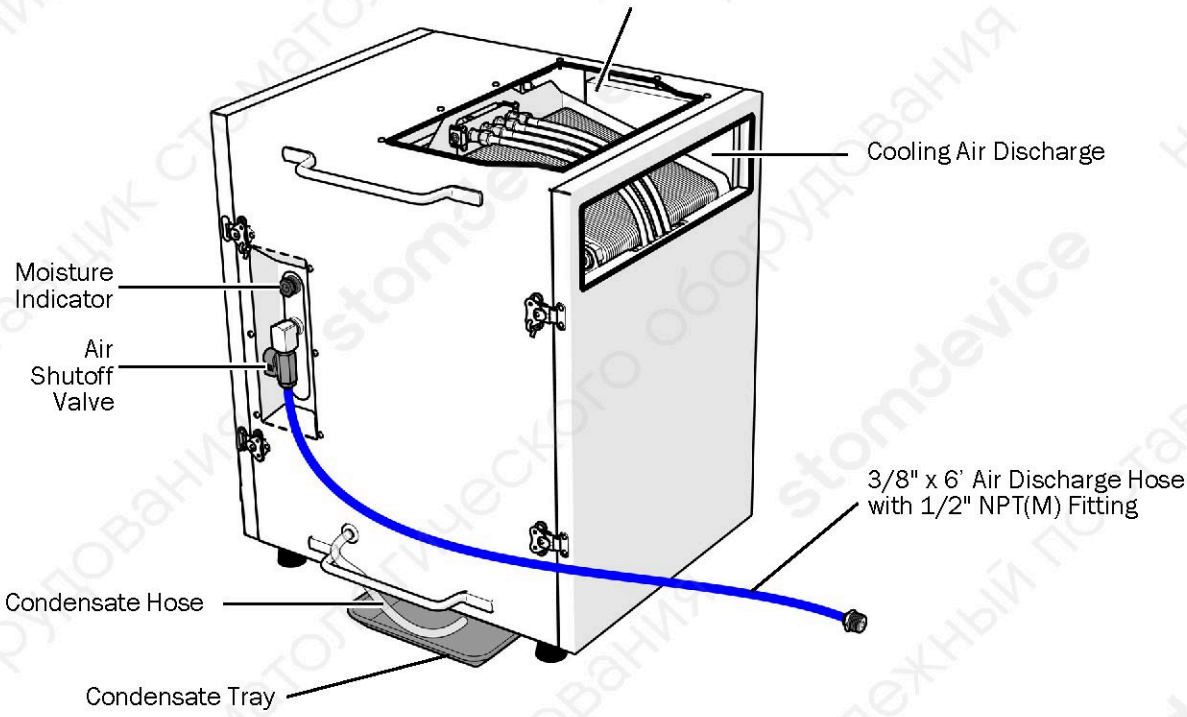
Connect the Compressor

Connection Locations

NOTE For information about the connections for multiple compressors, contact A-dec Customer Service.



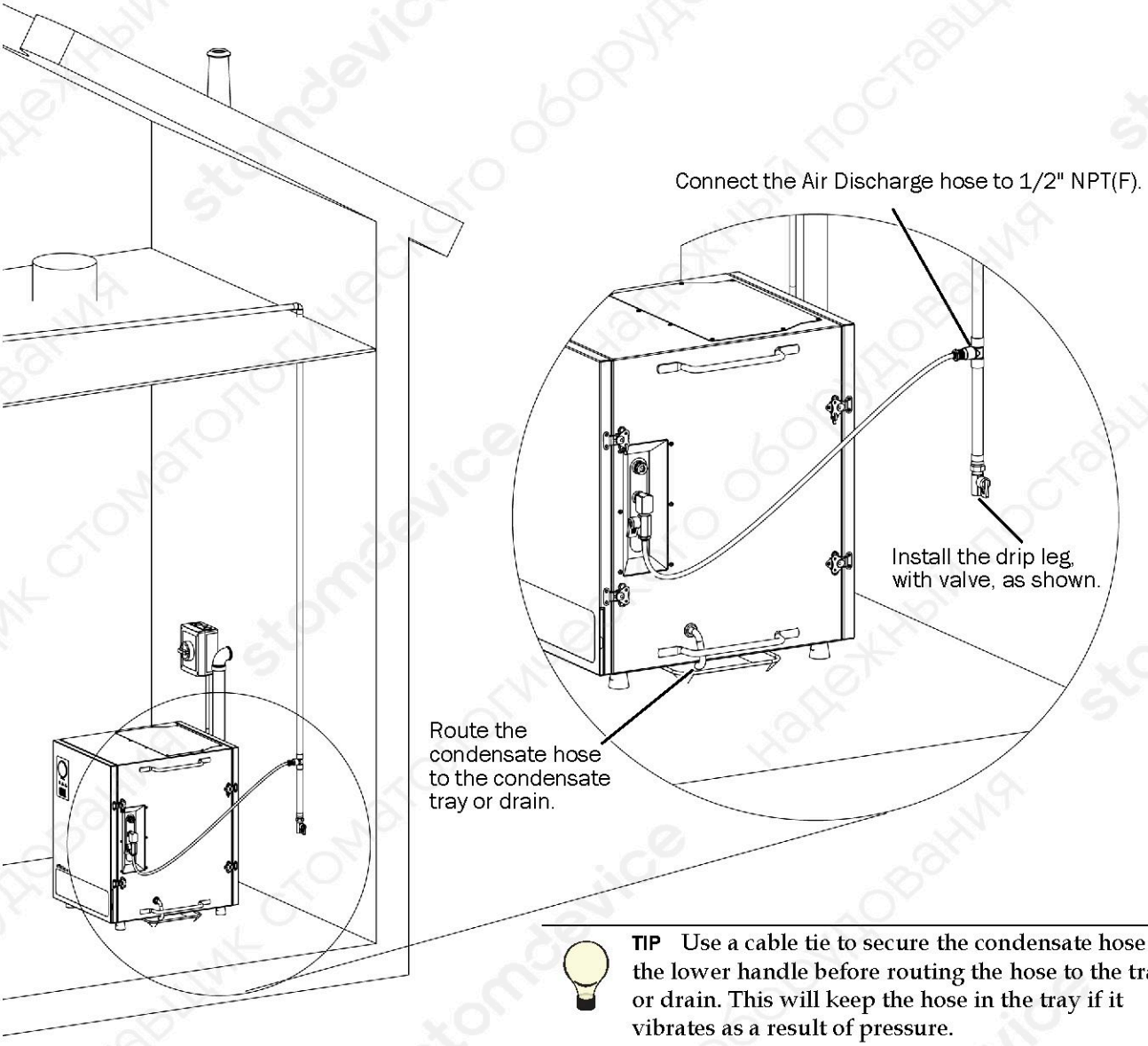
If the back clearance is less than 8", remove the top plate to create proper air flow. Compressor is shown with the plate removed.



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Connect the Compressed Air and Condensation Exhaust



TIP Use a cable tie to secure the condensate hose to the lower handle before routing the hose to the tray or drain. This will keep the hose in the tray if it vibrates as a result of pressure.

