

SITE PREPARATION

# Malibu / Sovereign

(2021 Edition- UK)



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# Introduction

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**This site preparation provides information regarding recommended pre-installation procedures.**

**It shall be seen as guideline and can always be superseded by local regulations.**

This document has been developed to supply accurate and targeted information in order to make the site ready for Malibu/Sovereign®. Combining good engineering practice with a well prepared installation site, will provide a worry free installation the day the *Malibu/Sovereign* bathtub is delivered. Please read through the complete Site Preparation instructions prior to preparing the site.

This will facilitate the installation procedure and give the correct and optimal working conditions of all involved persons.

Definitions in this Site Preparation

## WARNING

Means: Safety warning. Failure to understand and obey this warning may result in injury to you or to others.

## CAUTION

Means:  
Failure to follow these instructions may cause damage to all or parts of the system or equipment..

## NOTE

Means:  
This is important information for the correct use of this system or equipment.



Means:  
The name and address of the manufacturer.

# Safety Instructions

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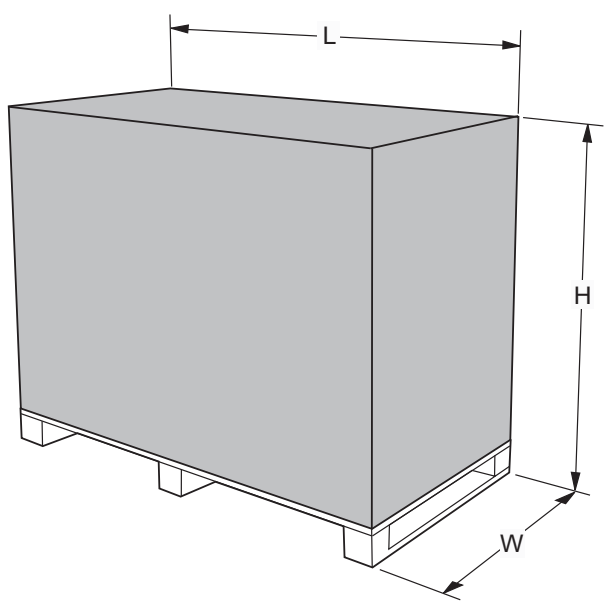
## NOTE

All water and electrical pre-installation planning should be carried out by qualified personnel, in accordance with local and national regulations

## NOTE

It is the responsibility of the customer to prepare the site before the installation procedure starts.

# Measurements and Weights

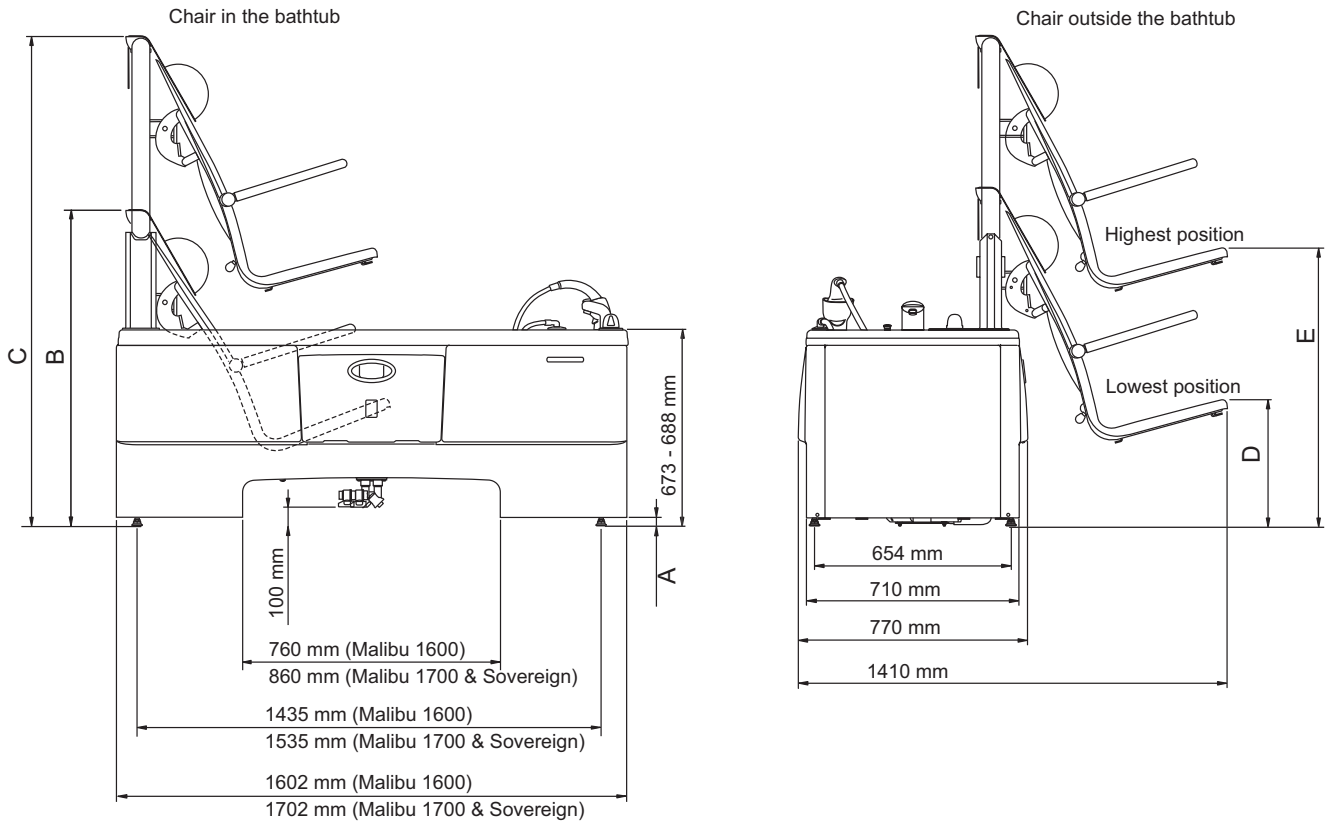
Measurement and weight of the box with content		
Measurements	H = 1311 mm L = 1830 mm W = 800 mm	
Weight	max 212 kg	

