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a-dec

A-dec 500

Pre-Installation Guide



A-dec 511 Chair with 532 System



A-dec 511 Chair with A-dec 333 Radius®-Style System

This document contains technical specifications for installing the A-dec 511A chair and associated systems.

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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 1100 lb (4893 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 requires 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 40°C (104°F).
- Water plumbing to be flushed clean before the final connection to the dental equipment.

Electrical

- 1/2" (13 mm) conduit and box with a hospital-grade duplex receptacle supplied by the contractor.
- Wire box to conform to local codes.
- Top of duplex should not be higher than 4.25" (108 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 511 chair is rated at 10 Amps max.

- The 10 Amps break 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.

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Central Vacuum

- Plumbing up to the floor box utility center is 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 ± 7kPa)
  - **Flow**: 9 scfm (255 SL/min) minimum
- Dry/semi dry systems
  - **Pressure/Vacuum**: 4.5 ± 1 in Hg (16 ± 3.5kPa)
  - **Flow:** 12 scfm (340 SL/min) minimum

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Head Loss With Respect to Flow

The following tables include 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)	200 NL/min (7.06 SCFM)	250 NL/min (8.83 SCFM)	300 NL/min (10.59 SCFM)	350 NL/min (12.36 SCFM)	400 NL/min (14.13 SCFM)
A-dec 15mm HVE (large bore) valve with 16mm Easy Flex Tubing & 15mm canister connection (PN: 11.1315.00)	0.05 in-Hg (0.17 kPa)	0.11 in-Hg (0.37 kPa)	0.23 in-Hg (0.78 kPa)	0.47 in-Hg (1.59 kPa)	0.96 in-Hg (3.25 kPa)	1.96 in-Hg (6.64 kPa)	3.99 in-Hg (13.51 kPa)
A-dec 11mm HVE (standard bore) valve with 16mm Easy Flex Tubing & 15mm canister connection (PN: 11.1305.01)	0.06 in-Hg (0.20 kPa)	0.13 in-Hg (0.44 kPa)	0.28 in-Hg (0.95 kPa)	0.57 in-Hg (1.93 kPa)	1.18 in-Hg (3.40 kPa)	2.43 in-Hg (8.23 kPa)	5.02 in-Hg (17.00 kPa)
A-dec 11mm HVE (standard bore) valve with 13mm Easy Flex Tubing & 15mm canister connection (PN: 11.1357.00)	0.09 in-Hg (0.30 kPa)	0.22 in-Hg (0.75 kPa)	0.49 in-Hg (1.66 kPa)	1.09 in-Hg (3.69 kPa)	2.41 in-Hg (8.16 kPa)	5.33 in-Hg (18.05 kPa)	11.80 in-Hg (39.96 kPa)
A-dec 11mm HVE (standard bore) valve with 13mm PVC Tubing & 15mm canister connection (PN: 11.1296.01)	0.10 in-Hg (0.34 kPa)	0.26 in-Hg (0.88 kPa)	0.56 in-Hg (1.90 kPa)	1.21 in-Hg (4.10 kPa)	2.60 in-Hg (8.80 kPa)	5.59 in-Hg (18.93 kPa)	12.01 in-Hg (40.67 kPa)
A-dec SE (standard bore) valve with 6mm PVC Tubing & 15mm canister connection (PN: 12.1235.01)	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.				
A-dec SE (standard bore) valve with 10mm Easy Flex Tubing & 15mm canister connection (PN: 12.1228.01)	0.66 in-Hg (2.24 kPa)	2.72 in-Hg (9.21 kPa)	8.81 in-Hg (29.83 kPa)	Exceeds 12 in-Hg (40.64 kPa) at flow rates above ~250 NL/min.			

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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 gpm (17 L/min) without overflow.

Shipping Weights

Product/Box	Est. Shipping Weight
A-dec 511 Chair	401 lb (182 kg)
A-dec 532 Delivery System	60 lb (27 kg)
A-dec 533 Delivery System	72 lb (33 kg)
A-dec 334 Delivery System	53 lb (24 kg)
A-dec 335 Delivery System	55 lb (25 kg)
A-dec 561 Support Center *(w/cuspidor)*	76 lb (34 kg)
A-dec 561 Support Center *(w/cuspidor, support link, and lower support arm)*	120 lb (54 kg)
A-dec 551 Assistant's Instrumentation *(w/support link)*	39 lb (18 kg)
A-dec 571/571L Dental Light	35 lb (25 kg)
A-dec 572/572L Dental Light	47 lb (21 kg)
A-dec 371 Dental Light	35 lb (17 kg)
A-dec 372 Dental Light	47 lb (21 kg)
531 Monitor Mount *(without monitor)*	65 lb (29 kg)
561 Monitor Mount *(without monitor)*	15 lb (7 kg)
Radius-Style Monitor Mount *(without monitor)*	27 lb (12 kg)

Documentation References

Installation Guides:

- A-dec 500 Install . . . . . p/n 86.0400.00
- A-dec 300 Install 300 Radius-Style on an A-dec 511 Chair . . . . . p/n 86.0307.00

Service Guides:

- A-dec 500 Service Guide . . . . . p/n 85.0816.00
- A-dec 300 Service Guide . . . . . p/n 85.0818.00
- A-dec 300 Service Guide Supplement . . . . . p/n 86.0273.00

Instructions for Use:

- A-dec 500 Delivery Systems . . . . p/n 86.0607.00
- A-dec 500 Assistant's Instrumentation . . . . . p/n 86.0603.00
- A-dec 500 Cuspidor . . . . . p/n 86.0604.00
- A-dec 500 Chair . . . . . p/n 86.0602.00
- A-dec 300 Delivery Systems . . . . p/n 86.0092.00
- A-dec 571/572/6300 Light . . . . . p/n 86.0612.00
- A-dec LED Dental Light . . . . . p/n 86.0331.00
- A-dec 371/372 Light . . . . . p/n 86.0220.00
- Regulatory and Specifications . . p/n 86.0221.00
- A-dec Equipment IFU DVD . . . . p/n 86.0042.00

Full-Size Templates:

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

- A-dec 500 Product . . . . . p/n 86.0904.00
- A-dec 500 Chair . . . . . p/n 86.0905.00
- A-dec 300 Radius-Style on A-dec 511 . . . . . p/n 86.0312.00
- A-dec 500 Floor Box . . . . . p/n 85.0472.00

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

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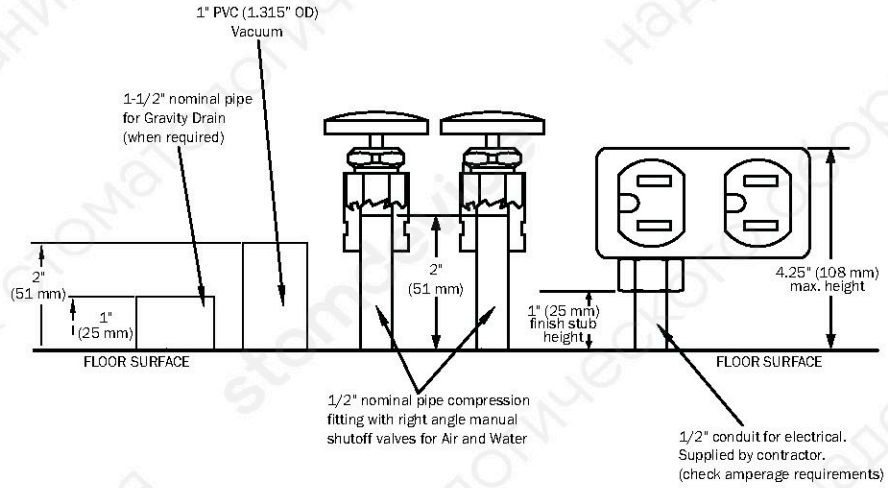
Views and Dimensions

NOTE The dimensional drawings in this section are for reference only. For complete accuracy, use the appropriate full-sized templates.