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Connect the Fresh Air Intake

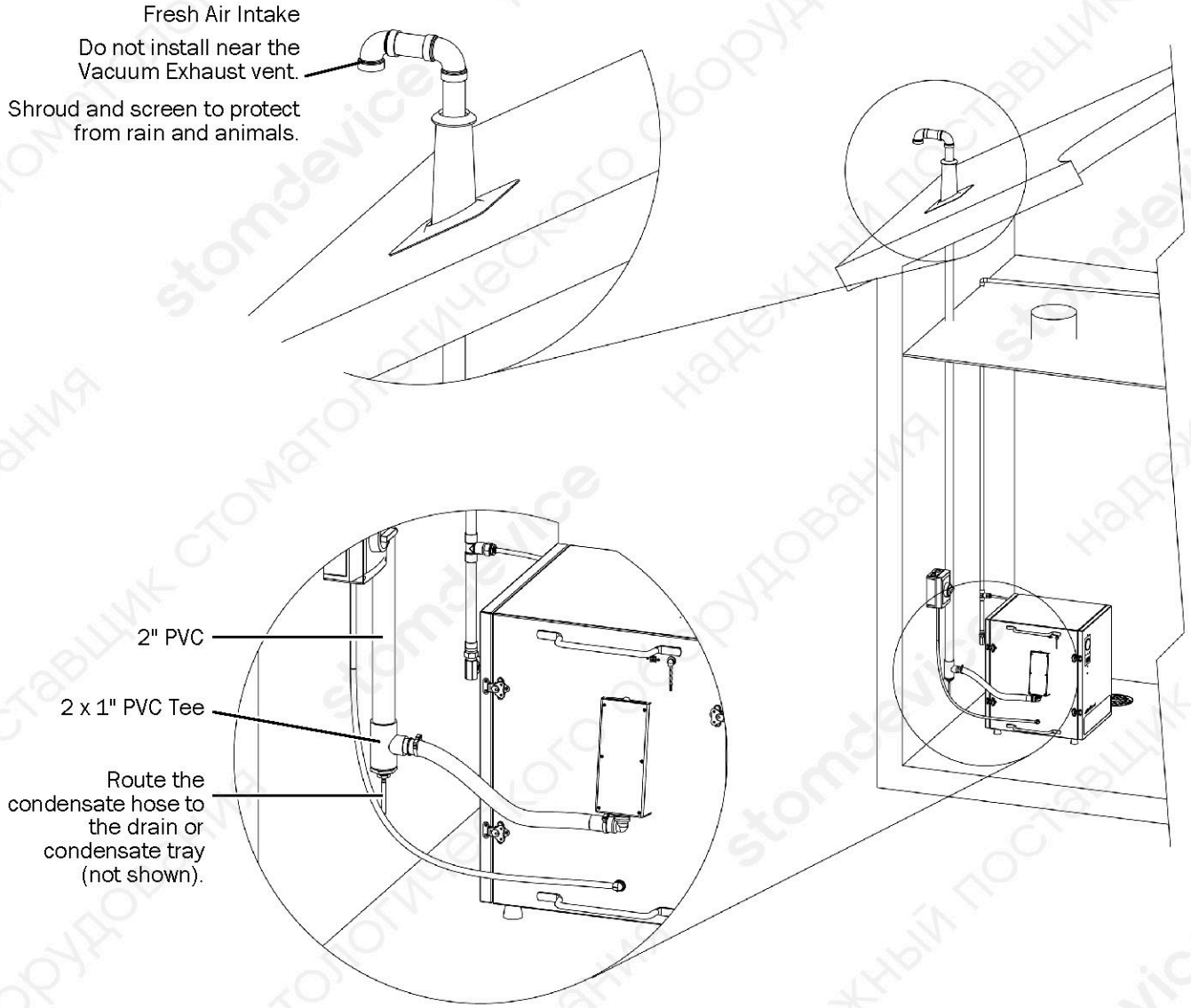
Fresh Air Pipe Size Requirements

Number of Compressors	Minimum Pipe Size
1 - 2	2"
3	3"
4	4"

Fresh Air Intake NFPA Requirements

The source for the compressor air intake must meet the following NFPA requirements:

- If the intake is located inside the building, it shall be located within a space where no chemical-based materials are stored or used.
- If the intake is located inside the building, it shall be located in a space that is not used for patient medical treatment.
- If the intake is located inside the building, it shall not be taken from a room or space in which there is an open or semi-open discharge from a Category 3 vacuum system.
- If the intake is located outside the building, it shall be drawn from locations where no contamination from vacuum exhaust discharges or particulate matter is anticipated.



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Connect the Electrical

CAUTION Local regulation may require licensed plumbers and electricians to install utilities. All plumbing and utilities must conform to prevailing local codes.

Electrical Safety

- Follow NEC, NFPA 99C, and all local codes.
- Qualified personnel must install electrical wiring and outlets.
- Unit requires a dedicated (separate branch circuit only) 15 or 20 amp circuit.
- Unit requires an external disconnecting device which disconnects each live supply conductor.
- Never operate unit outside the specified voltage range. See "Site Specifications and Sizing Information" on page 3 for more electrical information.
- Buck-boost transformer may be required if the site voltage is outside of range.

WARNING Connect in accordance with NEC 2 wiring methods and all local codes.

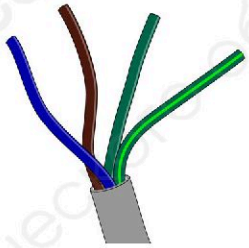
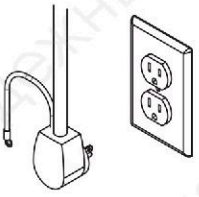
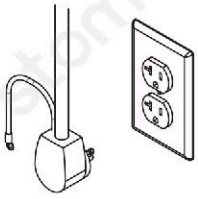
WARNING Do not attempt to operate the compressor on voltage other than what is specified on page 3.

WARNING Only use the remote switch or the switch on the compressor to operate the compressor. Do not run/stop the compressor by turning the main power on/off.

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Electrical

SC3	SC5	SC7	SC10	SC12	SC3.120	SC5.120
Required Circuit Breaker Size						
15 Amps	15 Amps	15 Amps	20 Amps	20 Amps	15 Amps Outlet Required	20 Amps Outlet Required
 Hard Wired Connection (Blue, Brown, Green, Green/Yellow)					 NEMA 5-15P Plug (w/extra ground)	 NEMA 5-20P Plug (w/extra ground)
Maximum Current Draw						
SC3	**SC5**	**SC7**	**SC10**	**SC12**	**SC3.120**	**SC5.120**
6.0 Amps	8.8 Amps	11.1 Amps	14.1 Amps	16.5 Amps	11.0 Amps	16.2 Amps
p/n E0275 *						
* Acceptable voltage range is 215-240 VAC. Voltage outside of that range will require a buck-boost transformer.					Requires 120 V, 15 Amp, NEMA 5-15P Outlet 	Requires 120 V, 20 Amp, NEMA 5-20P Outlet 

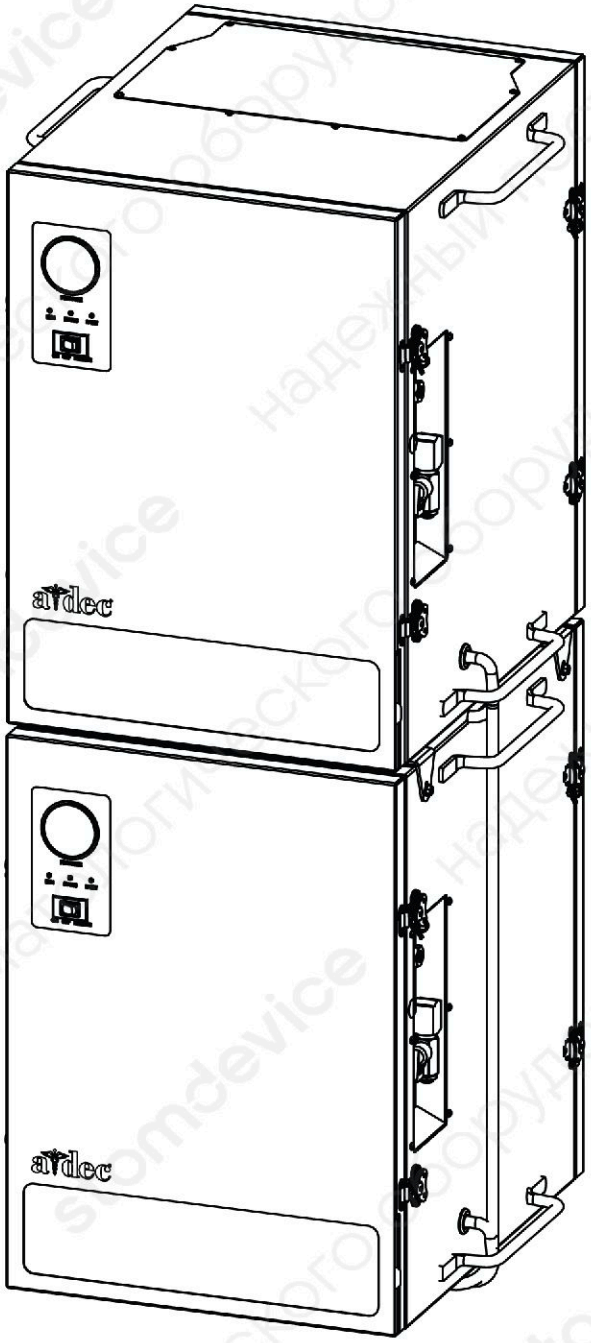
Function	USA Color Code	International Color Code
Line (Hot)	Black	Brown
Neutral	White	Blue
Ground	Green	Green/Yellow

CAUTION Electrical connections to mains supply (including a rewirable plug) must be installed by a licensed electrician or qualified service personnel.

