New as of: 09.2009

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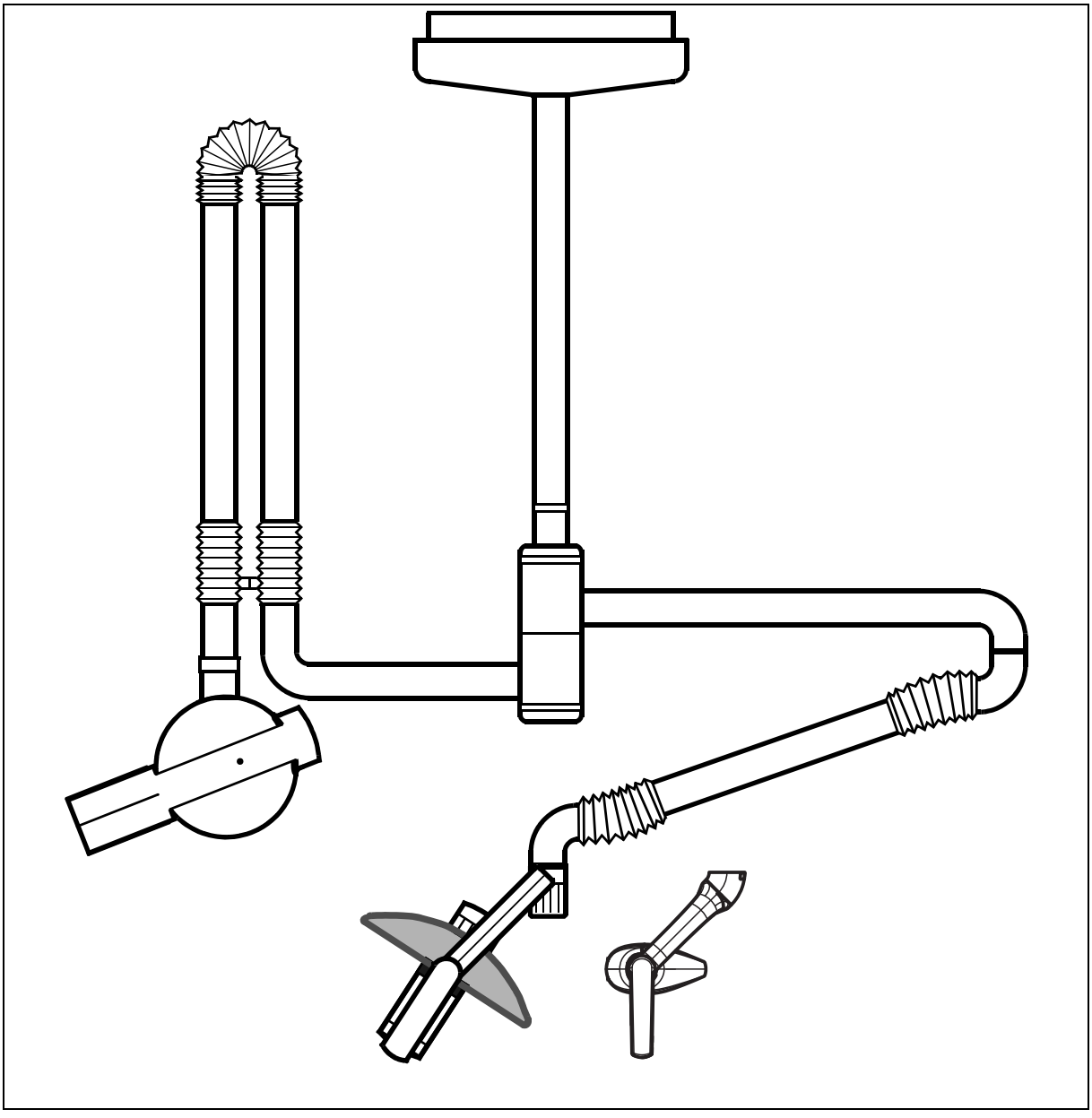
The Dental Company

SIROLUX FANTASTIC / LEDview HELIODENT DS

Installation Requirements Ceiling Version

English



General information

About this document

This document describes the installation requirements for the SIROLUX FANTASTIC/LEDview/HELIODENT DS Ceiling Version.

Their subsequent installation is described in the Installation Instructions:
REF 60 81 876

Besides you need the drilling template, for secure fastening on the ceiling:
REF 41 62 561

New as of: 09.2009

Changes since the last version 05.2008:

Chapter or section, page

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1 Preparations

SIROLUX FANTASTIC/LEDview / HELIODENT DS

1.1 Safety

ATTENTION

It is essential that you comply with the warning and safety information contained in the Installation Requirements.

All such information is highlighted by the captions NOTE, CAUTION, and WARNING.

ATTENTION

For reasons of product safety, only original Sirona accessories approved for this product, or accessories from third parties approved by Sirona, may be used. The user is responsible for dangers resulting from the use of non-approved accessories.
If any devices not approved by Sirona are connected, they must comply with the applicable standards, e.g.:
• IEC 60950 for information technology equipment and
• IEC IEC 60601-1 for medical electrical equipment
In case of doubt, contact the manufacturer of the system components.

ATTENTION

Interference of electromedical devices caused by radio telephones:
To ensure the operational readiness of electromedical devices, the use of mobile radio telephones in the practice or hospital area is prohibited.

