



# Prosthetist Technical Guide

SP-200(V2)

5280 PROSTHETICS, LLC | 1-800-460-0288

## **WARNING: SLEEVE SUSPENSION ONLY**

**THE SMARTPUCK™ CAN ONLY BE USED WITH SLEEVE SUSPENSION**

**USE OF INTERNAL SOCKET SEALING SYSTEMS  
(SEAL-IN LINERS, AURA SEALS, ETC.)  
WILL DAMAGE THE SMARTPUCK™ AND VOID THE WARRANTY**

**Use the VaporPuck™, ZeroPuck OD™, ZeroPuck SP™**

**AirPuck™ for the following Liner Sealing systems:**

SEAL-IN™ LINERS, AURA / ECHO™ SOCKS

SYMMETRY LINERS™ SECURE RING™

### **USING AND SETTING UP THE SMARTPUCK™ APP**

#### **REQUIRES:**

WIFI CONNECTION IN FACILITY OFFICE

SETTING UP THE PATIENTS APPLE ID  
/ ITUNES ACCOUNT OR GMAIL ACCOUNT

SMARTPUCK™ REQUIRES DEVICES WITH BLUETOOTH 4.0  
(5TH GENERATION IPOD TOUCH, IPHONE 5 AND NEWER,  
ANDROID OS 4.4 AND NEWER







PATIENT WILL NEED A VALID EMAIL ADDRESS  
TO SIGN UP FOR AN APPLE ID OR GMAIL ACCOUNT



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## Symbol Definitions

Symbol	Description
	Consult the Operating Instructions
	Type B Applied Part
	Direct Current
	Alternating Current
	Caution, Consult Instructions
	Radio Transmission

## Warnings And Safety Notices



**READ THESE INSTRUCTIONS FOR USE CAREFULLY AND PAY SPECIAL ATTENTION TO ALL SAFETY CONSIDERATIONS AND WARNINGS.**



**THIS MANUAL PROVIDES STEP-BY-STEP INSTRUCTIONS FOR SETUP AND OPERATIONS. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN SERIOUS INJURY.**



The SmartPuck™ and its accompanying accessories do not contain any serviceable parts and should under no circumstances be opened.



If the SmartPuck™ or any of its accompanying accessories show any signs of damage, they must not be used.



Do not immerse the SmartPuck™ or any of its accompanying accessories in water or any other liquid.



Avoid all explosive/combustible materials while using the SmartPuck™ System.



Battery Level of the SmartPuck™ should be checked periodically to guarantee proper pressure levels.

# Introduction

The SmartPuck™ is a modular socket computer system that utilizes an electronic vacuum pump to create negative pressure inside the prosthetic socket. The SmartPuck™ improves the linkage between the residual limb and the prosthesis. The SmartPuck™ is equipped with an easy to use iDevice and application interface, allowing the user to quickly and easily set and adjust vacuum pressure settings of their prosthesis.

## SmartPuck™ System advantages include:

- Reduction in daily volume differences
- Improved proprioception
- Improved adhesion / suspension
- Reduction in the forces that are applied to the residual limb

## What's Included:

- |                                |                               |
|--------------------------------|-------------------------------|
| 1) SmartPuck™<br>Vacuum system | 5) Install screws             |
| 2) Charger                     | 6) Removal Screws             |
| 3) Magnetic Wand               | 7) FAB Dots                   |
| 4) Puck Lubricant              | 8) Filter Disks (1/2) Micron) |
|                                | 9) Instructions               |



## Unit Overview

**The SmartPuck™ System consists of the following key components:**

- SmartPuck™
- Socket (in which the SmartPuck™ is installed)
- Prosthetic Liner
- Air Wick
- Sealing Sleeve
- Distal Pad or Flexible inner liner

**NOTE: THE SMARTPUCK™ SYSTEM CAN ONLY BE USED WITH SLEEVE SUSPENSION. USE OF INTERNAL MECHANICAL SEALS SUCH AS SEAL-IN™ LINERS AND SIMILAR SYSTEMS WILL DAMAGE THE SMARTPUCK™ AND VOID THE WARRANTY.**

The SmartPuck™ creates an elevated vacuum in the space between the socket and the liner when the SmartPuck™ is activated. The user can configure and activate the SmartPuck™ through the use of an easy to use Smart Device APP or manually using the included Magnet. User configured settings in the Smart Device APP are wirelessly transmitted to the SmartPuck™ through a Bluetooth LE connection without the inconvenience of cables and connectors.



**CAUTION:** The socket **MUST** be fabricated following the SmartPuck™ socket fabrication technique. The use of other techniques may cause health risks for the patient.



**CAUTION:** Attempting to modify or use the SmartPuck™ System in any other configuration other than its intended use may cause health risks for the patient.

## Accessories

### SmartPuck Charger

The SmartPuck™ System comes equipped with a smart charger. The charger uses an air tight coupling to charge the SmartPuck's™ internal LiPO battery.

Once the prosthesis has been removed from the patient's residual limb, the charger should be inserted into the SmartPuck through a pre-fabricated hole in the socket

The charger's LED indicator will show a solid Amber color while the SmartPuck™ is charging. Once fully charged, the LED will illuminate Solid green.



**CAUTION: Using any other charger other than the one supplied with the SmartPuck™ System can result in damage to the product.**

### SmartPuck™ Smart Device Application

An application is available for the SmartPuck™ System and can be downloaded from the APP Store™ or Google Play™. The SmartPuck™ application provides an intuitive interface giving the user control over the various SmartPuck™ settings and controls as well as sensor readings. The application allows the user to preset settings which the SmartPuck™ will retain even in the absence of the Smart Device. Details of the Smart Device application are provided in the System Operation section of this manual.