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Install a Compressor on Top of a Compressor (optional)

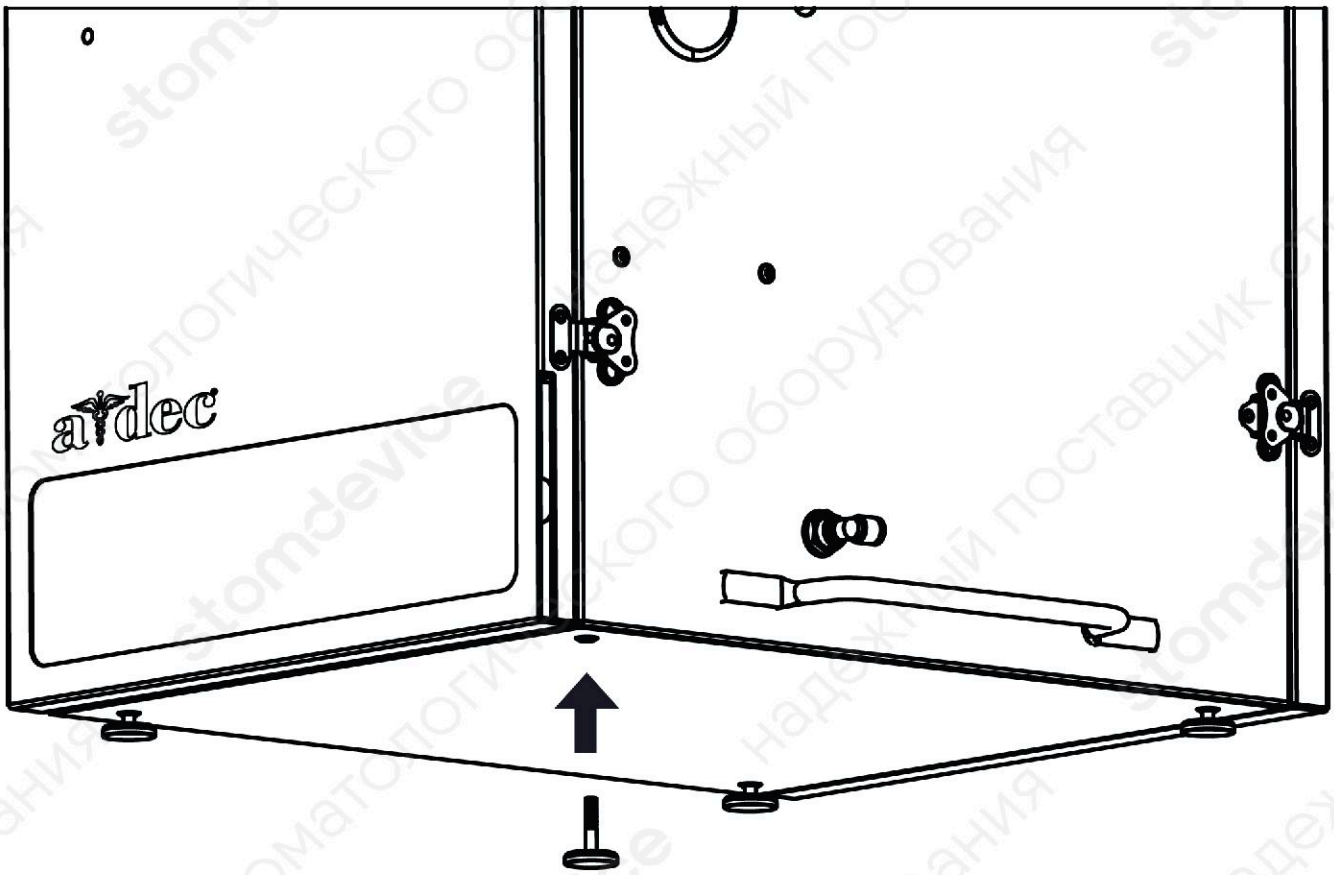


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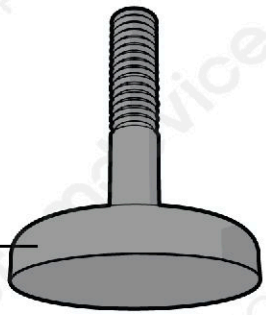
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Install the Feet on the Bottom Compressor

NOTE Compressors on the bottom use heavy duty feet, while top compressors use level stacking feet.



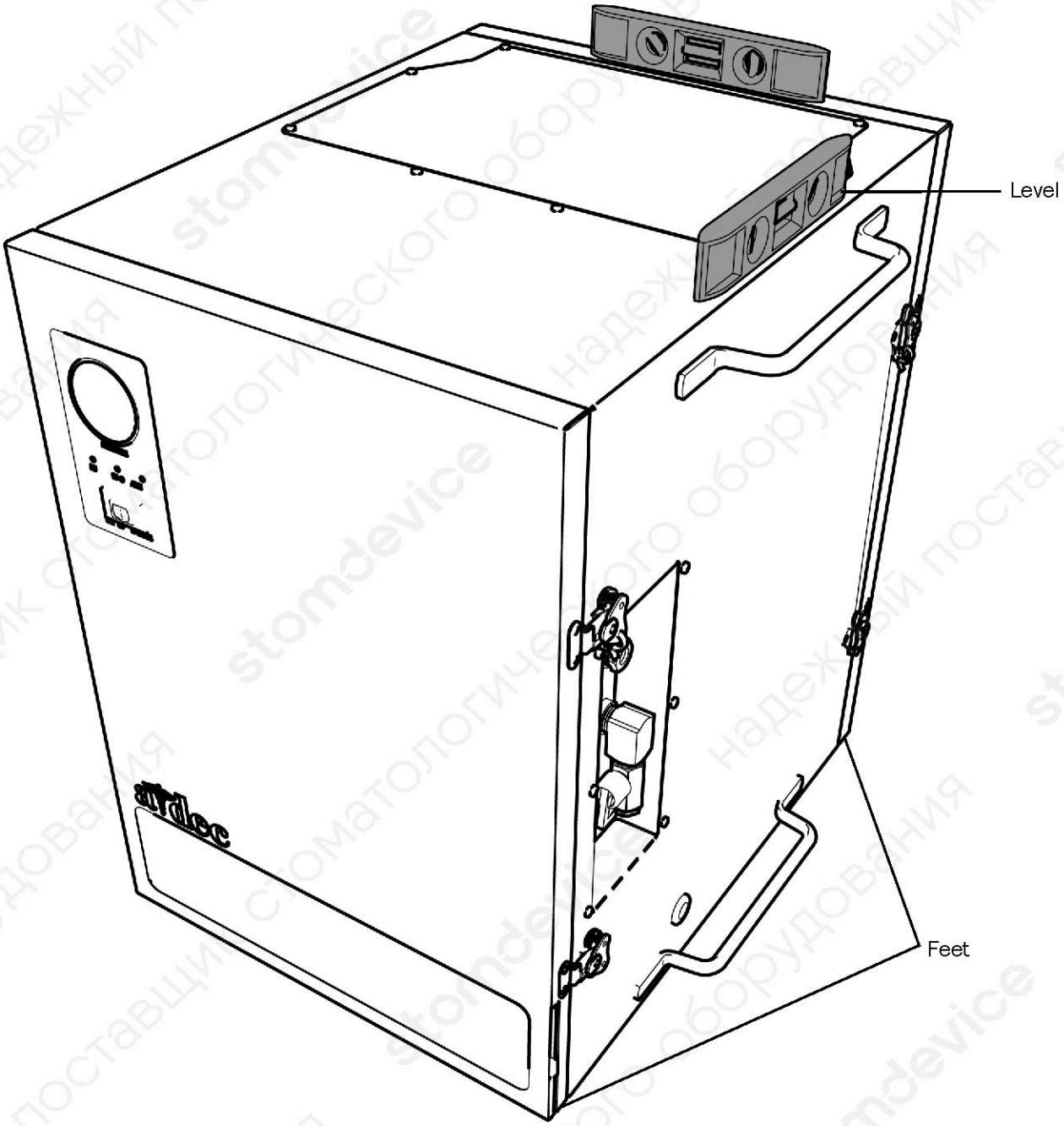
1 Install four heavy duty feet.