ATTENTION

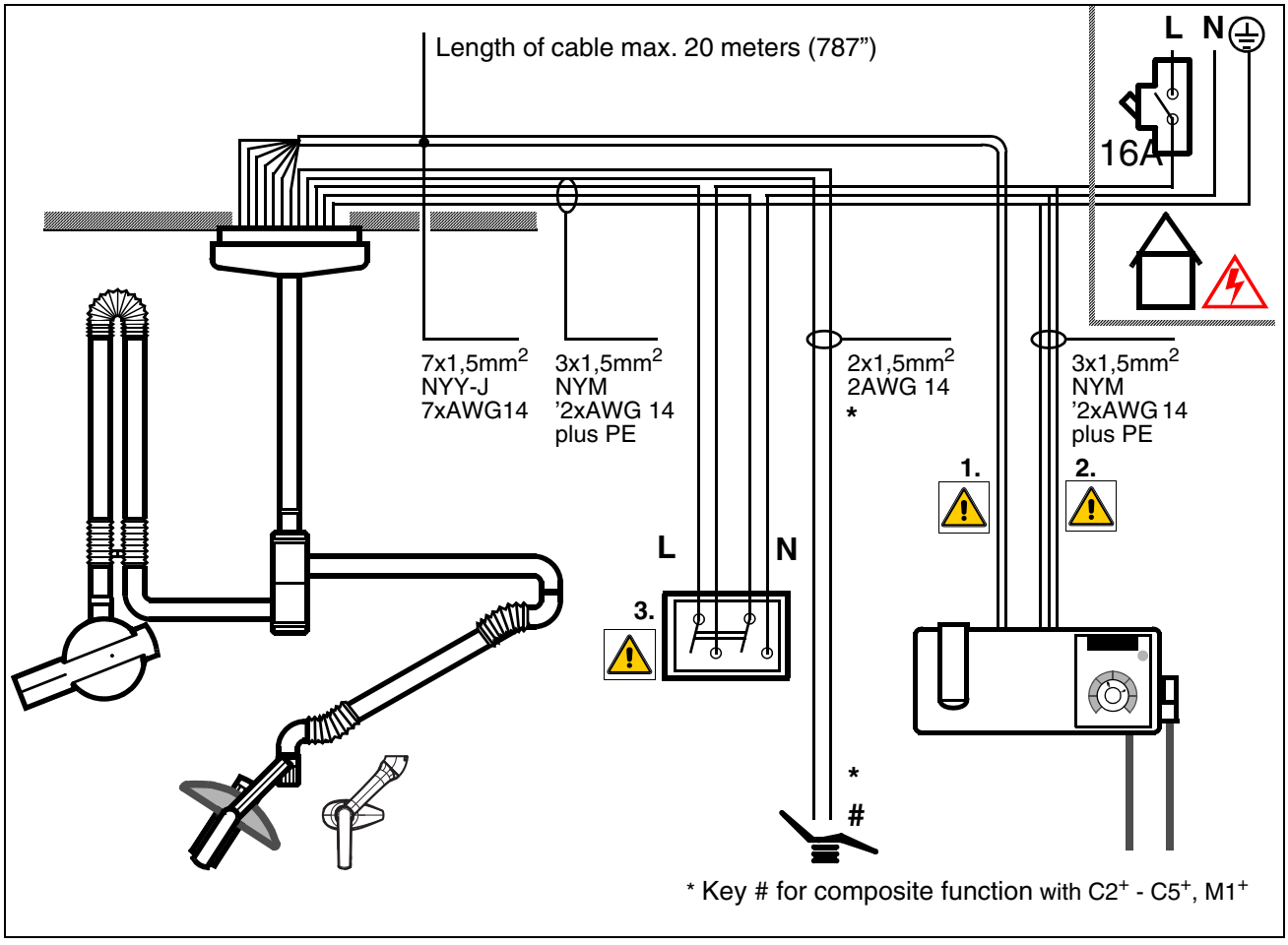
Electromagnetic compatibility: *The unit should not be operated in the immediate vicinity of other devices. If this proves to be unavoidable, the unit should be monitored to ensure that it is used properly.*

ATTENTION

Proper shielding of room and operator position is essential.

Since these requirements vary from state to state it is the assembler's / installer's responsibility that all local radiation safety requirements are met.

1.2 Principle of On-site Installation



1 Connection between overhead support and wall adapter min. 7 wires.
The cable between the ground stud of the mounting plate and the ground connection of the tube unit assembly in the overhead support (K10 ⏚) is absolutely necessary to ensure the functional reliability of the system.

2 The power line must not be run from the overhead support to the HELIODENT DS.

3 Power switch for lamp. The switch must be in the same room as the ceiling combination.

ATTENTION

According to wall construction, it is necessary to purchase special dowels from an industrial specialist or fabricate an anchor plate.
Total weight SIROLUX FANTASTIC/LEDview and HELIODENT DS appr. 64kg