Measurement and weight of the <i>Malibu/Sovereign</i> bathtub	
Measurements	H = 2010 mm L = 1602 mm (Malibu 1600) 1702 mm (Malibu 1700 and Sovereign) W = 770 mm
Weight	max 172 kg

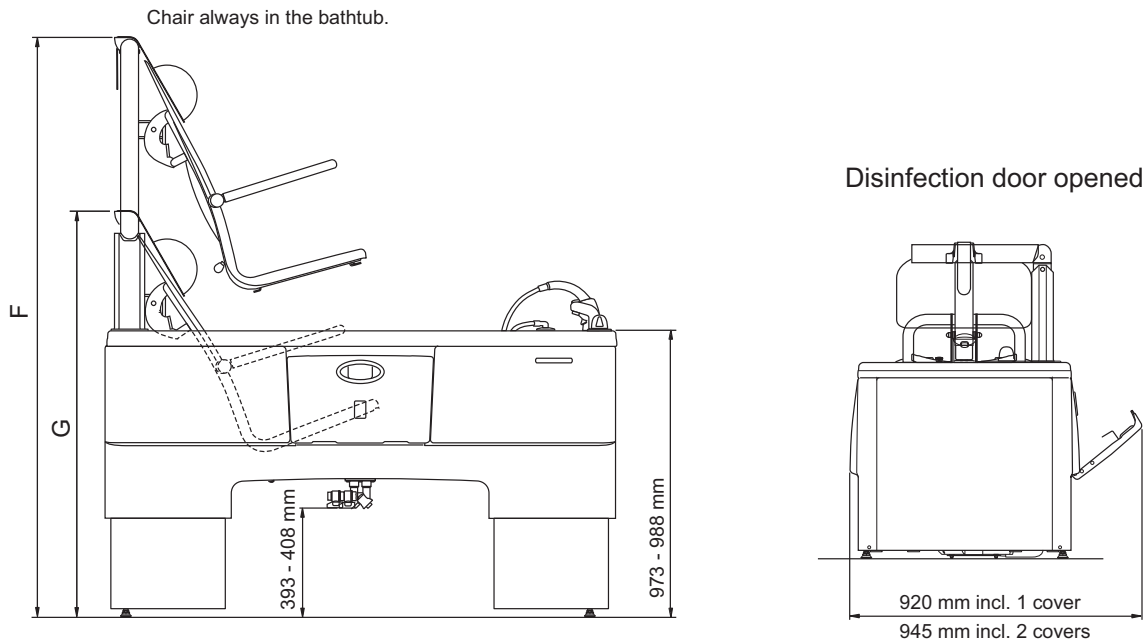
Allowed Combinations	
Malibu/Sovereign bathtub integrates with the following Arjo products:	Maxi Sky Range (All models but MS 1000 and Large hanger bars and stretchers), Maxi Move Range (All hanger bars but Large and Stretchers), Maxi Twin Range (All hanger bars but Large), Sara 3000, Sara Plus, Sara Lite and Stedy,
No other combinations are allowed	

# Overall Dimensions

Bathtub in lowest position.



Bathtub in highest position.



Measures in mm	B		C		D		E		F		G	
<b>A</b>	40	55	40	55	40	55	40	55	40	55	40	55
<b>Malibu 1600</b>	1128	1143	1668	1683	383	398	883	898	1968	1983	1428	1443
<b>Malibu 1700</b>	1083	1098	1668	1683	383	398	883	898	1968	1983	1383	1398
<b>Sovereign</b>	1083	1098	1668	1683	338	353	838	853	1968	1983	1383	1398

# Space Requirements

*Malibu/Sovereign* should always be installed according to recommended space requirements, to provide optimal working conditions for caregivers and resident.

## NOTE

Space for furniture and other personal items are not included in these measurements.

## Wall Position (measurements depending on *Malibu/Sovereign* bathtub model)

Contact Arjo to order side / back / corner cover if:

