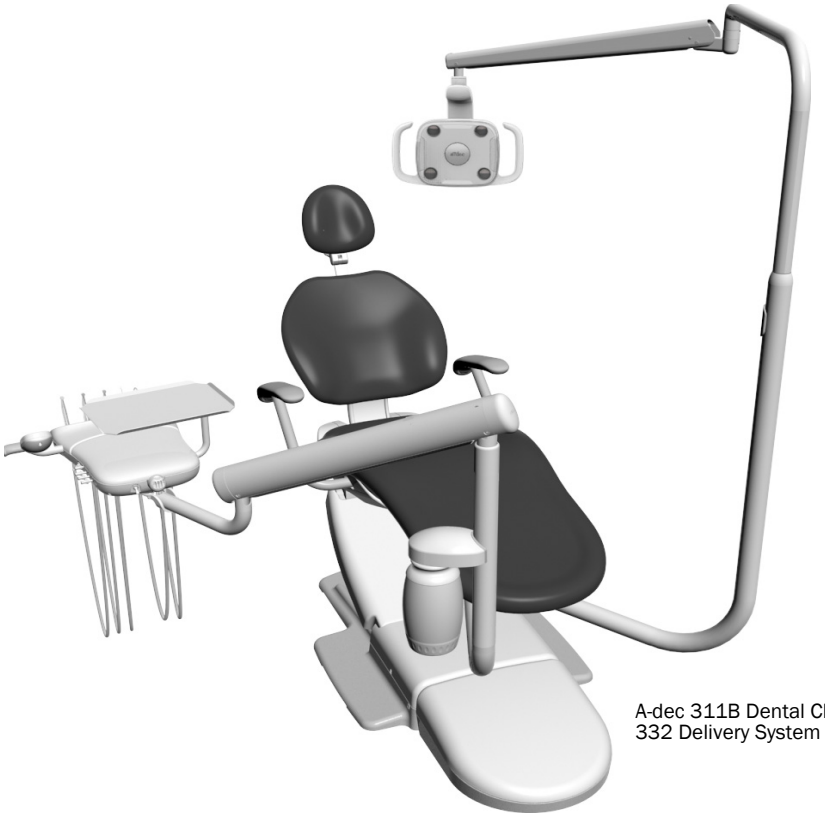
Pre-Installation Guide

A-dec® 311 Dental Chair and Related Modules



A-dec 311B Dental Chair Shown with
332 Delivery System and 372L Dental Light

This document contains technical specifications for installing the A-dec 311 dental chair and related systems.

Product Models and Versions Covered in this Document*

Model	Versions	Description
351/352/353/551	A	Assistant's Instrumentation
551sta	n/a	Assistant's Instrumentation
332pro/333pro/336pro	n/a	Delivery System
332/333/336	A	Delivery System
334pro/335pro	n/a	Delivery System
334/335	B	Delivery System
311	B	Dental Chair
311flt/311xlc	n/a	Dental Chair
371L/372L/571L/572L	A	Dental Light
381/382/482	A	Monitor Mount
363pro	n/a	Support Center
362/363/461	A	Support Center and Cuspidor

**Equipment shown in this document may include optional features or accessories. Some products, versions, and options in this document may not be available in certain regions.*

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Structural Requirements

NOTE Job site construction should be completed before the dental equipment installation (including finished floors, ceiling, plumbing, lighting, paint, etc.).

Dental Patient Chair Interface Requirement

The dental chair requires a solid, level mounting surface that meets these minimum specifications:

- Weight of 1000 lb (4448 N) for the chair, dental light, delivery system, and patient.
- Capability to anchor the chair to the floor, with a minimum pullout load of 100 lb (445 N) for one anchor-bolt.

Utility Requirements

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

CAUTION The manner and method for accessing the utilities within the wall is the responsibility of the design team working on the project (dental dealer, architectural services, and contractors). Utilities must be accessible without the use of tools.

Air

- 1/2" (13 mm) nominal pipe compression fitting protruding 2" (51 mm) from the finished floor or wall, supplied by the contractor.
- Right angle manual shut-off valve supplied by the dental dealer and installed by the contractor.
- Air pressure and flow of 80-125 psi (550-860 kPa), 2.5 scfm. (71 sl/min) during normal use; 7.5 scfm (210 sl/min) peak intermittent flow.
- Air plumbing to be flushed clean before the final connection to the dental equipment.

Water

NOTE The delivery system comes with a self-contained water bottle. Municipal water is only required if the equipment configuration includes a cuspidor or if the facility has special requirements.

- 1/2" (13 mm) nominal pipe compression fitting protruding 2" (51 mm) from the finished floor or wall, supplied by the contractor.
- Right angle manual shut-off valve supplied by the dental dealer and installed by the contractor.
- Water pressure and flow of 60 ± 20 psi (410 ± 140 kPa), 1.5 gpm (5.7 L/min), not to exceed 104°F (40°C).
- Water plumbing to be flushed clean before the final connection to the dental equipment.

Electrical

- 1/2" (13 mm) conduit and electrical box with a hospital-grade quad power receptacle (supplied by the contractor).
- Wire box to conform to local codes.
- Top of quad box should not be higher than 5" (127 mm) above the finished floor to fit within the floor box.
- Voltage: 120 volts, 3 wire.
- 110-120 VAC, 50-60 Hz, 15 Amp mains breaker min.

NOTE The A-dec 311 dental chair is rated at 10 Amps max.

- The 10 Amp rating breaks down as follows for 120 VAC @ 60 Hz:
  - 3.5 Amps for the chair pump motor to move the chair base up.
  - 1.0 Amps for the chair back motor to move the chair back up or down.
  - 2.5 Amps for the 300-watt power supply (located in the utility area) to power the chair-mounted dental light and other ancillaries.
  - 3 Amps of additional current for mains voltage ancillary products, such as video monitors.

Data

- 2" (51 mm) conduit, supplied by the contractor, located as needed, and as many as required. For installations requiring Ethernet, run Cat5e or higher cable.

Network

A-dec+™ connectivity requires one of the following networks:

- Ethernet: 10/100 Base-T, or faster
- Wi-Fi: 802.11a/b/g/n/ac (Wi-Fi 1-5) or newer, over 2.4 GHz and/or 5 GHz; WPA2-Personal security protocol

For the best connectivity experience, A-dec recommends an Ethernet network with Cat5e or higher cables. A-dec 300 Pro delivery systems and older A-dec equipment require an A-dec+ Gateway for access to A-dec+.

For configuring connectivity features, see the *A-dec+™ Software Platform Instructions for Use* (p/n 86.1030.00) available in the Resource Center at www.a-dec.com.

To quickly access to this document online, scan, tap, or click this QR code, which points to: a-dec.com/connectivity-manual.

Central Vacuum

- Plumbing up to the floor box utility center to be specified by the central vacuum supplier (terminates in the utility center).
- Plumbing to terminate with 1" PVC Pipe (1.315" OD) protruding 2" (50 mm) perpendicular to the floor.
- Wet systems:
  - **Pressure/Vacuum:** 10±2 in Hg (34±7 kPa)
  - **Flow**: 9 scfm (225 SL/min) minimum
- Dry/semi dry systems:
  - **Pressure/Vacuum:** 4.5±1 in Hg (16±3.5 kPa)
  - **Flow**: 12 scfm (340 SL/min) minimum

Head Loss With Respect to Flow

A-dec 352/353 Assistant's Instrumentation on A-dec 362/363 Support Center

The following table includes information about high volume evacuator (HVE) and saliva ejector (SE) head loss with flow for an A-dec 352/353 assistant's instrumentation on a A-dec 362/363 support center.

Tubing and HVE/SE	90 NL/min (3.18 SCFM)	150 NL/min (5.30 SCFM)	250 NL/min (8.83 SCFM)
15 mm HVE (large bore) valve with 16 mm flex tubing & 15 mm canister connection	0.05 in-Hg (0.17 kPa)	0.11 in-Hg (0.37 kPa)	0.47 in-Hg (1.59 kPa)
11mm HVE (standard bore) valve with 16 mm EasyFlex Tubing & 15 mm canister connection	0.06 in-Hg (0.20 kPa)	0.13 in-Hg (0.44 kPa)	0.57 in-Hg (1.93 kPa)
11 mm HVE (standard bore) valve with 13mm EasyFlex Tubing & 15 mm canister connection	0.09 in-Hg (0.30 kPa)	0.22 in-Hg (0.75 kPa)	1.09 in-Hg (3.69 kPa)
11 mm HVE (standard bore) valve with 13 mm PVC Tubing & 15mm canister connection	0.10 in-Hg (0.34 kPa)	0.26 in-Hg (0.88 kPa)	1.21 in-Hg (4.10 kPa)
SE (standard bore) valve with 6 mm PVC Tubing & 15 mm canister connection	1.27 in-Hg (4.30 kPa)	6.39 in-Hg (21.64 kPa)	Exceeds 12 in-Hg (40.64 kPa) at flow rates above ~200 NL/min.
SE (standard bore) valve with 10 mm EasyFlex Tubing & 15 mm canister connection	0.66 in-Hg (2.24 kPa)	2.72 in-Hg (9.21 kPa)	Exceeds 12 in-Hg (40.64 kPa) at flow rates above ~250 NL/min.

A-dec 551 Assistant's Instrumentation on A-dec 311 Dental Chair

The following table includes information about high volume evacuator (HVE) and saliva ejector (SE) head loss with flow for an A-dec 551 assistant's instrumentation on an A-dec 311 dental chair.

Tubing and HVE/SE	90 NL/min (3.18 SCFM)	150 NL/min (5.30 SCFM)	250 NL/min (8.83 SCFM)
15 mm HVE (large bore) valve with 16 mm EasyFlex Tubing	0.11 in-Hg 0.37 kPa	0.32 in-Hg 1.08 kPa	0.82 in-Hg 2.78 kPa
11 mm HVE (standard bore) valve with 13 mm EasyFlex Tubing	0.33 in-Hg 1.12 kPa	1.09 in-Hg 3.69 kPa	2.97 in-Hg 10.06 kPa
11 mm HVE (standard bore) valve with 16 mm EasyFlex Tubing	0.20 in-Hg 0.68 kPa	0.54 in-Hg 1.83 kPa	1.41 in-Hg 4.77 kPa
11 mm HVE (standard bore) valve with 13 mm PVC Tubing	0.38 in-Hg 1.29 kPa	1.03 in-Hg 3.49 kPa	2.57 in-Hg 8.70 kPa
SE (standard bore) valve with 6 mm PVC Tubing	8.89 in-Hg 30.10 kPa	Exceeds 12 in-Hg (40.64 kPa) at flow rates ~100 NL/min.	
SE (standard bore) valve with 10 mm EasyFlex Tubing	5.03 in-Hg 17.03 kPa	Exceeds 12 in-Hg (40.64 kPa) at flow rates above ~125 NL/min.	

A-dec 351 Assistant's Instrumentation

The following table includes information about high volume evacuator (HVE) and saliva ejector (SE) head loss with flow for an A-dec 351 Assistant's Instrumentation.

Tubing and HVE/SE	90 NL/min (3.18 SCFM)	150 NL/min (5.30 SCFM)	250 NL/min (8.83 SCFM)
15mm HVE (large bore) valve with 16 mm EasyFlex Tubing	0.08 in-Hg (0.27 kPa)	0.14 in-Hg (0.47 kPa)	0.36 in-Hg (1.22 kPa)
11mm HVE (standard bore) valve with 16 mm EasyFlex Tubing	0.03 in-Hg (0.10 kPa)	0.7 in-Hg (0.24 kPa)	0.40 in-Hg (1.35 kPa)
11 mm HVE (standard bore) valve with 13 mm EasyFlex Tubing	0.07 in-Hg (0.24 kPa)	0.20 in-Hg (0.68 kPa)	1.25 in-Hg (4.23 kPa)
11 mm HVE (standard bore) valve with 13 mm PVC Tubing	0.10 in-Hg (0.34 kPa)	0.27 in-Hg (0.91 kPa)	1.50 in-Hg (5.08 kPa)
SE (standard bore) valve with 6 mm PVC Tubing	1.15 in-Hg (3.89 kPa)	6.31 in-Hg (21.37 kPa)	Exceeds 12 in-Hg (40.64 kPa) at flow rates above ~175 NL/min
SE (standard bore) valve with 10 mm EasyFlex Tubing	0.43 in-Hg (1.46 kPa)	2.00 in-Hg (6.77 kPa)	Exceeds 12 in-Hg (40.64 kPa) at flow rates above ~220 NL/min

Gravity Drain

NOTE Gravity drains are needed only on systems with a cuspidor.

- 1-1/2" (38 mm) nominal pipe protruding 1" (25 mm) from finished floor. Trap to be placed in line, conforming to local codes, contractor-supplied.
- Floor mount only. Not recommended for wall mount utilities.
- Waste water drain must have a minimum slope of 1/4" per foot (21 mm per meter) and accommodate a flow of 4.5 (17 L/min) without overflow.