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Level the Bottom Compressor



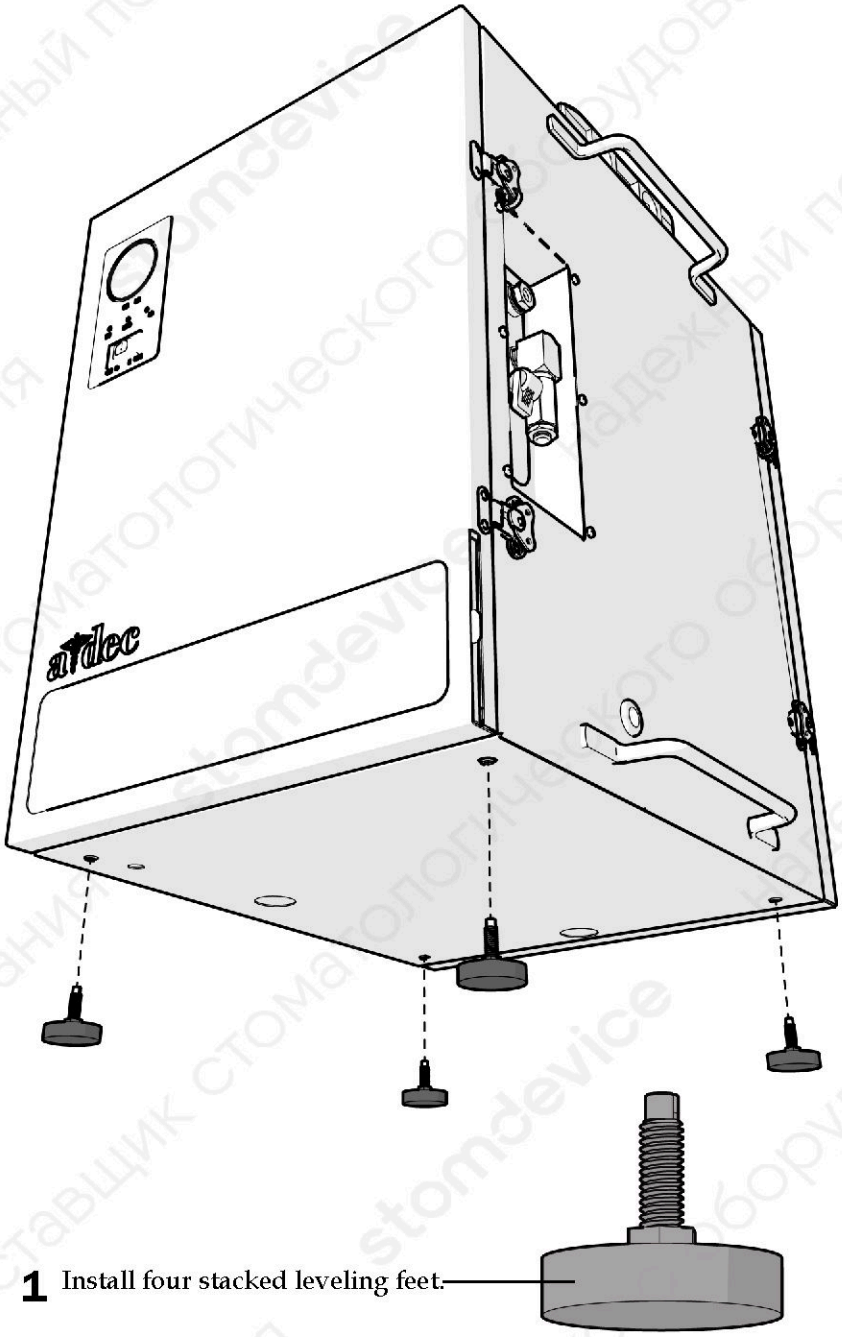
1 Position the compressor and place a level on the top of it.

2 Move the level from side to side and front to back while adjusting the height of the feet until the compressor is level.

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Install the Feet on the Top Compressor