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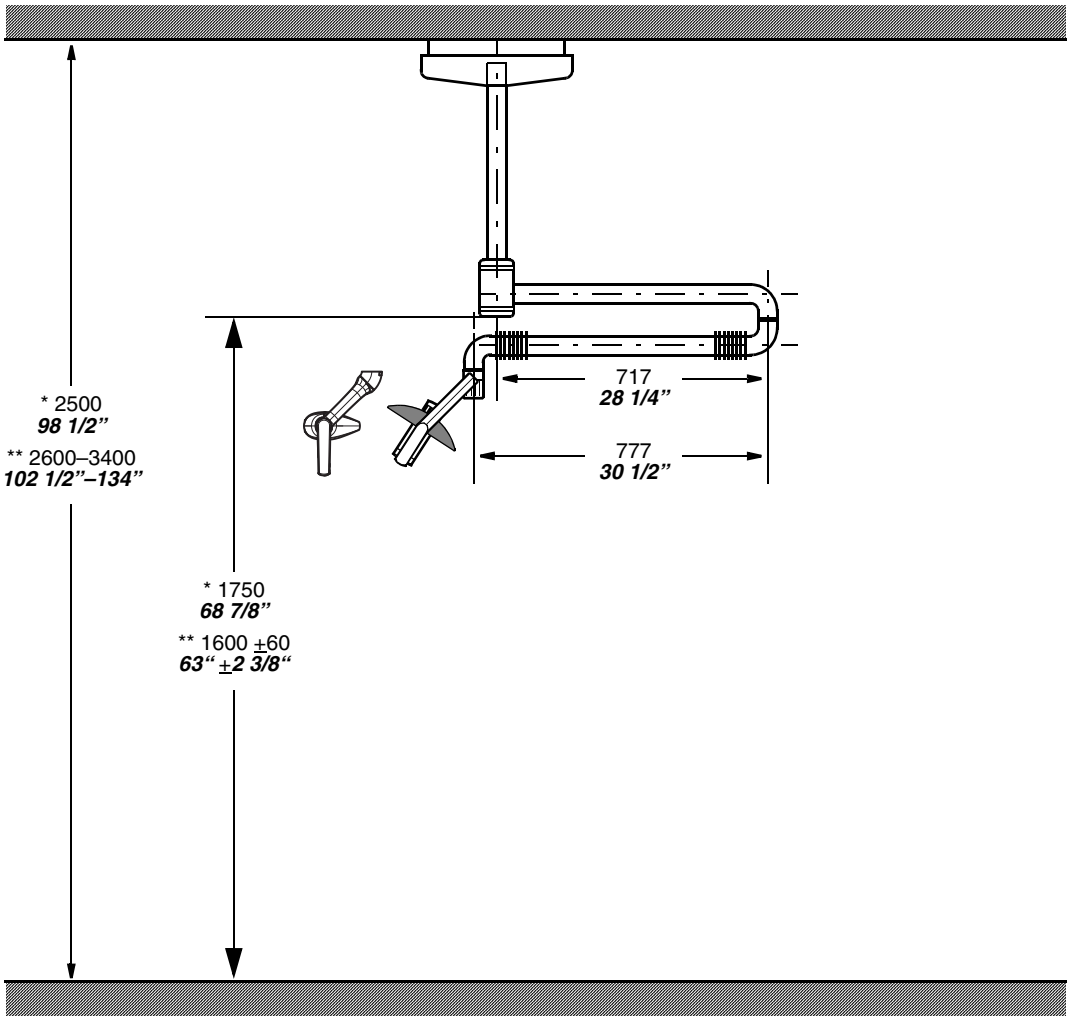
2 Dimensions, technical data

SIROLUX FANTASTIC/LEDview / HELIODENT DS

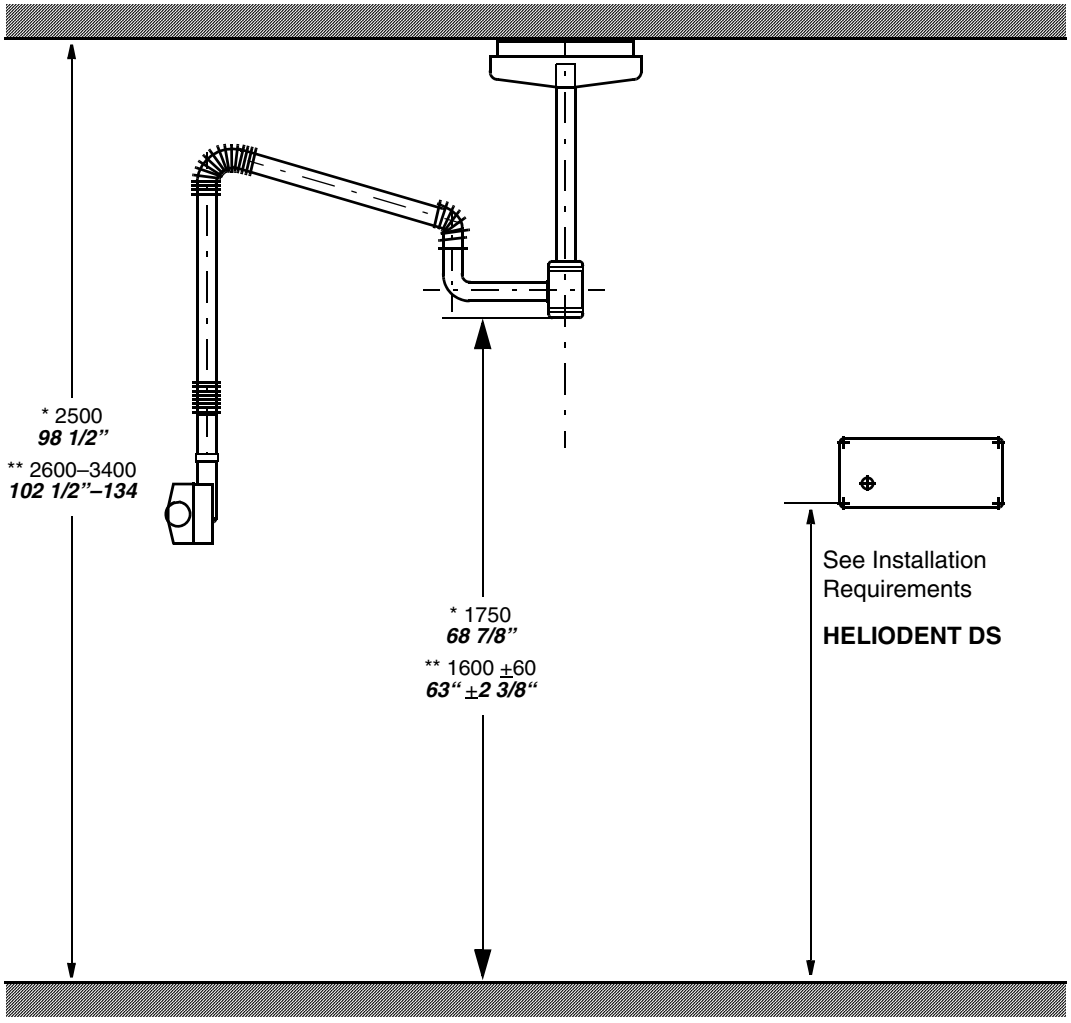
2.1 Dimensions 1:20 SIROLUX FANTASTIC/LEDview / HELIODENT DS