Shipping Weights

Product/Box	Estimated Shipping Weight
A-dec 311flt/311B Dental Chair	401 lb (182 kg)
A-dec 311xlc Dental Chair	394 lb (179 kg)
A-dec 332pro/332flt/332 Delivery System	61 lb (27.7 kg)
A-dec 333pro/333 Delivery System	55 lb (24.9 kg)
A-dec 334pro/334 Delivery System	61 lb (27.7 kg)
A-dec 335pro/335 Delivery System	55 lb (24.9 kg)
A-dec 336pro/336 Delivery System	61 lb (27.7 kg)
A-dec 362 Cuspidor and Support Center	84 lb (38.1 kg)
A-dec 363 Cuspidor and Support Center	73 lb (33.1 kg)
A-dec 461 Cuspidor and Support Center	66 lb (29.9 kg)
A-dec 351 Assistant's Instrumentation *(assistant's arm only)*	28 lb (12.7 kg)
A-dec 352 Assistant's Instrumentation *(assistant's arm only)*	15 lb (6.8 kg)
A-dec 353 Assistant's Instrumentation *(assistant's arm only)*	7 lb (3.2 kg)
A-dec 551sta Assistant's Instrumentation *(assistant's arm only)*	20 lb (9.1 kg)
Back Mount and Support Link *(required with 551 module)*	15 lb (6.8 kg)
A-dec 571/571L Dental Light	35 lb (15.9 kg)
A-dec 572/572L Dental Light	47 lb (21.3 kg)
A-dec 372L Dental Light	47 lb (21 kg)
A-dec 381 Monitor Mount *(mount hardware only; without monitor)*	9 lb (4.1 kg)
A-dec 382 Monitor Mount *(mount hardware only; without monitor)*	27 lb (12.2 kg)
A-dec 482 Monitor Mount *(mount hardware only; without monitor)*	11 lb (5.0 kg)

Documentation References

Document Title	Part Number
Installation Guides	
A-dec 311 Dental Chair Installation Guide	86.0921.00
A-dec 332flt and A-dec 332/333/336 Delivery System on A-dec 311flt and A-dec 311/411 Dental Chair Installation Guide	86.0922.00
A-dec 332pro/333pro/336pro Delivery System on A-dec 311flt and A-dec 311/411 Dental Chair Installation Guide	86.1016.00
A-dec 363 Support Center on an A-dec 311 Dental Chair Installation Guide	86.0544.00
A-dec 362 Support Center Installation Guide	86.0563.00
A-dec 461 Support Center on A-dec 311/411/511 Dental Chair Installation Guide	86.0387.00
A-dec 351 Assistant's Instrumentation on 311/411/511 Dental Chair Installation Guide	86.0569.00
A-dec 551/551sta Assistant's Instrumentation on 311/411/511 Dental Chair Installation Guide	86.0388.00
A-dec 482/381 Monitor Mount Installation Guide	86.0410.00
A-dec 382 Monitor Mount on A-dec Cascade/Decade/311/411/511 Dental Chair Installation Guide	86.0413.00
A-dec 372L/572L Dental Light on A-dec 311/411/511 Dental Chair Installation Guide	86.0333.00
A-dec 371L/571L Dental Light on A-dec 361/362/363 Support Center Installation Guide	86.0341.00
Templates	
A-dec 311flt/311B Dental Chair Template	86.0550.00
A-dec 311flt/311B Dental Chair Mini Template	86.0551.00
A-dec 311flt/311B Dental Chair and Related Modules Template	86.0552.00
A-dec 311xlc Dental Chair Template	86.1208.00
A-dec 311xlc Dental Chair and Related Modules Template	86.1209.00
A-dec Floor Boxes	85.0472.00

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

NOTE The floor box mounting hole placements appear on the floor box base that is being installed.

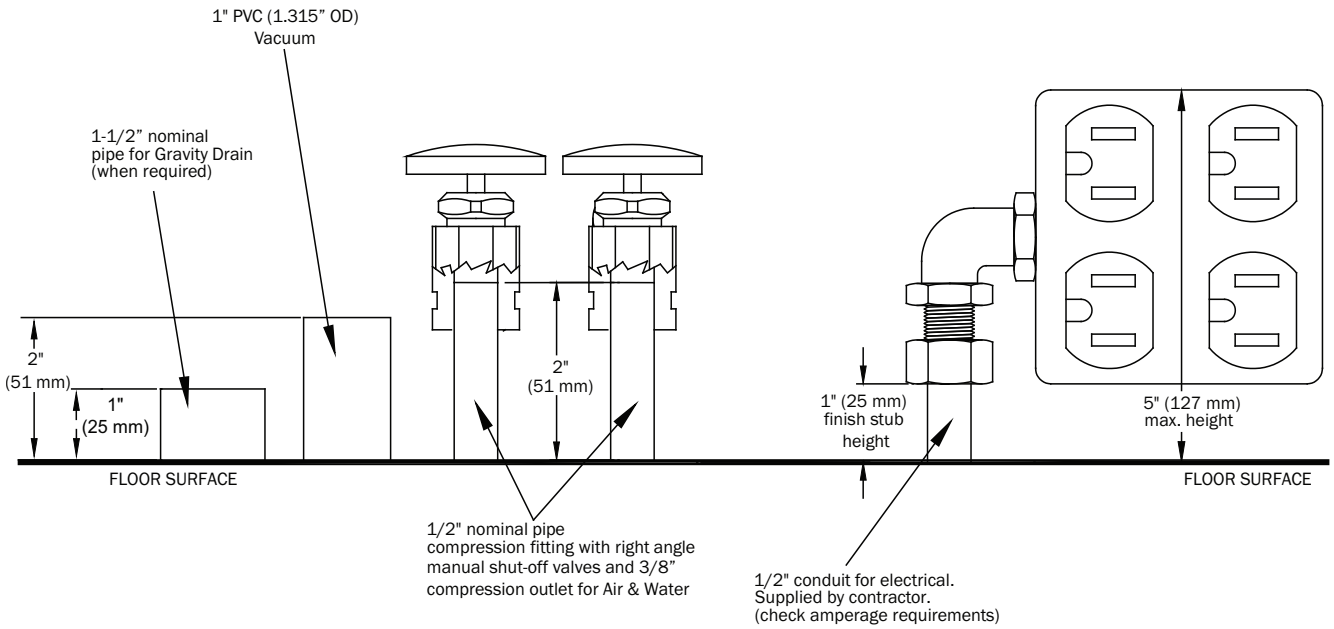
Views and Dimensions

NOTE The dimensional drawings in this section are not to scale and are for reference only. For complete accuracy, use the appropriate full-sized templates.

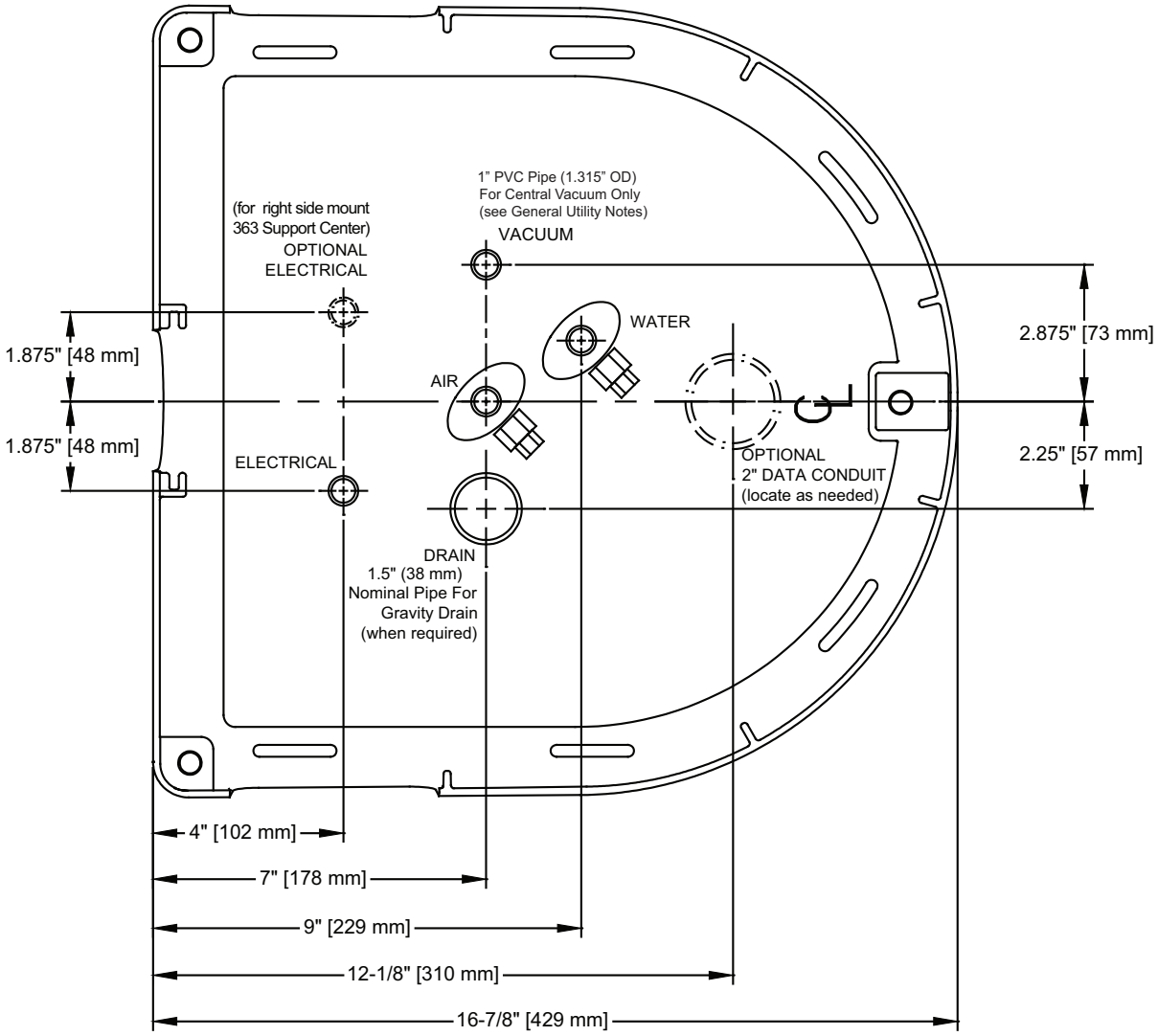
Utility Placement

CAUTION Due to specific plumbing elevation restrictions, the height and placement of utilities in the floor box can affect the ability to use the floor box cover. Failure to provide adequate space will prevent installation and removal of the cover. See "Plumbing Elevations" on page 9. Please reference the appropriate full-size template which includes all of the necessary space constraints.