\* Short side is equal or larger measurements than 60 mm

\*\* Long side is equal or larger measurements than 80 mm

Fig. 1

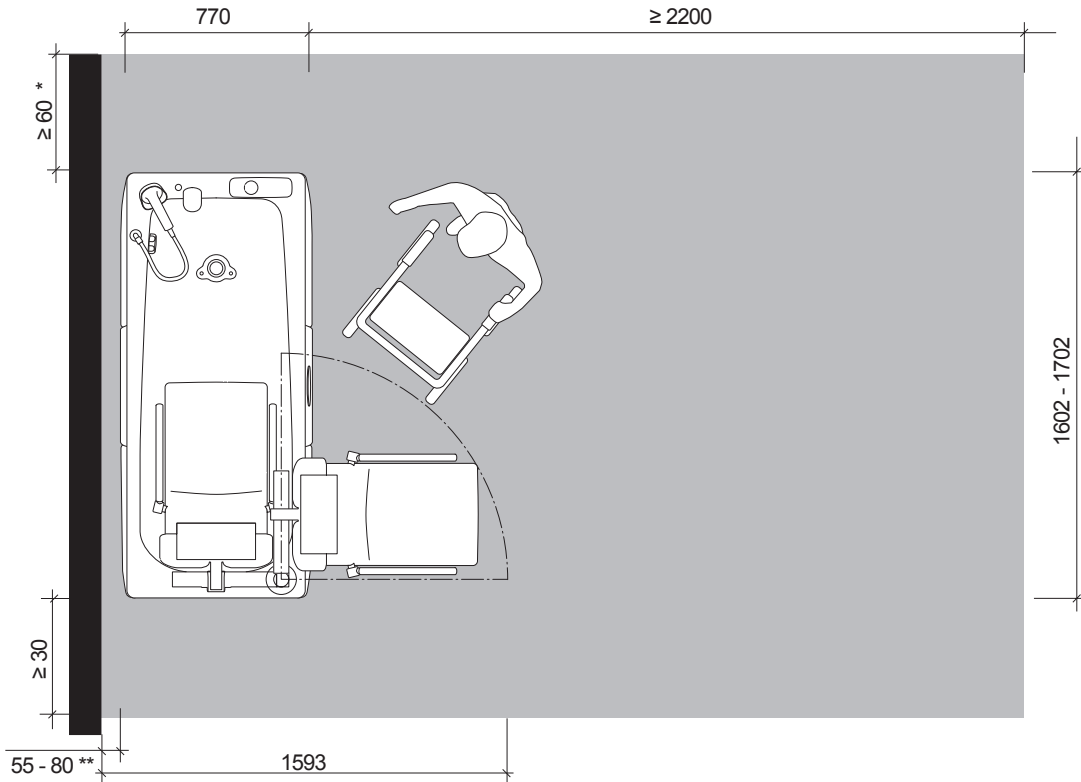
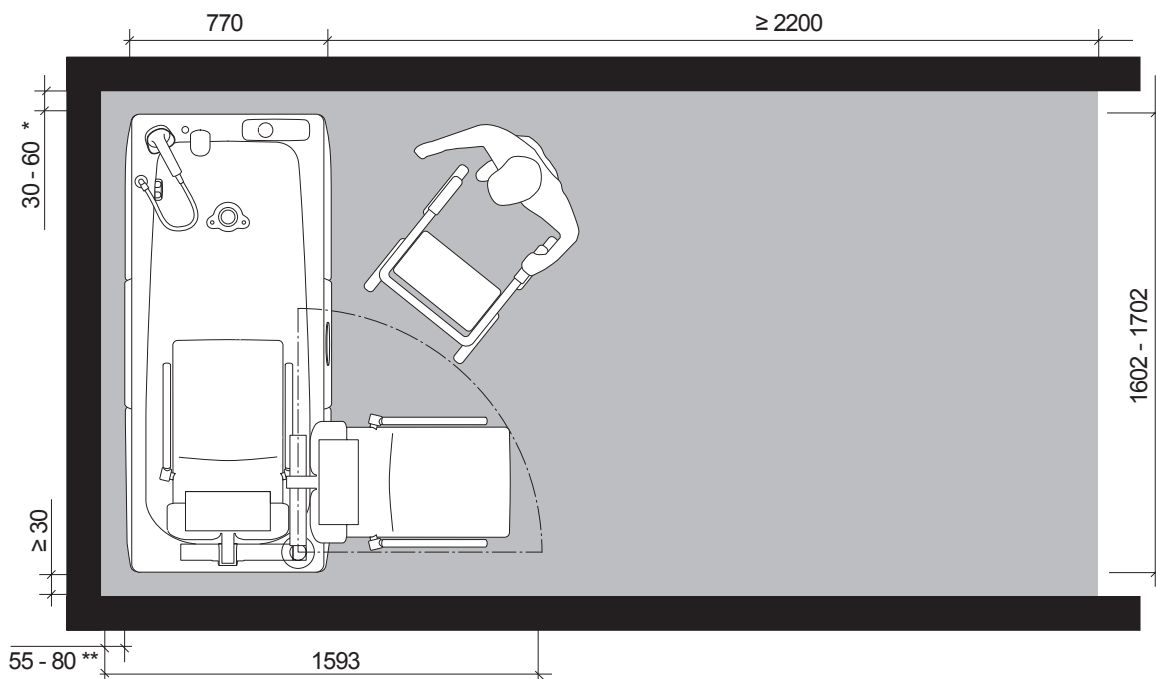