### MagneticWand

If the user does not intend on using the SmartPuck™ Smart Device Application or an iDevice is not available, the SmartPuck's™ internal pump can still be activated using the Magnetic Wand. The Wand allows the user to turn the SmartPuck's™ pump on and off by simply waving the wand along the side of the Socket. Bringing the magnetic wand to the side of the socket while the pump is enabled will disable the pump. Performing the same task while the pump is disabled will activate the pump. Details of the Magnetic Wand are provided in the System Operation section of this manual.

### Quick start Kit

The quick start kit includes a Charger, Puck lubricant and vacuum sealant for installing the SmartPuck.™ 20mm Screw set to attach external components, 40mm screw set to remove the puck, Filter Disks to be used as a secondary filter for the SmartPuck.™, FAB Dots for use when Fabricating the socket and Instruction guides.

# Installation



**WARNING :** The user must be trained by the prosthetist or practitioner who will be performing the product fitting.



**WARNING:** Installation of the SmartPuck™ into the socket must be done by a certified prosthetic technician or practitioner who is fitting the user.

**For clinical or technical assistance please contact 5280 Prosthetics LLC (Certified Prosthetists on staff) Information :**

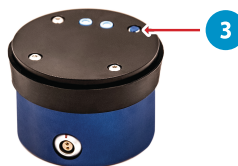
5280 Prosthetics LLC 1501 West Campus Drive, Suite J Littleton, CO 80120  
1-800-460-0288 [www.5280PROSTHETICS.COM](http://www.5280PROSTHETICS.COM)

## BEFORE STARTING:

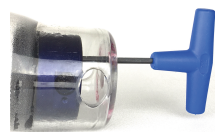
**Ensure the bottom external surface of the socket is parallel to the interior surface on the distal end of the socket. Proper socket fabrication ensures that there are no shear forces on the installation screws.**

## INSTALLATION

- 1) Lubricate the soft seal on the SmartPuck™ with Dow Corning 111 Vacuum sealant. Also be sure to lubricate the proximal aspect of the socket void (The area the valve will seat).
- 2) ONLY USE THE INCLUDED PUCK LUBE (DOW CORNING 111) - NEVER USE ANY OTHER LUBRICANT!
- 3) Orientate the SmartPuck™ such that the hall switch (magnetic ON/OFF) is located either anterior/medial LT leg OR posterior/medial RT Leg. Charge port will be medial. Orientation is discretionary.
- 4) Gently insert the SmartPuck™ into the void at the bottom of the socket. Make sure the soft seal does not roll up as the Puck is inserted. Align the four hole pattern and side hole as the Puck is pushed into place. There should be resistance as the Puck is pushed into place. This is the compression of the soft seal as it slides into the void. Ensure there is good even compression on the seal. The seal should appear to be a 1/2" solid wet looking band (when using clear socket material).



5) Use a 4mm wrench to rotate the puck such that the four hole pattern is aligned with the four hole pattern in the bottom of the socket.



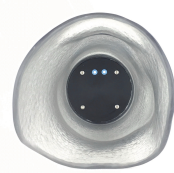
6) Secure SmartPuck™ into the bottom of the socket by connecting external hardware to the four hole pattern of the SmartPuck.™ Start with longer (30 mm) screws and tighten opposite screws to pull the Puck down into the void evenly.



7) Replace the 30mm screws with the 20mm screws included with the SmartPuck kit. Distal socket thickness should be 1/4". The SmartPuck only accepts a screw depth of .63". If adding thicker alignable components adjust screw length accordingly.

8) CAREFULLY wipe out excess lube around the Puck Lid.

9) DO NOT GET LUBE ON THE WHITE AND BLUE INTAKE FILTERS... THIS WILL CLOG THE SYSTEM!



**NOTE: Make sure the attachment component has a center hole. For best results: Use circular attachment components to reduce stress and better distribute forces to the bottom of the socket.**



**10) CRITICAL: Ensure the air exhaust hole is open to the ambient air.** This is where the SmartPuck™ reads the differential air pressure. There should be a center hole drilled in the bottom of the socket. Use connection components that have a center hole. We use American Prosthetics TI-400BIL pyramid or Bull Dog.



**11) Place the filter disk over the SmartPuck™ lid.** This 1/2 micron disk will protect the primary intake of the the SmartPuck.™ The Filter disk should be placed felt side down (facing puck lid).



- 12)** Place distal pad or flexible inner liner on top of the puck and filter disk. *Socket not shown for clarity.*



**NOTE:** When drilling the air through hole in the flexible liner drill the hole off center up the side of the flexible liner. This will act as a third filter system to catch debris before it can reach the filter located on the Puck lid. (An air wick may be necessary between the two sockets to facilitate vacuum flow).



## REMOVAL OF THE SMARTPUCK™

- 1)** Remove all external hardware including connection pyramid.



- 2)** Thread in 4-40mm removal screws (included) into the bottom of the SmartPuck™ through the four hole pattern in the bottom of the socket



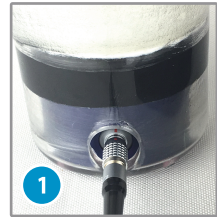
- 3)** Place the socket on the floor and apply your full weight to the top of the socket. This will slowly push the SmartPuck™ out of the void (this can take up to 20 seconds) Gently remove the SmartPuck™ never bang or pry the puck out of place. ANY DAMAGE ON THE BOTTOM OF THE PUCK VOIDS WARRANTY.



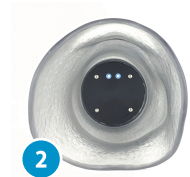


## DONNING INSTRUCTIONS

- 1) Charge the SmartPuck™ and Smart Device every night to make sure you have a full charge through out the day.



- 2) Place the filter disk on top of the SmartPuck™. This 1/2 micron disk will help prevent the pump inside the SmartPuck™ from getting clogged and reduce the number of times the primary filter has to be replaced.



- 3) Before donning the prosthesis make sure the distal end



pad or flexible inner liner has been placed on top of the SmartPuck™. This ensures that you have total contact on your residual limb which is very important for comfort and limb health. (Socket not shown for clarity.)