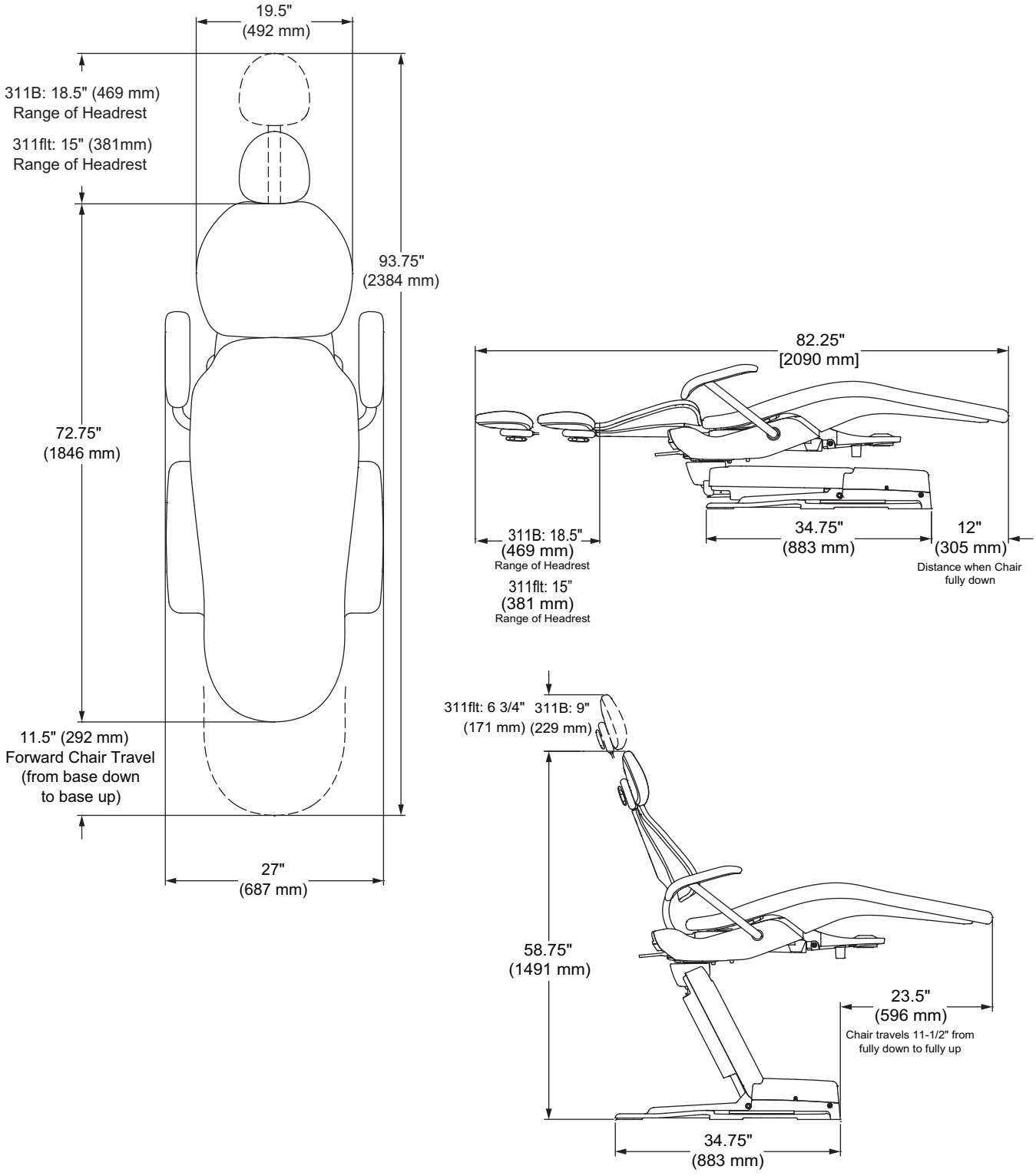
Plumbing Elevations



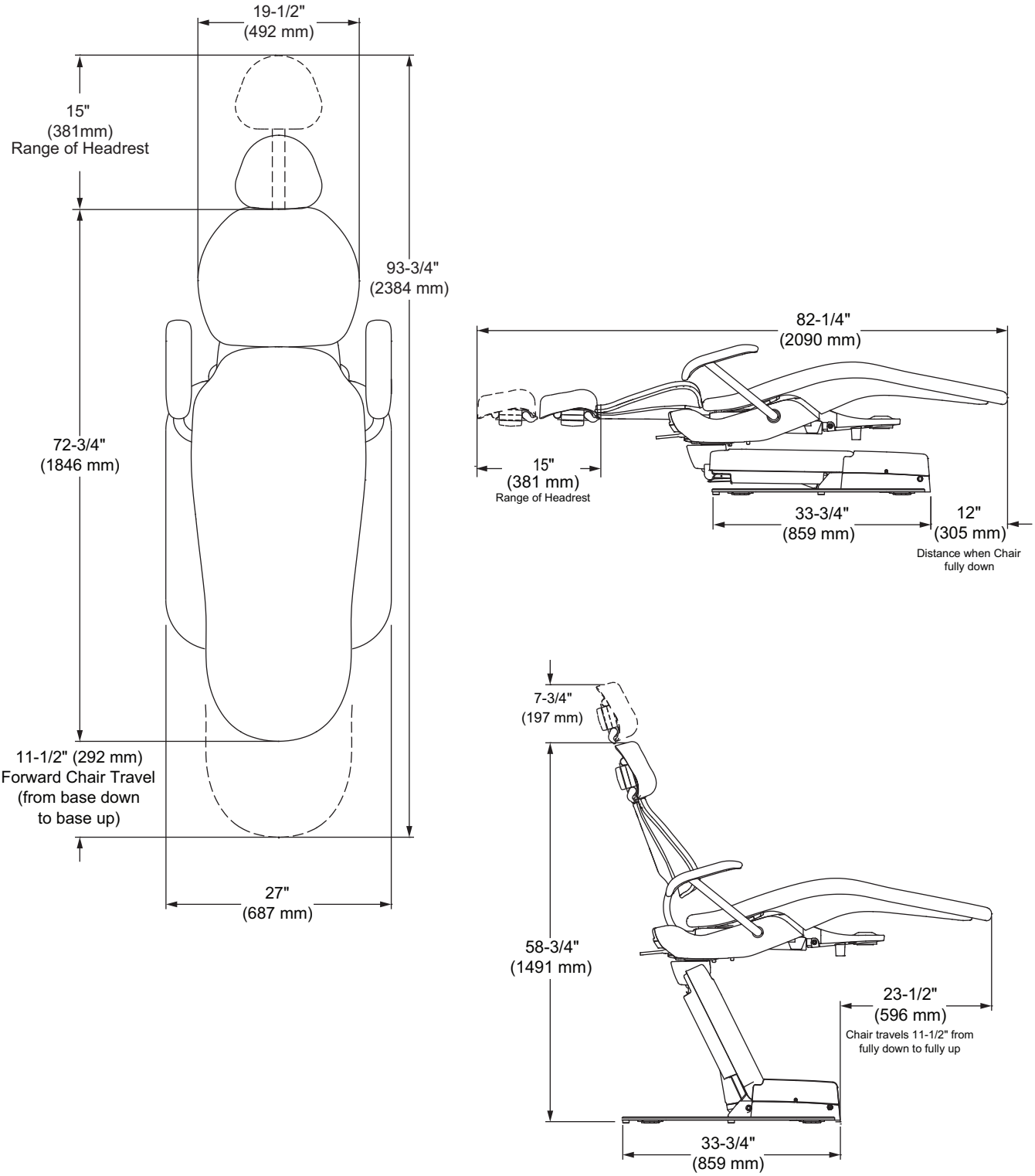
Floor Box Utility Connections



A-dec 311flt/311B Dental Chair
Plan View with Elevation

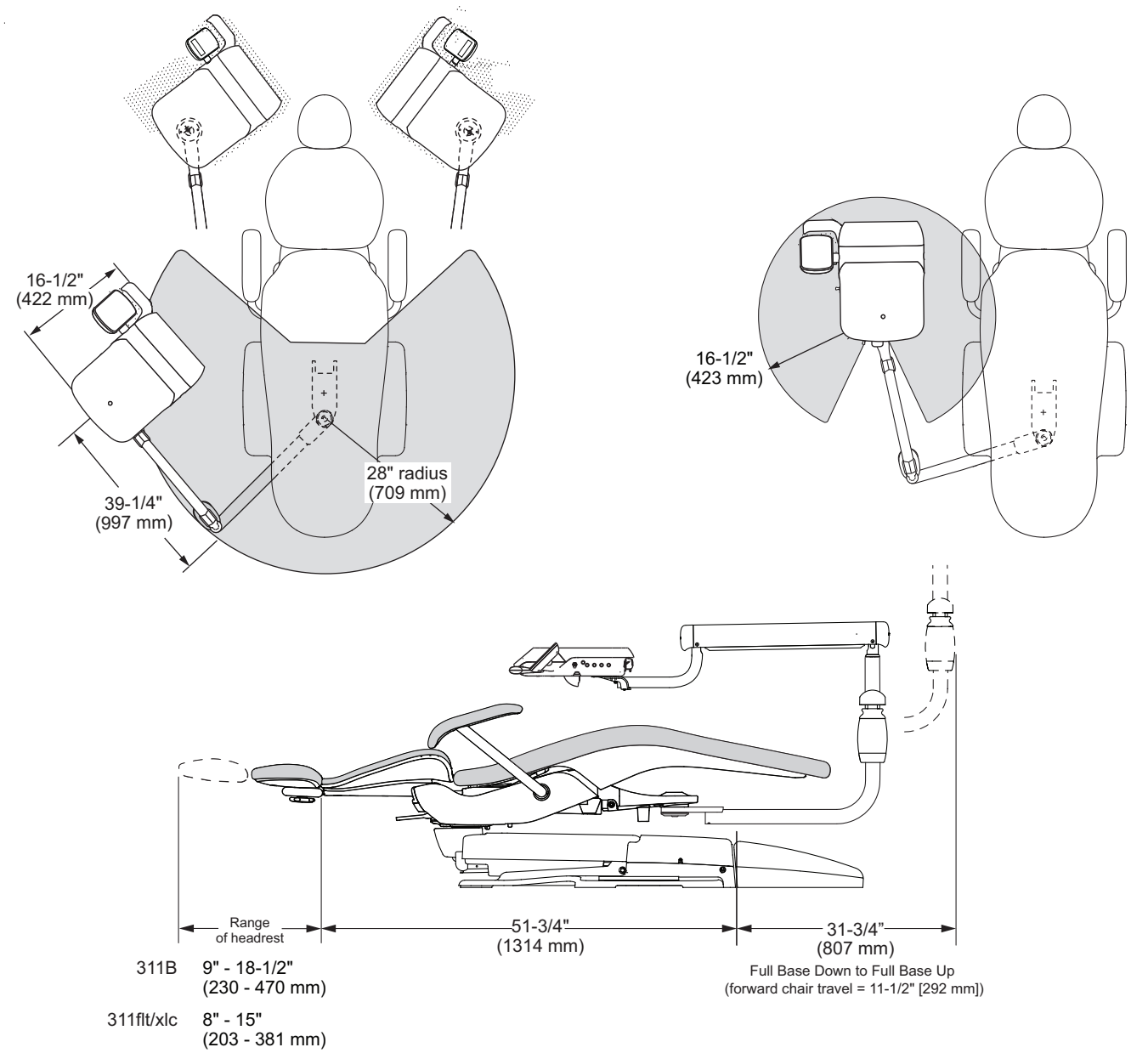


A-dec 311xlc Dental Chair
Plan View with Elevation



A-dec 332pro/333pro/332/333 Delivery System
Plan View with Elevation

(A-dec 311B chair shown with 332pro/333pro delivery system)

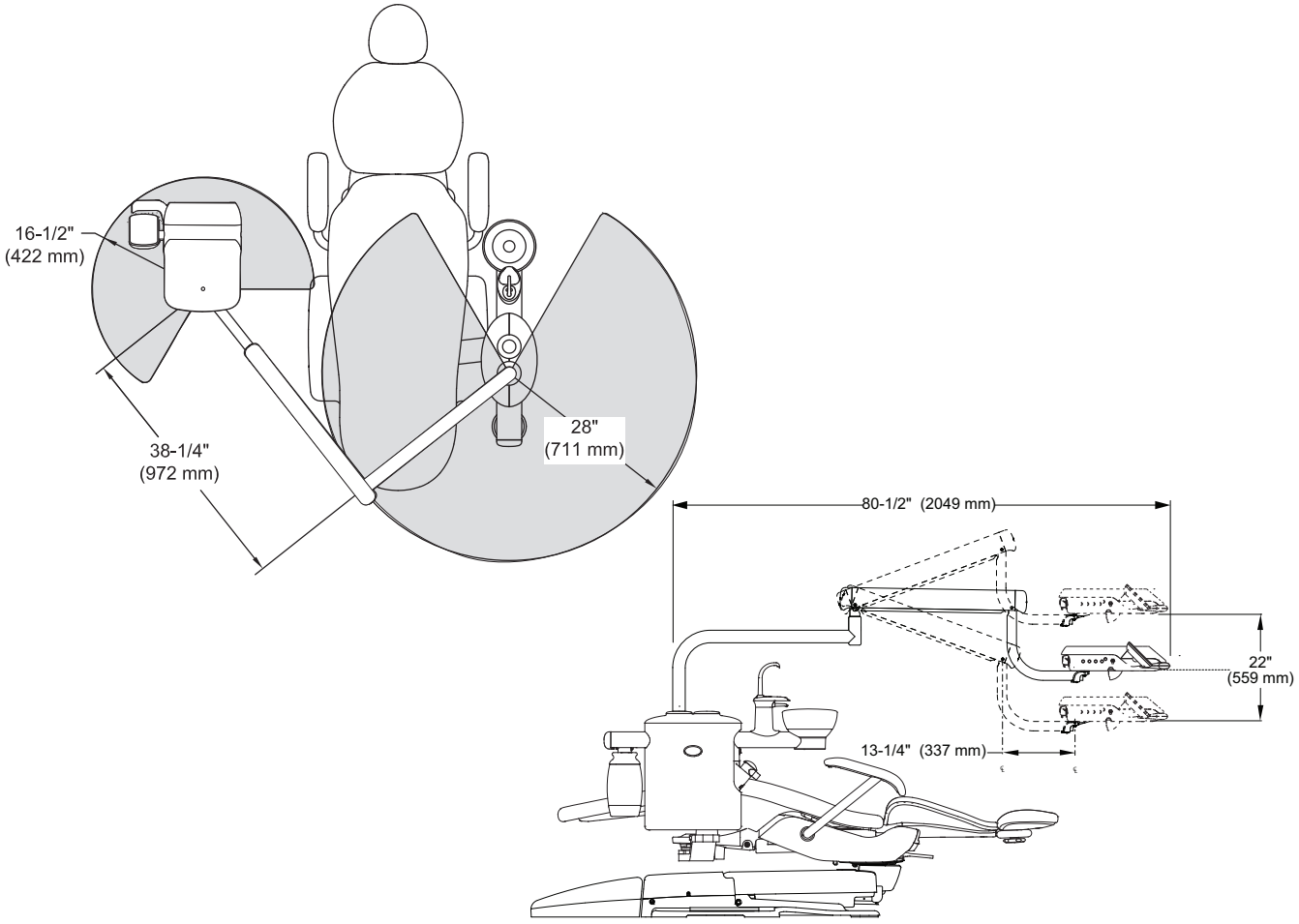


311B 9" - 18-1/2"
(230 - 470 mm)

311flt/xlc 8" - 15"
(203 - 381 mm)

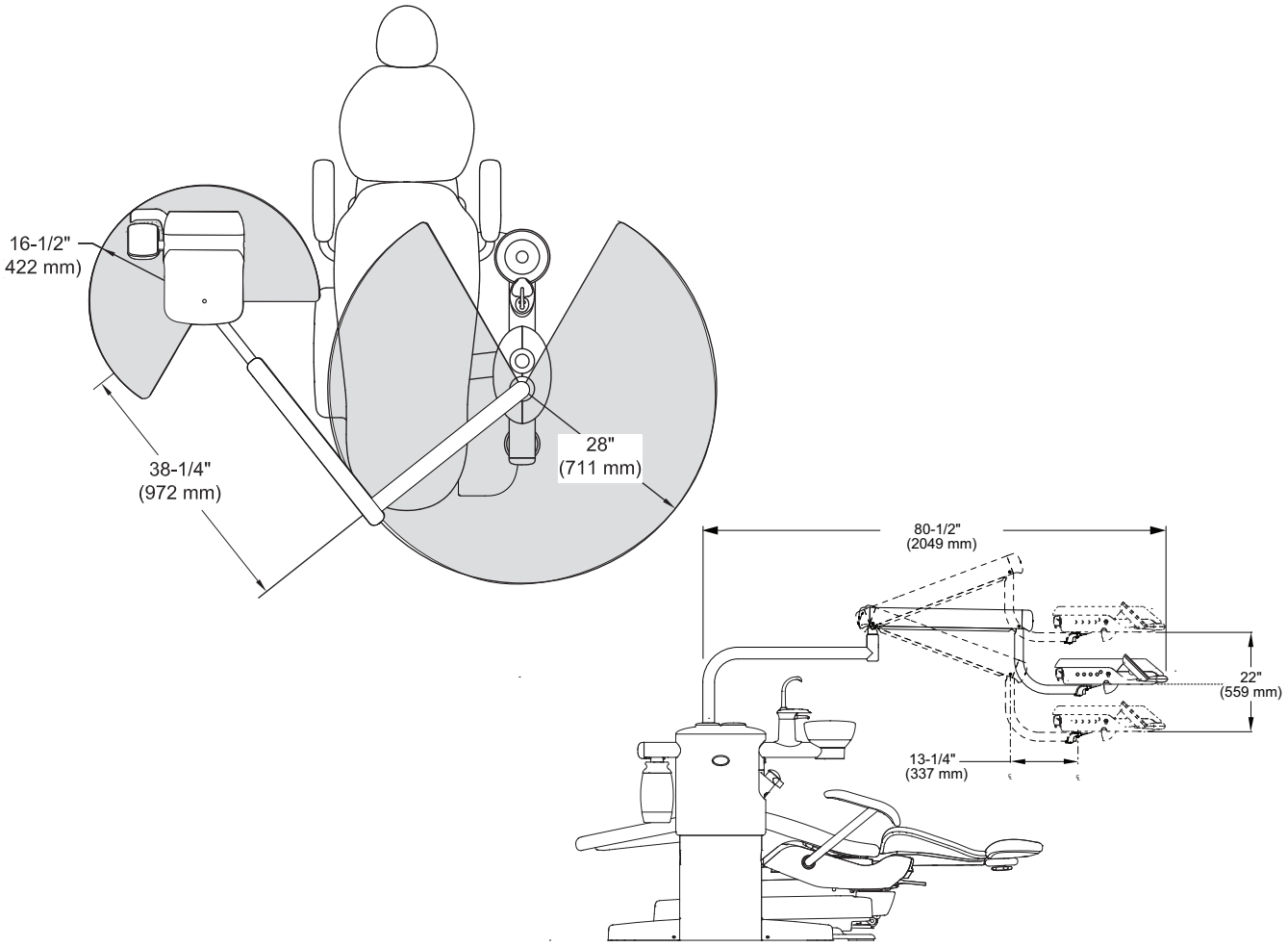
A-dec 334pro/335pro/334/335 Delivery System with 362 Support Center *Plan View with Elevation*