Fig. 2



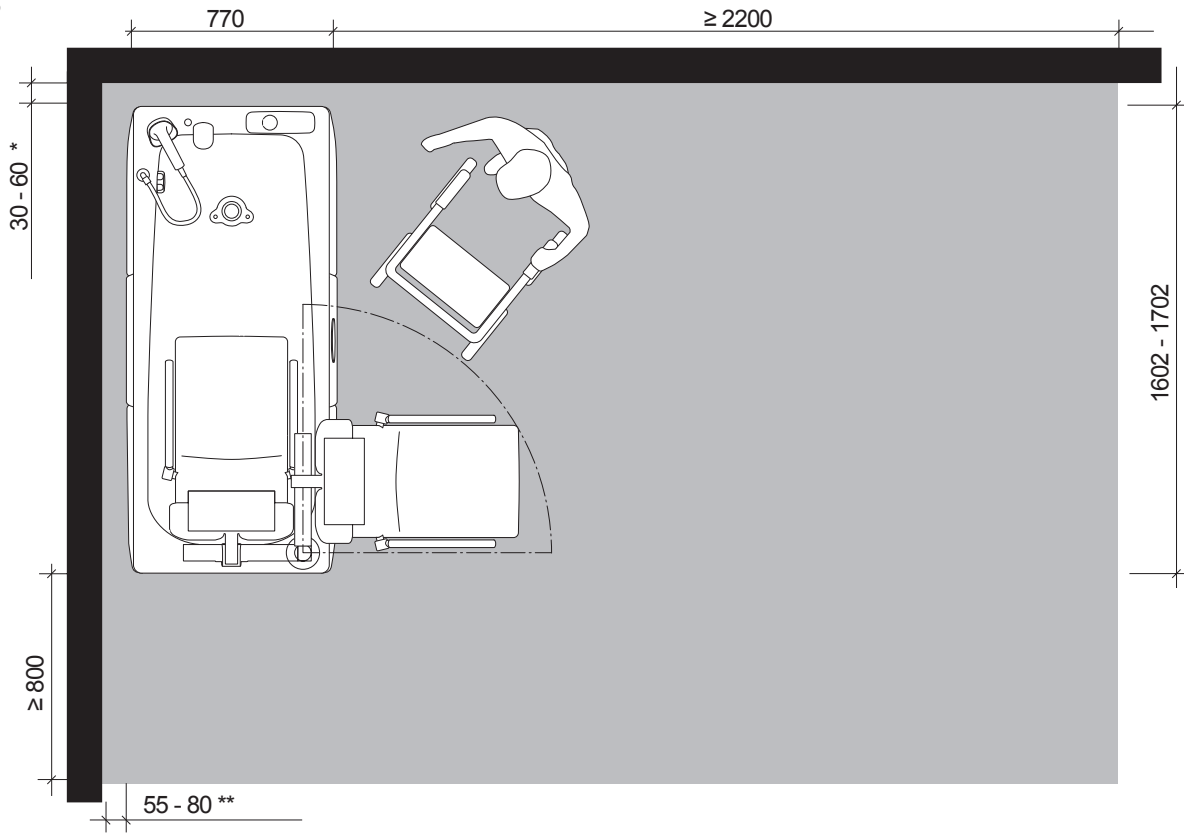
# Wall Position (measurements depending on *Malibu/Sovereign* bathtub model)

Contact Arjo to order side / back / corner cover if:

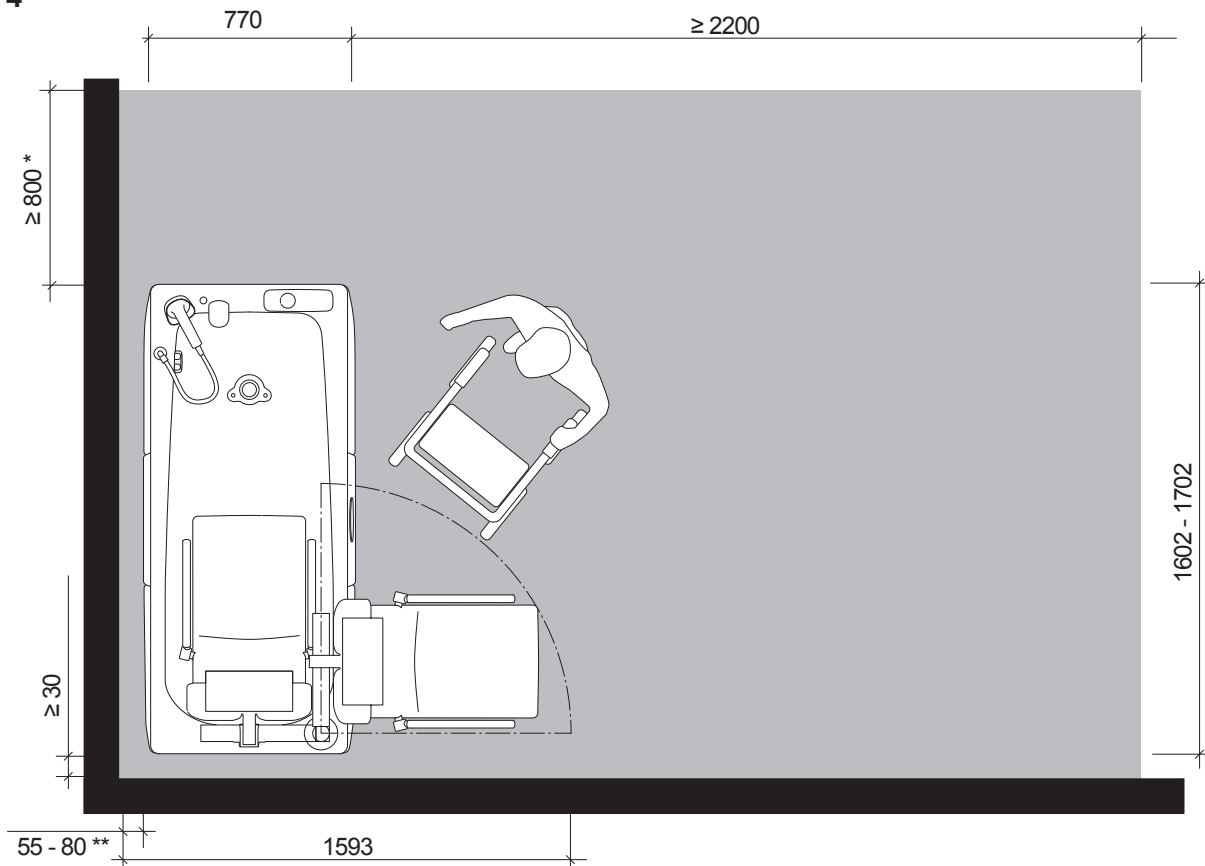
\* Short side is equal or larger measurements than 60 mm