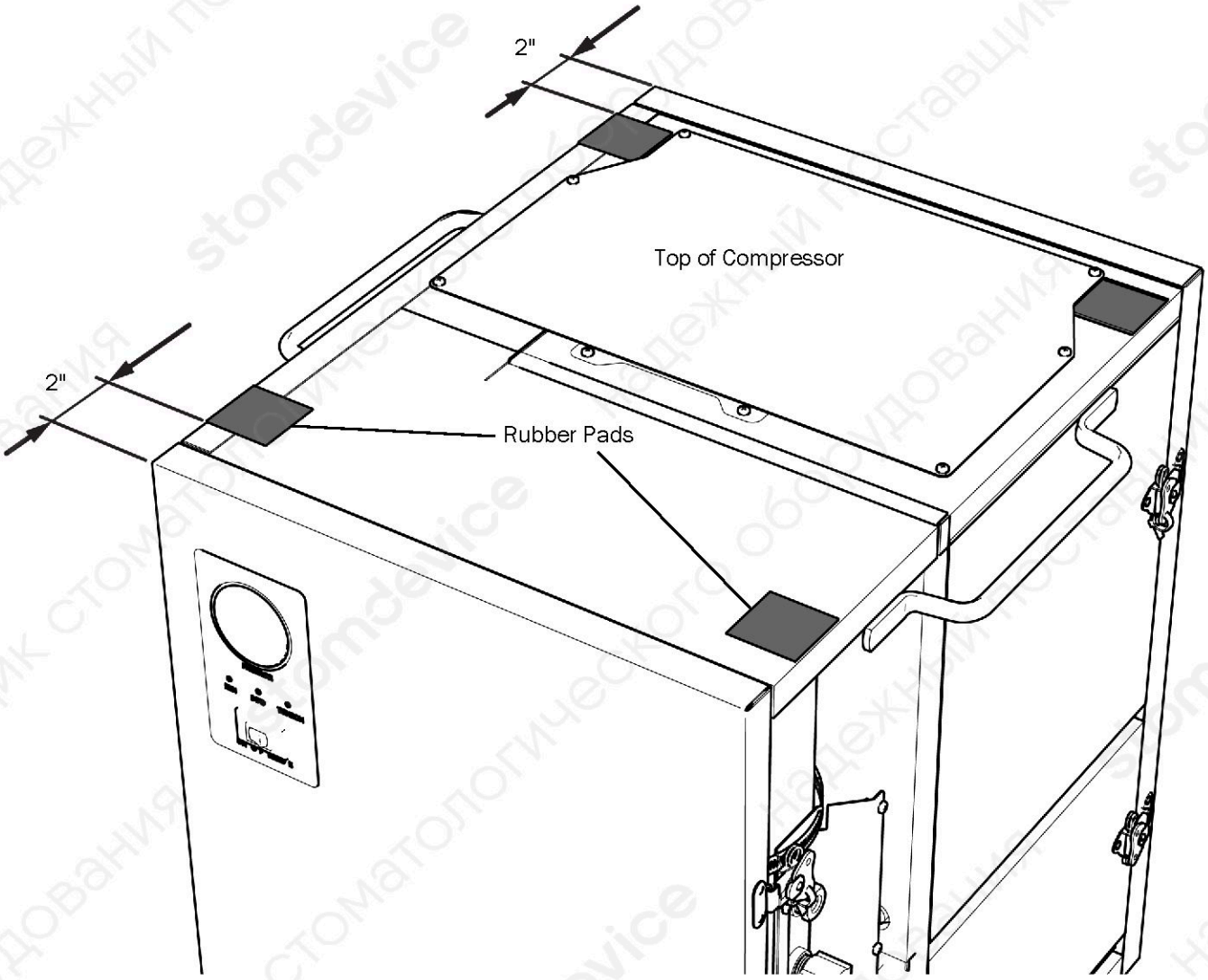


1 Install four stacked leveling feet.

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Install the Rubber Pads



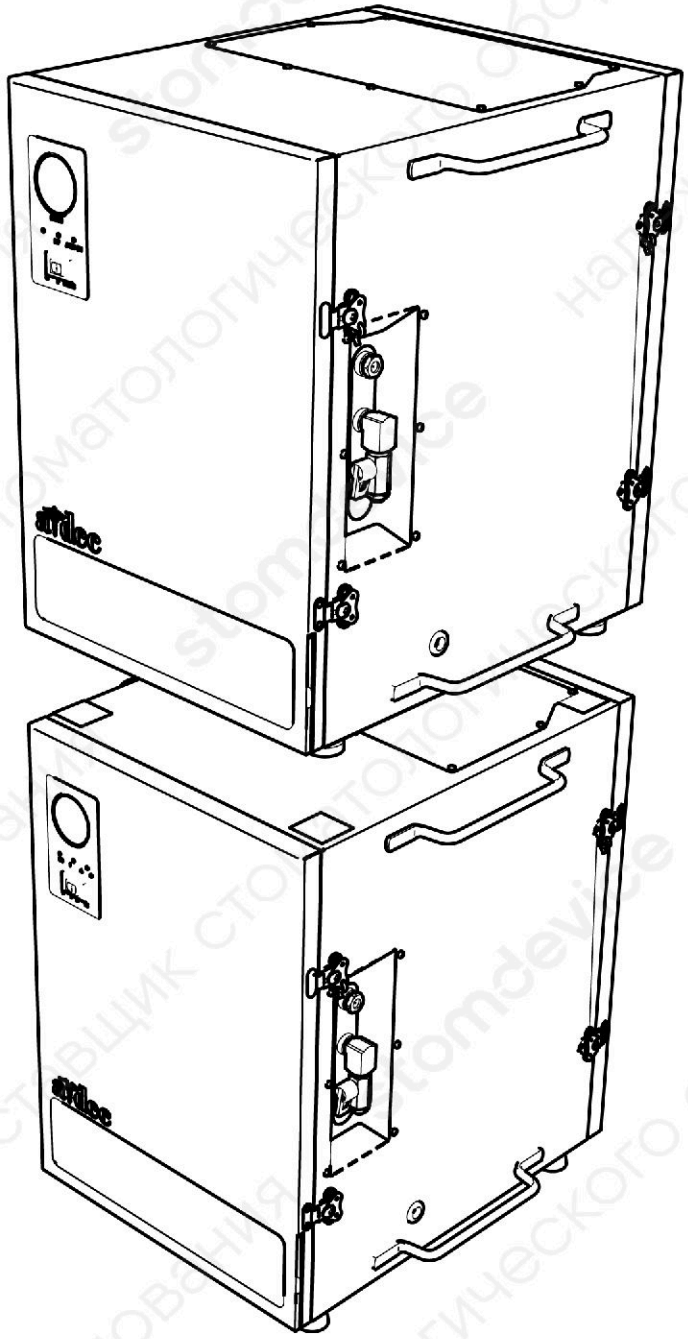
1 Install four rubber pads, two of them 2" from the front of the compressor and aligned with the sides, two of them 2" from the back of the compressor and aligned with the sides.

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Stack the Compressors

WARNING It takes two people to place a compressor on top of a compressor.