(A-dec 311B chair shown with 334pro/335pro delivery system)



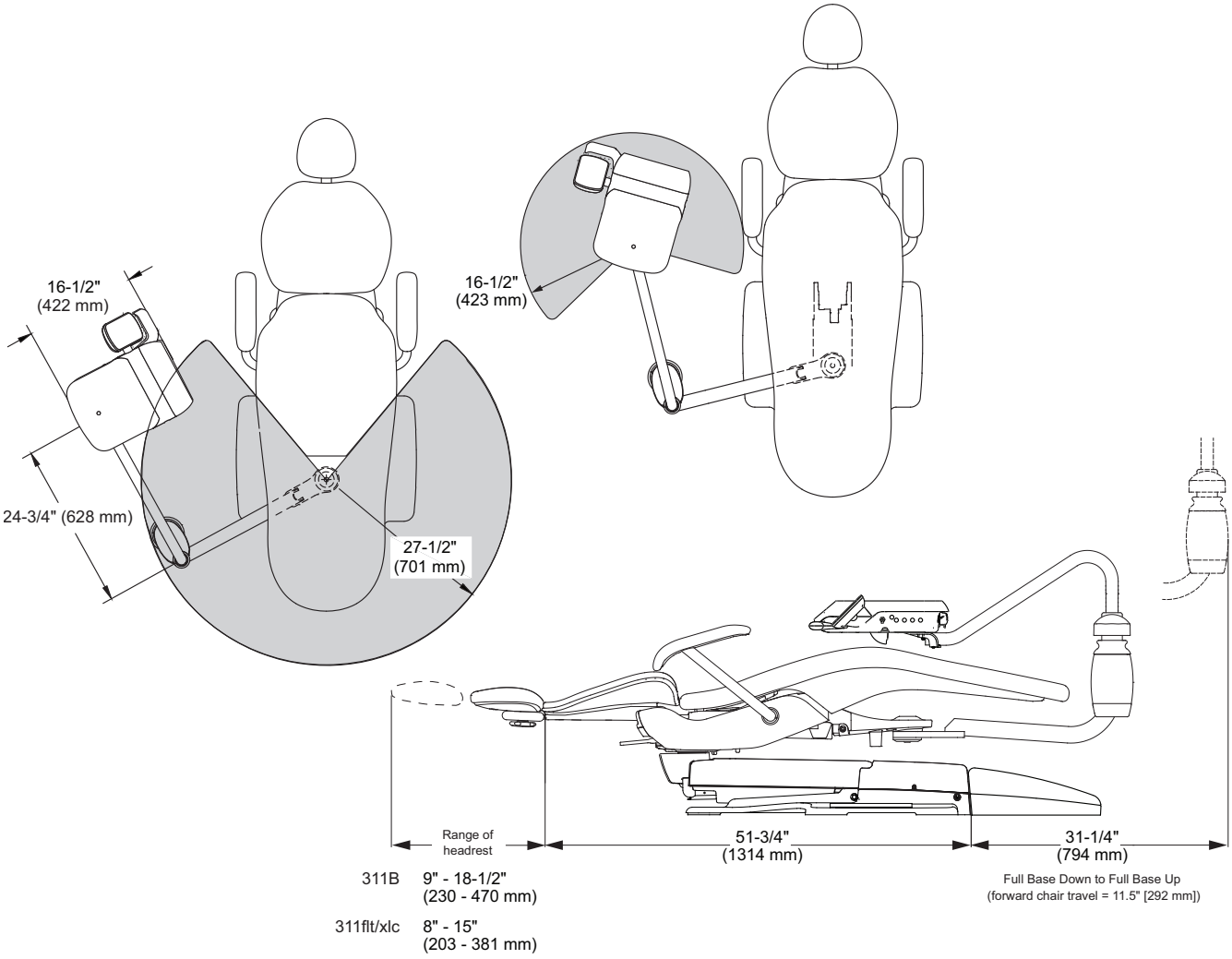
A-dec 334pro/335pro/334/335 Delivery System with 363 Support Center
Plan View with Elevation

(A-dec 311B chair shown with 334pro/335pro delivery system)

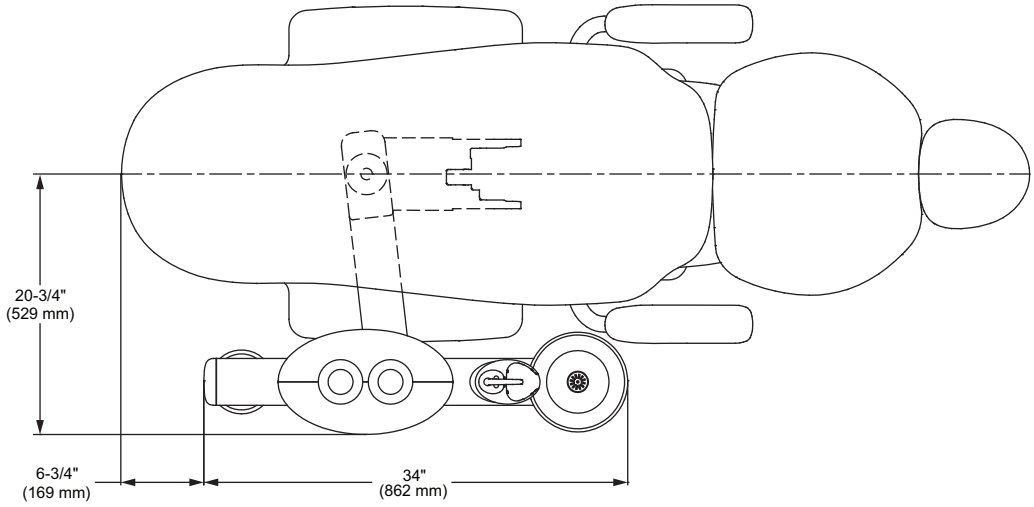


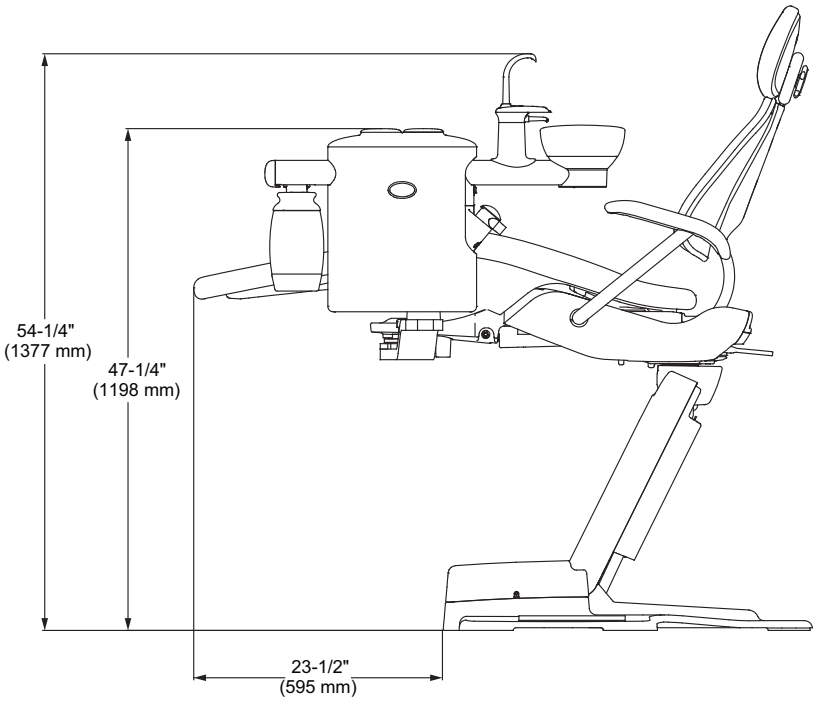
A-dec 336pro/336 Delivery System
Plan View with Elevation

(A-dec 311B chair shown with 336pro delivery system)

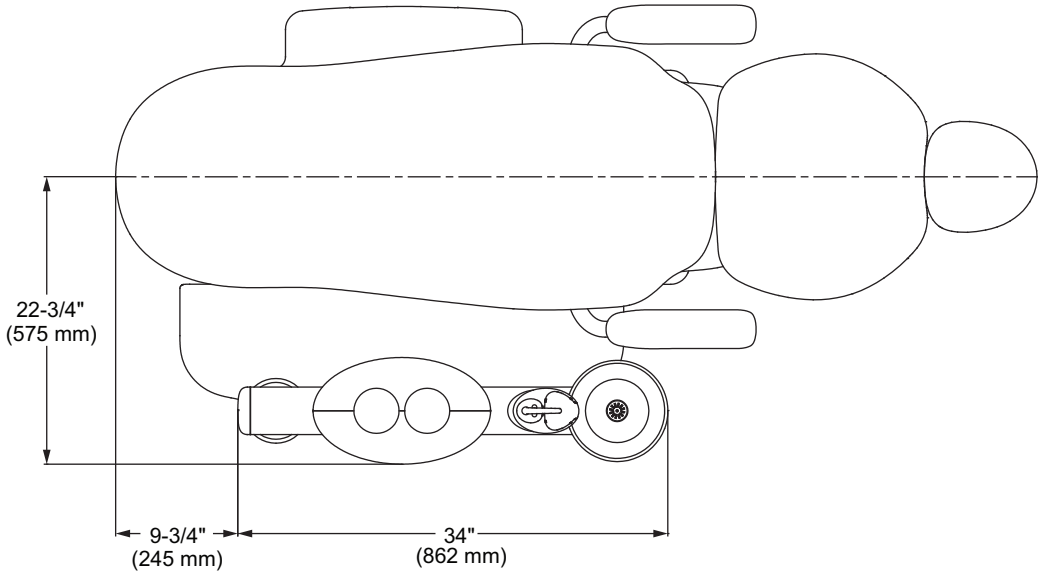


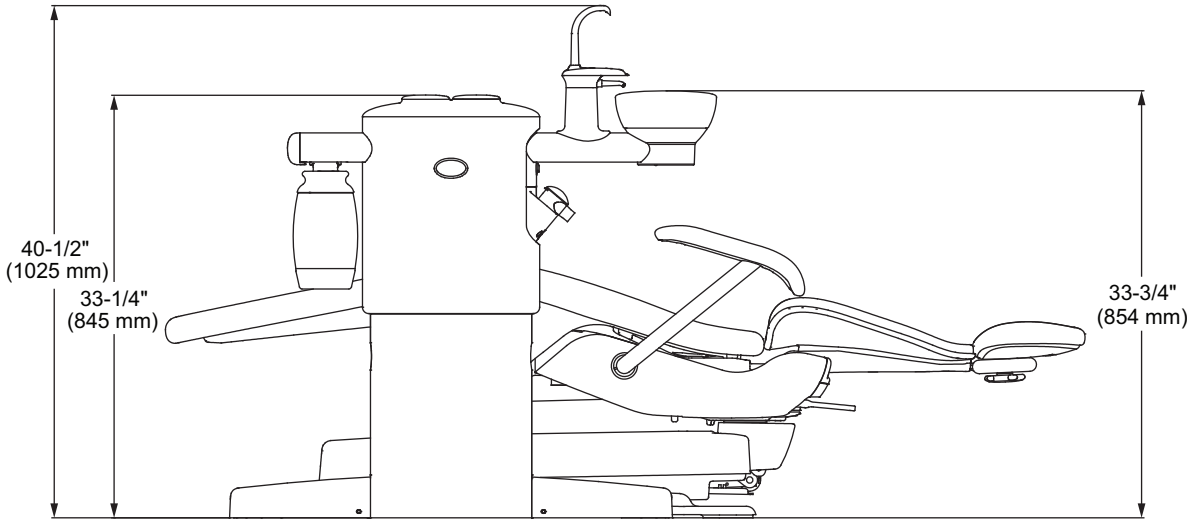
A-dec 362 Cuspidor and Support Center
Plan View with Elevation



