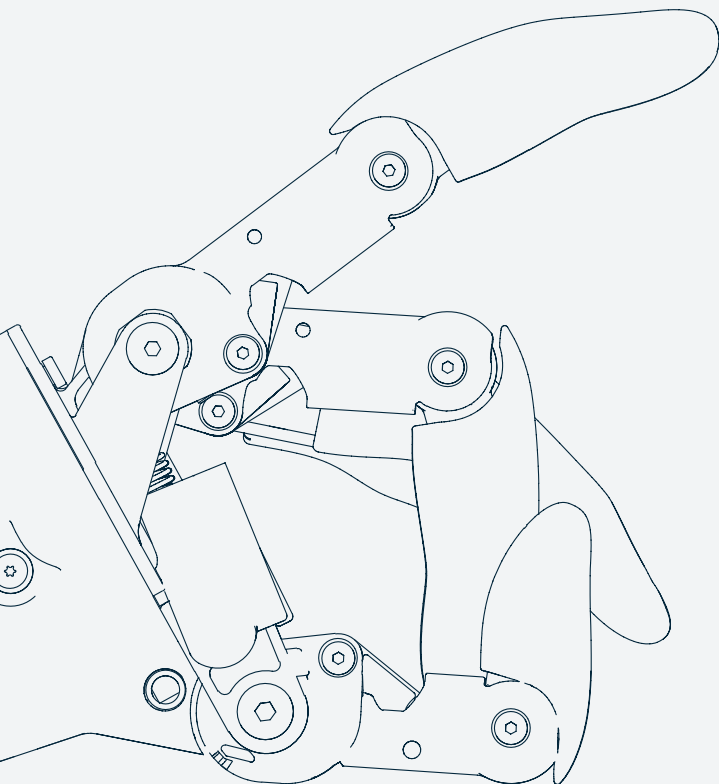


# Service manual

# MyHand

Revision: 02 — Date: June 2019



user id:		#45
product nr:		
date of manufacture:		

# Table of Contents

1	Introduction	4
	1.1 Dimensions and specifications	5
	1.2 MyHand Check list	6
2	Prosthesis and third party components	6
	2.1 Electrodes/Myo sensors	7
	2.2 Batteries	7
	2.3 Replacement of fingers	7
	2.4 Replacement of fingers pads	8
3	MySkin prosthetic glove	8
	3.1 Fitting	8
4	Connections and Compatibility	8
5	Disposal	8
6	Troubleshooting	9
7	Safety and Cautions	10

# 1. INTRODUCTION

This document provides instructions for fitting and service of MyHand, and should be read in full prior to fitting or servicing. It is highly recommended that the use of this manual is in conjunction with instruction from a clinician experienced in upper limb and myoelectric prosthesis.

## Read this document thoroughly before doing any service on MyHand.

It is recommended to also read the MyHand User Manual.

The Hy5 MyHand is intended for any individual adult with an amputation and dysmelia. The size of the prosthetic hand is equal to a male size 7  $\frac{3}{4}$ , but can be used by both genders independent of height, weight, physics and age.

**Regular maintenance schedule for MyHand shall be every 6 months.**

# 1.1 DIMENSIONS AND SPECIFICATIONS

## Principal dimensions

Maximum opening - thumb opposed to index finger	118 mm
Thumb swing through angle (opposed to non-opposed)	70°

## Performance specification

Maximum power grip	120 N
Maximum tripod grip	60 N
Minimum time to open/close: power grip	1.3 Sec.
Minimum time to open/close: tripod grip	1.3 Sec.
Maximum static load: hook grip	40 kg
Maximum load individual finger - hook grip	20 kg
Fingertip extension load	8 kg
Weight	575 g
Size	7 $\frac{3}{4}$

## Battery

Maximum current	5A
Voltage	7.2V
Battery capacity	rechargeable lithium polymer, 2000mah

## Environmental conditions

Storage and transport in original packaging	+5°C to +35°C / +41F to +95F
Storage and transport without packaging	+5°C to +35°C / +41F to +95F
Operation	+5°C to +35°C / +41F to +95F

## 1.2 MYHAND SERVICE CHECK LIST

The following checks can be made to identify if the hand needs to be returned to Hy5Pro AS for maintenance:

- 1. Check the hand turns on/off reliably.**
- 2. Check hand closing time < 1,5s.**  
How: Use video camera to time several closing sequences, from fully open to point of first contact
- 3. Check hand switches to high power mode**  
How: Use battery pack to perform pinch grip around your open hand. If the pinch force becomes uncomfortable, this is a clear indication that high power mode is functional. Stop gripping before the hand exhibits excessive force
- 4. Check for any signs of oil leaks**  
How: Examine closely for oil in the following locations:
  - Around oil-filling screws
  - Around edge of mounting frame
  - Around emergency release switch
  - Around edge of quick disconnect
  - Around cylinder rods
- 5. Check for any visible signs of damage**  
How: Check all around the hand for any signs of broken or deformed components
- 6. Check fingers move freely**  
How: Rotate each finger joint individually. Each joint should spring back under spring-force, and there should be no rubbing or grinding in the joint
- 7. Check emergency valve functions as intended - both open and close**  
How: Close hand using battery pack. Open emergency release switch - fingers should open. Close emergency release switch, and close hand again.
- 8. Check quick disconnect connects/disconnects in a reliable manner**  
How: Use battery pack to check reliable connect/disconnect. Hand should not switch off when quick connect is rotated and hand is on

If the hand fails on any of these points, it should be returned for maintenance.