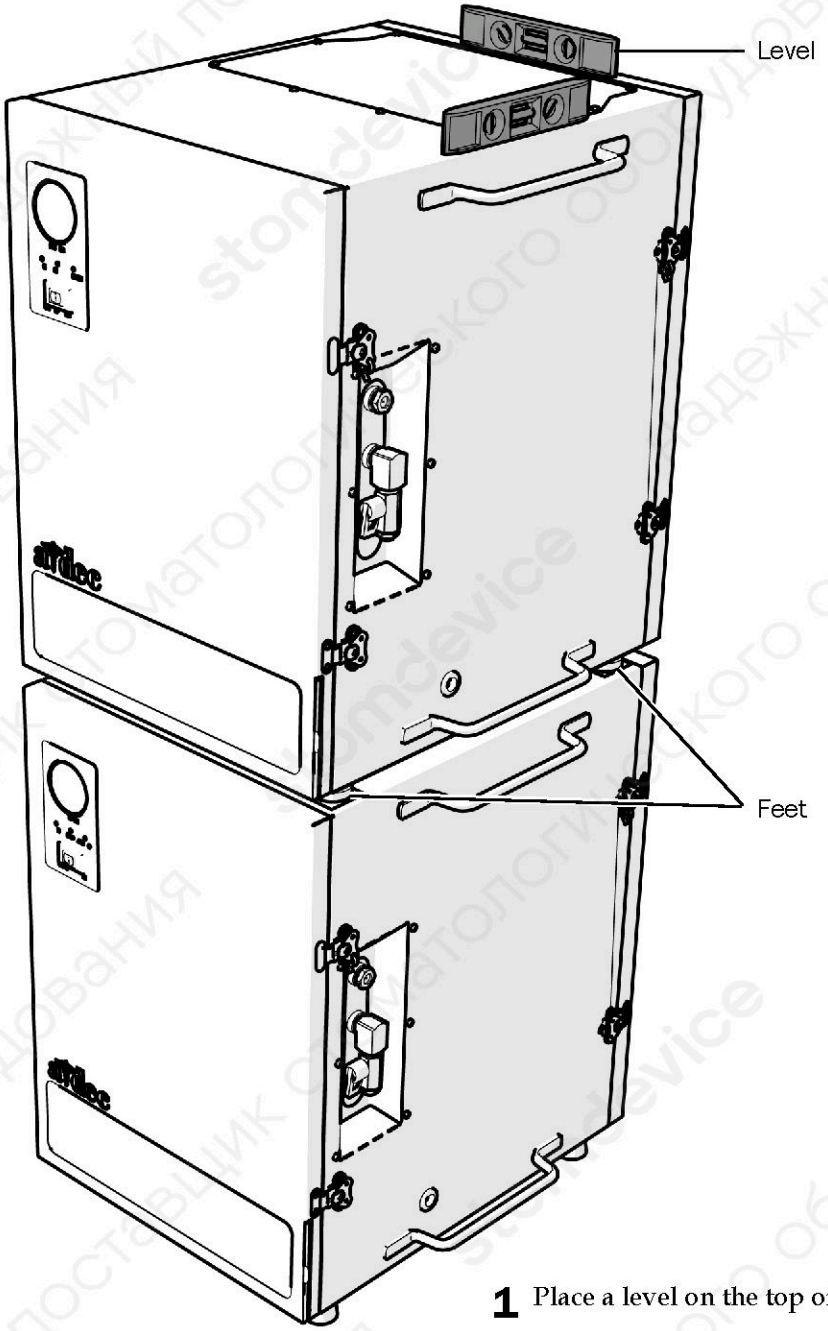


1 Place the top compressor on the rubber pads on top of the bottom compressor.

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Level the Top Compressor

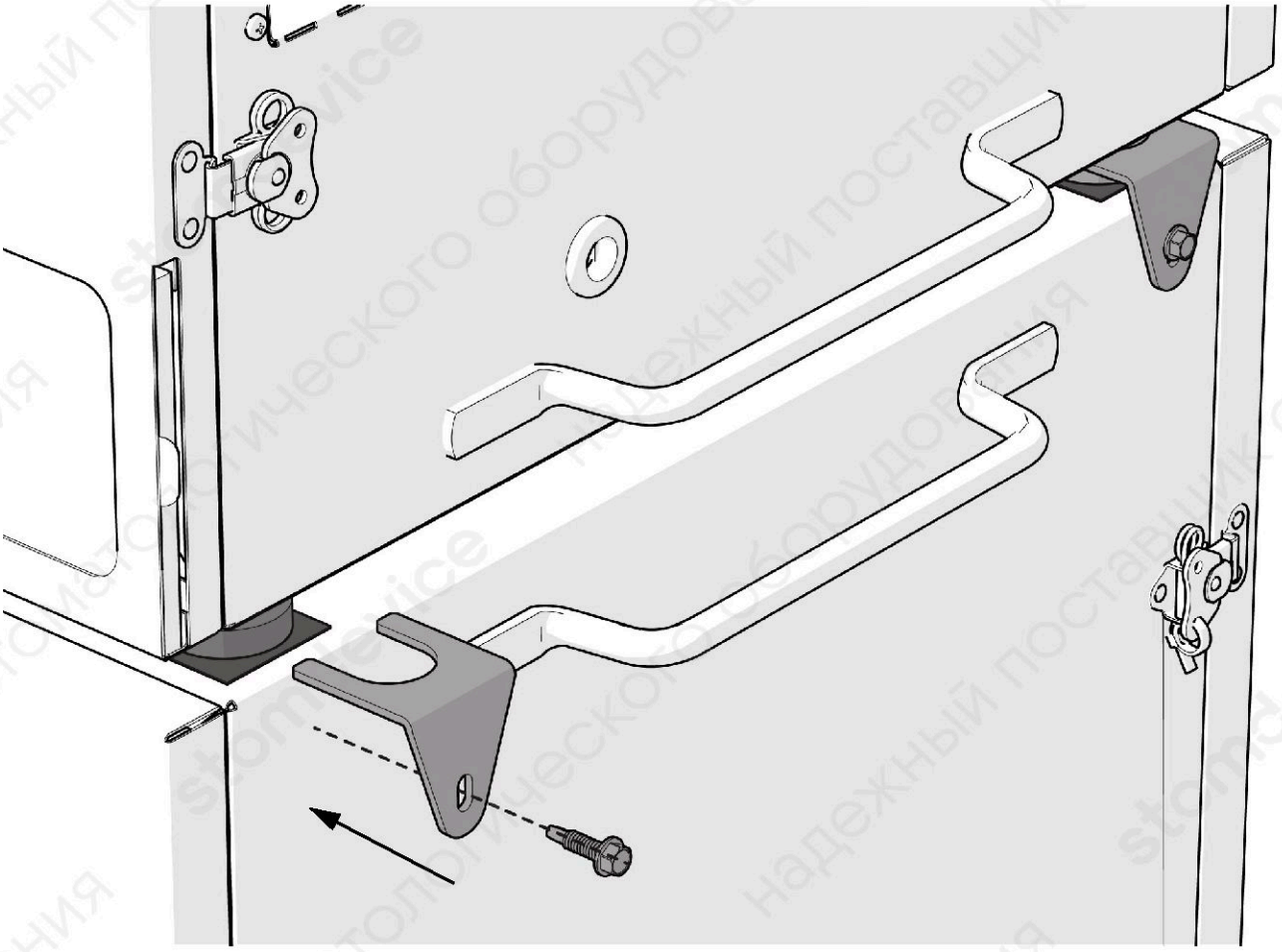


1. Place a level on the top of the top compressor.
2. Move the level from side to side and front to back while adjusting the height of the feet until the top compressor is level.

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Secure the Compressor to the Compressor



1 Slide the bracket over the foot of the compressor.

2 Use a 3/8" hex driver and a self-drilling screw (provided) to attach the bracket to the compressor.

3 Repeat the steps for the other compressor feet.

Connect the Compressors

Key points for connecting multiple compressors:

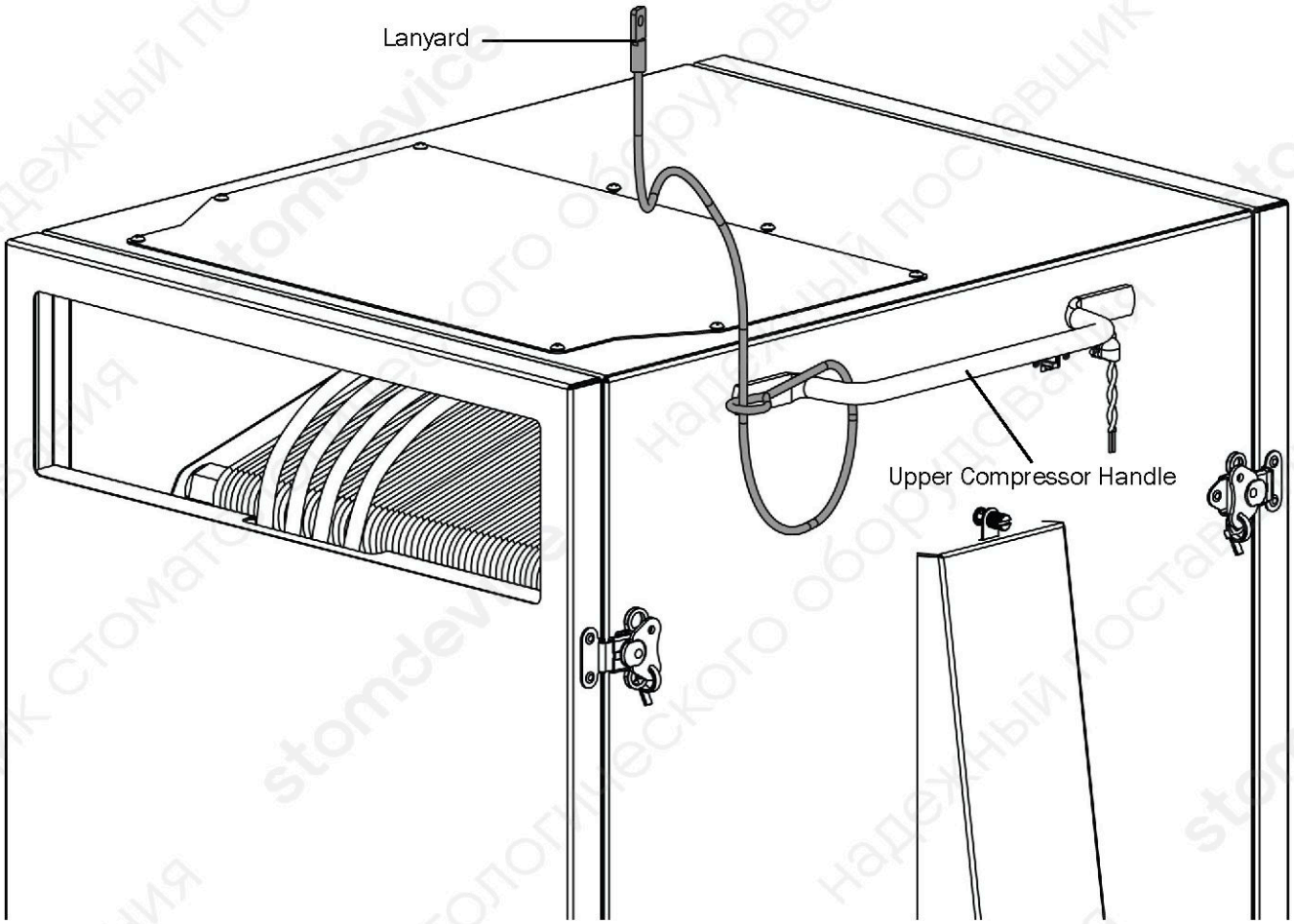
- Tie their air lines together.
- Ensure each runs the same firmware version.
- Route each condensate hose independently to the condensate drain.
- Connect each compressor separately to the 2" fresh air intake.

For information about standard compressor connections, see "Connect the Compressor" on page 7.

