CAUTION: This Cardinal Health™ ALLY™ NPWT Clinician User Manual is not a guarantee or warranty. It is intended only as an operational guide. For additional information and questions, please contact Cardinal Health Customer Service at 1.866.484.6798.

In order for the Cardinal Health™ ALLY™ to provide safe, reliable, and proper performance, the following conditions must be met. Failure to comply with these conditions will void all pertinent warranties.

• There are no user serviceable components in the ALLY™. All assembly, modification, maintenance and/or repair of the ALLY™ other than basic cleaning must be carried out only by qualified personnel authorized by Cardinal Health.
• The electrical installation of the room in which the ALLY™ is used complies with the appropriate electrical standards.
• The ALLY™ must be used in accordance with this Clinician User Manual and all associated labeling.
• Any ALLY™ that does not function as expected must be returned to Cardinal Health.

CAUTION: Federal law restricts this device to sale by or on the order of a physician. As with any prescription medical device, failure to follow instructions or changing settings and performing therapy without the express direction and/or supervision of a trained clinical caregiver may lead to improper product performance and the potential for serious or fatal injury.
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1. Introduction

The Cardinal Health™ ALLY™ system is comprised of the ALLY™, the NPWT Dressing Kit, the NPWT Canister and the A.C. Power Adapter.

In order to assure the highest safety, quality and efficacy, the Cardinal Health™ ALLY™ should only be used with the Cardinal Health™ NPWT Dressing Kits and Cardinal Health™ NPWT disposables. Use of any other brand of wound dressings are not compatible with the ALLY™ and are not recommended.

1.1 Indications for Use

The ALLY™ system is an integrated wound management system, indicated for the application of continuous or intermittent negative pressure wound therapy. The ALLY™ may promote wound healing by the removal of fluids, including wound exudates, irrigation fluids, body fluids and infectious materials. The ALLY™ system is intended for patients with chronic, acute, traumatic, subacute and dehisced wounds, partial-thickness burns, ulcers (such as diabetic or pressure), flaps and grafts. The ALLY™ system is intended for use in acute, extended and home care settings.
1.2 Contraindications
The Cardinal Health™ ALLY™ is contraindicated for patients with malignancy in the wound, untreated osteomyelitis, non-enteric and unexplored fistulas, or necrotic tissue with eschar present. Do not place the Cardinal Health™ NPWT Dressing over exposed blood vessels or organs. The Cardinal Health™ NPWT Dressings are also contraindicated for hydrogen peroxide and solutions which are alcohol based or contain alcohol. It is not recommended to deliver fluids to the thoracic cavity.

1.3 Precautions
Precautions should be taken for patients with infected wounds, active bleeding, difficult wound hemostasis, or who are on anticoagulants. When placing the foam from the NPWT Dressing Kit in close proximity to blood vessels or organs, take care to ensure that they are adequately protected with overlying fascia, tissue or other protective barriers. Exposed tendon, nerves or blood vessels should be protected by moving available muscle or fascia over them or by a layer of synthetic material. Greater care should be taken with respect to weakened, irradiated or sutured blood vessels or organs. Bone fragments or sharp edges could puncture the polyurethane drape from the dressing, a blood vessel or an organ. Wounds with enteric fistula require special precautions in order to optimize negative pressure wound therapy.

- **Defibrillation:** Remove the NPWT Dressing if defibrillation is required in the area of dressing placement. Failure to remove the dressing may inhibit electrical current transmission and/or patient resuscitation.
- **Magnetic Resonance Imaging (MRI):** The ALLY™ is not MRI-compatible. Do not take the ALLY™ into the MRI area.
- **Hyperbaric Oxygen Therapy (HBO):** Do not take ALLY™ — whether on or off — into a hyperbaric chamber. Clamp the tubing and disconnect the ALLY™ prior to HBO treatment. To clamp the tubing, ensure the top of the clamp is centered on the black line on the tubing approximately four inches from the Twist N' Connect™ end of the tubing (Figure 17).
- **DO NOT USE** for infants, pediatric patients, any other patients with low fluid volume or patients at high risk of major hemorrhage.
- During negative pressure wound therapy, the ALLY™ and NPWT Dressing Kit comprise a closed system and are NOT vented to atmosphere.
- When the NPWT Canister is full, replace immediately. Wound exudate is not removed from dressing if the canister is full. See 3.3 Removing the NPWT Canister and 3.2 Inserting the NPWT Canister.