Utility Placement

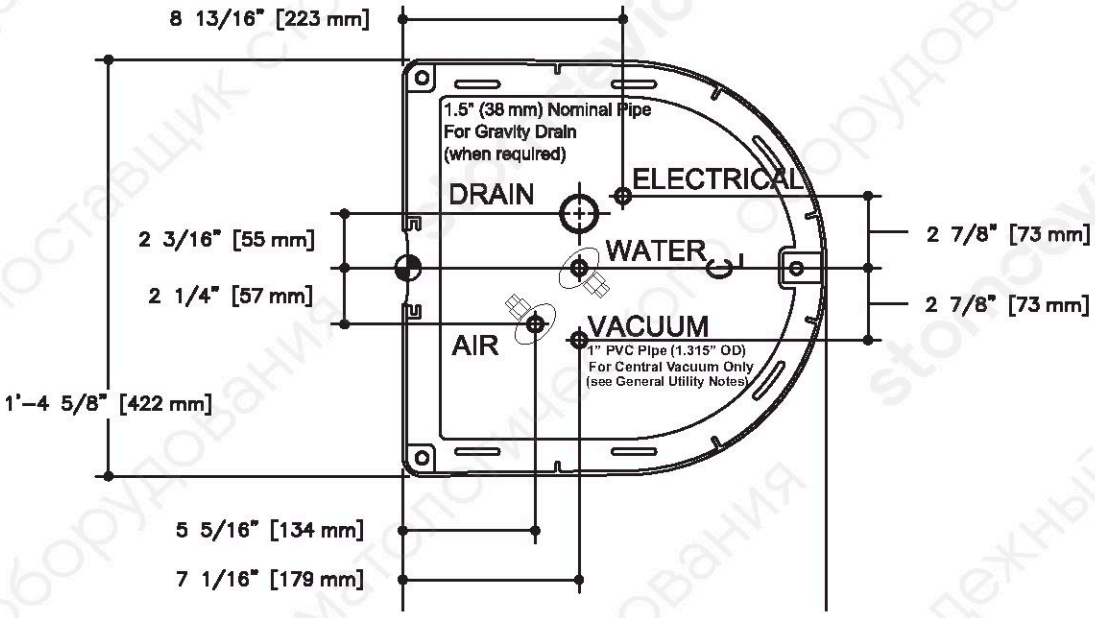
CAUTION Due to specific plumbing elevation restrictions, the height and placement of utilities in the floor box can affect the ability to use the floor box cover. Failure to provide adequate space will prevent installation and removal of the cover (see Figure 1). Please reference the appropriate full-size template which includes all of the necessary space constraints.

Figure 1. Plumbing Elevations (not to scale)



PLEASE NOTE: **This drawing is for reference purposes ONLY, it is NOT TO SCALE.**

Figure 2. Floor Box Utility Connections

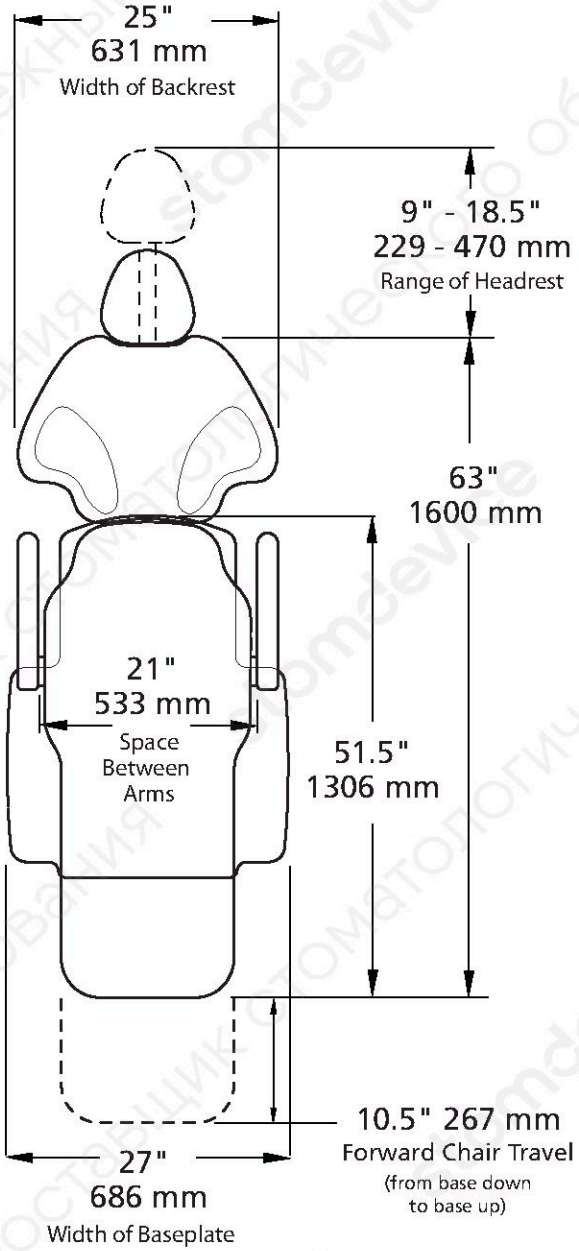


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A-dec 511 Chair

Plan View

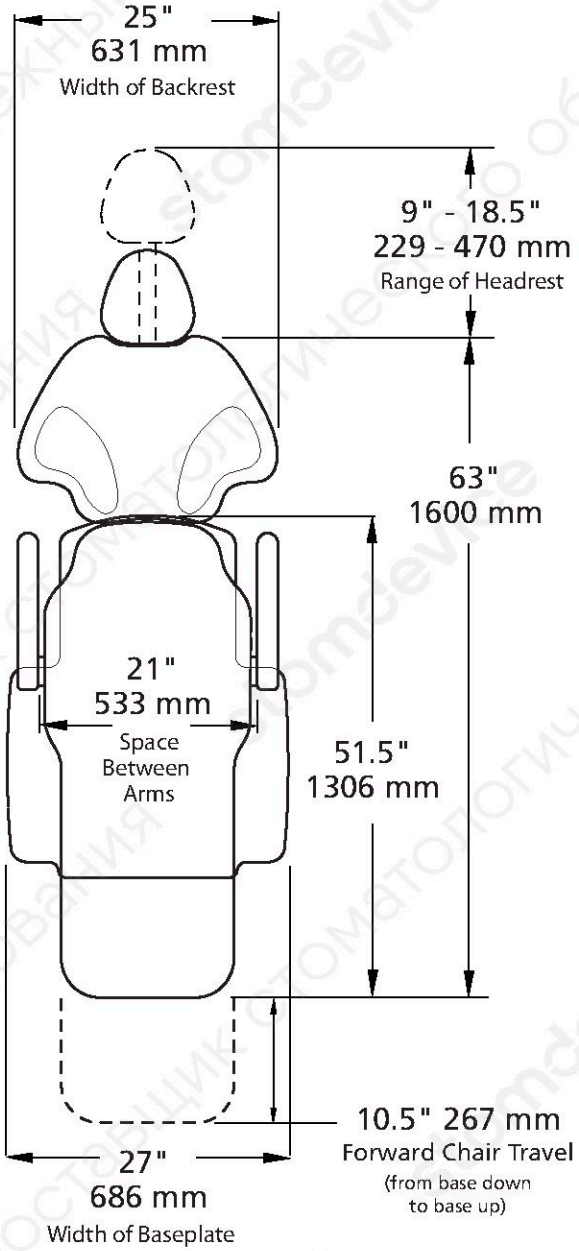


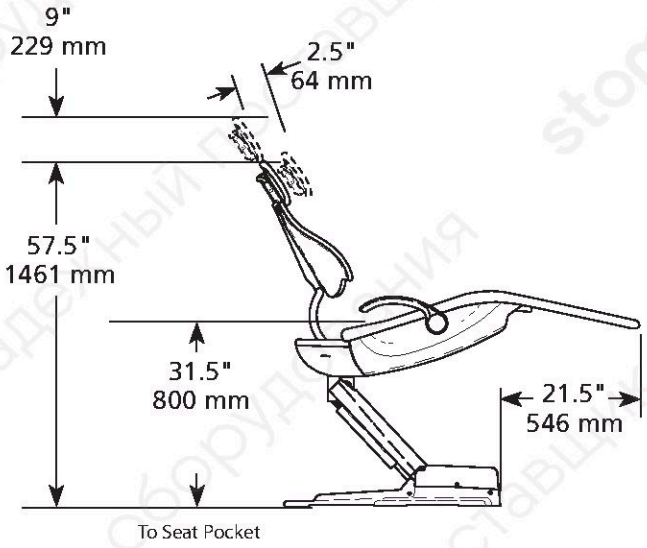
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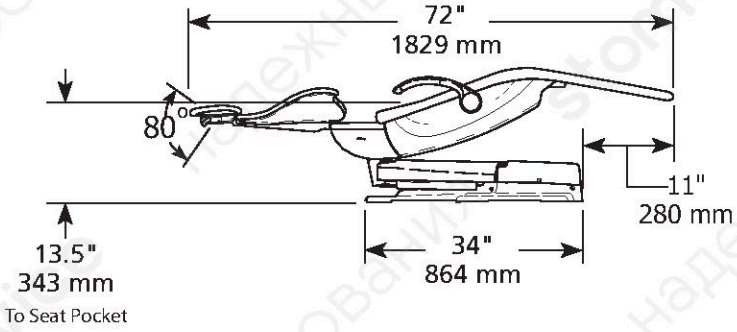
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A-dec 511 Chair