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Install the Lanyard



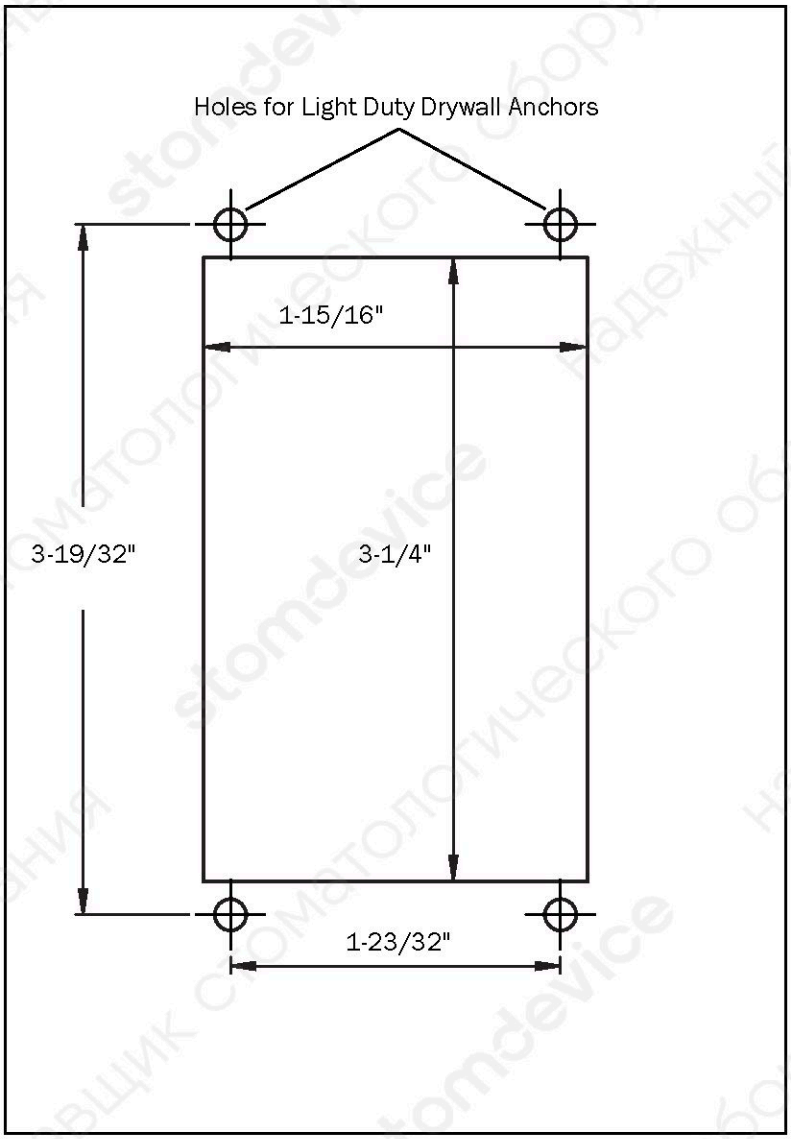
1. Tie the lanyard around the handle of the upper compressor.
2. Secure the other end of the lanyard into a wall stud or drywall anchor.

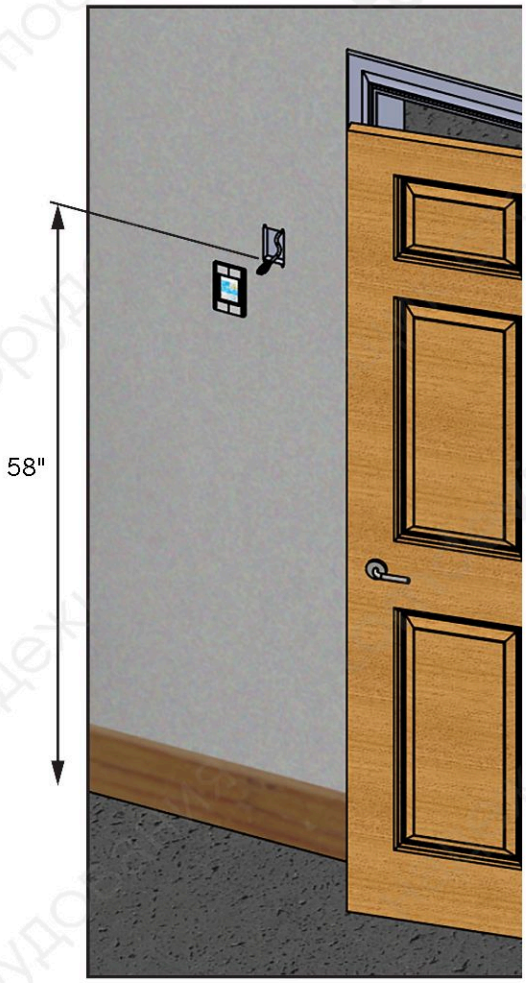
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Install Smart Shield Touchscreen and LED Push-Button Controls

Prepare the Location for the Smart Shield Touchscreen



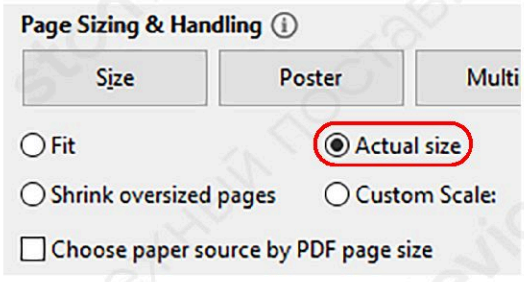


1 To mark the installation location, print this page, cut out the template, then measure it to ensure it is to scale.

NOTE To ensure the template prints to scale, from the **File** menu in Acrobat Reader, select **Print**, then **Actual size** under **Page Sizing & Handling**. Under **Orientation**, ensure **Portrait** is selected.

NOTE The anchor holes may not be needed if the opening is sized accurately and the friction from the hole can hold the Smart Shield touchscreen.

To access this menu option, in Acrobat Reader, select the **File** menu then **Print**.

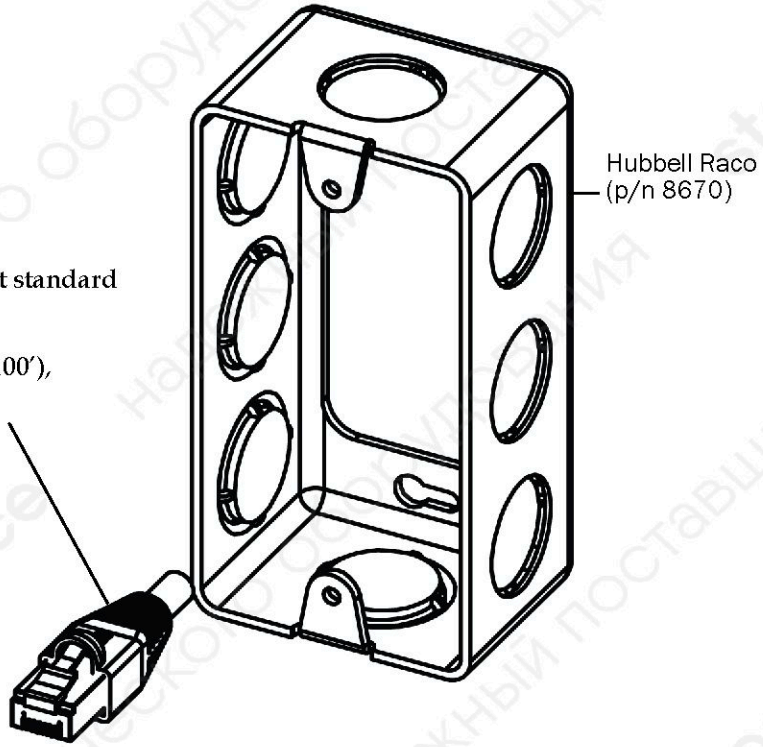


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Connect the Smart Shield Touchscreen

Connect the Smart Shield Touchscreen in the Dental Office



1 Mount the Smart Shield touchscreen in a Hubbell Raco 8670 single gang box.
The Smart Shield touchscreen does not fit standard single gang vertical wall boxes.

2 Connect to the Smart Hub router (up to 100′), CAT5 or better. Power over the Ethernet.

NOTE Do not run the CAT5 cable in line with the power conduit.

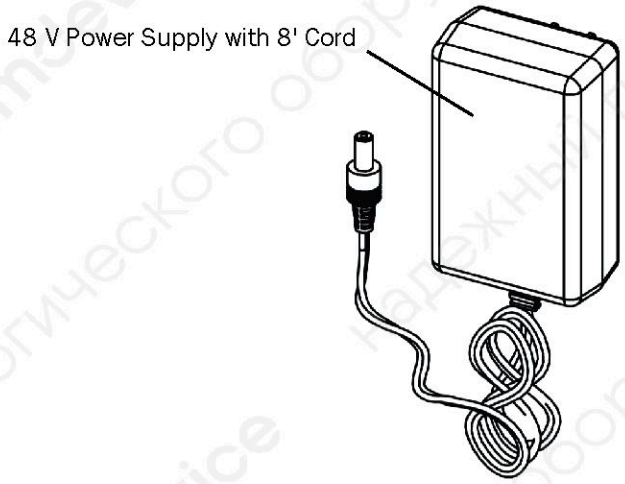


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Connect the Smart Shield Touchscreen in the Mechanical Room

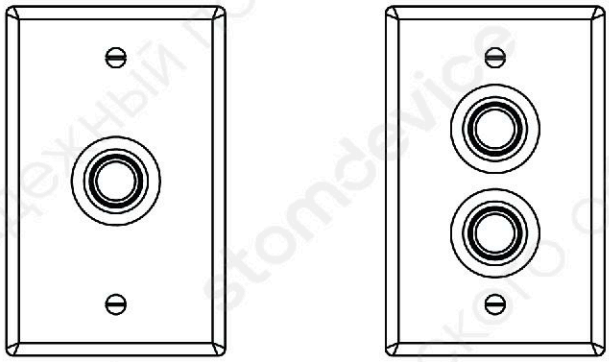
NOTE Use a surge protector with the Smart Shield touchscreen power supply.