- 4) Don a urethane or silicone Liner. If the liner has a fabric exterior it will be necessary to reflect the top portion of the liner down your leg 3-4 inches to create a sealing surface. The sleeve can NOT seal to bare skin.



**Note:** Thermo-elastomer gel liners are not to be used with the SmartPuck™ System. The oil in these liners will clog your SmartPuck™ Vacuum Pump.

- 5) Apply an air wick or sheath over the liner so vacuum will flow over your entire residual limb. Leave the top portion of the liner uncovered, this will be the area to which your sealing sleeve is applied.

**Note:** Vacuum will flow over the area where the fabric or sheath is.



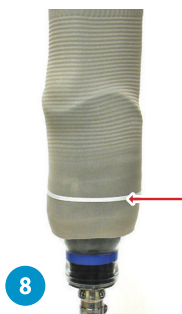
- 6) Insert residual limb into the socket system. The socket fit should be comfortable and provide total contact every where (especially at the bottom of the socket).



- 7) Apply the sealing sleeve. Make sure your sleeve is free of holes and has equal contact on both the socket and the upper portion of the liner. These are the only two areas leaks can occur. We recommend 3"-4" of direct sleeve to socket contact and 3"-4" of direct sleeve to liner contact. The air wick should not be on or in between either of these sealing areas.



- 8) Placing a elastic velcro band around the end of the sealing sleeve (on the socket) will minimize any leaks on the bottom portion of the sleeve/ socket seal.

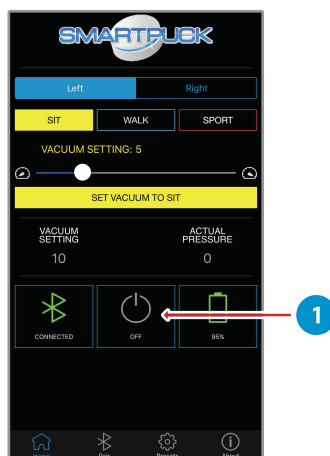


- 9) You are now ready to begin using your new SmartPuck™ System.



## REMOVING THE PROSTHESIS

**1) TURN OFF THE SMARTPUCK™ BEFORE REMOVING PROSTHESIS!**



## GETTING STARTED: APPLE™/GOOGLE™ SETUP

### WIFI CONNECTION ADVISED

- 1) CHARGE SYSTEM** Make sure the SmartPuck™ and iDevice are fully charged prior to patient fitting. We recommend an overnight charge.
- 2) SETUP APPLE or ANDROID DEVICE** (Insure the operating system is current.)
- 3) SETUP APPLE ID OR GMAIL ACCOUNT** Theses account s allow you access to Apple APP Store or Google Play where you can download the SmartPuck™ application and future SmartPuck™ features.  
*See instructional video at [www.5280prosthetics.com](http://www.5280prosthetics.com).*

### NOTE: SMARTPUCK™ APPS ARE FREE TO THE USER!

#### 4) ENSURE WIFI IS ENABLED

*See instructional video at [www.5280prosthetics.com](http://www.5280prosthetics.com).*

- 5) DOWNLOAD SMARTPUCK™ V2 APP** Go to the App Store on your device and down the SmartPuck™ App.

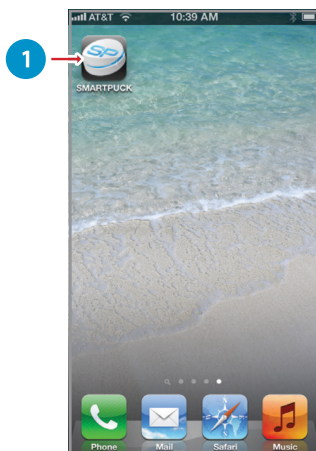
#### 6) TURN ON BLUETOOTH (THIS SHOULD BE ON ALREADY)

*See instructional video at [www.5280prosthetics.com](http://www.5280prosthetics.com).*

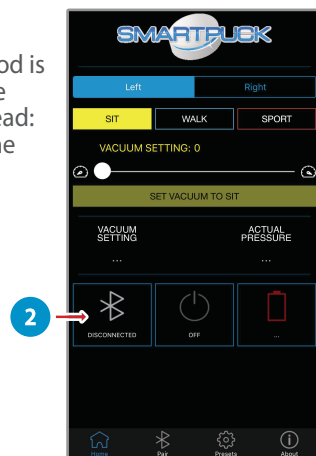
## SYSTEM OPERATION

### START UP PROCEDURE

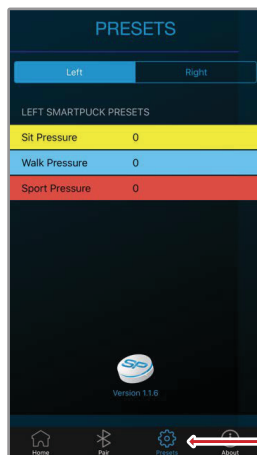
1) Tap the SmartPuck™ icon once to open the application.



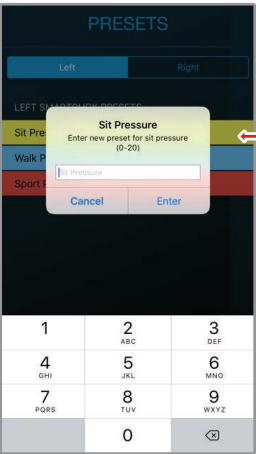
2) The SmartPuck™ App will open to the vacuum control screen. At this time the iPod is **NOT** connected to the Puck. The box in the lower left hand corner of the screen will read: **Disconnected**. The BLUETOOTH icon in the box is NOT illuminated.



3) Set the SIT, WALK and SPORT MODE Presets. Begin by touching the PRESETS button on the menu at the bottom of the screen.