***** SIROLUX FANTASTIC/LEDview
Standard support tube

****** SIROLUX FANTASTIC/LEDview
SIROLUX FANTASTIC/LEDview / HELIODENT DS
Contractable tube

Dimensions 1:20
SIROLUX FANTASTIC/LEDview / HELIODENT DS

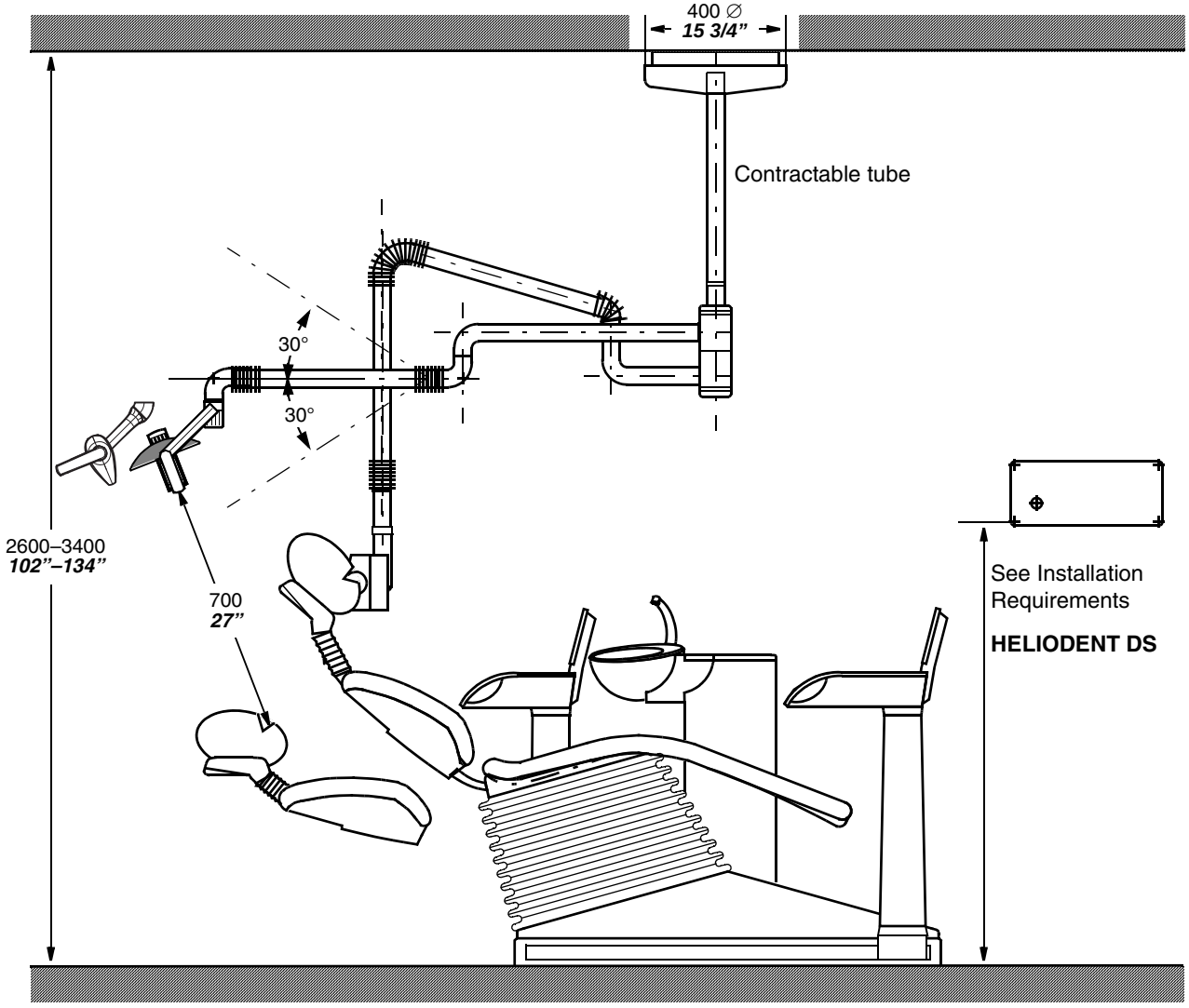