\*\* Long side is equal or larger measurements than 80 mm

**Fig. 3**



**Fig. 4**





## Island position (measurements depending on *Malibu/Sovereign* bathtub model)

Contact Arjo to order side / back / corner cover if:

\* Short side is equal or larger measurements than 60 mm

\*\* Long side is equal or larger measurements than 80 mm

Fig. 5

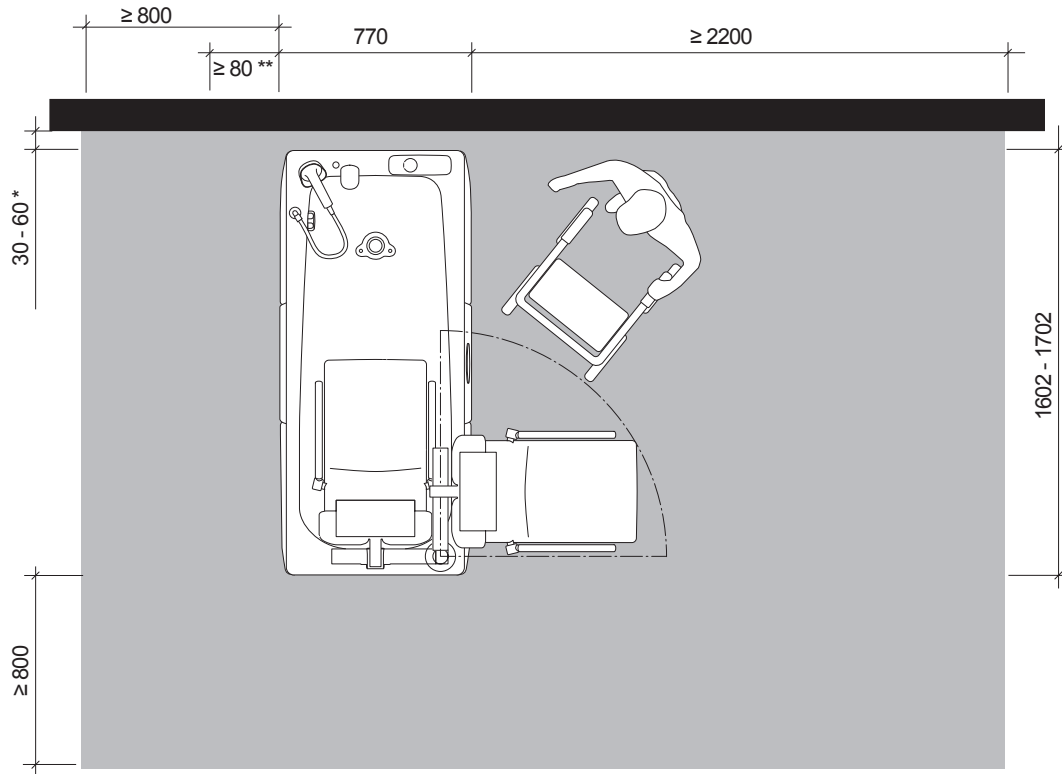
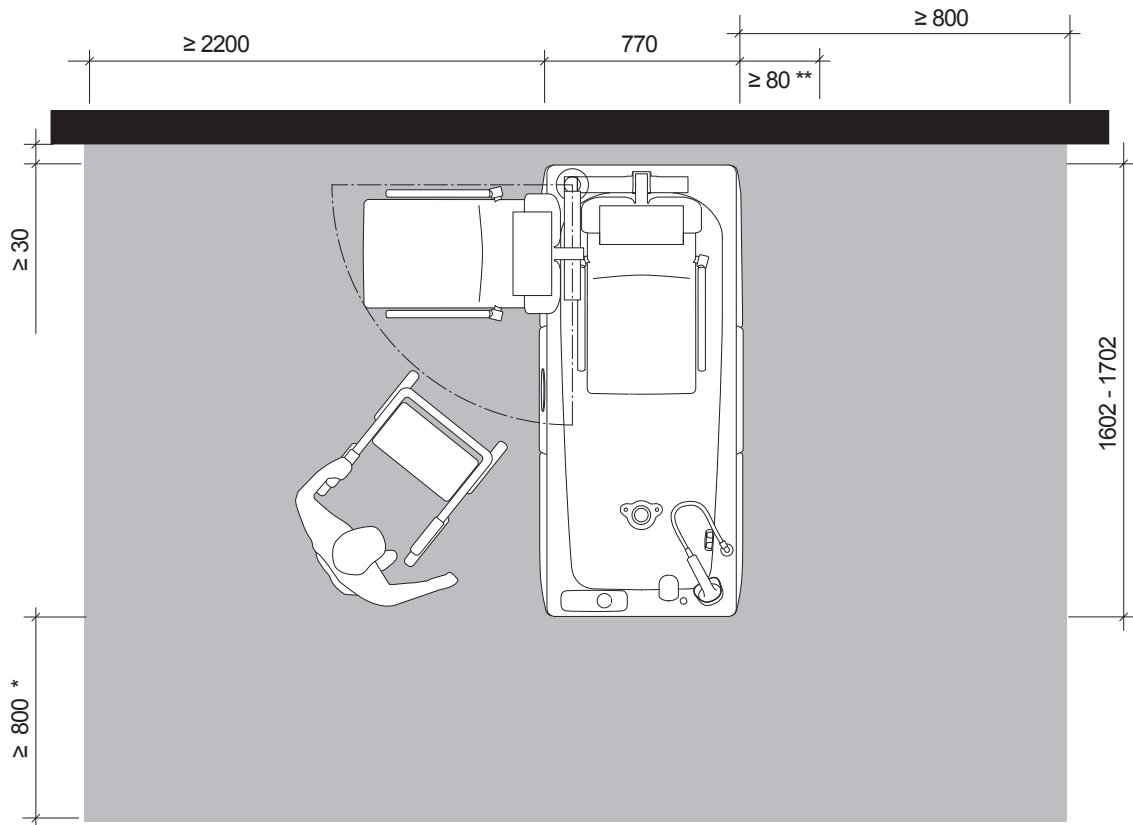