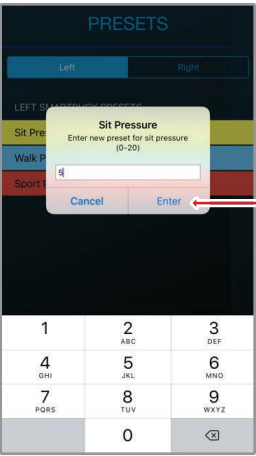
4) The settings page will appear. To get started touch the Yellow box to enter the Sit Pressure setting. The virtual key board will appear.



5) Enter the following values (just to get started)

**SIT -5      WALK -8      SPORT -12**

6) Touch Enter to set the desired value.



7) Ensure the highest vacuum setting (usually sport mode) at 12 in/hg or less initially. After you have determined the max vacuum level the mode setting can be changed.



Typically the max vacuum level for the SmartPuck™ is between 19-24 in/hg (depending on altitude).

8) Touch the HOME icon to return to the control screen.



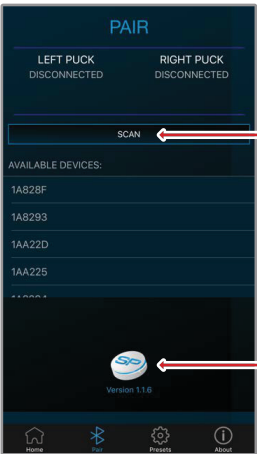
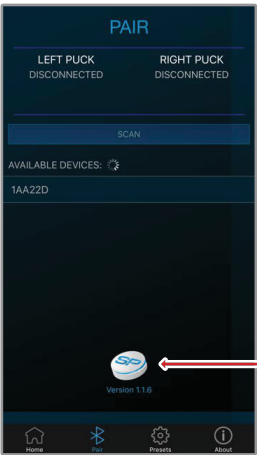
# CONNECTING BLUETOOTH

1) Touch the PAIR icon in the menu on the bottom of the screen.

**NOTE: Pair the SmartPuck to ONE device only. The SmartPuck will automatically pair with the closest device it has been paired to in the past.**

2) The APP will automatically begin scanning for Pucks within range.

3) Touch the scan button to manually search for SmartPucks within range.

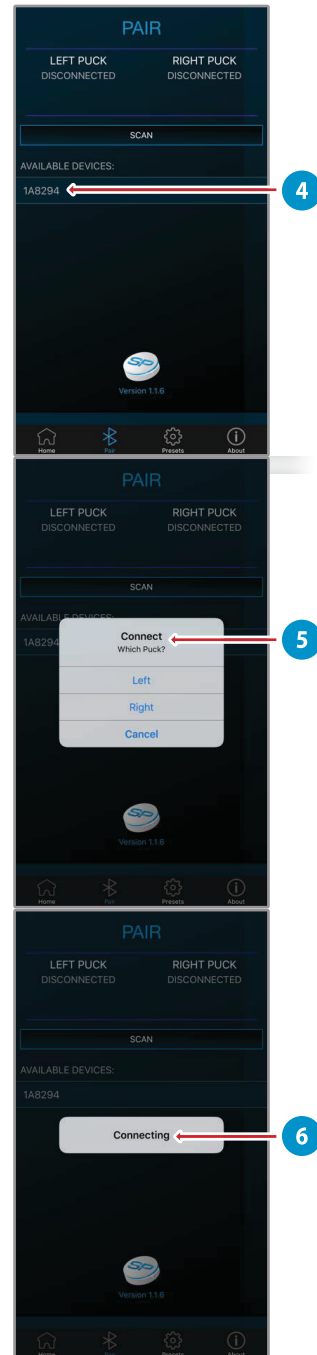


4) Select the desired SmartPuck Radio Number by touching the 6 digit ID.

5) The SmartPuck APP will ask the user to specify what side to connect to. Select either right or left.

**NOTE: The SmartPuck™ APP has the ability to control two pucks (independent of each other) at one time. Bilateral applications will require two separate linking procedures.**

6) The APP will display a connecting message.



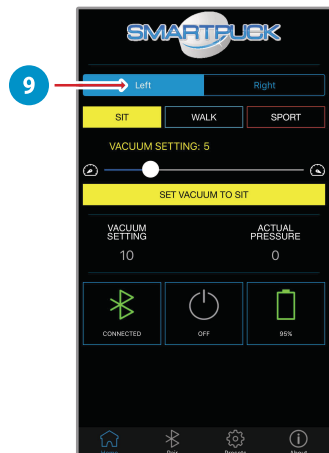
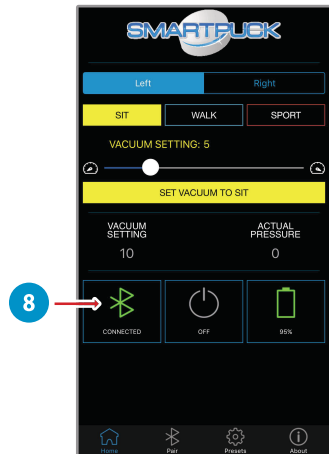
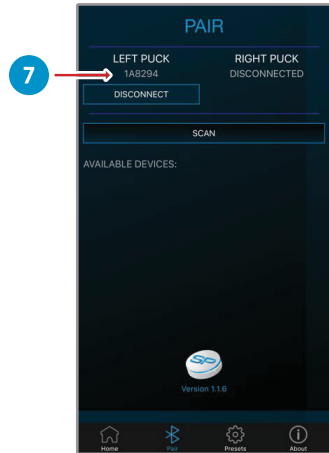
- 7) When the Device successfully connects to the SmartPuck,™ the Radio Number will be displayed under the Right or Left Puck Indicator on the PAIRING page.

**NOTE:** Once you connect the SmartPuck™ to the Right or Left side, the BLUETOOTH ID or Serial Number will no longer be visible when scanning for available devices

That particular SmartPuck™ is linked to the connected Device and is no longer able to connect to other devices. Do not pair the Puck with more than one device.

- 8) The Bluetooth icon will now be illuminated bright green and read "Connected" in the lower left box
- 9) The correct side must be selected (Right or Left) in order to accurately show the connectivity & battery status.