***** HELIODENT DS
Standard support tube

****** HELIODENT DS
SIROLUX FANTASTIC/LEDview / HELIODENT DS
Contractable tube

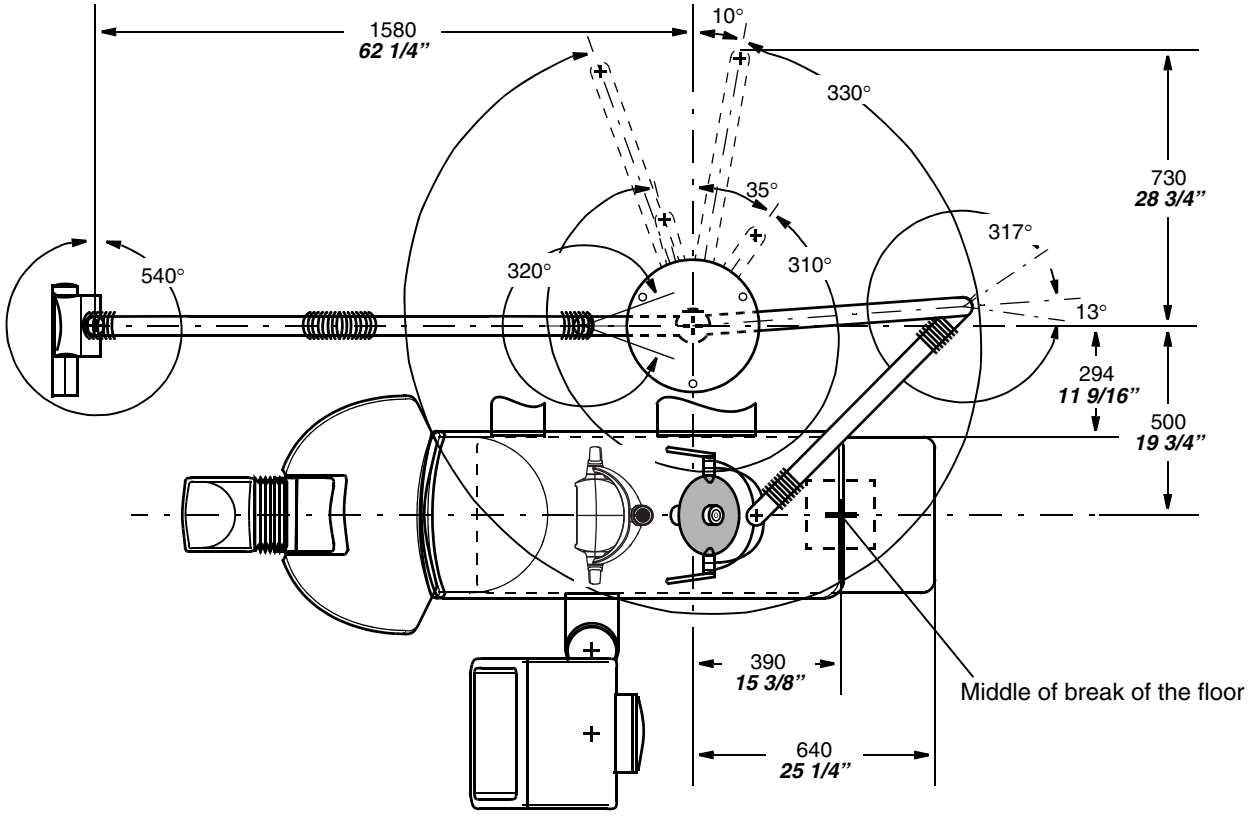
Dimensions 1:20
SIROLUX FANTASTIC/LEDview / HELIODENT DS