Plan View with Elevation







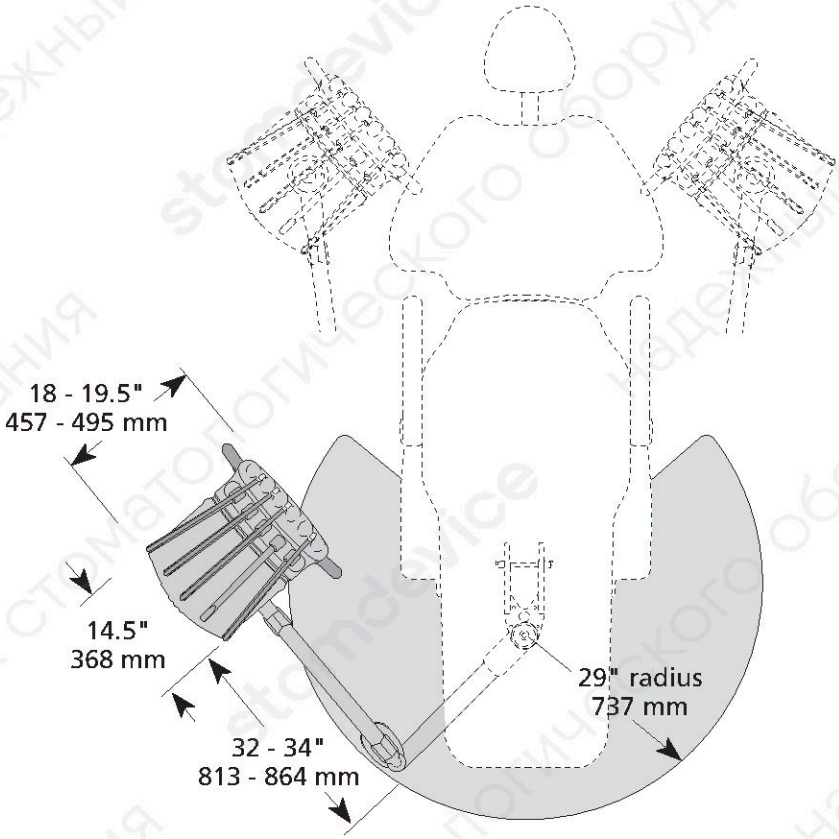
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A-dec 532/533 Delivery System

Plan View

(shown with 533 system)



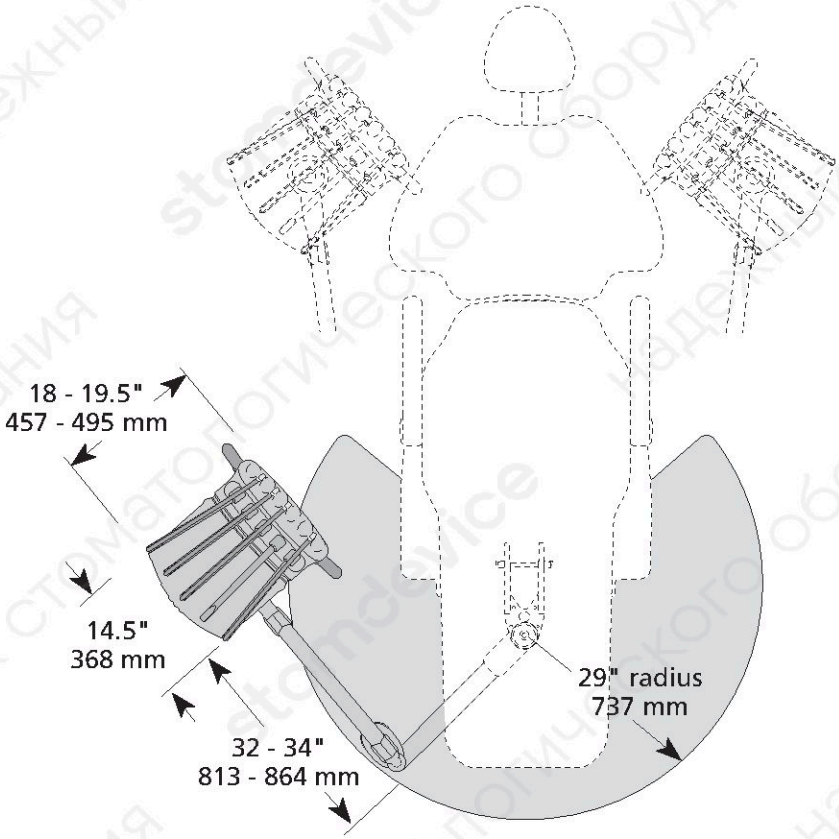
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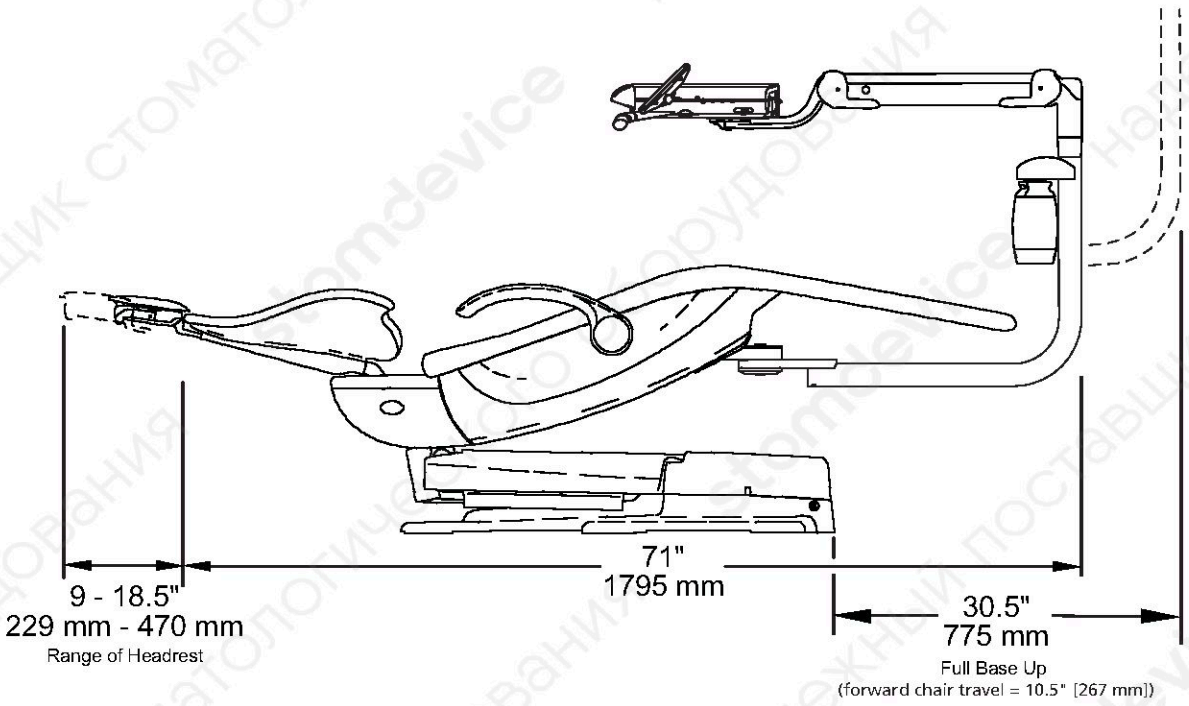
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A-dec 532/533 Delivery System