**NOTE:** The Battery Indicator is only active when the Puck is connected.



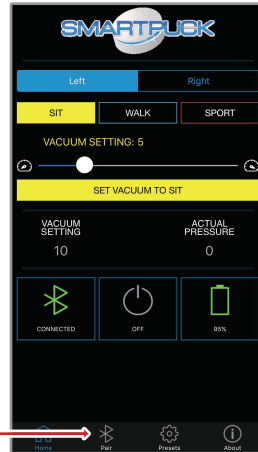


# DISCONNECTING BLUETOOTH

The SmartPuck can easily be disconnected from smart device by touching the DISCONNECT button below the selected Puck

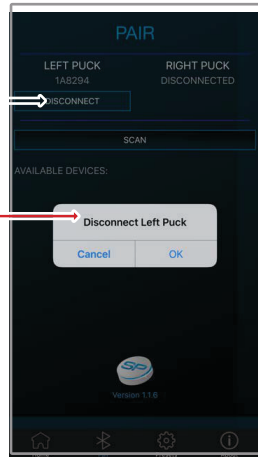
1) Touch the PAIR icon on the bottom menu of screen.

1



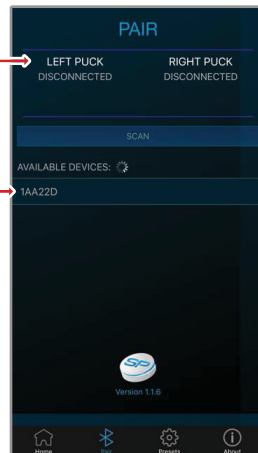
2) Disconnect the Right or Left SmartPuck.™ Bytouching the disconnect button under the appropriate puck.

2



3) A floating dialog will appear on the page prompting which side to disconnect.

3



4) **NOTE:** The six digit SmartPuck™ is now be available to connect with a different device or to be linked to the opposite side. (it may be necessary to hit the "SCAN" button again to find

4

# Operating Instructions

The prosthesis should be applied at this stage and the sealing sleeve properly secured such that no air can enter the top of the system.

The SmartPuck™ should be connected to the smart device via BLUETOOTH.

The SmartPuck™ will not allow air to enter the bottom of the socket.

**The ONLY place an air leak can occur is at the sleeve/socket linkage OR at the sleeve/Proximal liner linkage.**

## VACUUM PRESSURE SELECTION

Vacuum Pressure can be set by using the preset modes or by using the slider bar.

### PRESET MODES

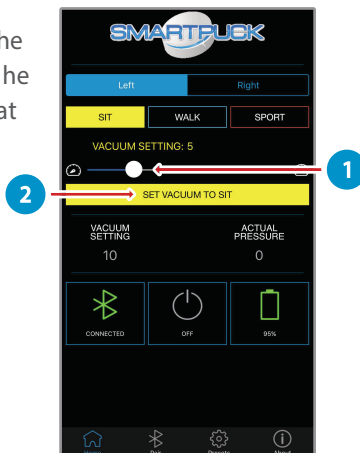
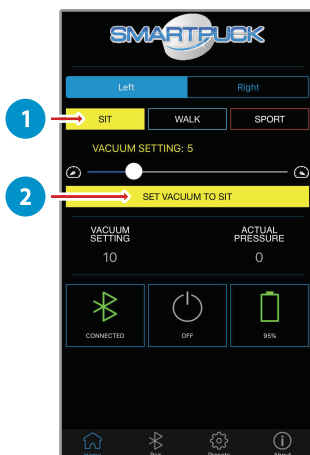
- 1) To use the vacuum presets simply touch the desired preset button (Sit, Walk, Sport)
- 2) Then touch the "SET VACUUM" Bar to confirm and enter the selection.

**NOTE:**The SET button must always be hit to enter a vacuum level change.

### SLIDER BAR

- 1) To use the slider bar, simply touch and hold the button and slide your finger to the right or the left. Release the slide button when you are at the appropriate vacuum level.
- 2) Then touch the "SET VACUUM" button to confirm and enter the selection.

**NOTE:**The SET button must always be hit to enter a vacuum level change.



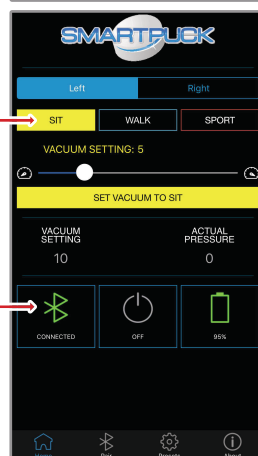
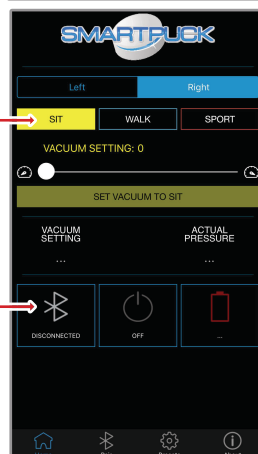
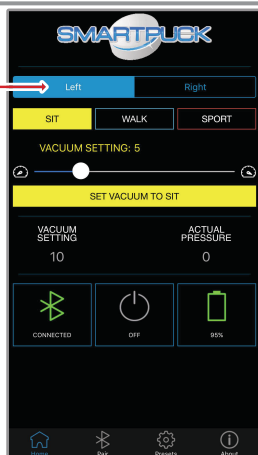
## CONFIRM CORRECT SIDE

- 1) Select the desired RIGHT or LEFT setting. The selected button will be blue.
- 2) Verify the SmartPuck™ is CONNECTED in the lower left hand corner of the screen.

- 3) If you toggle to RIGHT / LEFT button, the opposite side will read DISCONNECTED if there is not a puck connected to that side.