Fig. 6



# Floor Preparations

## NOTE

All water and electrical pre-installation planning should be carried out by qualified personnel, in accordance with local and national regulations

## Floor Requirements

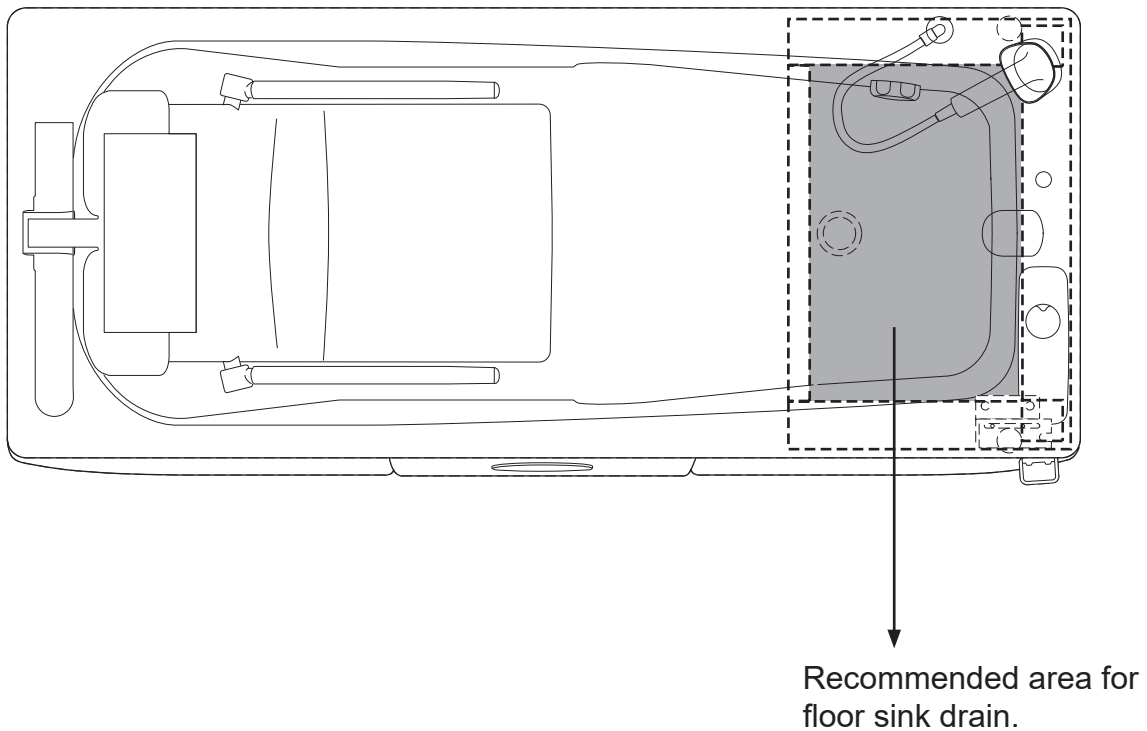
Maximum floor load	576 kg / m <sup>2</sup>
Maximum floor pressure	4.5 N/mm <sup>2</sup>

## WARNING

To avoid the device from tipping and the patient from falling, make sure the floor with recessed drains, holes or slopes do NOT exceed a ration of 1:50 (1.15°).

- The floor should be made of a slip-resistant material, free of bumps and must be water sealed.
- Arjo recommends floor sink drain within the chassis foot end frame, See Fig 7. Also see Assembly and Installation instructions manual.
- The floor construction must be suitable for anchoring the fasteners for a minimum load of 1500 N/fastener (Make sure there are no heat slings or water pipes)
- Also see Assembly and Installation instructions manual.