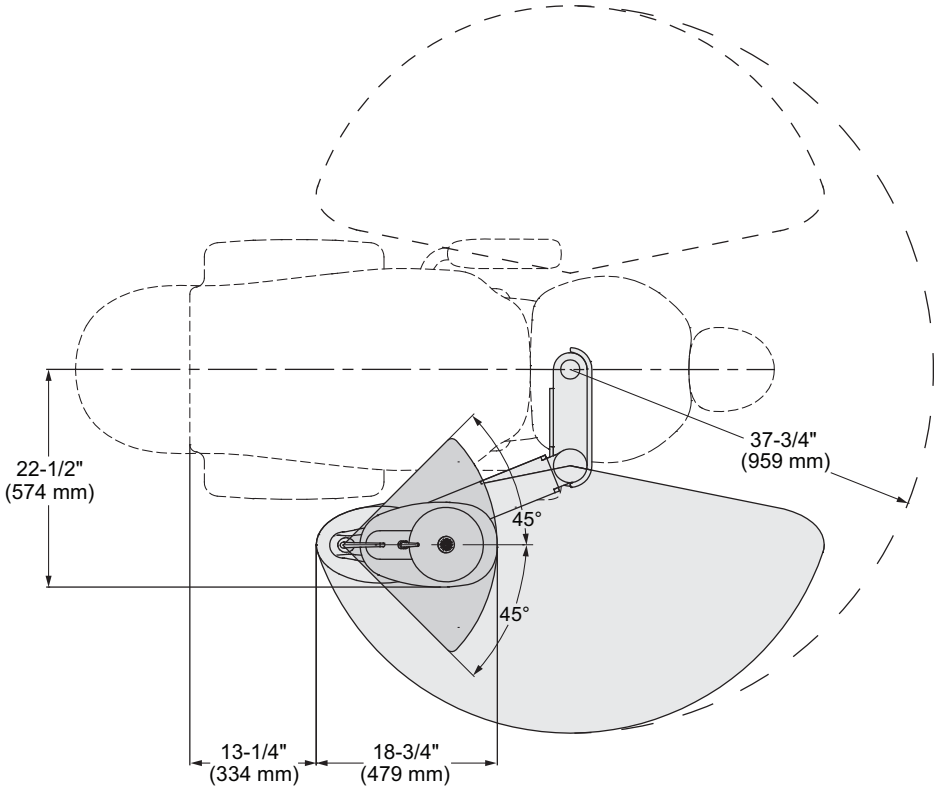


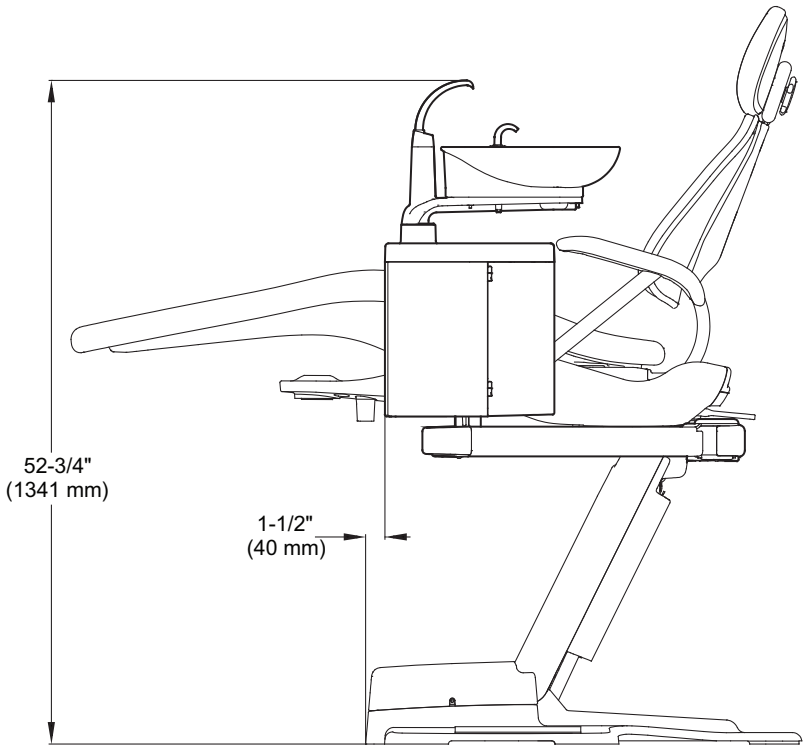
A-dec 363 Cuspidor and Support Center
Plan View with Elevation



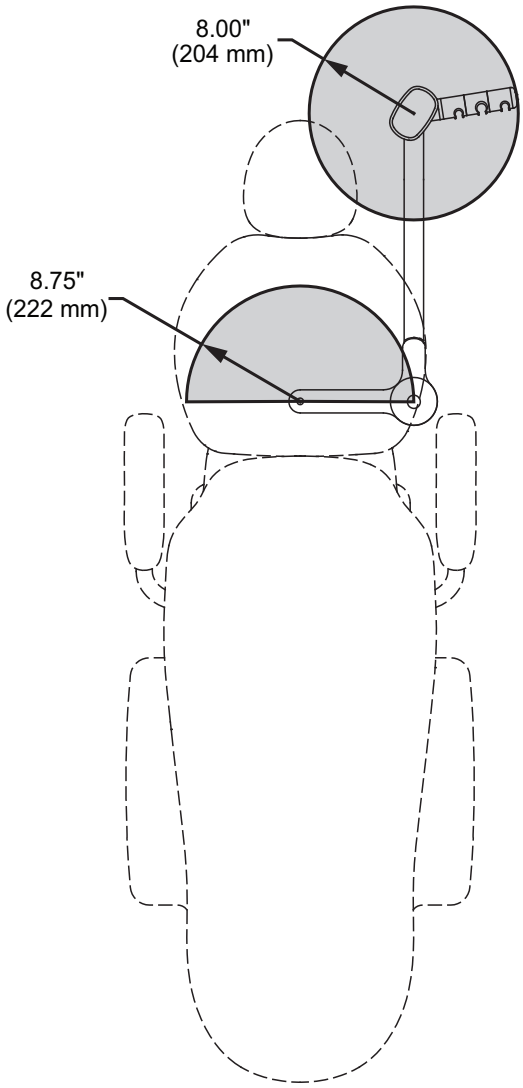


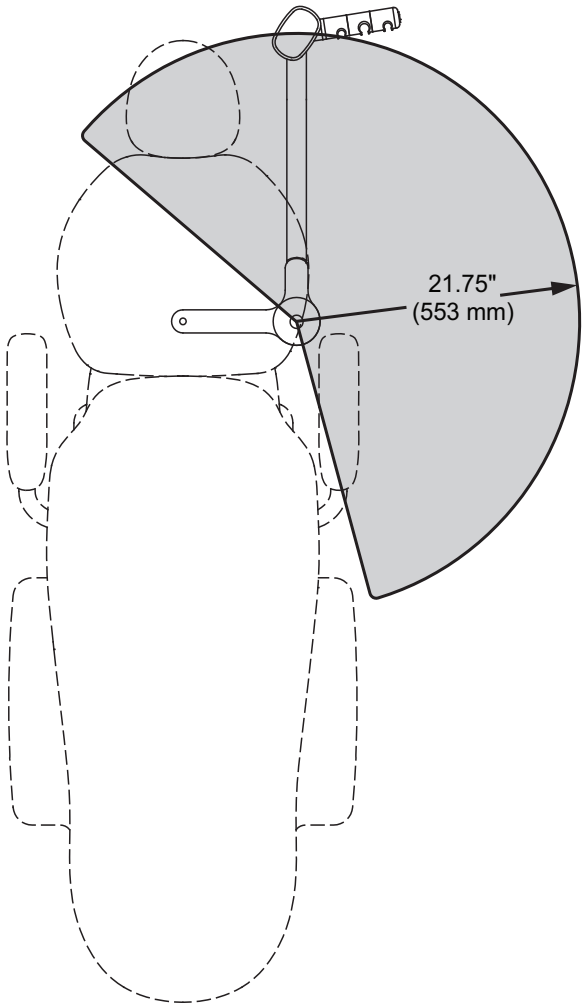
A-dec 461 Cuspidor and Support Center
Plan View with Elevation



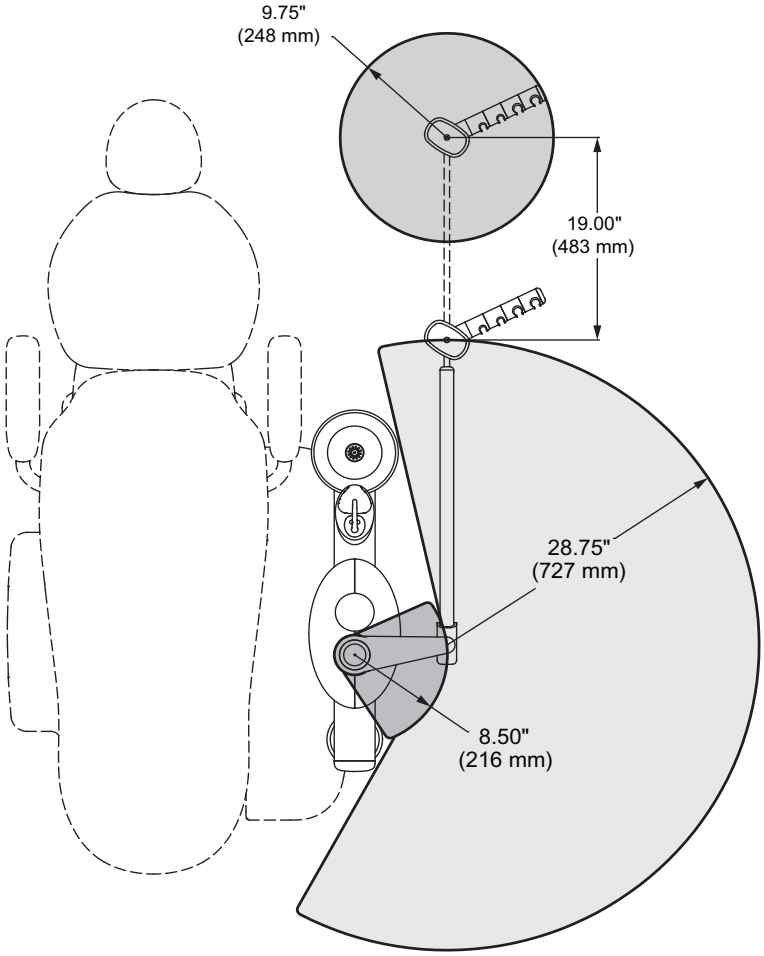


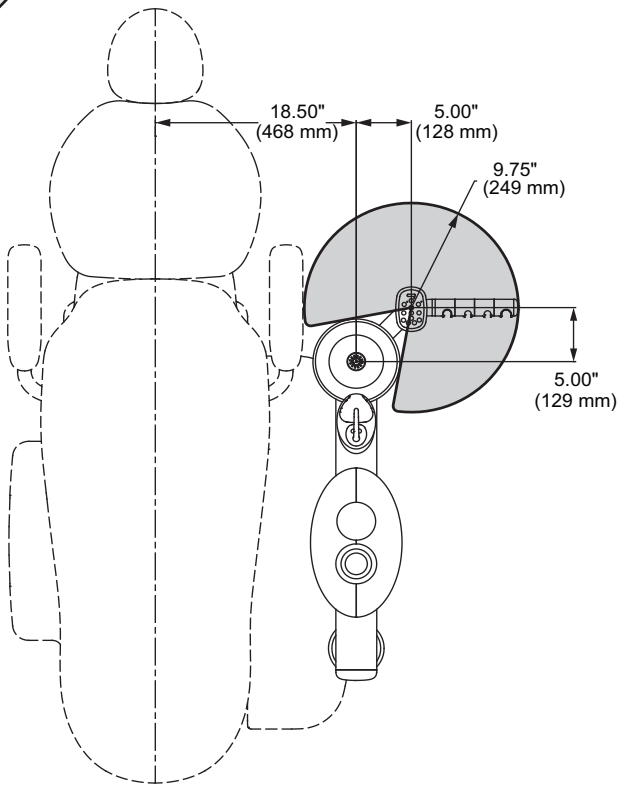
A-dec 351 Assistant's Instrumentation
Plan View





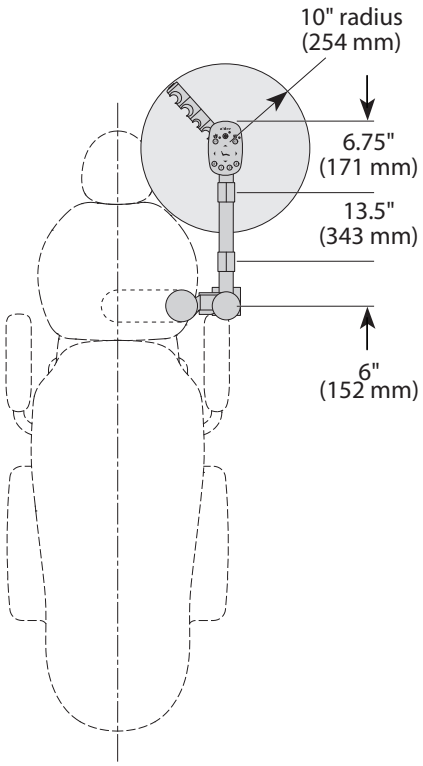
A-dec 352/353 Assistant's Instrumentation
Plan View

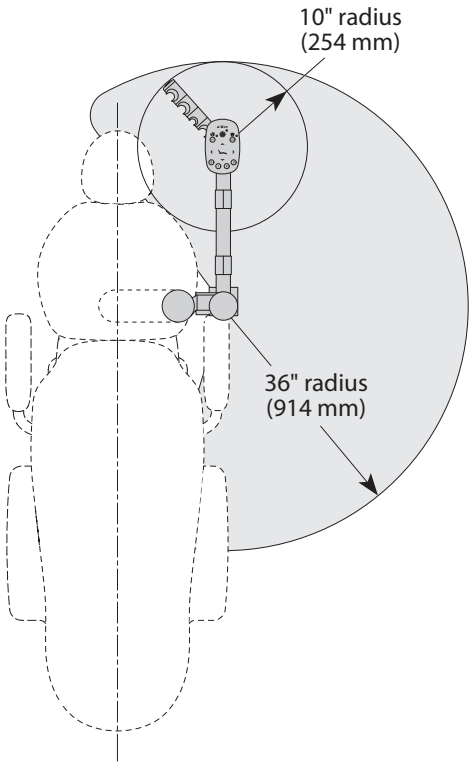




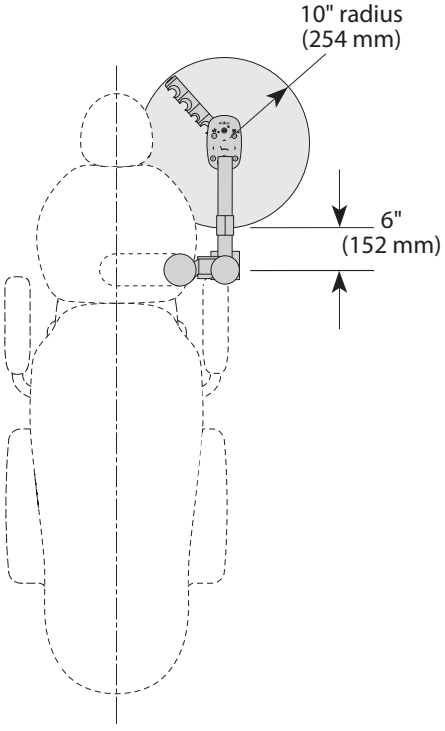
A-dec 551 Assistant's Instrumentation
Plan View