**NOTE:** The BLUETOOTH indicator is NOT illuminated because the RIGHT puck is not connected.

- 4) If you are connecting two SmartPucks™ such as with a bilateral application, both the RIGHT and LEFT buttons will read CONNECTED.



## RUNNING THE VACUUM PUMP

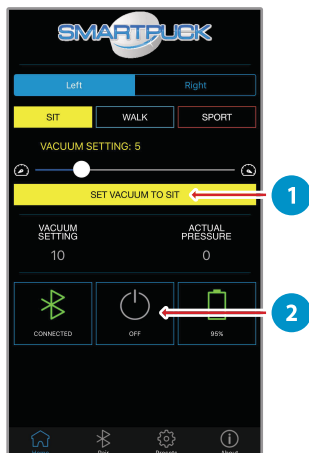
- 1) Set the vacuum setting to the desired Preset Mode OR move the slider to the starter setting to 8-10 in/hg.

This level of vacuum will evacuate the air out of the socket faster and help compress the liner to the sleeve and the sleeve to the socket.

Remember to hit the SET button.

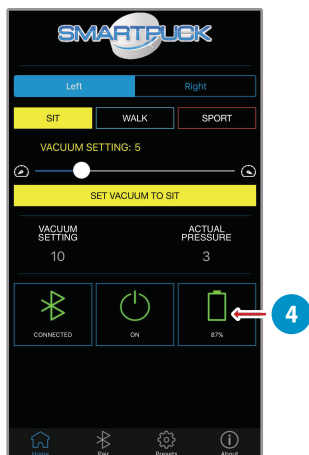
- 2) To turn the SmartPuck™ ON or OFF simply touch the ON/ OFF button in the center box toward the bottom portion of the screen.

**NOTE: ALWAYS TURN OFF THE SMARTPUCK BEFORE REMOVING PROSTHESIS.**



## INITIAL PUMP WIND UP

- 1) Once the SmartPuck™ is switched to the ON position:
- 2) The pump will run constant for a about 20-30 seconds and then shift to short bursts as it finds pockets of air trapped in various places in the system.
- 3) Massage the upper and lower sleeve to the liner to help solidify the exterior seal while the pump runs.
- 4) After the initial air evacuation the pump should go silent. The actual pressure reading should display a constant number (The selected and actual should read the same). The pump may go into short bursts as the user walks with the system evacuating the last air pockets.
- 5) Vacuum level should remain constant after a very short period of time. If the pump runs constantly or keeps cycling: (1) There is a hole in the sleeve (2) The sleeve is not adhered to the socket properly (3) The sleeve is not adhered to the liner properly.



Typically the pump will run one to two times every hour for a 1-2 second burst. This indicates that there is a good proximal seal.

**The ONLY place the socket can leak is at the proximal seal. The distal aspect of the socket is completely sealed. The sleeve will NOT seal to skin.**

## FINDING MAX VACUUM LEVEL *(perform this step while prosthesis is applied)*

- 1) Find the Max Vacuum level at your altitude. Start the pump at 13 in/hg.
- 2) Use the slide bar to select a vacuum level of 13. Hit the SET VACUUM button to confirm the level setting. Leave the Pump in the ON position.
- 3) Gradually bump up the vacuum setting 1 in/hg at a time. Allow the pump to run and stop once it has reached the appropriate level.
- 4) When the max vacuum level has been exceeded the pump will continue to run.
- 5) Back the pump setting down 1-2 in/hg this will be the max vacuum setting. We recommend saving this number as the SPORT mode setting.

**Typically max vacuum is:**

**SEA LEVEL 20-24 in/HG**

**ALTITUDE 17-20 in/HG**

## SHUT DOWN PROCEDURE

To turn off the SmartPuck™ touch the ON / OFF toggle switch in the upper right hand corner. OR Use the magnet to turn off the system.

**NOTE:** It is **NOT** necessary to disconnect the BLUETOOTH when turning off the App. We recommend leaving the BLUETOOTH linked all of the time.

**ALWAYS TURN THE SMARTPUCK™ OFF BEFORE THE PROSTHESIS IS REMOVED**

## AUTOMATIC PUMP SHUT OFF

The SmartPuck™ has an **automatic pump shut off**. If the pump runs constantly for 2 minutes, the system recognizes the leak and turns the system off.

## OPERATING PROTOCOL

There are two ways to use the SmartPuck™ system.

**ACTIVE:** Set the vacuum level and leave the SmartPuck™ App in the ON position. This method will maintain the specified vacuum level all day long. The system will drop 1-2 in/hg and then restart the pump to reach the selected vacuum level. The primary factor with this method is the residual limb will be under constant STEADY vacuum (no fluctuation in pressure). With this method most patients choose a Medium level of vacuum, typically 8-12 in/HG.

**SLEEPER:** Set the vacuum level to the desired amount of vacuum. After the selected vacuum level has been reached TURN OFF the SmartPuck™ App (on/off toggle center bottom box of screen). The vacuum level will bleed down naturally over the course of the day, however, the system is very efficient and the vacuum level should hold for long periods of time. The user simply turns on the vacuum pump when more vacuum is needed. This protocol extends battery life and can be more discreet for the user.

## BLUETOOTH CONNECTIVITY INSIGHT

The SmartPuck™ utilizes low power BLUETOOTH 4.0 to communicate with most smart Devices.

Do not disconnect the BLUETOOTH from the SmartPuck.™ We recommend leaving it connected all the time.

The SmartPuck™ will auto connect to the Smart Device when it is in range (provided the device has been CONNECTED to the Puck).

**Re open the APP & Allow 20 to 30 seconds** for the BLUETOOTH to re-connect.

It may be necessary to RE-CONNECT the puck BLUETOOTH to the Smart Device if either the Smart Device or Puck battery goes dead.

If the puck does not Auto Connect:  
Cycle the App by returning to the home screen and re-open the SmartPuck™ App.

The SmartPuck™ (when in the on position) will continue to function and hold the selected vacuum level regardless if the Smart Device is connected or not.