1.4 Safety Tips
**Keep Therapy On**
The ALLY™ should be operated at least 22 hours out of every 24 hour period. Remove the Dressing if therapy is terminated or is off for more than two hours in a 24 hour period.

**Dressing Changes**
Clean the wound per physician order prior to dressing application. Routine dressing changes should occur at least every 48 to 72 hours. Dressing changes for infected wounds should be accomplished more frequently than 48 to 72 hours. Follow established facility protocols regarding clean versus sterile technique.
**Monitoring the Wound**
Inspect the dressing frequently to ensure that the foam is collapsed and that negative pressure wound therapy is being consistently delivered. Monitor wound exudates for signs of active bleeding. Monitor peri-wound tissue and exudate for signs of infection or other complications.

Signs of possible infection may include fever, tenderness, redness, swelling, itching, and rash, increased warmth in the wound area, sudden increase in pain, purulent discharge or a strong odor. Nausea, vomiting, diarrhea, headache, dizziness, fainting, sore throat with swelling of the mucous membrane, disorientation, high fever, refractory hypotension, orthostatic hypotension or peri-wound induration (redness and increased skin temperature around wound) may be added signs of more serious complications of infection. If any sign of infection is noted, discontinue the use of the ALLY™ system until the infection is diagnosed and properly treated.

**Discomfort**
If patient complains of discomfort during dressing change, consider pre-medication, use of a non-adherent wound contact layer such as white foam prior to black foam placement in the wound or irrigation of a topical anesthetic agent such as 1% Lidocaine prior to dressing removal.

**Unstable Structures**
Use the lowest Pressure Setting on ALLY™ over unstable body structures such as unstable chest wall or non-intact fascia.

**Spinal Cord Injury**
In the event a patient experiences autonomic hyperreflexia (sudden elevation in blood pressure or heart rate in response to stimulation of the sympathetic nervous system), discontinue the use of the therapy to help minimize sensory stimulation.

**Underlying Structures**
Underlying structures must be covered by natural tissues or synthetic materials that form a complete barrier between the underlying structures and the Dressing.

**NOTE:** All dressing components of the NPWT Dressing Kit are packaged sterile. The decision to use clean versus sterile/aseptic technique is dependent upon wound pathophysiology and physician/clinician preference. All components of the NPWT Dressing Kits are not made with natural rubber latex.

Be sure to comply with **1.2 Contraindications** and **1.3 Precautions**.

**CAUTION:** Do not pack the NPWT foam dressings into any areas of the wound. Forcing dressings into any wound compromises negative pressure wound therapy and wound healing.
1.5 Features

**Simple Operation:** Negative pressure wound therapy activation and changing of Pressure Settings can be accomplished with the push of a button. Pressure Settings can be locked by the clinical caregiver (4.4 Negative Pressure Wound Therapy Lock/Unlock). Lights next to the Pressure Settings clearly indicate current therapeutic settings.

**Lightweight/Impact Resistant:** The ALLY™ weighs only 0.4kg (0.9 lb.) and can be easily carried. The cover of the ALLY™ is impact resistant to help prevent damage from dropping.

**Noise:** The ALLY™ is quiet in its normal operation with a well-sealed dressing.

**Battery:** An internal battery in the ALLY™ provides up to 24 hours of operation from a single full-charge. The battery charges while ALLY™ is plugged into an outlet with the A.C. Power Adapter. If the battery charge is less than 20 percent, a “3” shows in the Alert Display and the ALLY™ beeps three times.

**Power/Charging Status:** Indicates the ALLY™ is charging the internal battery.
**Intermittent Mode:** The ALLY™ can be set to operate intermittently (5-minute on/2-minute off cycle). The ALLY™ maintains pressure at -25 mmHg during 2-minute “off” cycle to prevent loss of dressing seal.

**Alert Display:** Automated alerts for Low Pressure/Leak, Canister Full/Blockage, Low Battery, and Service Timer. Alerts are both visual and audible. Alerts self-reset once the problem is corrected or can be manually reset by turning the ALLY™ off and then back on. Audible alerts can be muted for five minutes by pressing and holding the ON button until a series of beeps is heard. The alert continues to flash in the Alert Display while the ALLY™ is muted.