Fig. 7



# Water and Drain Preparations

Water Supply Requirements	
Maximum static pressure	6 bar (600 kPa, 87 psi)
Min. Dynamic pressure	1 bar (100 kPa, 15 psi)
Temperature - Cold water supply	5 - 20 °C
Temperature - Hot water supply For WRAS approval the inlet water must be within:	55 - 60 °C The system is tested up to 80 °C
Hot/Cold Water connection	G3/4" male (customers connection)
pH range	pH 7,5 - pH 9
Conductivity (Min.)	More than 80 µS/m
Chloride (Max.)	Less than 250 mg/l
Hardness	Less then 20 °dH
Alkalinity	60-200 mg/l HCO <sub>3</sub>

## Water Supply Preparations

The water supply can be arranged according to two main alternatives:

- Water connection from floor
- Water connection from wall

Check with local regulations.

## Precautions

In order to limit the growth of bacterial flora, it is necessary to take action at four levels:

- Avoid stagnating water and make sure there is proper water circulation.
- Take precautions against the formation of scale and corrosion, based on the water quality.
- Maintain a high water temperature from production to the different distribution circuits.
- Mix hot and cold water as closely as possible to the point of use.

# Drain Supply Preparations

Drainage Requirements	
Min. Drainage capacity	100 l/min
Drain position	Floor
The <i>Malibu/Sovereign</i> bathtub must be connected to drainage. Create air gap if needed.	
Connections must be done in accordance with local regulations.	

# Electrical Installation Preparations

## WARNING

- To avoid risk of electric shock, this equipment must only be connected to a supply mains with protective earth.
- The unit must be continuously powered and connected to a electrical power disconnection device and to separate fuse with ground fault interrupter in accordance with local codes and regulations.
- The product must be protected by a ground fault circuit interrupter, (GFCI), not supplied.
- The mains connection cable must be adequately provided with additional mechanical protection both on the distance over / on the floor and on the wall.
- The mains connection cable must be protected against being run over by equipment with castors.
- The mains connection cable must be provided with adequate strain relieve.
- The mains connection cable type must be selected so that it can withstand the heat, humidity and chemical load that can be expected in the location.

Market	Voltage	Frequency	Mains supply fuse External fuses	Max Power Consumption	Residual Current Device
Europe	230V single phase AC	50 Hz	10A	1000VA	30mA

## Mains disconnection device

Permanently installed in wall. Visible and accessible at all times

Mains transient voltage	4 kV*
Creepage distance	3 mm*
Air clearance	1.8 mm*
Direction of movement	Up and down, right and left, clockwise and counter-clockwise

\* If local regulations are higher, then they have to be met.

# Electrical supply

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## IMPORTANT:

The unit/s must be connected to a surface fused connection (minimum IPX4 rating), 10 amp supply of 230 volts AC50Hz single phase supply and meeting EN 60601-1 the safety standard for medical electrical equipment.

The power supply shall be through a Residual Current Device (RCD) not exceeding 30mA in compliance with IEE Regulations for electrical equipment in bathrooms.

Alternatively the power supply may be through a Residual Current operated circuit breaker with integral over current protection (RCBO). See overleaf for further information.

## NOTE 1

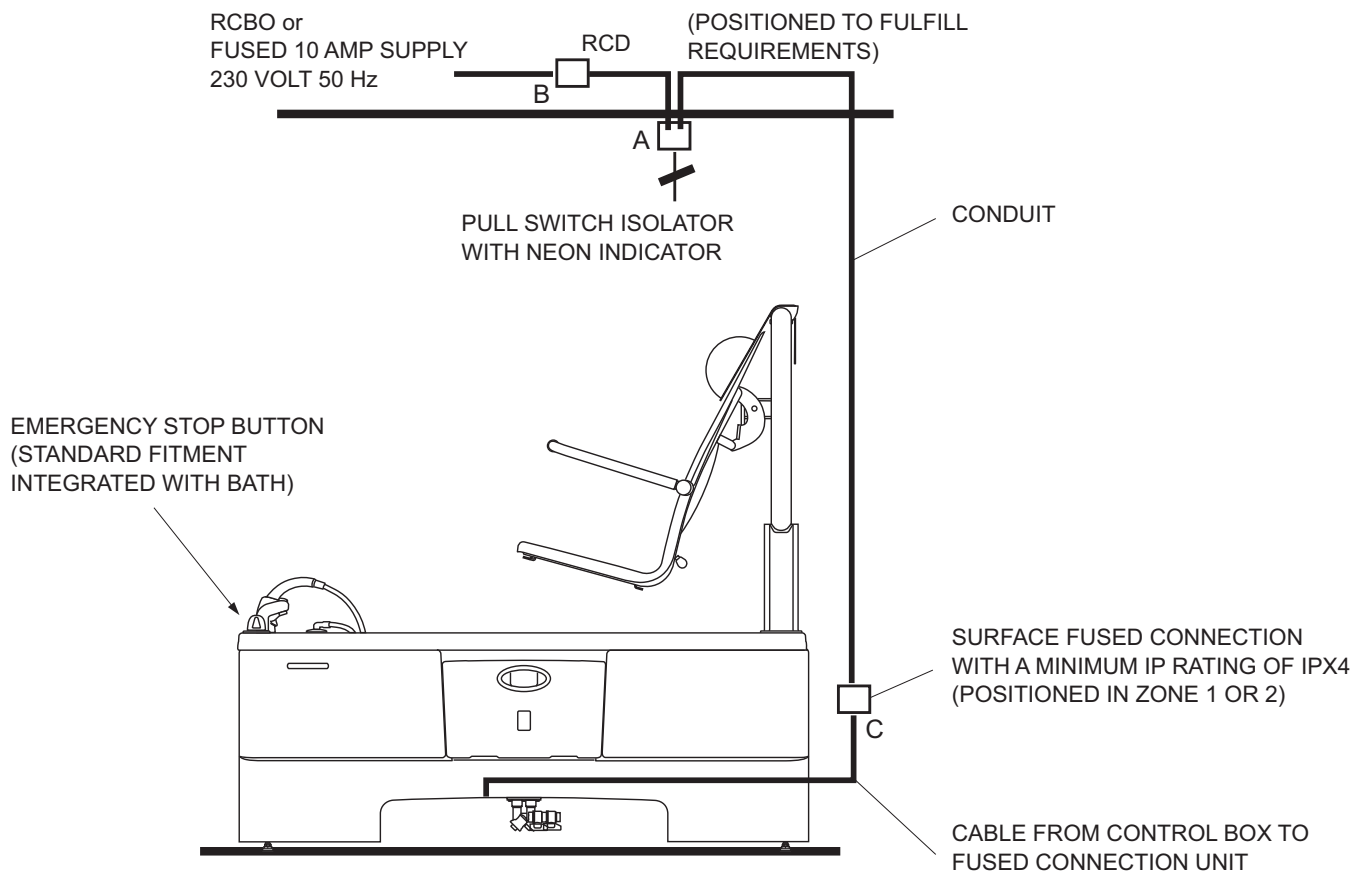
The surface fused connection unit of the fixed wiring installation must have the appropriate earth bonding installed and be positioned in ZONE 1 or 2 (see figure on the next page, position C) according to IEE Regulations.