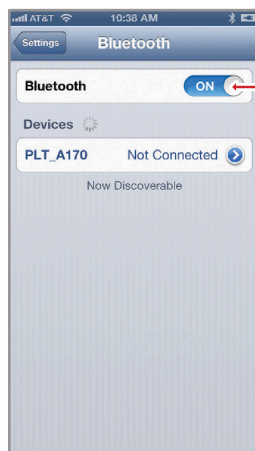
When fitting Bilateral SmartPuck™ systems we recommend recording both Radio numbers such that when connecting the Pucks to the right and left Pucks can be identified when linking to the APP.

## BLUETOOTH

**1)** To activate BLUETOOTH on your device: Touch the settings button on the home screen.

**2)** Touch the BLUETOOTH button.

**3)** Turn BLUETOOTH on.

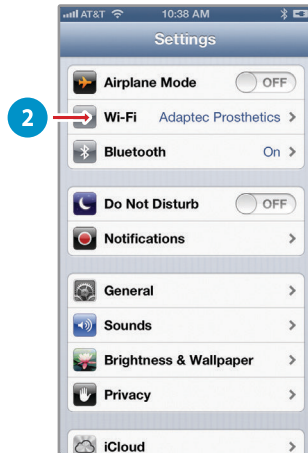


## WIFI (Use WIFI to down load the APP)

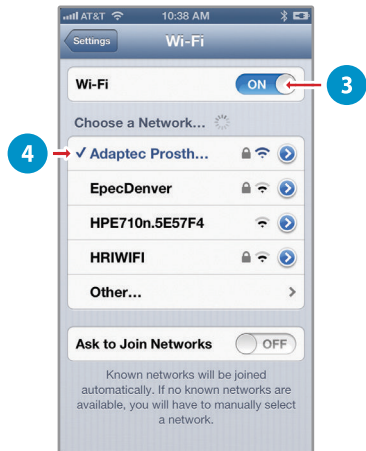
- 1) To activate WIFI on your device: Touch the settings button on the home screen.



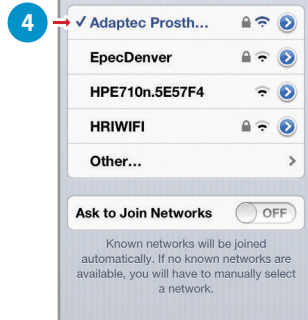
- 2) Touch the WIFI button.



- 3) Turn WIFI on.



- 4) Select the network you would like to join.



## CHARGING

The SmartPuck™ is equipped with an internal LiPO battery which will provide power to the SmartPuck™ as long as it is charged. Before attempting to use the SmartPuck™ first make sure the battery is fully charged.

In order to ensure proper SmartPuck™ operation, it should be charged every night by using the included charger.



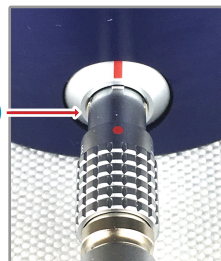
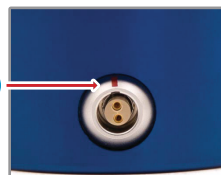
**NOTE: NEVER CHARGE THE SMARTPUCK WHEN THE PROSTHESIS IS ON THE PATIENT.**

- 1) To charge the SmartPuck™ locate the red charger alignment dots on both the Puck charge port and on the charge plug.



**NOTE: THE CHARGE PLUG KEYS INTO THE PUCK ONLY ONE WAY. THE RED DOTS MUST BE ALIGNED!**

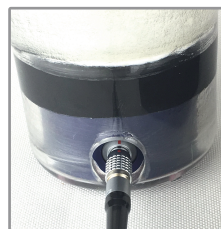
- 2) FULLY insert the charger into the Puck Housing into the charge base. The charger will lock into place
- 3) Once the SmartPuck™ has reached a full charge, the LED indicator on the SmartPuck™ PowerStick™ will illuminate a solid green non flashing pattern.



### CHARGE LIGHT STATUS:

**SOLID AMBER = CHARGING**

**SOLID GREEN = COMPLETE CHARGE (5-6 hours)**





## DISCONNECTING THE CHARGER

**1)** Pull back the knurled collar on the silver adaptor on the end of the charge cord.



**2)** If the unit has a lanyard loop on the silver charger plug, simply pull the lanyard back (away from the puck) to disengage the charger.



**NOTE:** DO NOT PULL ON THE CORD TO REMOVE THE CHARGER. NEVER TWIST OR USE TOOLS TO REMOVE CHARGER. THIS WILL VOID THE WARRANTY.

**NOTE:** If the charger does not indicate a light or is blinking the charger may be damaged. Discontinue use and contact medical provider.

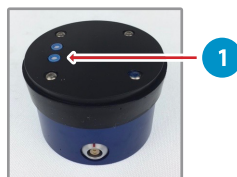
## HALL SWITCH OPERATION

(Magnetic ON/ OFF Switch)

### LOCATION

1) The Hall switch position is marked on the lid of the SmartPuck with a Blue Dot. The Dot should be positioned anterior/medial corner of the socket (for easy access and line of sight).

The actual switch is located in the middle of the puck (measure up 3/4" from the bottom of the Puck).



### OPERATION

1) Slide the magnet over the side of the Puck in the location described above in one single fluid motion. This motion will turn the pump ON.

2) Repeat the same procedure to turn the Puck OFF



**The Puck will vibrate 1X = SmartPuck is ON.**  
**The Puck will Vibrate 2X = SmartPuck is OFF.**

### VACUUM LEVEL

The SmartPuck will default to the last vacuum setting that was entered into the Puck. The SmartPuck will remember and maintain the last vacuum setting that was entered into the system.

See your Mobile APP under the ABOUT TAB for a detailed Video on how to use this function.

# MESSAGES

The SmartPuck™ will communicate with the user through messages sent to the Smart Device.