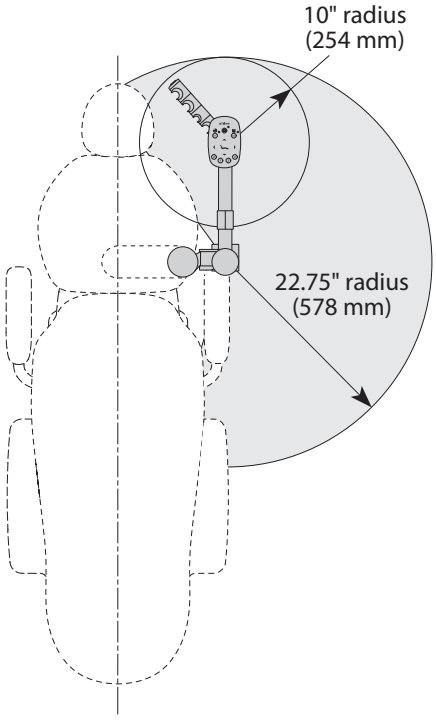
Long Arm



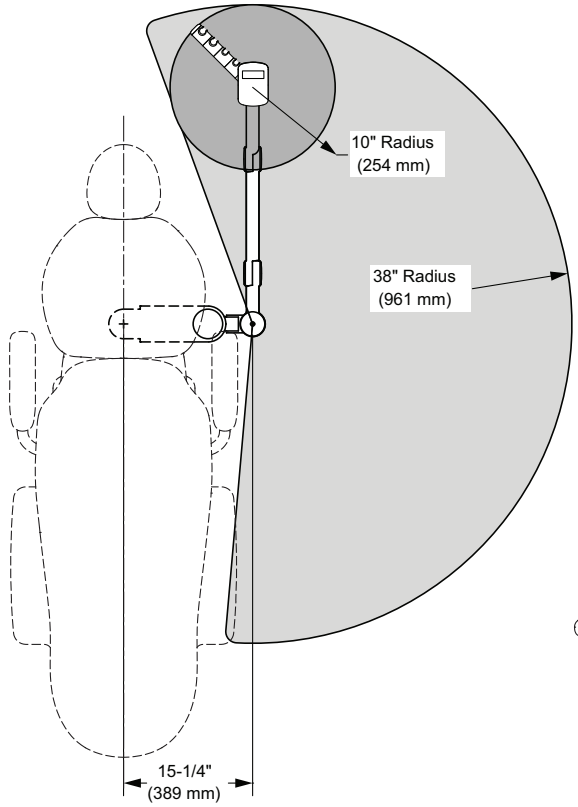


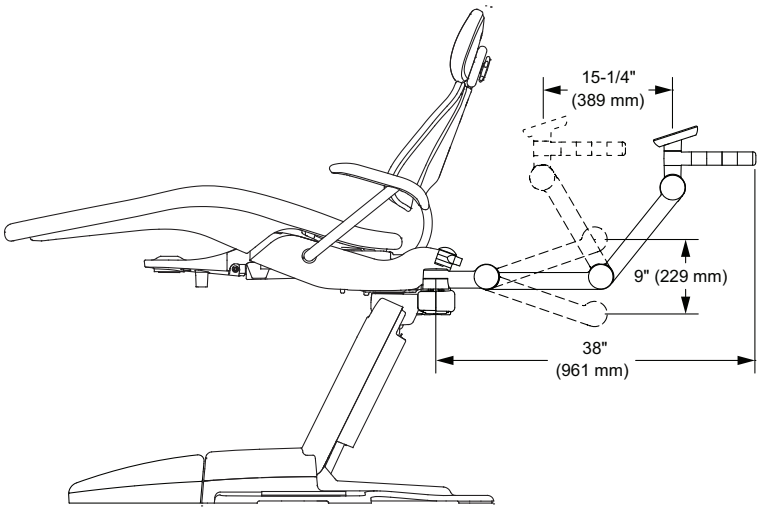
Short Arm



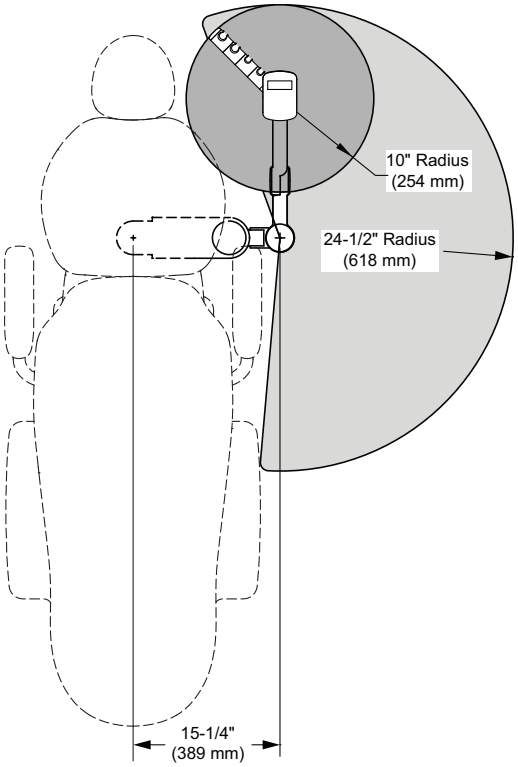


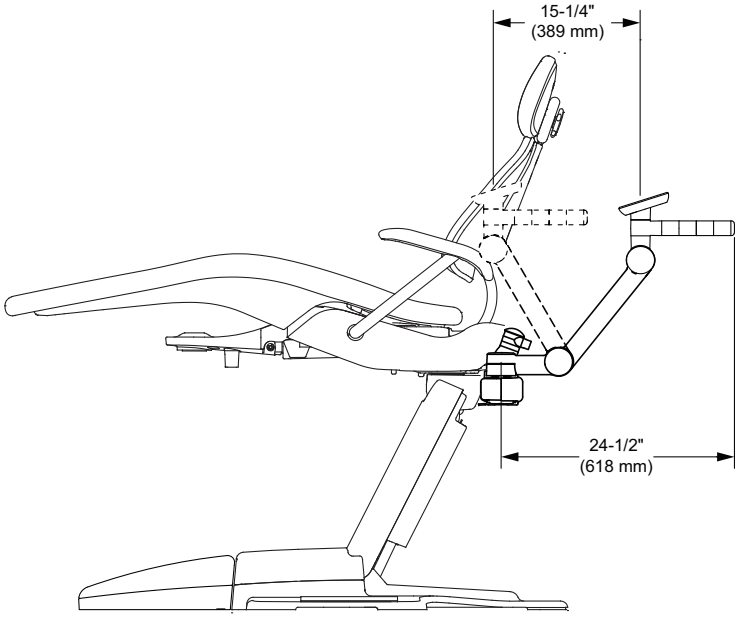
A-dec 551sta Assistant's Instrumentation (Long Arm)
Plan View





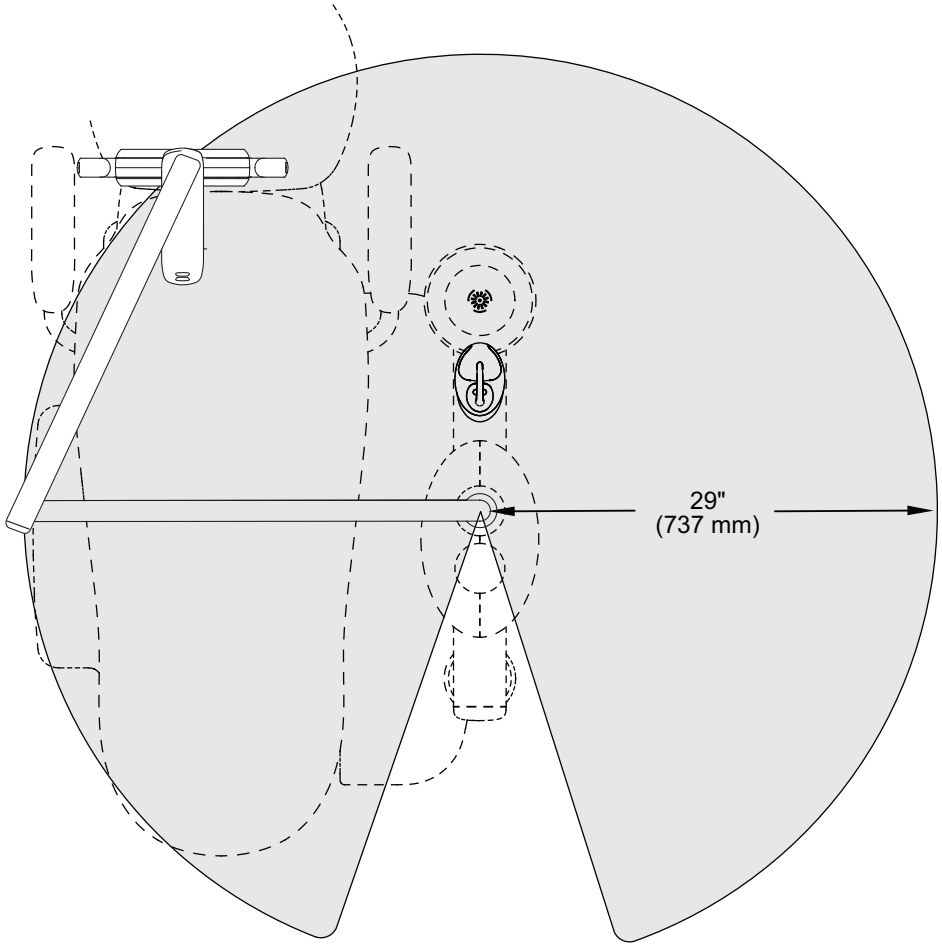
A-dec 551sta Assistant's Instrumentation (Short Arm)
Plan View

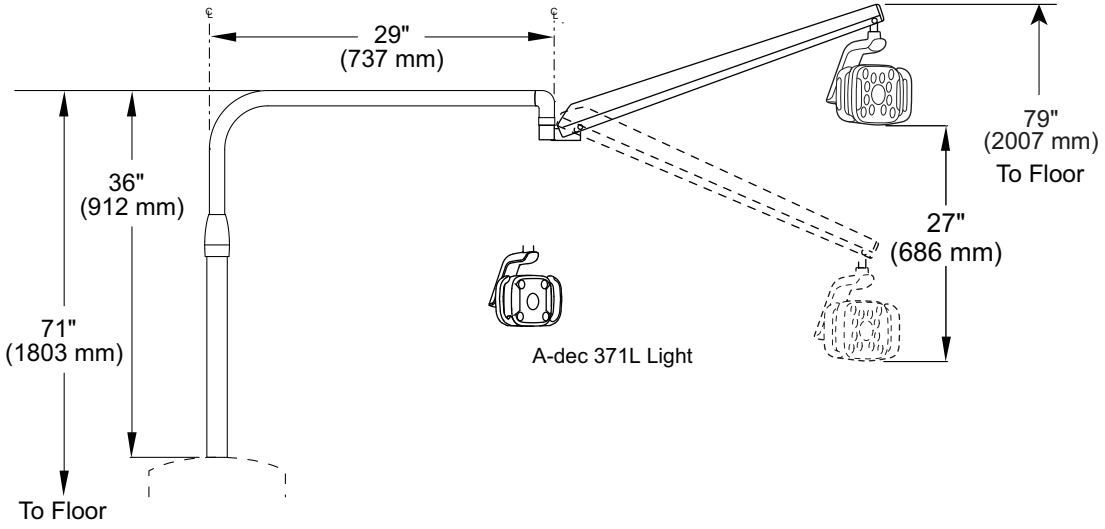




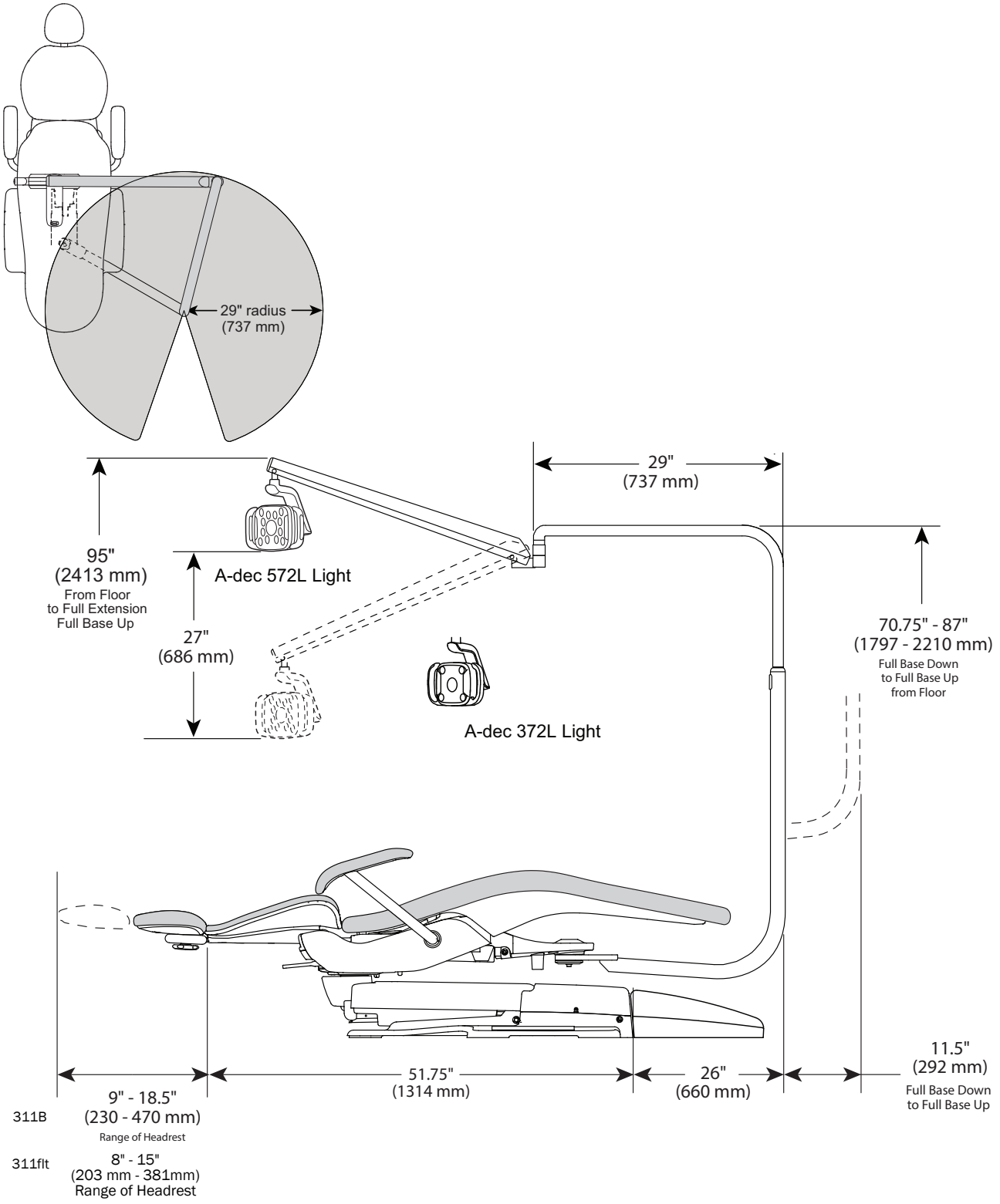
A-dec 371L/571L Dental Lights
Plan View with Elevation