Plan View with Elevation

(shown with 533 system)





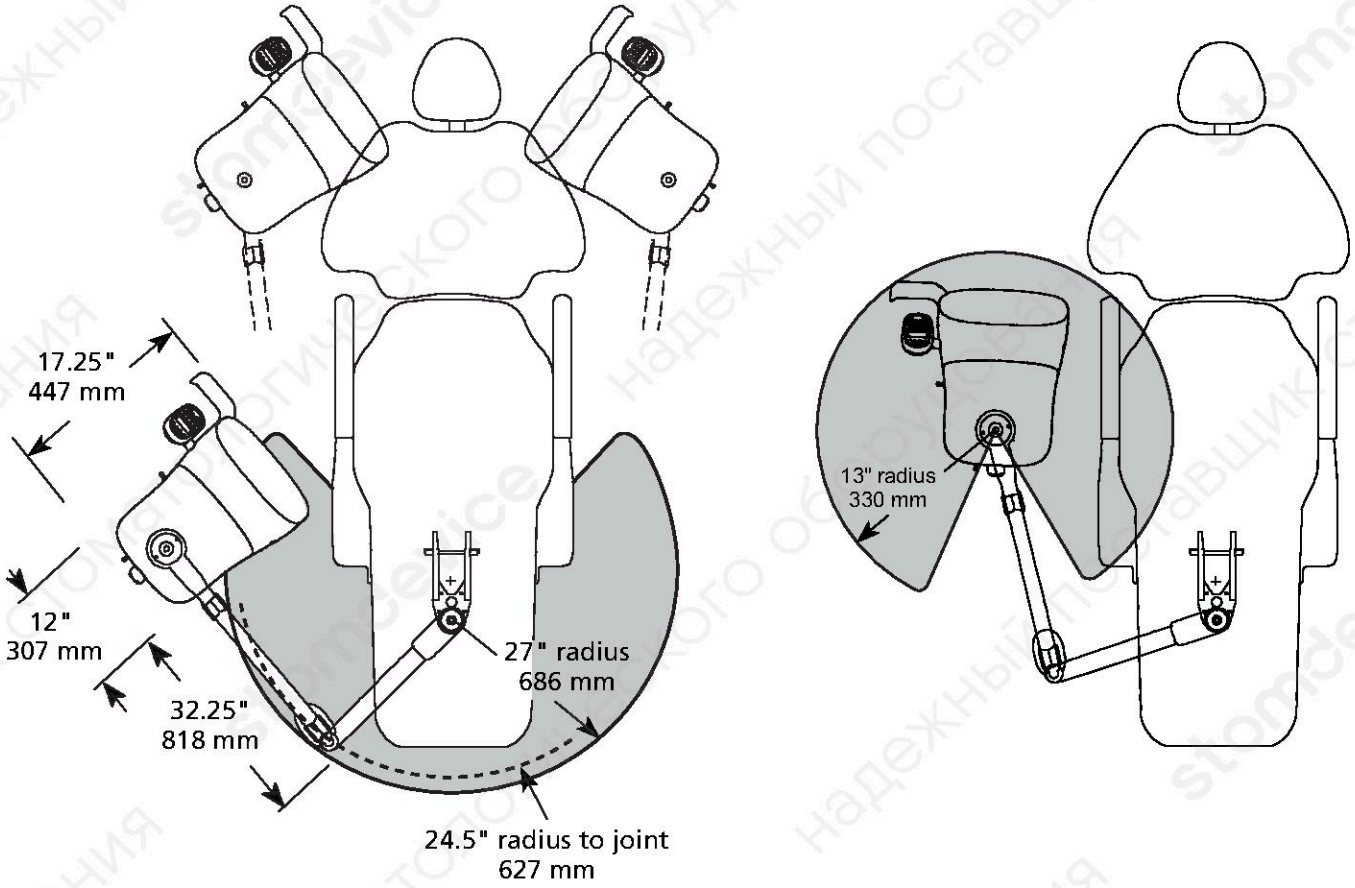
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A-dec 332/333 Radius-Style Delivery System

Plan View

(shown with 333 system)



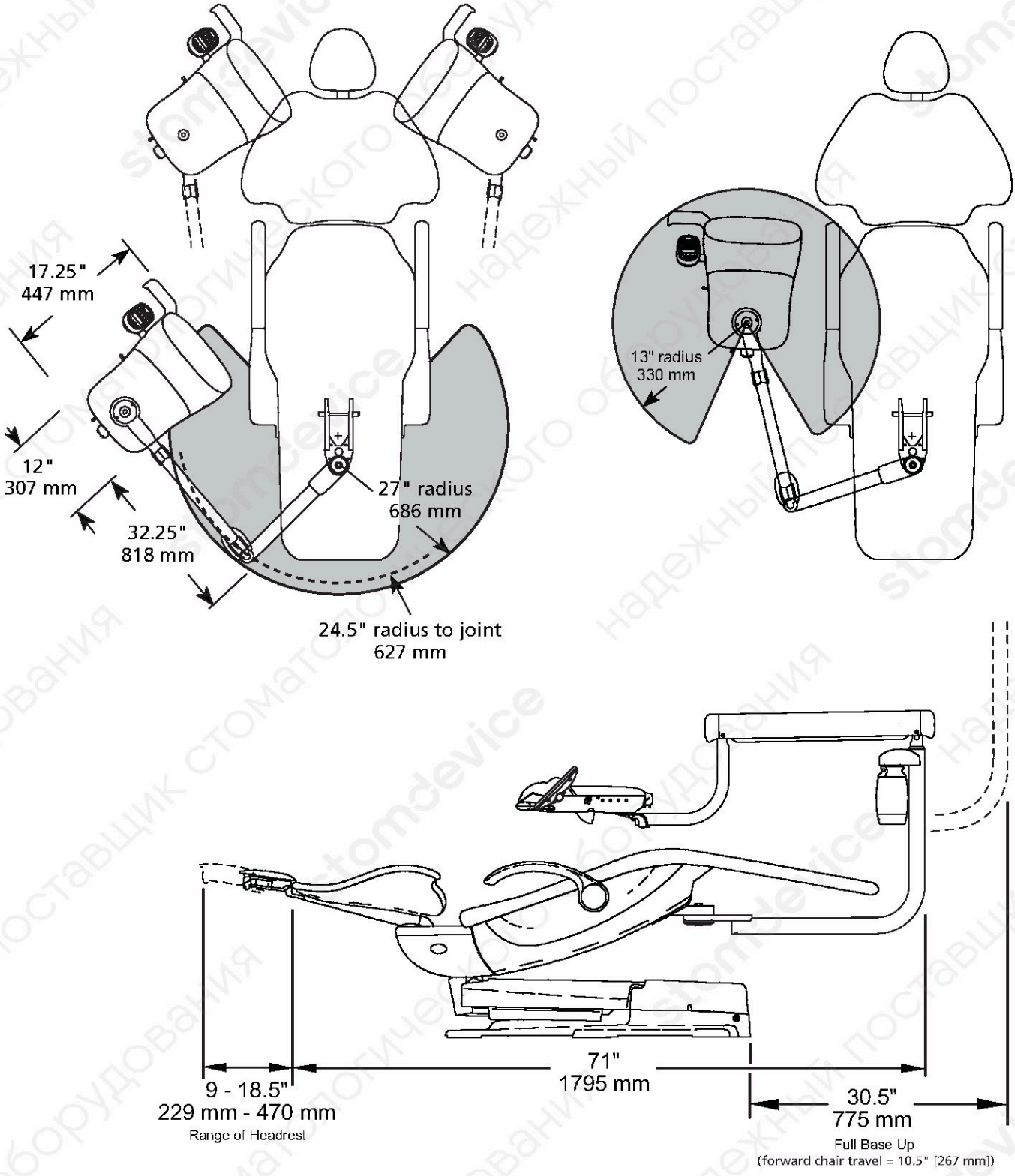
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A-dec 332/333 Radius-Style Delivery System

