

A-dec® Simulator

Product Models and Versions Covered in This Document*

Models	Versions	Description
41L	A	Mobile Simulator
41pro	n/a	Mobile Simulator
42pro	A	Stationary Simulator
42L	n/a	Stationary Simulator

*Some product models, versions, and options in this document may not be available in certain regions.

Introduction

This product is intended for instructional use in a laboratory setting. The simulator has a torso that moves up and down, tilts from vertical to horizontal, and has provisions for mounting various manikin head types. The simulator also has a fully integrated dental delivery system that includes a standard syringe, high-volume evacuator (HVE), and up to four handpiece or ancillary positions.

This device is not intended to be used on patients.



NOTE All of the information in this document is for the A-dec Simulator, models 41pro/41L and 42pro/42L, only. It will be necessary to receive specifications from any additional equipment suppliers.

Utility Requirements



NOTE The following utility requirements are the responsibility of the local contractor or school personnel.



NOTE It is very important to meet the following utility requirements for each individual simulator. Contact A-dec Customer Service for assistance with questions about laboratory configurations.

Air Requirements

Compressor

A-dec equipment requires clean, dry air in order to ensure proper functionality, long term reliability, and cleanliness of the equipment, handpieces, and other ancillary devices. Use of an A-dec SC air compressor is highly recommended.

Air Pressure

A-dec recommends 80-125 psi (550-860 kPa) (dynamic) and a maximum static pressure of 125 psi (860 kPa).

Air Lines

All air lines are to be purged and tested at each simulator location.

Air Line Termination

For connecting individual simulators, A-dec recommends terminating each line with one of the following:

- ½" MPT fitting to accommodate a valve with ½" FPT inlet.
- ½" tubing to accommodate a valve with ½" compression inlet.

A single termination is appropriate for stationary simulator pairs in a dual configuration. A right-angle manual shutoff valve is supplied and installed by the local contractor or school personnel.

Manifold

For mobile simulators in a bench configuration, an A-dec supplied manifold can be used to supply multiple simulators. A ¾" line terminated with a ¾" ball valve with a ¾" FPT outlet is required for use of the A-dec manifold (ball valve is customer supplied). The ball valve must be oriented vertically for proper installation of the manifold. The maximum number of simulators connected to a manifold is as follows:

- **Simulators equipped with an Air Vacuum System (AVS):** One manifold can supply up to seven simulators.
- **Simulators equipped with a central vacuum system:** One manifold can supply up to ten simulators.

Air Piping System

An air piping system must be designed for maximum flow requirements (all simulators in-use simultaneously). The piping system should be equipped with automatic condensate drains at low points in the system.

Air Usage

- **Central Vacuum System:** Each simulator equipped with a central vacuum system requires a minimum of 3 SCFM (85 L/min) at 90 psi (620 kPa) (dynamic) during normal use.
- **Air Vacuum System (AVS):** Each simulator equipped with an AVS requires a minimum of 4.5 SCFM (127 L/min) at 90 psi (620 kPa) (dynamic) during normal use.

Water Requirements

Self-Contained Water

No extra provisions required for self-contained water.

Centralized (or City) Water

A-dec recommends water pressure of 60 ± 20 psi (415 ± 140 kPa). All lines are to be purged and tested at each simulator location. A-dec recommends terminating each line with one of the following:

- $\frac{1}{2}$ " MPT fitting to accommodate a valve with $\frac{1}{2}$ " FPT inlet.
- $\frac{1}{2}$ " tubing to accommodate a valve with $\frac{1}{2}$ " compression inlet.

A single termination is appropriate for stationary simulator pairs in a dual configuration. A right-angle manual shutoff valve is supplied and installed by the local contractor or school personnel.

Vacuum Requirements

Whenever possible, A-dec recommends the use of a central vacuum system over the air vacuum system (AVS).

Central Vacuum

Vacuum lines for individual simulators should be terminated with $\frac{5}{8}$ " OD tubing for mobile simulators and 1" OD tubing for stationary simulators. A single termination is appropriate for stationary simulator pairs in a dual configuration. For more information, see the *A-dec 41pro/41L Stationary Simulator Full-Size Template* (p/n 86.0281.00).

A-dec recommends the central vacuum performance to be 10 ± 2 inHg (34 ± 7 kPa) and 9 SCFM (255 L/min) minimum.

Air Vacuum System (AVS)

For applications where a central vacuum is not feasible, an AVS is available. There are increased air requirements if this option is installed. See "Air Usage" on page 2.