- Battery low indicator
- Connection lost indicator

# Maintenance / Cleaning Instructions

- Replace the secondary filter disk on a regular basis (1x per month) or as needed.
- If pump function decreases the pump should be sent back to 5280 Prosthetics for evaluation and repair. Pump repairs and debris removal are NOT a warranty item.
- The filter on the SmartPuck™ can be replaced as needed. IT IS CRITICAL NO DEBRIS GETS INTO THE INTAKE
- There is no sterilization required for any components of the SmartPuck™ System.



**CAUTION:** The SmartPuck™ Must NEVER be submerged in water or any other liquid for any length of time.

# Environmental

<b>Ingress Protection Rating</b>	IP52
<b>Operating Temperature</b>	-40 – 85 degrees C

# Tips and Tricks

1) To minimize the chance for air leaks between the sealing sleeve and the socket — place a elastic velcro strap over the distal aspect of the sleeve to improve the air seal between the sleeve and socket.

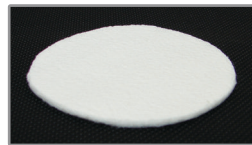


2) Reflect fabric covered liners down at least 3" to create a viable sealing area .



3) Never try to seal the sleeve to bare skin

4) Replace the secondary filter disk on a regular basis or as needed.



5) ONLY use Puck lubricant when installing a Puck. Dow Corning 111. Any other lubricant will dry up and lock the Puck into place permanently.



## Characteristics

<b>Pressure Range</b>	20 in HG maximum (dependent on altitude)
<b>Accuracy</b>	+/- 1 in HG
<b>Precision</b>	1 in HG

# Electrical Specifications

## SmartPuck™

<b>Operating Voltage</b>	3.7VDC Typ.	
<b>Operating Current</b>	20mA minimum	300mA maximum

## Battery

<b>Battery Technology</b>	Rechargeable Lithium Polymer Battery
<b>Battery Capacity</b>	1000mAh
<b>Battery Model</b>	
<b>Time Between Charges</b>	24 hours max

## PowerStick™

<b>Input Voltage</b>	100VAC minimum	240VAC maximum
<b>Input Frequency</b>	47Hz minimum	63Hz maximum
<b>Input Current</b>	0.6A maximum	

# Liner Configurations / Recommendations

Any liner configuration can be used with the SmartPuck.™ This includes:

- Any silicone or urethane liner with an available sealing surface of 3" or more. (Used with a sealing sleeve configuration)
- The Otto Bock™ Anatomic 3D PUR liner is a great polyurethane choice.

Liner reflection method (for use with fabric covered liners): We primarily use Ossur™ Dermo / Activa liners with a sleeve suspension. The liner is left long and the top half of the liner is reflected down such that the silicone faces outward. The suspension sleeve is then rolled onto the reflected liner portion (at least 3" of sealing surface) to solidify the air seal.

We **DO NOT** recommend thermo elastomer gel liners or any gel liner for vacuum systems.

**DO NOT USE ANY TYPE OF INTERNAL MECHANICAL SEAL LINER SUCH AS SEAL-IN™ OR AURA SLEEVES™**

# Sleeve Recommendations

The general rule for sleeve selection is to choose sleeves that are tight and sticky.

Remember we are trying to keep air molecules out of the socket this needs to be an intimate fit!

We recommend the following sleeves:

- Ossur™ Icross Sleeve
- ThermoPly Sleeves
- OttoBock ProFlex Sleeve (must remove powder)

## Warranty Terms

5280 Prosthetics, LLC warrants all of its products and services, to the original purchaser, to be free from defects in materials and workmanship. This warranty applies, subject to normal wear and tear, when the products are used as intended, without modifications, and following all of 5280 Prosthetics, LLC instructions and requirements.

The duration of our Limited Warranties is 12 months effective from the date of receipt. 5280 Prosthetics, LLC's sole obligation under this Limited Warranty shall be to repair, replace, or refund the cost of the item to the original purchaser, at 5280 Prosthetics's sole discretion.

This limited warranty does not cover : Clogged or obstructed electric pumps/plumbing, damage due to accidents, pump failure due to inadequate filtration/pump maintenance, neglect, misuse, operation beyond capacity, use of internal mechanical seals, parts damaged by improper installation/removal, any alteration or repair by other than, in 5280 Prosthetics, LLC judgment, materially or adversely affects the product. Damage to the Puck from trying to pound or pry the Puck out of the socket (scratches, dents, evidence of tool use completely void the warranty of the device.

Use of this product is not a guarantee against injury. This Limited Warranty excludes liability for any personal injury, property damage, or special, incidental, or consequential damages arising out of, related, or incident to use the product, even if 5280 Prosthetics, LLC has been advised of the possibility of such potential loss or damage, unless state law otherwise precludes this exclusion.

## Return Policy

Please inspect all orders immediately upon receipt. In the event items were ordered or shipped in error, you must notify 5280 Prosthetics, LLC for a return authorization number. 5280 Prosthetics, LLC must be contacted within five (5) business days of the receipt of the items.

No returns will be accepted without prior authorization. Due to the computerized nature of the SmartPuck™ product and agreements with Apple Inc™ the SmartPuck™ can not be returned if the packaging has been opened. Please call 800-460-0288 to obtain a Return Authorization number.

When returning a product for credit or replacement, please provide either the original or a copy of the invoice or packing slip.

Credit or replacement of goods is subject to inspection and evaluation. 5280 Prosthetics, LLC will not issue a credit or replace any products returned to 5280 Prosthetics, LLC that are not in new or salable condition. The determination about whether returned products are new or salable will be made at 5280 Prosthetics, LLC sole discretion. Altered products are not returnable.

## 5280 PROSTHETICS, LLC

1501 WEST CAMPUS DRIVE, SUITE J | LITTLETON, CO 80120

1(800) 460-0288 | [www.5280Prosthetics.com](http://www.5280Prosthetics.com) | [www.SmartPuck.net](http://www.SmartPuck.net)

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