## NOTE 2

Supplementary earth bonding will be supplied via connecting the appliance by the flex to the earth terminal in the unit according to IEE Regulation 544.2.5 from BS7671:2008.

## IMPORTANT:

**It is the responsibility of the customer to provide the correct certificated connection** for the Arjo engineer to connect the unit. If a booster Pump assembly is installed, the base plate on which the pump assembly is mounted must be earthed.



**Electrical fittings to be supplied by customer are:**

- A. Ceiling mounted pull switch isolator with indicator (Double Pole with 3mm air gap) to BS EN 60669-1:2000, (was BS 3676).
- B. RCD (Residual Current Device) not exceeding 30mA to BS EN 61008-1 in compliance with IEE Regulations for electrical equipment in bathrooms. Alternatively a RCBO (Residual current operated circuit breaker with integral over current protection) to BSEN 61009-1 may be used. To help in choosing a suitable device the Power consumption of the *Malibu/Sovereign* bathtub is 1000VA and at initial switch on the *Malibu/Sovereign* bathtub draws a peak current of 10A for a duration of 130 milliseconds. When fitting a RCBO, to avoid nuisance tripping it may be necessary to fit a 10A 30mA unit. 10A surface fused connection unit with a minimum IP rating of IPX4 in compliance with IEE Regulations for electrical equipment in bathrooms. A 5A fuse should be fitted.
- C. 10A surface fused connection unit with a minimum IP rating of IPX4 in compliance with IEE Regulations for electrical equipment in bathrooms. A 5A fuse should be fitted.  
If there is a requirement for a Booster Pump or a Multi Clean disinfection module then a separate 10A surface fused connection should be provided for each unit. In both instances a 5A fuse should be fitted.

Refer to Arjo Technical Support in further detail is required.

# List of Standards and Certificates

STANDARDS / CERTIFICATES	DESCRIPTION
EN ISO 10535:2006	Hoist for transfer of disabled persons.
EN ISO 10993-1:2009	Biological evaluation of medical devices - Part 1
EN 1717:2000	Protection against pollution of potable water in water installations and general requirements of devices to prevent pollution by back flow
UL 94 Revision 9	Tests for Flammability of Plastic Materials for Parts in Devices and Appliances
IEC 60601-1-6:2010 +A1:2013	Medical electrical equipment - Part 1-6: - Collateral standard: Usability
IEC 60601-1:2005+A1 2012	Medical electrical equipment - Part 1: General requirements for safety
EN 60601-1-2:2015	Electromagnetic compliance
IEC 60601-1-11:2015	General requirements for basic safety and essential performance – Collateral Standard: Requirements for medical electrical equipment and medical electrical systems used in the home healthcare environment
UL/CB	ANSI/AAMI ES60601-1: A1:2012, C1:2009/(R)2012 and A2:2010/(R)2012, CSA CAN/CSA-C22.2 NO. 60601-1:14 IEC 60601-1:2005 + A1:2012 IEC60601-1-11:2015
WRAS	(Water Fittings) Regulations 1999 (the Water Byelaws 2000 in Scotland)



# Checkpoints prior to the Installation

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Always make sure that the following checkpoints are fulfilled and completed prior to the installation.

Reference to values and other information in this manual.

CHECK POINTS		COMPLETED
Water cold/hot	Pressure, temperature, location, local/national requirements, hot water min: 200 l / <i>Malibu/Sovereign</i> bathtub	
Drain	Location, capacity, local/national requirements	
Power	Fusing, capacity, local/national requirements	
Attachments floor/wall	Fittings, local/national requirements	
Floor loads	Construction, materials, local/national requirements	
Materials	Slip/moisture protection, local/national requirements	
Floor	Slope, evenness, thresholds, local/national requirements	
Floor construction	Floor construction suitable for anchoring screws (Make sure there are no heat slings or water pipes)	
Installation accessibility	Doors, measurements, elevators	
Space requirements	For personal and patient	
Service accessibility	For maintenance staff and annual service	

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