**NOTE:** Alert 4 cannot be silenced or reset. See 4.8 Troubleshooting.

**Tubing with SpeedConnect™:** Eight foot dual lumen tubing set with an adhesive SpeedConnect™ makes connection to the dressing easy.

**Canisters:** The 300cc canister is available with or without gel solidifier. The 500cc canister comes with gel solidifier. Both canisters can be used for normal and highly exudating wounds.

**CAUTION:** Monitor patient status continually. DO NOT USE for infants, pediatrics or other patients with low fluid volume or for patients at high risk of hemorrhage.
2. Care & Cleaning

Carefully read 1.3 Precautions and 1.4 Safety Tips before cleaning the ALLY™.

Standard Precautions should be used to minimize the risk of infection and contact with contaminated blood or bodily fluids during the dressing changes and cleaning of the ALLY™. It is important to protect all exposed skin and mucous membranes by using Personal Protective Equipment (PPE). PPE includes:

- Disposable gloves
- Protective eyewear
- Protective mask
- Disposable impervious gown

2.1 Cleaning

Perform a visual inspection of the ALLY™. Check for any signs of contamination or fluid going into the canister ports. Ensure that the ALLY™ is functioning properly. If the ALLY™ is not operating properly, refer to the Troubleshooting guide in section 4. Operating Instructions or contact Cardinal Health at 1.866.484.6798.

To help reduce the risk of infection and contact with contaminated blood and bodily fluids, it is recommended to wear personal protective equipment (PPE) when cleaning the ALLY™.

NOTE: Always follow Standard Precautions. Follow facility protocols regarding clean versus sterile technique.

NOTE: Cleaning of the ALLY™ must not be performed when the ALLY™ is connected to a patient or power source. Disconnect the ALLY™ from the patient and power source before cleaning.

The following cleaning procedure must be performed at least once a week and must be performed between patients. Wipe the ALLY™ with a diluted solution of 5 milliliters bleach in 1 liter of warm water (approximately 1 teaspoon bleach in 1 quart water). Use a coarse cloth and wring out any excess solution until the cloth is damp and not dripping. Bleach based disinfecting wipes for cleaning medical equipment may also be used.

1. Clean all surfaces of the ALLY™, including the ports and the A.C. Power Adapter, then allow the solution to air dry on the ALLY™.
2. If there is visible soilage on the ALLY™, clean it a second time after the first cleaning has removed the soilage.
3. Wipe down the ALLY™ with a clean, dry cloth to remove any bleach residue.
4. Visually inspect the ALLY™ and A.C. Power Adapter for damage. If damage is noted, take the ALLY™ or the A.C. Power Adapter out of service and replace per protocol.

CAUTION: Particular care must be taken when handling undiluted germicide concentrate or chlorine bleach, including proper shielding of eyes. Always mix by adding concentrated germicide or chlorine bleach to the water. NEVER intermix germicides or mix germicides with chlorine bleach. Do not spray liquids directly on to ALLY™.

CAUTION: Avoid spilling liquid on any part of the ALLY™. Spilling liquid on the ALLY™ may cause the ALLY™ to operate erratically, possibly causing a potential hazard to the patient or clinical caregiver.

Use of Carrying Case and IV Pole Adapter with ALLY™: Follow the same procedure as above.
2.2 A.C. Power Adapter Inspection

The A.C. Power Adapter should be inspected regularly for damage and/or unusual wear. Replace damaged or worn A.C. Power Adapter immediately. Replacement A.C. Power Adapters are available from Cardinal Health.

**CAUTION:** The ALLY™ must be used with the supplied A.C. Power Adapter. Use of another adapter/power cord could create a shock hazard for the patient or clinical caregiver, cause fire, and/or severely damage the ALLY™.
3. Patient Care

Review all Sections of this Clinician User Manual before use of the ALLY™. Carefully read 1.1 Indications, 1.2 Contraindications, 1.3 Precautions and 1.4 Safety Tips before using the ALLY™ for patient care.

3.1 Applying the Dressing

1. Cleanse wound according to facility protocols or physician order.
2. Debride all necrotic tissue including eschar and slough.
3. Be certain the wound has achieved hemostasis.
4. Visually examine and palpate wound bed to locate any blood vessels or delicate underlying structure in close proximity.
5. Prepare area around wound to permit adhesion of the polyurethane drape.