C1, C2, C3, C4,
C1+, C2+, C3+, C4+, C5+, C8+, M1+

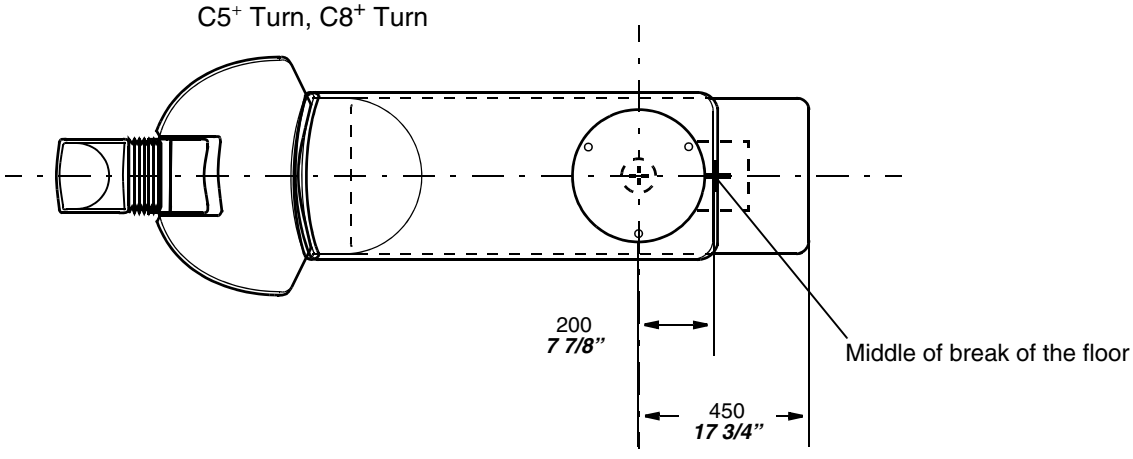


Dimensions 1:20
SIROLUX FANTASTIC/LEDview / HELIODENT DS

C1, C2, C3, C4,
C1^{+}, C2^{+}, C3^{+}, C4^{+}, C5^{+}, C8^{+}, M1^{+}, TENEO

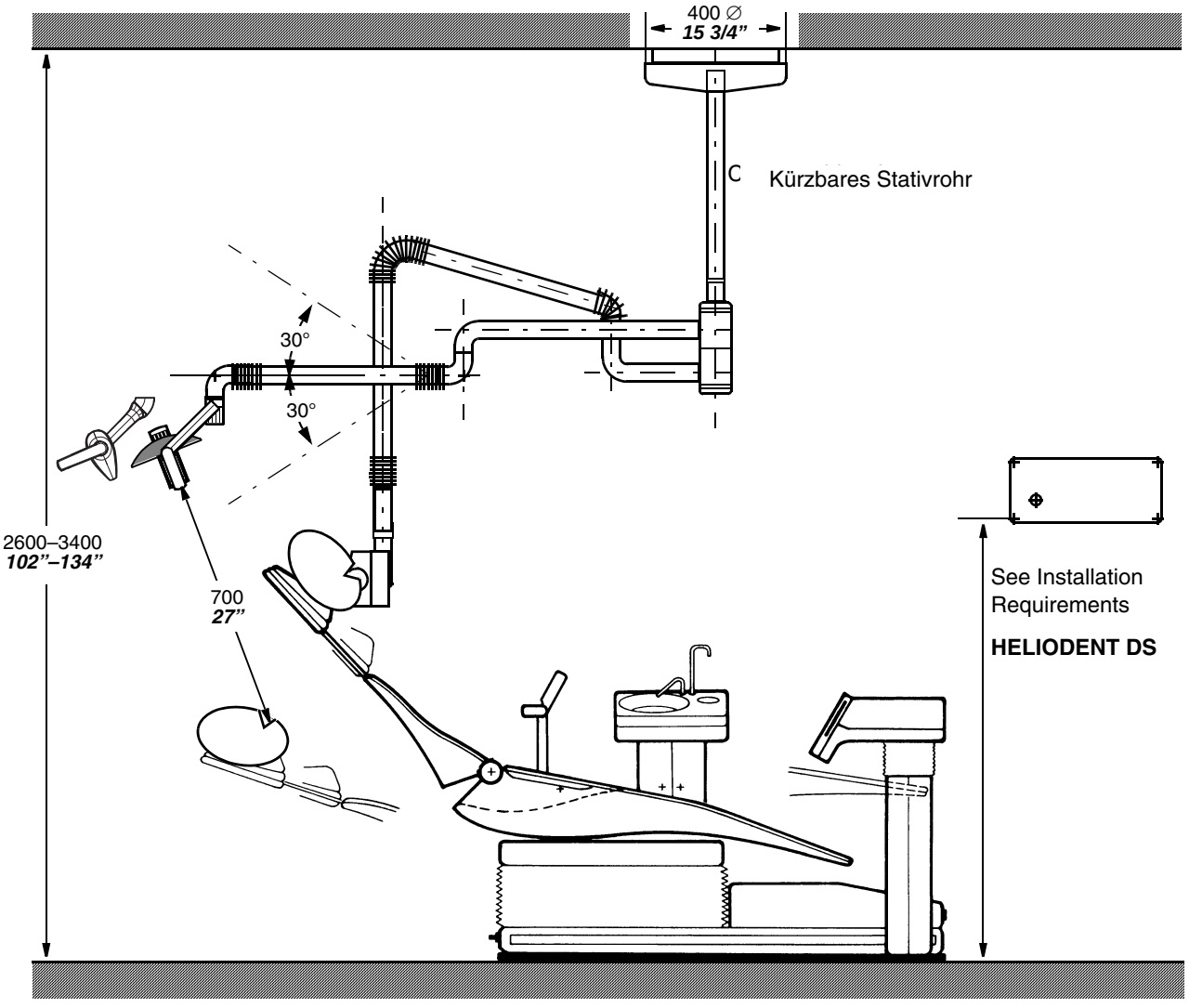


C5^{+} Turn, C8^{+} Turn



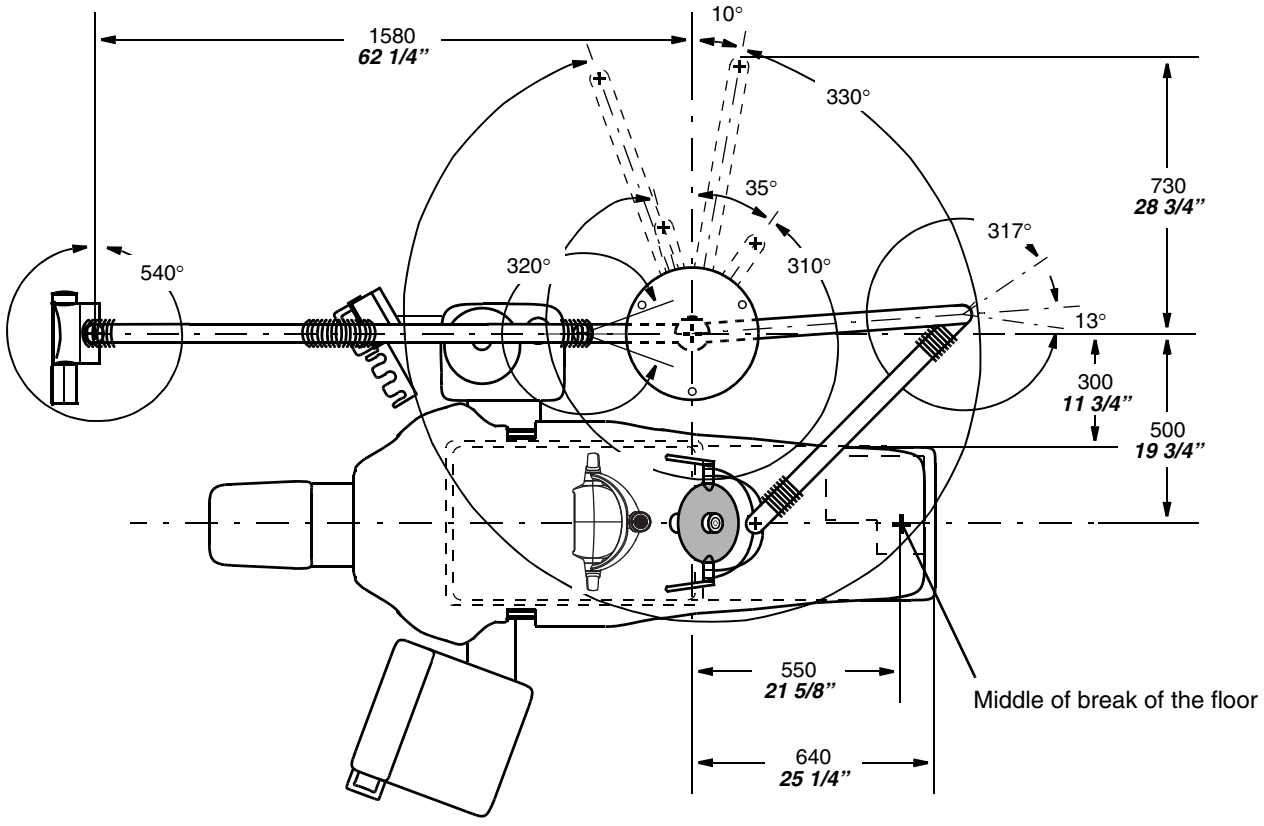
Dimensions 1:20
SIROLUX FANTASTIC/LEDview / HELIODENT DS

M1



Dimensions 1:20
SIROLUX FANTASTIC/LEDview / HELIODENT DS

M1



2.2 Technical Data

SIROLUX FANTASTIC /LEDview

Dimensions packaging		1cm = 0.39"
SIROLUX FANTASTIC/LEDview	100cm x 59cm x 31cm (39 3/8“ x 23 1/4“ x 12 1/4“)	
HELIODENT DS	115cm x 102cm x 24cm (45 1/4“ x 40 1/8“ x 9 1/2“)	
Overhead support	108cm x 58cm x 30cm (42 1/2“ x 22 7/8“ x 11 7/8“)	
Support tube	166cm x 17cm x 19cm (65 3/8“ x 6 3/4“ x 7 1/2“)	
Weight		including /without packaging (1kg=2.2lbs)
SIROLUX FANTASTIC/LEDview	18kg / 12kg (39.7 lb / 26.5 lb)	
HELIODENT DS	31kg / 25kg (68.3 lb / 55.1 lb)	
Overhead support	22kg / 18kg (48.5 lb / 39.7 lb)	
Support tube	11kg / 9kg (24.3 lb / 19.8 lb)	
Power supply SIROLUX FANTASTIC/LEDview		
Line voltage	100, 115V 60Hz 230V 50Hz	
Nominal current		
SIROLUX FANTASTIC	at 230V at 100V, 115V	0,63A 1,6A
LEDview	at 230V at 115V at 100V	0,1A 0,2A 0,23A
HELIODENT DS, see sep. Installation Requirements		

3 Electromagnetic compatibility

SIROLUX FANTASTIC / HELIODENT DS

NOTE

The SIROLUX FANTASTIC/LEDview, HELIODENT DS fulfills all requirements for electromagnetic compatibility (EMC) compliant with IEC 60601-1-2.
*The SIROLUX FANTASTIC/LEDview, HELIODENT DS is referred to as **"UNIT"** in the following.*