Plan View with Elevation

(shown with 333 system)

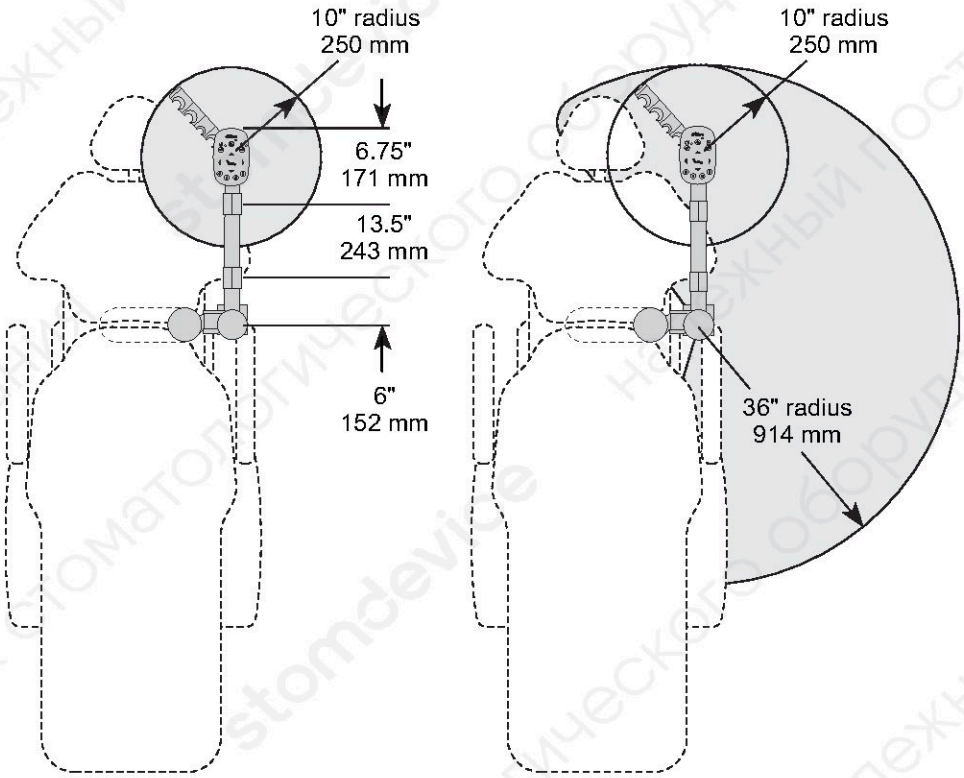


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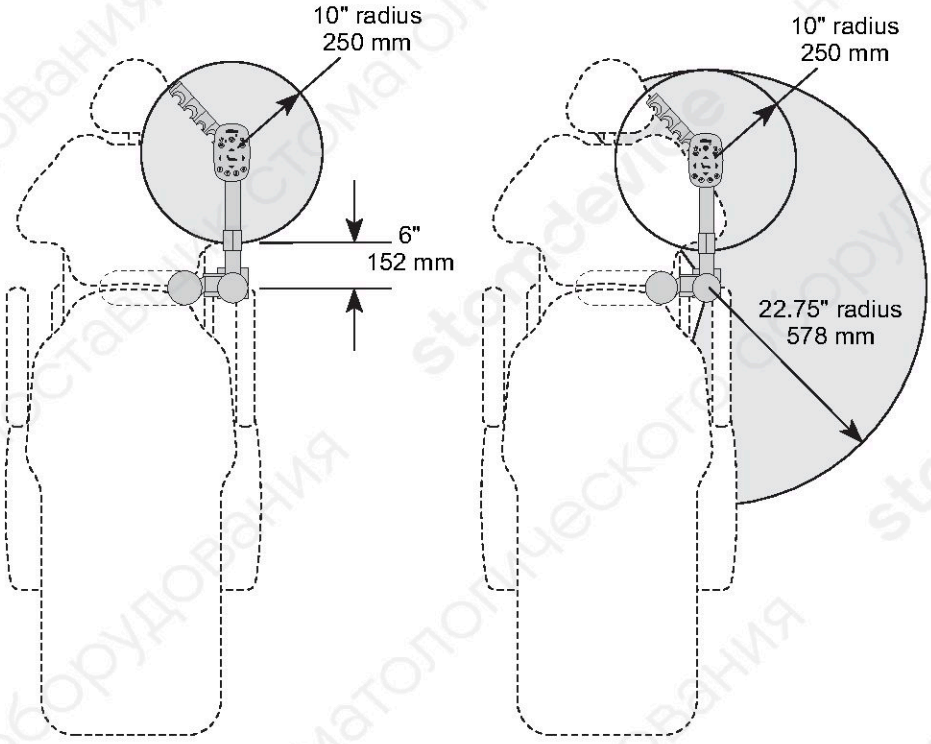
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A-dec 551 Assistant's Instrumentation

Plan View



Long Arm



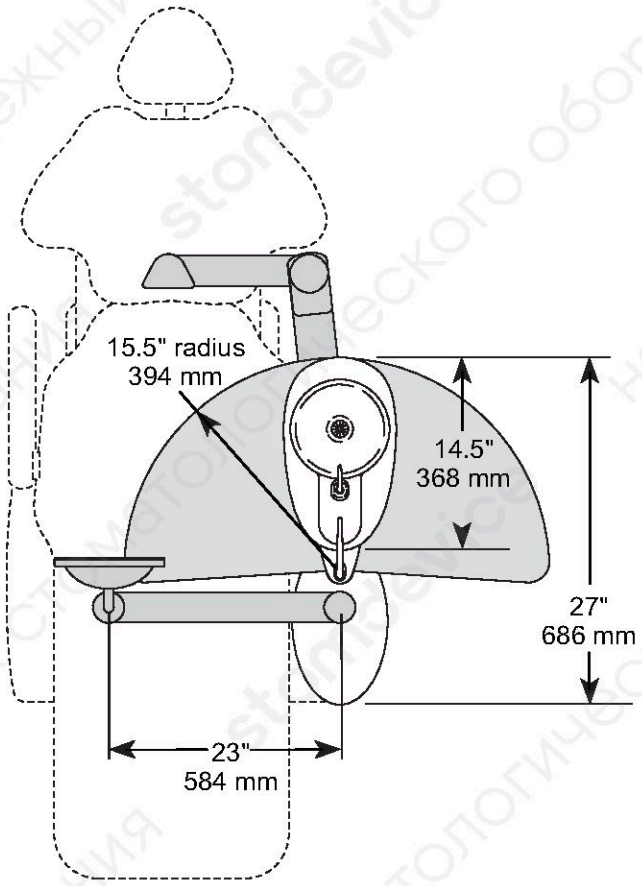
Short Arm

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A-dec 561 Support Center, Cuspidor, and Monitor Mount

Plan View



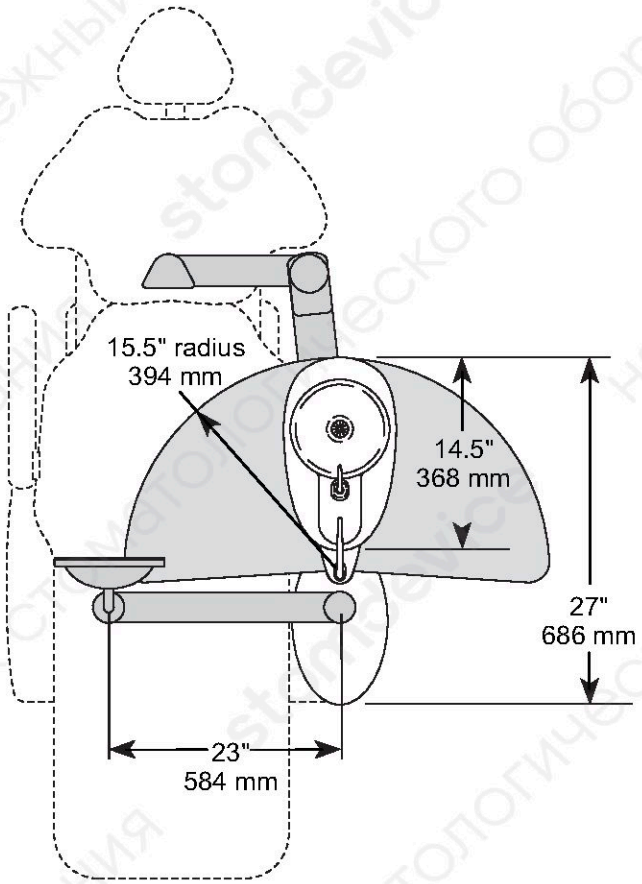
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A-dec 571, 571L, and 371 Dental Light