(A-dec 571L dental light shown)

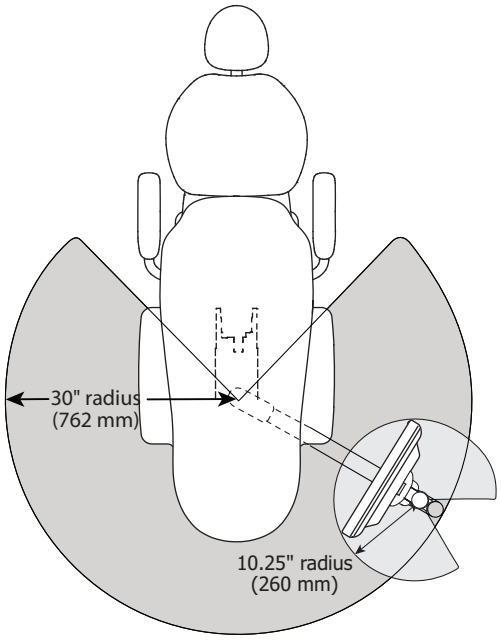


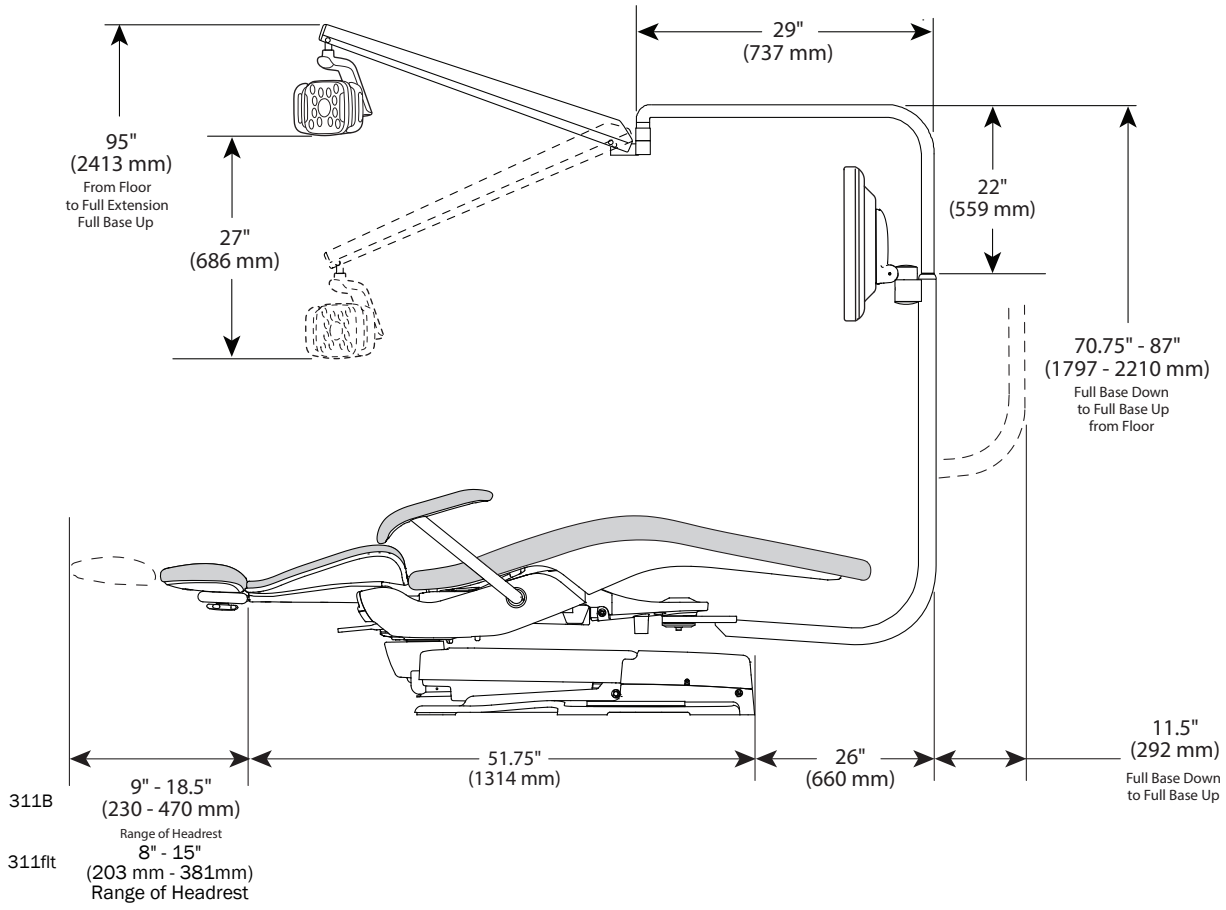


A-dec 372L/572L Dental Lights
Plan View with Elevation

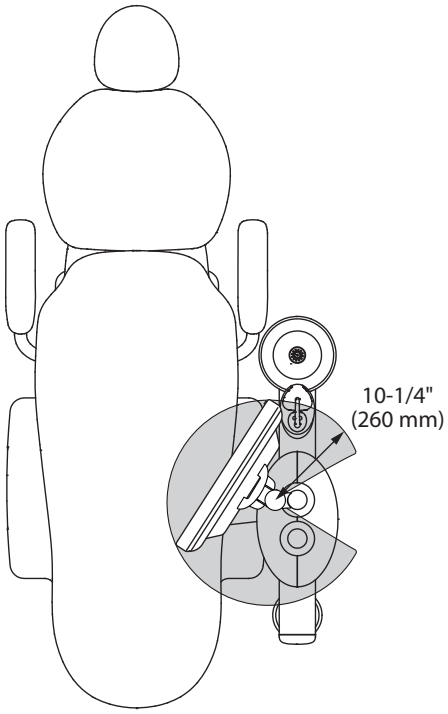


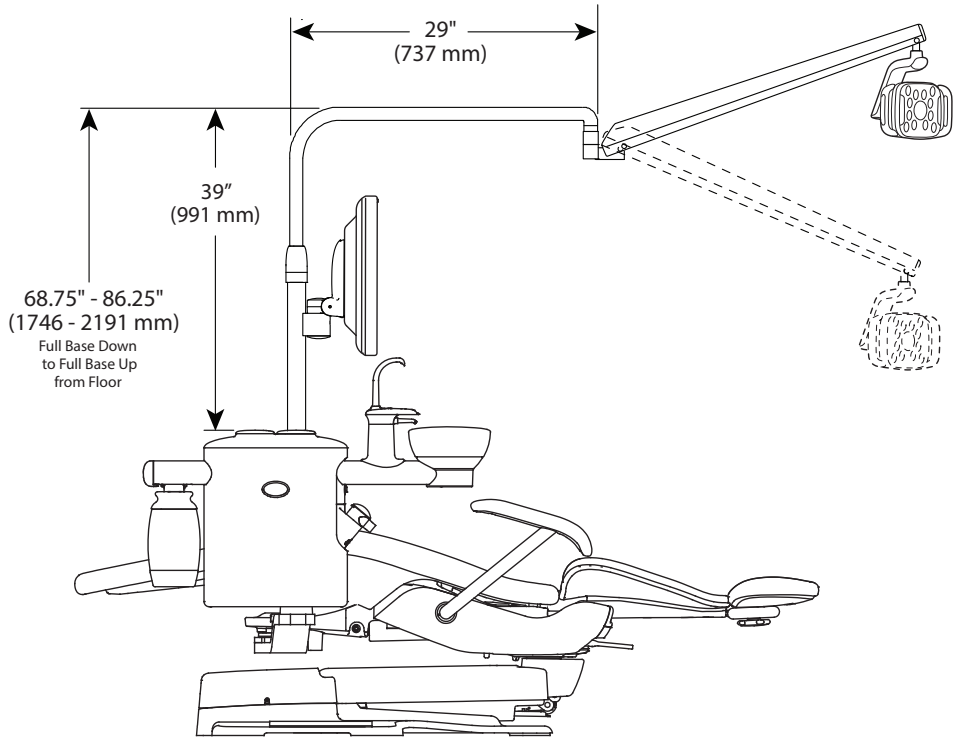
A-dec 381 Monitor Mount with Dental Light
Plan View with Elevation



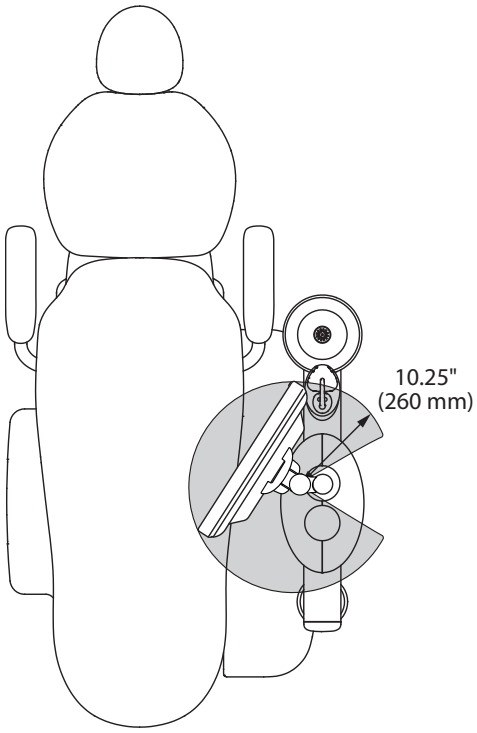


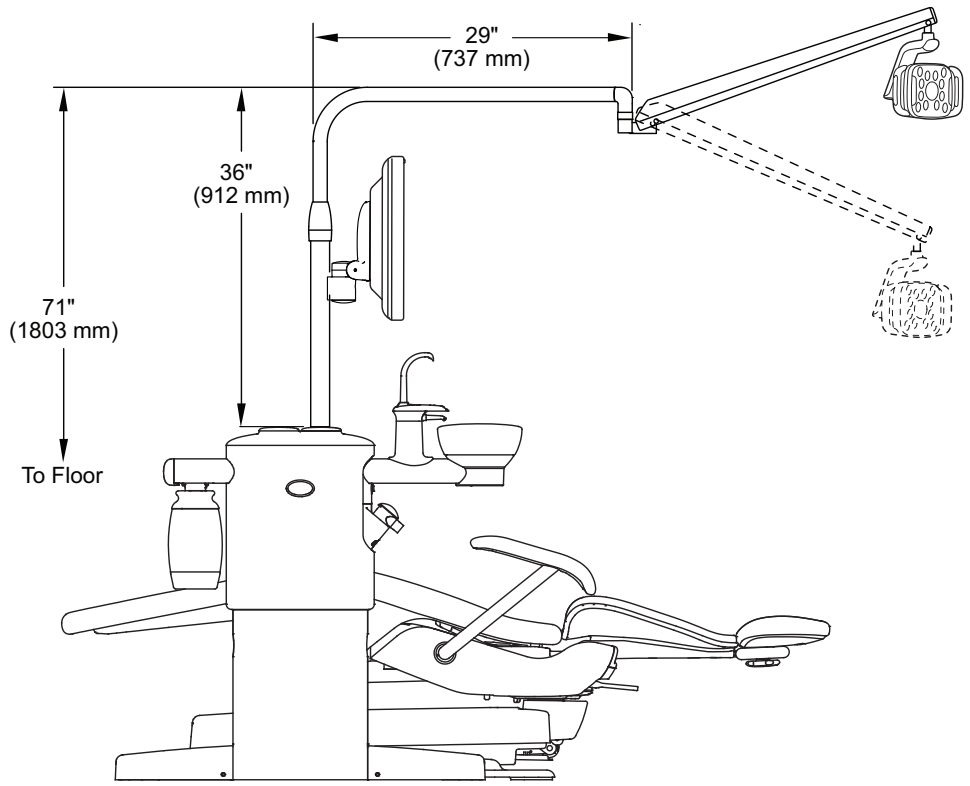
A-dec 381 Monitor Mount with 362 Support Center Mount Dental Light
Plan View with Elevation



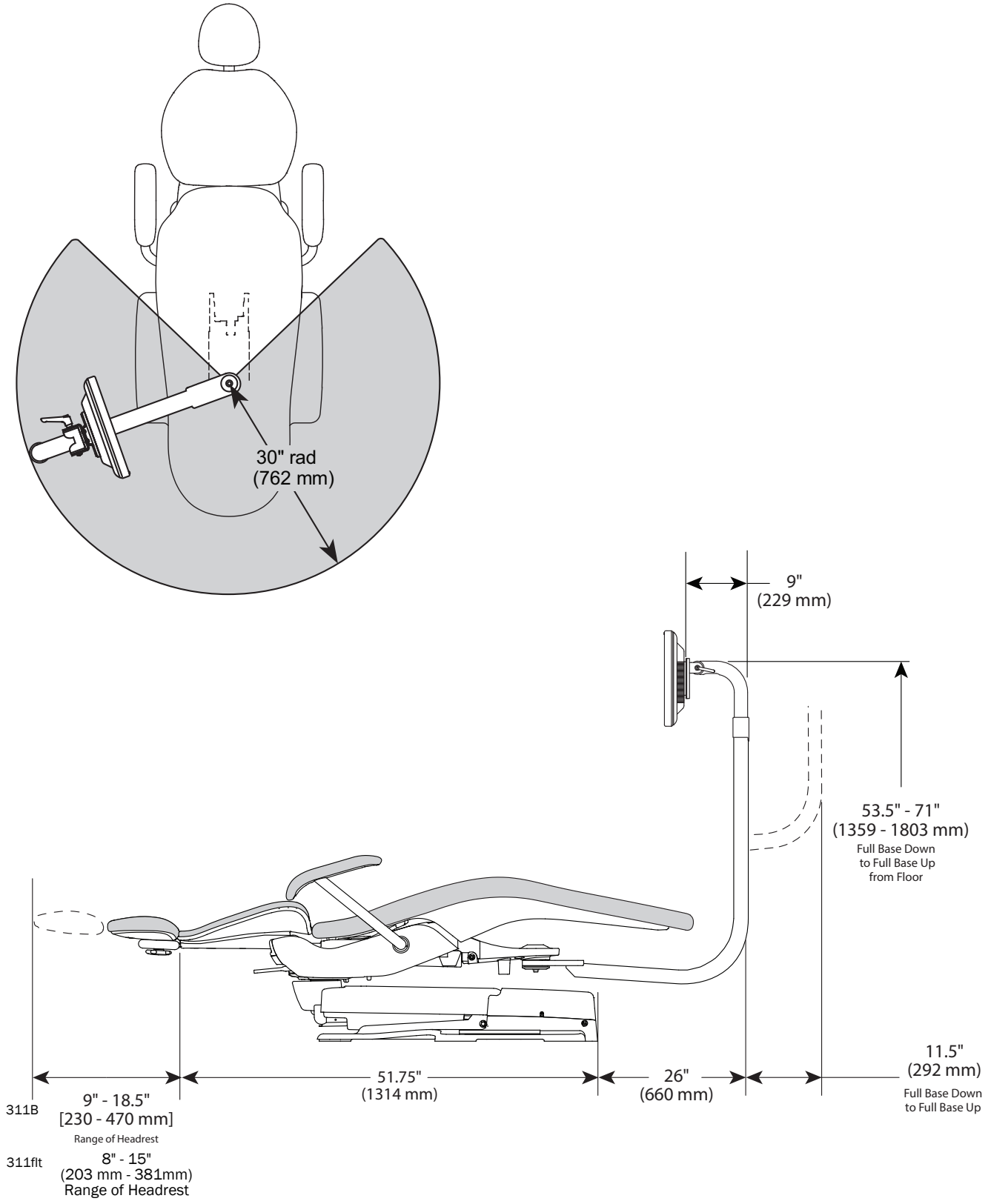


A-dec 381 Monitor Mount with 363 Support Center Mount Dental Light
Plan View with Elevation