## 2. HY5 PROSTHESIS & THIRD PARTY COMPONENTS

The third party components that the MyHand needs in order to work includes;

- Socket
- 5A battery
- 2 myo sensors.

MyHand is connected to the socket with the quick disconnect. A MySkin size 7 ¾ shall be used on the hand at all time. A complete User Manual is delivered with MyHand.


### 2.1 Electrodes/Myo sensors

 CAUTION! — MyHand needs 2 myo sensors to operate.

When the MyHand is connected to the socket, the user shall operate the hand for a few minutes to clarify whether the myo sensors need sensitivity adjustments. The feedback from the user allows for optimizing the myosensors to the users' personal preferences. When the sensors are optimized to the user, the user shall be given some more minutes to operate and get familiar with the new hand. MyHand is ready for use.

The battery is located inside the socket, and is not delivered by Hy5Pro AS.

### 2.2 Batteries

 CAUTION! — Only a **5A battery** should be used with MyHand. Use of other battery systems will result in poor performance of MyHand.

### 2.3 Replacement of fingers

DOC 1014 Assembly Process Hy5

- DOC 1312 Sub-assembly Process MyHand Thumb
- DOC 1308 Sub-assembly Process MyHand Finger

## 2.4 Replacement of Finger Pads

The partial finger pads for thumb, index -and middle fingers, can easily be replaced. First remove the glove. Then put two fingers around the pad and pull in a straight direction with the finger. The pad will slide off smoothly. New pads can be pushed on in a straight direction until they stop.

## 3. MYSKIN PROSTHETIC GLOVE

MyHand shall always be used with a MySkin glove. Use only size 7  $\frac{3}{4}$ , and ensure that the glove is fitted properly.

### 3.1 Fitting

1. Invert the glove to the level of the finger openings.
2. Ensure the fingers are straight.
3. Align the covering finger holes with the digits of the hand.
4. Pull down onto digits of the hand.
5. Position thumb opening over thumb digit
6. Pull the glove over the remainings of the MyHand.
7. Inspect the glove ensuring the finger tips are fully fitted against the digit tips.
8. Check that the MyHand functions are in place. Open and close the hand.

## 4. CONNECTIONS AND COMPATIBILITY

There is currently one wrist option for MyHand. The electric Quick Disconnect (QDC) allows the hand to be attached with a 45-degree rotation, and to be quickly removed with a 360-degree rotating action.

## 5. DISPOSAL

When disposing of MyHand, please return it to Hy5Pro AS.

## 6. TROUBLESHOOTING

MyHand does not operate

- Ensure that MyHand is switched ON
- Ensure the battery is charged and connected properly
- Ensure that MyHand is fully engaged at the wrist
- Check the electrodes have good contact with the skin
- Check the electrode cable is correctly fitted to the electrode

MyHand stops halfway through an action

- Electrode settings may need adjustments
- Check the electrode cable is not damaged
- Check the battery cable is not damaged

User reports My-Hand is difficult to operate


- Electrode settings may need adjustment
- Ensure the electrodes maintain good contact with the skin
- Check electrode placement and wiring
- Ensure the battery has good charge

MyHand opens when a close signal is given

- Swap input signals or switch the electrode connections on the coaxial plug

**If problems continue please contact your local supplier or Hy5Pro AS, [www.Hy5.no](http://www.Hy5.no)**

## 7. SAFETY AND CAUTIONS

 **CAUTION!** — Failure to comply with the guidelines below will invalidate the warranty.

Hy5 accepts no responsibility for any damage or injury caused by improper use.

- Do not subject MyHand to excessive loads
- Always use with MySkin
- Do not use in water
- Do not use to operate heavy / industrial machinery
- Do not use machinery with moving parts that may cause personal injury or damage.
- Users must comply local regulations on the operation of automobiles, aircraft, sailing vessels of any kind and any other motorized vehicle or device
- Do not use MyHand for extreme activities that may cause injury to a natural hand
- Do not expose to excessive moisture, liquid, dust, vibration or shock
- Do not expose to high temperatures
- Do not expose to flames
- Do not use or expose to explosive atmospheres
- Do not disassemble componentry or modify in any way
- Maintenance, repairs and upgrades may only be performed by qualified Hy5 technicians and technical partners
- Do not use with a damaged glove
- Do not use while batteries are charging



### FDA

Hy5 is registered with the United States Food and Drug Administration for the manufacture and supply of prosthetics and orthotics Products

FDA Registration Number: 3014936213



### CE mark

Declaration of conformity according to the applicable European directives



### Legal manufacturer

Hy5Pro AS, Raufoss Industripark, Bygning 100, 2830 Raufoss, NORWAY



### Storage Temperature Limit:

5°C/41F to +35°C/95F