Plan View

(shown with A-dec 571L LED Dental Light)



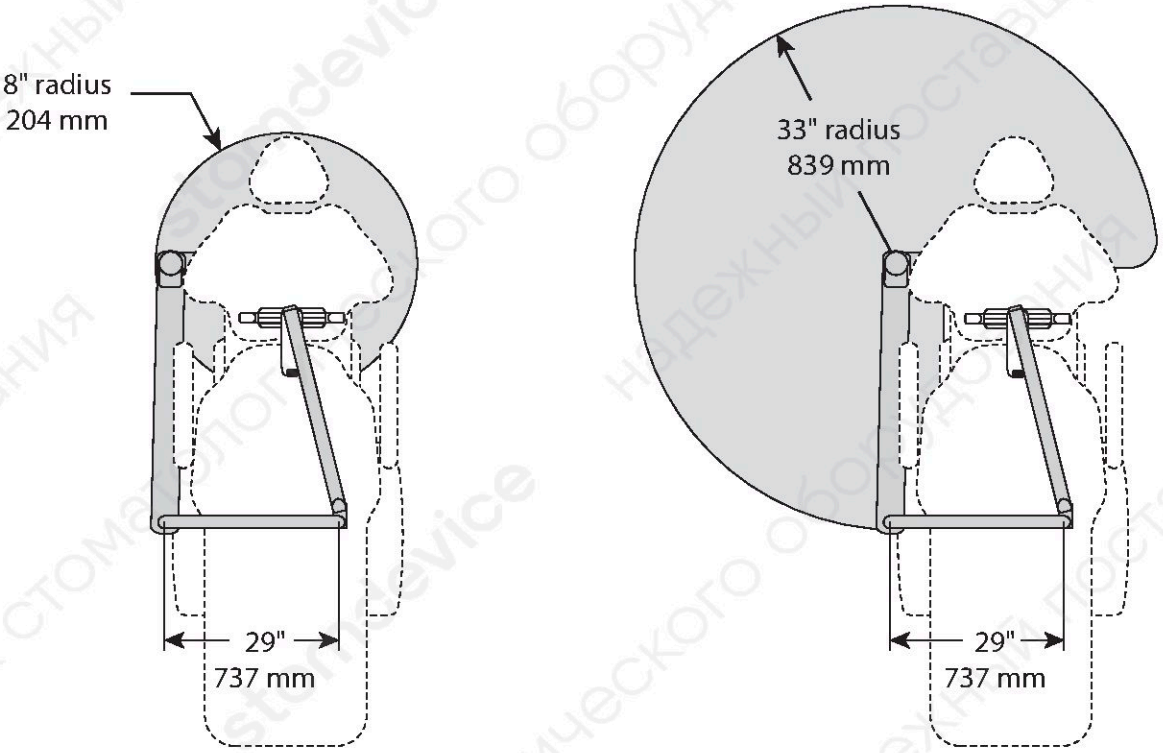
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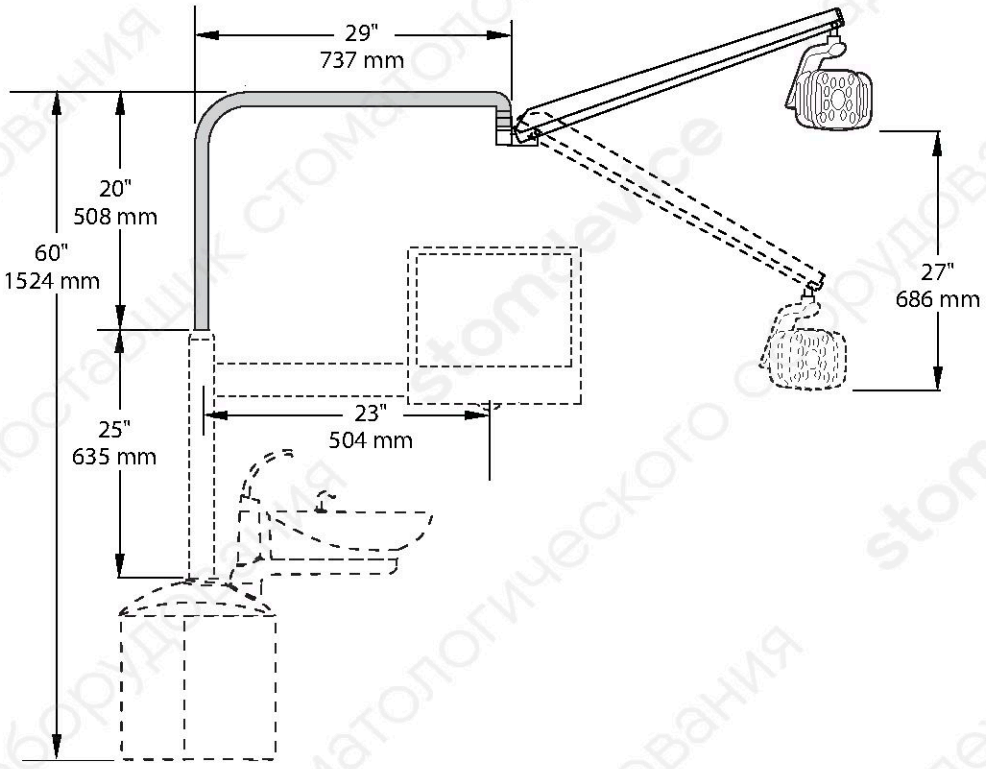
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A-dec 571, 571L, and 371 Dental Light

Plan View with Elevation

(shown with A-dec 571L LED Dental Light)





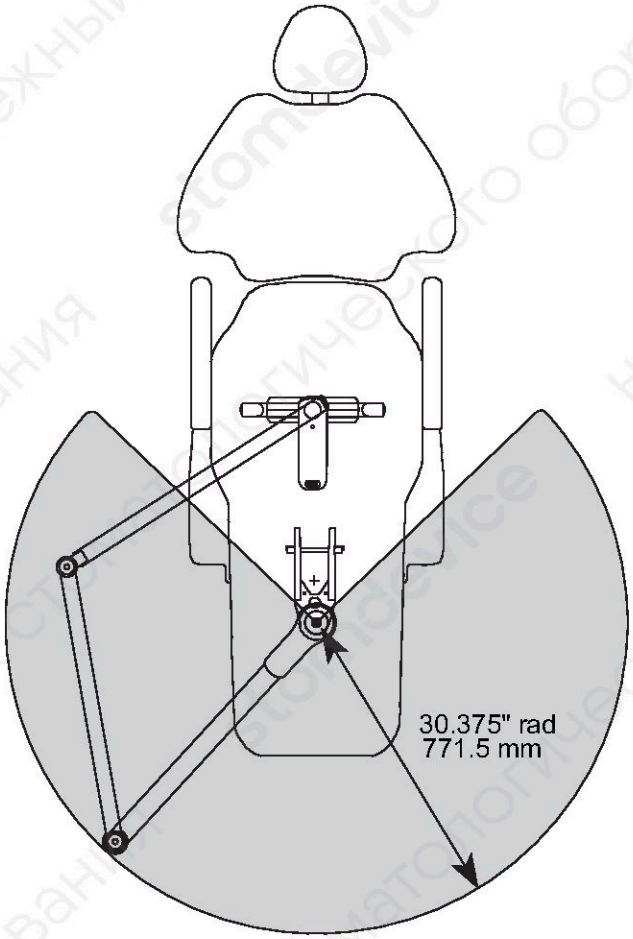
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A-dec 572, 572L, and 372 Dental Light

Plan View

(shown with A-dec 572L LED Dental Light)