Lower vacuum performance should be expected from the AVS rather than the central vacuum. The vacuum generator performs at approximately one-third the level of a central vacuum system (3 in-Hg [10 kPa] and flow of 5 SCFM [140 L/min] with an air supply of 90 psi [620 kPa] dynamic).

Examples of situations in which an AVS system might be selected over a central vacuum:

- Building requirements prohibit the installation of a central vacuum system.
- Cost of a central vacuum system is limiting.
- Current vacuum pump in the facility cannot handle the increased load.
- Facility is a temporary location.

Electrical Requirements

Current draw for the A-dec Simulator (including optional dental lights, scalers, electric handpieces, and curing lights) will be a maximum of 2.5 Amps @ 120 VAC (1.25 Amps @ 240 VAC). This value is based on use of a 300 W power supply. The addition of other systems (such as a computer, monitor, or A/V) will increase power consumption and the number of outlets required at each unit. Consult the suppliers of additional equipment for requirements. Ensure that all circuits have been tested, found to be properly grounded, and in compliance with local codes.



NOTE The optional duplex receptacle is not provided with a Ground Fault Circuit Interrupter (GFCI). For installations where the duplex receptacle is located within 6 feet of the outside edge of a sink, consult prevailing local codes to confirm compliance.



NOTE Consult A-dec with any questions about utility requirements and any special configurations for simulation laboratories.

Shipping Weight

- **Mobile:** 190 lb (86 kg)
- **Stationary:** 190-210 lb (86-95 kg) (depending on optional features)

Document References

Installation Guides

- *A-dec 41pro/41L Mobile Simulator Installation Guide* (p/n 86.0283.00)
- *A-dec 42pro/42L Stationary Simulator Installation Guide* (p/n 86.0279.00)

Service Guide

- *A-dec Simulators Service Guide* (p/n 86.0298.00)

Instructions for Use

- *A-dec Simulator Instructions for Use* (p/n 85.0016.00)

Full-Size Templates

- *A-dec 41pro/41L Stationary Simulator Full-Size Template* (p/n 86.0281.00)
- *A-dec 42pro/42L Mobile Simulator Full-Size Template* (p/n 86.0282.00)

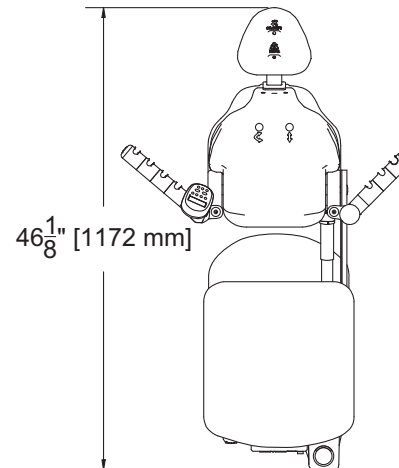


NOTE Use only full-scale templates for locating plumbing and electrical.

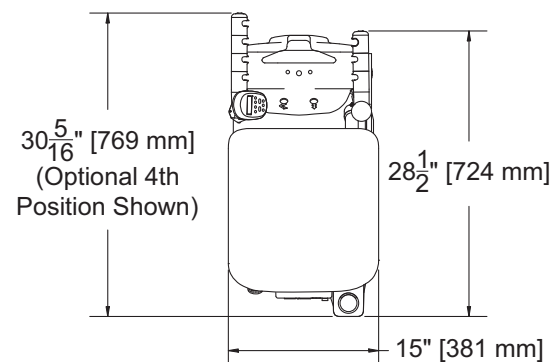
Views and Dimensions

The following dimensions are for reference only. For complete accuracy, use the appropriate full-size template listed under "Full-Size Templates" on page 3.

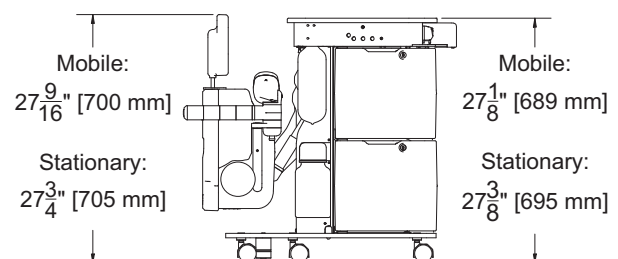
Treatment Position Plan View



Storage Position Plan View



Storage Position Elevation



Internal Bin Storage Dimensions

11-1/2" L x 9" W x 9" H
(292 mm L x 229 mm W x 229 mm H)

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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