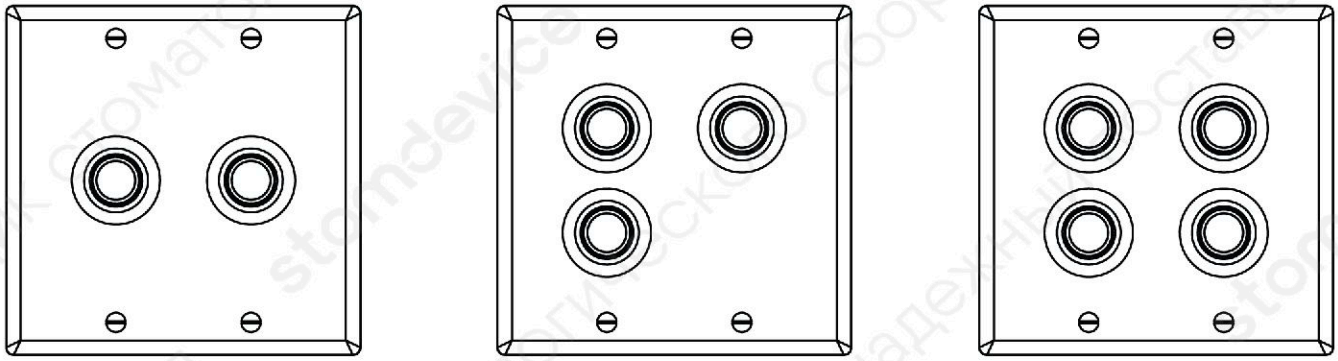


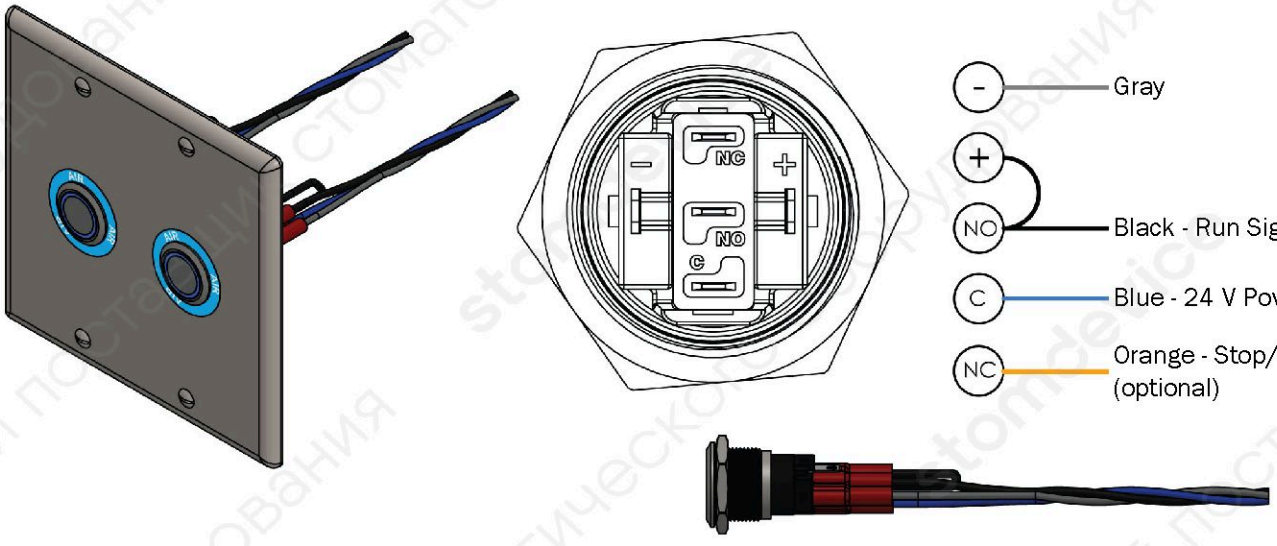


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Connect the LED Push-Button Controls





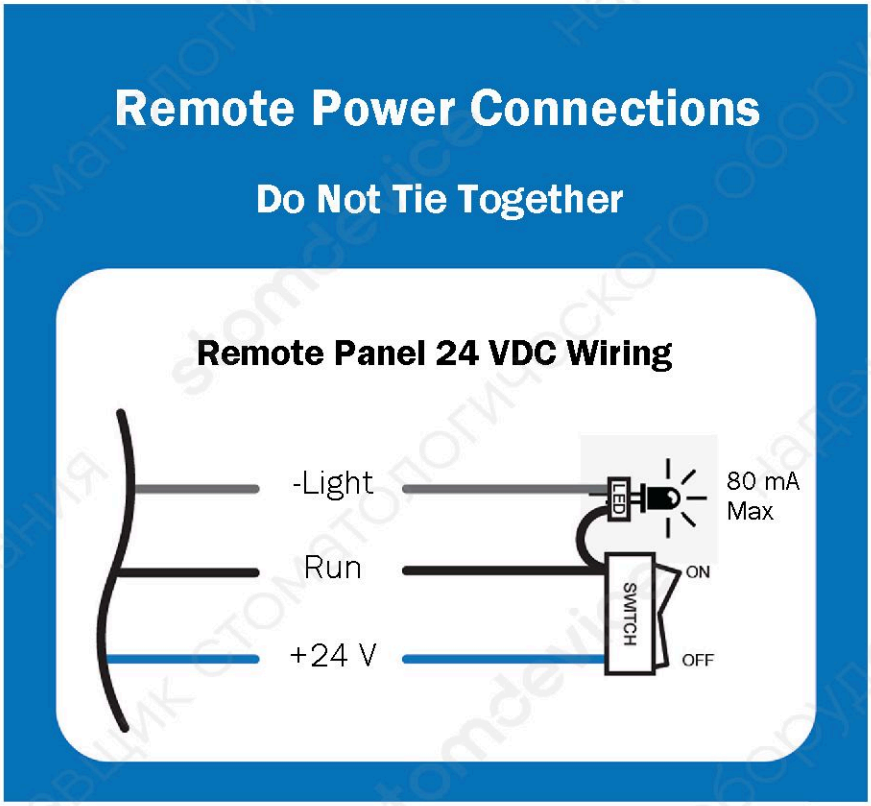


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Mechanical Room 24 V Competitive Cross Reference

Mfg/Wire	A	B (Light)	C
A-dec	Blue +24 VDC	Gray -Lamp	Black Run Signal
Air Techniques	Yellow	Brown	Orange
Midmark	Blue	White	Red
Dental EZ	Black	Brown	Yellow
Matrix	Red	Blue	White
Apollo	Blue	White	Red
Tech West	Blue	White	Red



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Initial Startup Checklist

WARNING This compressor can start automatically without warning.

- Inspect unit for any visible signs of damage that may have occurred in shipment or during installation.
- Verify the electrical connection attachments, and that incoming line voltage is within specifications.
- Close service valve.
- Turn on the compressor. After turning on the power, the Advanced Dryer Purge may occur for 10-15 minutes. This may sound like the compressor is leaking air, but it is working correctly.
- Check that the system builds pressure above 86 psi.

With the compressor at operating pressure:

- Check for proper cycling operation, with a range of pressure between 86 - 106 psi.
- Open the service valve to pressurize the office lines.
- Check for system and operatory leaks.
- Confirm that the drain tubing installation drains into the condensation tray.
- If remote buttons or a touchscreen is in use:
  - Set the Main power switch to the Remote position.
  - Verify the system turns on /off with remote switches or trouchscreen.
- If the system uses remote monitoring, call A-dec Customer Service to confirm it is reporting.

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Regulatory Information and Warranty

For required regulatory information and the A-dec warranty, see the *Regulatory Information, Specifications, and Warranty* document (p/n 86.0221.00) available in the Resource Center at www.a-dec.com.

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