***Observance of the following information is necessary to ensure safe operation regarding EMC aspects**.*

3.1 Accessories

Designation of interface cables	Supplier
7x1,5mm^2 NYY-J max. 20m 7xAWG 14	Common
3x1,5mm^2 NYM 2xAWG 14 plus PE	Common
2x1,5mm^2 2xAWG 14	Common

- The **UNIT** may be operated only with accessories and spare parts approved by Sirona. Unapproved accessories and spare parts may lead to an increased emission of or a reduced immunity to interference.
- The **UNIT** should not be operated immediately adjacent to other devices. If this proves to be unavoidable, the **UNIT** should be monitored to check and make sure that it is used properly.

3.2 Electromagnetic emission

The **UNIT** is intended for operation in the electromagnetic environment specified below.

The customer or user of the **UNIT** should make sure that it is used in such an environment.

Emission measurement	Conformity	Electromagnetic environment guidelines
HF emission according to **CISPR 11**	Group 1	The **UNIT** uses HF energy only for its internal function. The HF emission is therefore very low, and it is improbable that nearby electronic devices might be disturbed.
HF emission according to **CISPR 11**	Class B	The **UNIT** is intended for use in all facilities, including residential areas and in any facilities connected directly to a public power supply providing electricity to buildings used for residential purposes.
Harmonics according to **IEC 61000-3-2**	Class A	
Voltage fluctuations / Flicker according to **IEC 61000-3-3**	compliant	

3.3 Immunity to interference

The **UNIT** is intended for operation in the electromagnetic environment specified below.