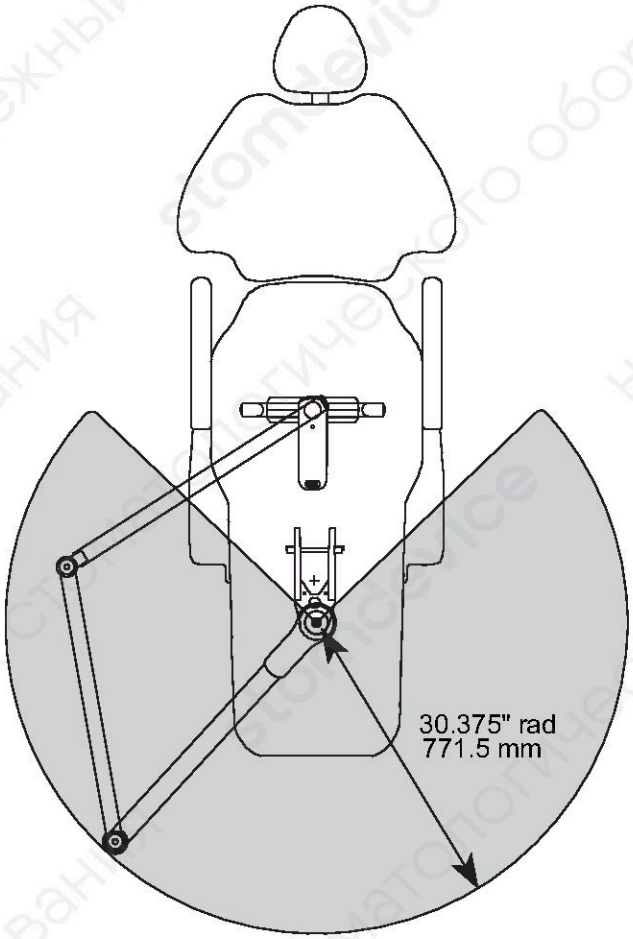
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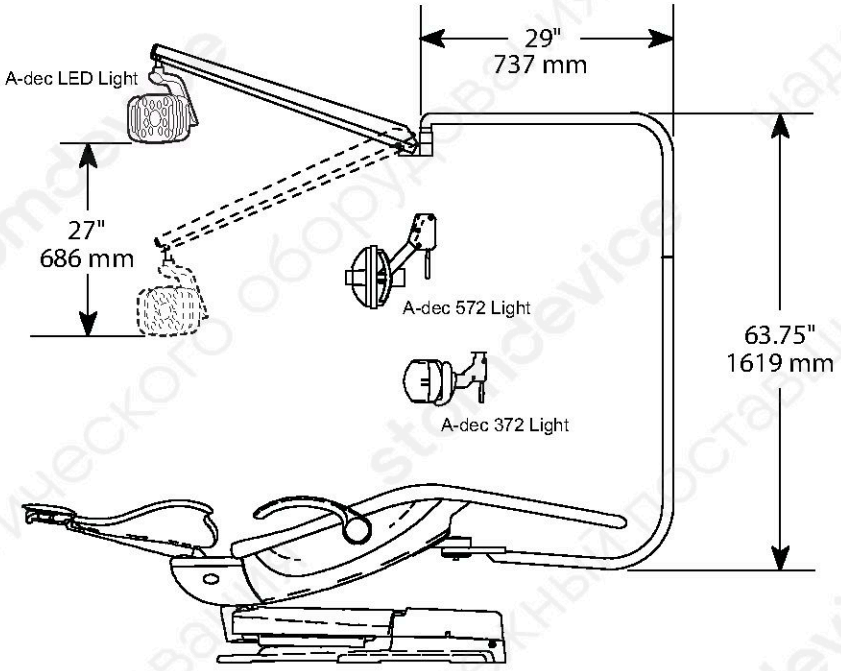
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A-dec 572, 572L, and 372 Dental Light

Plan View with Elevation

(shown with A-dec 572L LED Dental Light)



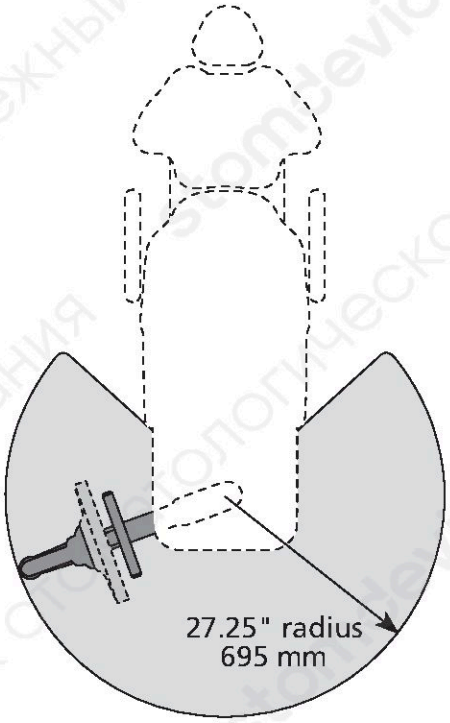


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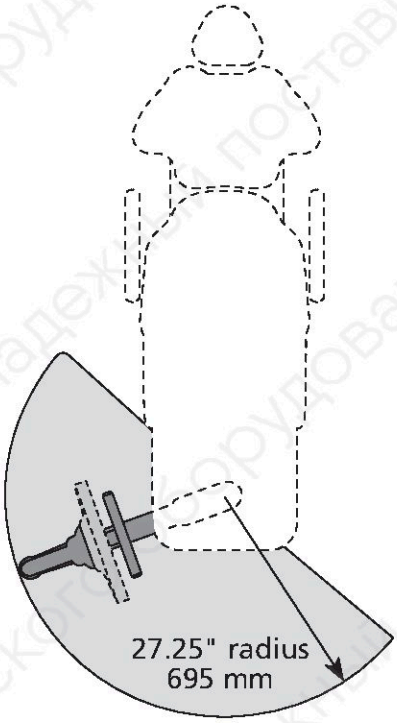
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A-dec 531 Monitor Mount

Plan View



Chair without Support Center



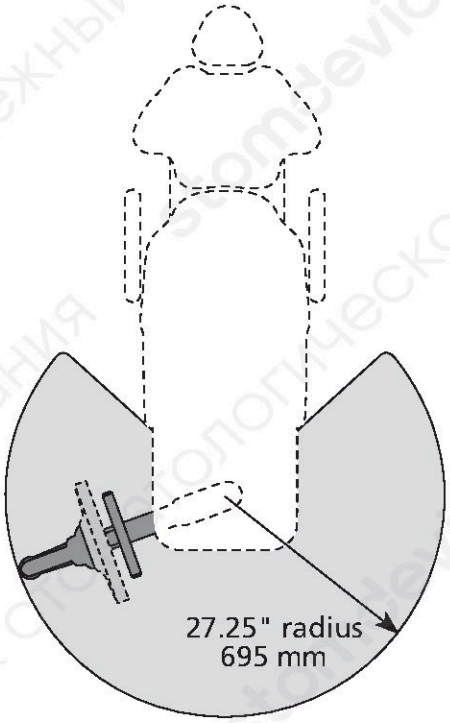
Chair with Support Center

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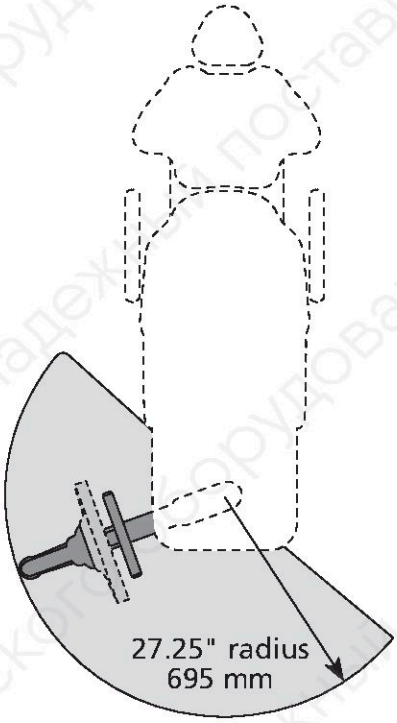
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A-dec 531 Monitor Mount