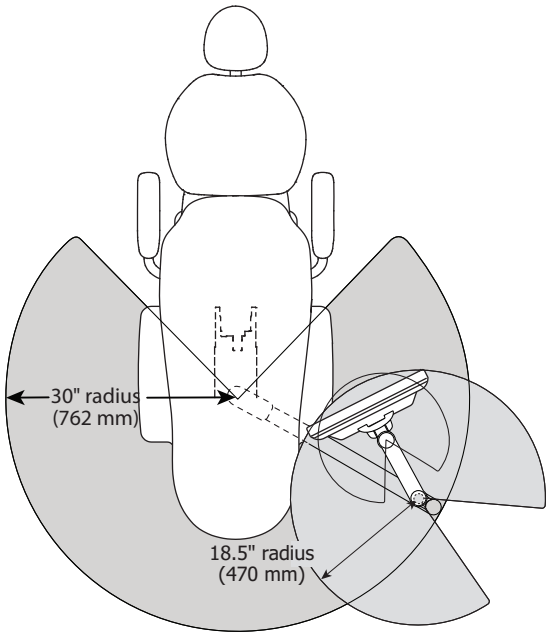


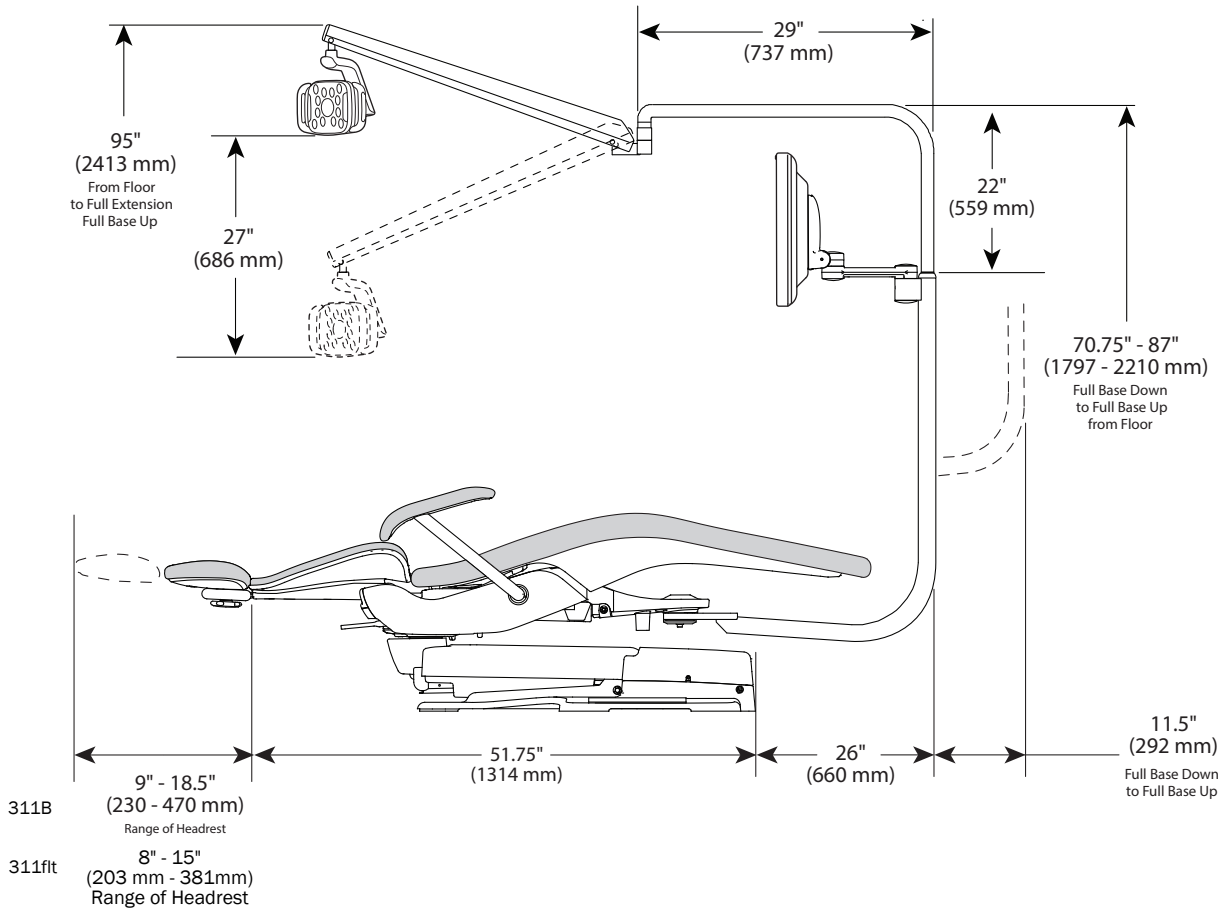


A-dec 382 Monitor Mount
Plan View with Elevation

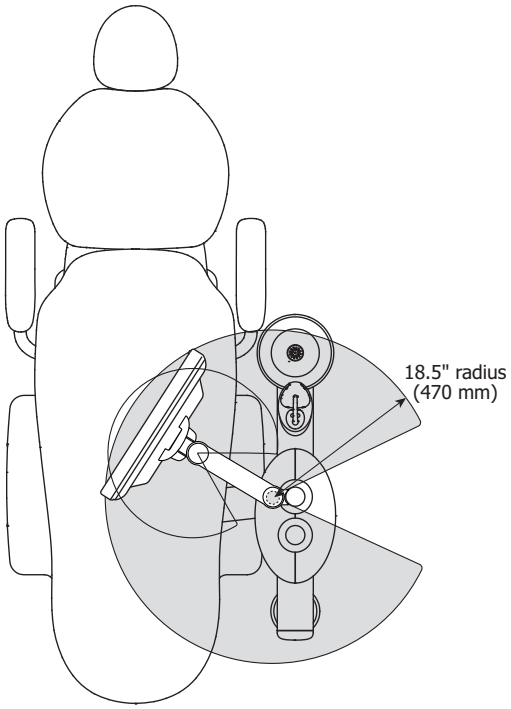


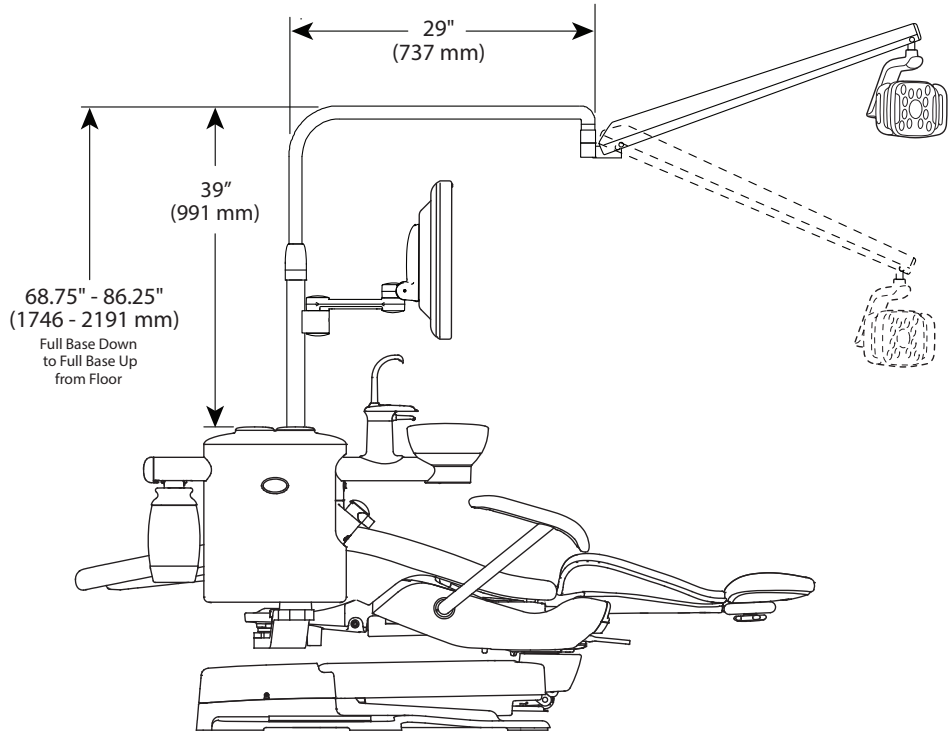
A-dec 482 Monitor Mount with 572L Dental Light
Plan View with Elevation



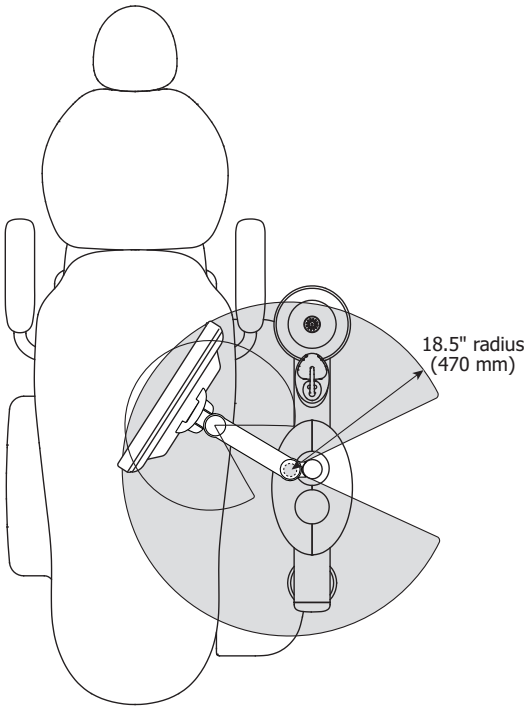


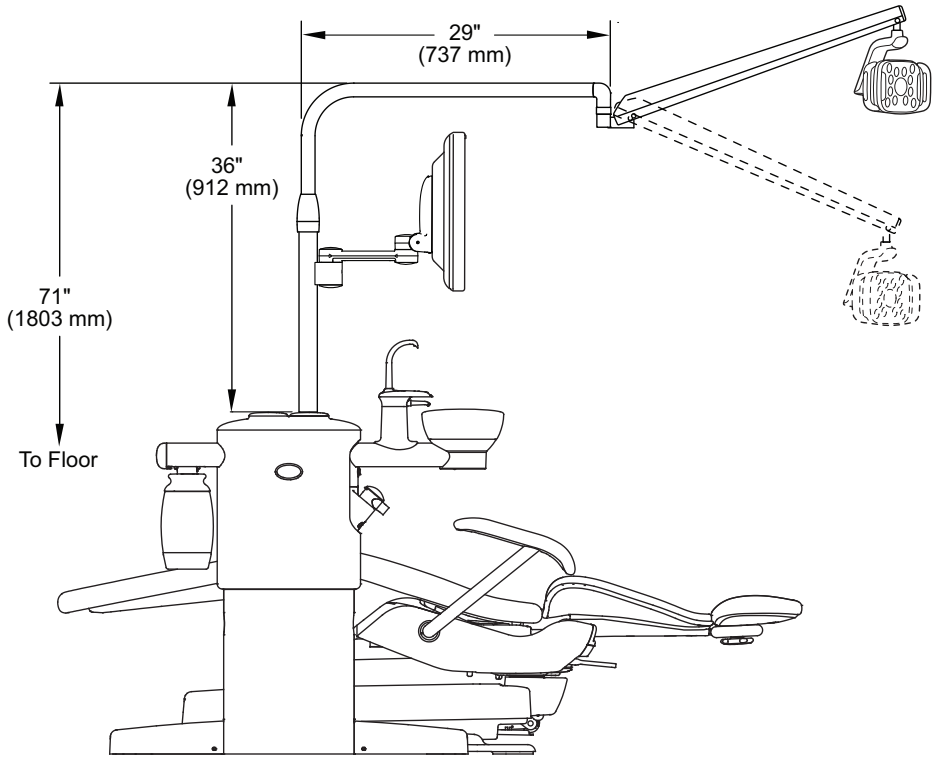
A-dec 482 Monitor Mount with 362 Support Center Mount Dental Light
Plan View with Elevation





A-dec 482 Monitor Mount with 363 Support Center Mount Dental Light
Plan View with Elevation





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.

For quick access to this document online, scan, tap, or click this QR code, which points to: a-dec.com/regulatory-guide.

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reliablecreativesolutions®

A-dec Headquarters
2601 Crestview Drive
Newberg, OR 97132 USA
Tel:1.800.547.1883 Within USA/Canada
Tel:1.503.538.7478 Outside USA/Canada
www.a-dec.com

86.0545.00 Rev G
Date of Issue 2025-07-21
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