The customer or user of the **UNIT** should make sure that it is used in such an environment.

Immunity interference tests	IEC 60601-1-2 test level	Conformance level	Electromagnetic environment guidelines
Electrostatic discharge (ESD) according to **IEC 61000-4-2**	± 6kV contact discharge ± 8 kV air discharge	± 6kV contact discharge ± 8kV air discharge	Floors should be made of wood or concrete or covered with ceramic tiling. If the floor surface consists of synethetic material, the relative humidity must be at least 30%.
Electrical fast transient/burst according to **IEC 61000-4-4**	± 1kV for input and output lines ± 2kV power cables	± 1kV for input and output lines ± 2kV power cables	The quality of the supply voltage should conform to the typical business or hospital environment.
Surge voltages according to **IEC 61000-4-5**	± 1kV push-pull voltage ± 2kV push-pull voltage	± 1kV push-pull voltage ± 2kV push-pull voltage	The quality of the supply voltage should conform to the typical business or hospital environment.
Voltage dips, short interruptions and variations of the power supply according to **IEC 61000-4-11**	<5% U_T for ½ period (>95% dip of U_T) 40% U_T for 5 periods (60% dip of U_T) 70% U_T for 25 periods (30% dip of U_T) <5% U_T for 5sec. (>95% dip of U_T)	<5% U_T for ½ period (>95% dip of U_T) 40% U_T for 5 periods (60% dip of U_T) 70% U_T for 25 periods (30% dip of U_T) <5% U_T for 5sec. (>95% dip of U_T)	The quality of the supply voltage should correspond to the typical business or hospital environment. If the user of the **UNIT** requires it to continue functioning following interruptions of the power supply, it is recommended to have the **UNIT** powered by an uninterruptible power supply or a battery.
Magnetic field of power frequencies (50/60 Hz) according to **IEC 61000-4-8**	3 A/m	3 A/m	The power frequency magnetic fields should correspond to the typical values found in the relevant business and hospital environment.
Remarks: U_T is the AC supply voltage prior to application of the test level.			

Immunity interference tests	IEC 60601-1-2 test level	Conformance level	Electromagnetic environment guidelines
			Portable and mobile radio equipment must not be used within the recommended working clearance from the **UNIT** and its cables, which is calculated based on the equation suitable for the relevant transmission frequency. Recommended working clearance:
Conducted HF interference **IEC 61000-4-6**	3 V_{eff} 150 kHz to 80 MHz[a]	3 V_{eff}	$d = [1, 2]\sqrt{P}$
Radiated HF interference **IEC 61000-4-3**	3 V/m 80 MHz to 800 MHz[a] 3 V/m 800 MHz to 2.5 GHz[a]	3 V_{eff} 3 V_{eff}	$d = [1, 2]\sqrt{P}$ at 80 MHz to 800 MHz $d = [2, 3]\sqrt{P}$ at 800 MHz to 2.5 GHz where **P** is the nominal transmitter output in watts (W) specified by the transmitter manufacturer and **d** is the recommended working clearance in meters (m). The field strength of stationary radio transmitters is based on a local investigation for all frequencies[b] less than the conformance level for all frequencies[c]. Interference is possible in the vicinity of equipment bearing the following graphic symbol. 

a. The higher frequency range applies at 80 MHz and 800 MHz.

*b. The field strength of stationary transmitters such as the base stations of radio telephones and land mobile services, amateur radio stations as well as AM and FM radio and television broadcasting stations cannot be accurately predetermined. An investigation of the location is recommended to determine the electromagnetic environment resulting from stationary HF transmitters. If the field strength measured at the **UNIT** location exceeds the conformance level specified above, the **UNIT** must be observed with respect to its normal operation at each application site. If unusual performance characteristics are observed, it may be necessary to take additional measures such as reorientation or repositioning of the **UNIT**.*

c. A frequency range of 150 kHz to 80 MHz results in a field strength of less than 3 V/m.

3.4 Working clearances

Recommended working clearances between portable and mobile HF communication devices and the UNIT

The **UNIT** is intended for operation in an electromagnetic environment, where radiated HF interference is checked. The customer or the user of the **UNIT** can help prevent electromagnetic interference by duly observing the minimum distances between portable and/or mobile HF communication devices (transmitters) and the **UNIT**. These values may vary according to the output power of the relevant communication device as specified above.

Nominal transmitter output [W]	Working clearance according to transmission frequency [m]		
	150 kHz to 80 MHz	80 MHz to 800 MHz	800 MHz to 2.5 GHz
	$d = [1, 2]\sqrt{P}$	$d = [1, 2]\sqrt{P}$	$d = [2, 3]\sqrt{P}$
0,01	0,12	0,12	0,23
0,1	0,38	0,38	0,73
1	1,2	1,2	2,3
10	3,8	3,8	7,3
100	12	12	23

For transmitters whose maximum nominal output is not specified in the above table, the recommended working clearance d in meters (m) can be determined using the equation in the corresponding column, where P is the maximum nominal output of the transmitter in watts (W) specified by the transmitter manufacturer.

Annotation 1
The higher frequency range applies at 80 MHz and 800 MHz.

Annotation 2
These guidelines may not be applicable in all cases. The propagation of electromagnetic waves is influenced by their absorption and reflection by buildings, objects and persons.

We reserve the right to make any alterations which may be required due to technical improvements.

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