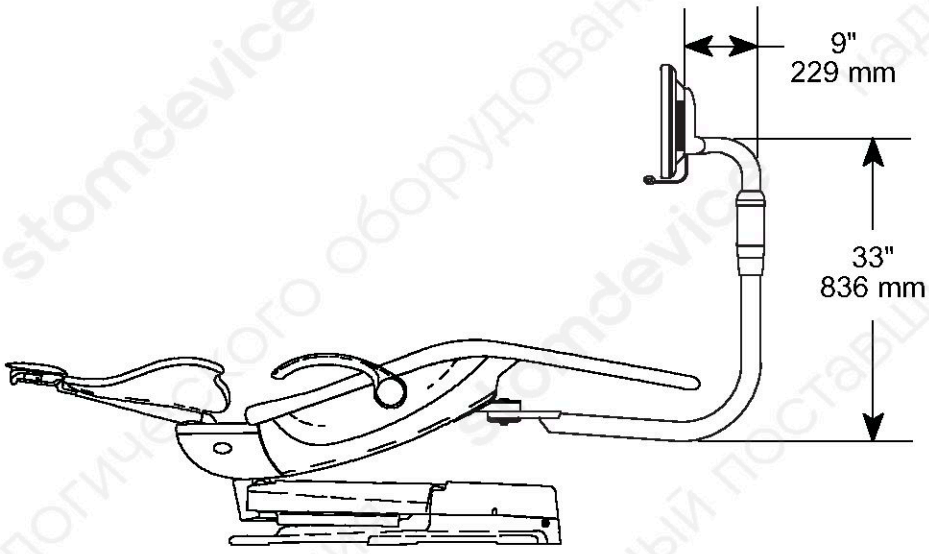
Plan View with Elevation



Chair without Support Center



Chair with Support Center

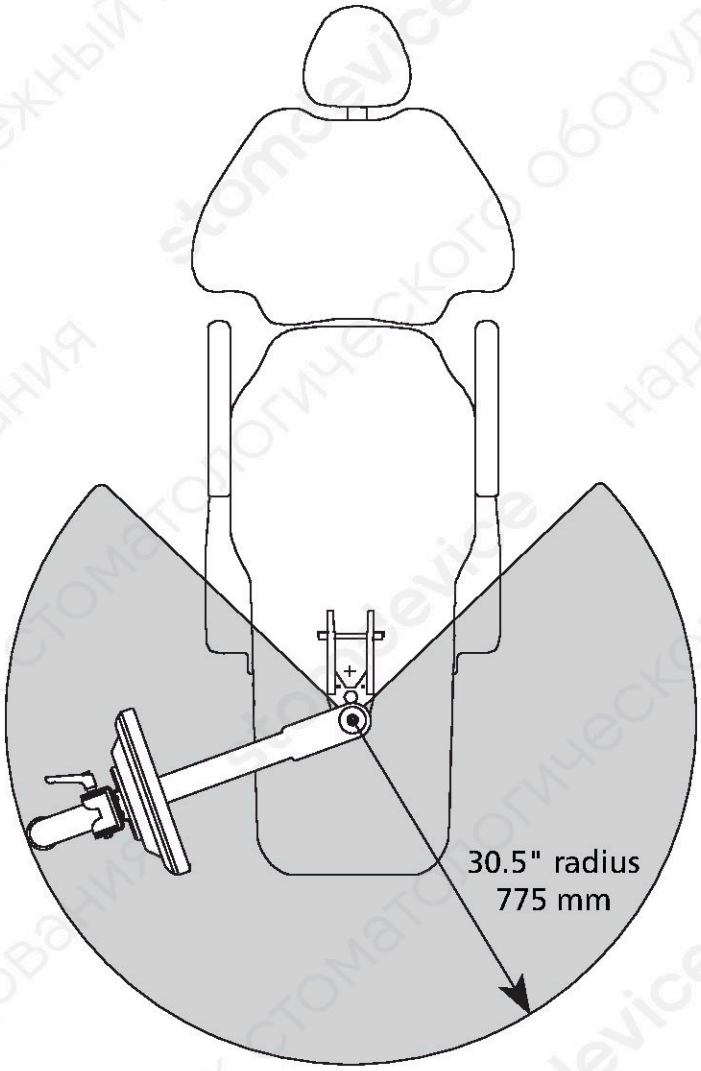


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A-dec Radius-Style Monitor Mount

Plan View

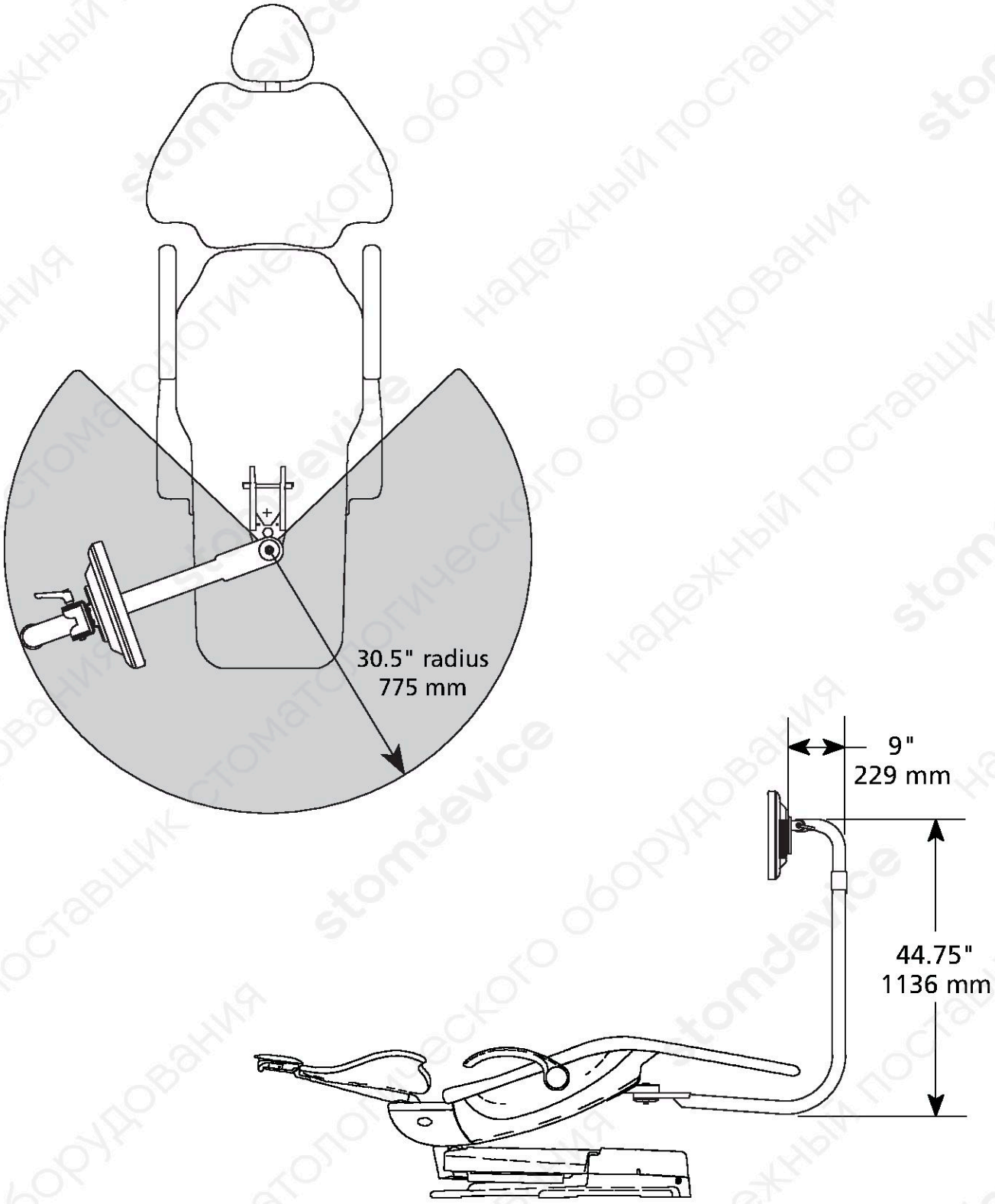


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A-dec Radius-Style Monitor Mount

Plan View with Elevation



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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.

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

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85.0052.00 Rev F
Date of Issue 2021-11-01
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