**NOTE:** If peri-wound area is excessively moist or oily, a medical-grade liquid adhesive may improve sealing. For fragile skin, use a skin sealant prior to drape application, or frame the wound with a skin barrier layer, such as a hydrocolloid dressing, the Cardinal Health™ NPWT Drape or the Cardinal Health™ SensiSkin™ NPWT Drape.
6. Take measurements of the wound dimensions and note wound type. Select the appropriate Dressing size based on wound assessment. Open the sterile kit to expose the black foam, the tubing with SpeedConnect™ and the drape. Set aside the tubing with SpeedConnect™ and drape from the NPWT Dressing Kit.
7. Cut the black foam to a size that is appropriate for the wound (Figure 1). Document the number of black foam pieces used to fill the wound in the patient’s chart.

**CAUTION:** Do not cut the black foam over or around the wound to avoid debris from the black foam falling into the wound (Figure 2).

8. Place the black foam in the wound, taking care to avoid contact with the peri-wound skin (Figure 3). Black foam should be higher than skin level and cover the entire wound base. Black foam may be stacked for deep wounds.

**CAUTION:** Do not pack the black foam into any areas of the wound. Forcing foam into any wound is contrary to approved protocols. Loosely fill all visible dead space in the wound. Do not thin black foam, as thinning may cause over collapse of the dressing and prevent fluid from moving away from wound base.
Use of White Foam

Per clinician’s discretion, white foam may be used in wounds needing extra protection, such as protrusion of bone and in small tunneling and undermining. White foam should be used in an intact, single layer and covered with black foam when not used in small tunnels or in undermining. If the white foam needs to be cut to size, please note that non-linear shape cuts (e.g., curves, spirals, etc.) and straight cuts less than 3cm wide may increase the likelihood that the white foam will tear upon removal.

9. Remove the drape from the Dressing Kit. Size and trim the drape to cover the wound plus a 3-5cm border of intact skin (extra pieces of drape can be used to seal dressing leaks if needed). Always keep one side of the drape intact for ease of dressing application (Figure 4).

10. Remove the drape’s release liner starting with tab A (Figure 5). Invert and place over the foam and peri-wound (Figure 6) and continue removing the contact layer with B tab and C tab (Figures 7-8). Remove the remaining perforated tab (Figure 9). Gently press down on drape material down around the wound site and over the foam to ensure dressing is properly sealed.
11. Cut a 1cm diameter hole in the top of the drape at a convenient location over the dressing by pinching and lifting the drape (Figure 10).

12. Remove the tubing from the NPWT Dressing Kit. Locate the SpeedConnect™ and peel the backing to expose adhesive. Place it over the hole made in Step 11 (Figures 11-12). Using the tips of the fingers, press around the top of the SpeedConnect™ to ensure a good seal to the drape.

3.2 Inserting the Canister
1. To insert the canister, line up the two ports on the canister with the two ports on the ALLY™. Press the canister up and into the ALLY™ until it clicks and locks into place (Figure 13).

**NOTE:** Always use a new canister with a new patient.
2. Gently line up the blue Twist N’ Connect™ end of the tubing to the blue Twist N’ Connect™ port on the canister, push down and twist clockwise to lock into place (Figure 14).

![Figure 14](image)

3. Verify the dressing application is correct, the tubing is connected and the tubing clamp is open (Figure 15).

![Figure 15](image)

3.3 Removing the Canister

1. Close the tubing clamp (Figure 16). To clamp the tubing, ensure the top of the clamp is centered on the black line on the tubing approximately four inches from the Twist N’ Connect™ end of the tubing (Figure 17).

2. Press the OFF Button on the ALLY™.

3. Grasp the blue Twist N’ Connect™ end of the tubing attached to the canister. Gently twist counterclockwise and pull up to remove tubing from canister (Figure 18).
4. Press Canister Release Button and gently pull the bottom of canister down to remove from the ALLY™ (Figure 19).

Figure 19

5. Cap the canister. Dispose of canister according to facility protocols as well as local, state and federal regulations.

**NOTE:** The canister should immediately be replaced when full or at least once every week to minimize odors and the potential for contamination.

### 3.4 Delivering Simultaneous Irrigation™ Technology

Cardinal Health offers two irrigation tubing set options that deliver irrigation and negative pressure wound therapy simultaneously. The NPWT Irrigation Tubing with SpeedConnect™ consists of a single lumen tubing with SpeedConnect™ and a luer lock connector to connect to the irrigation of choice. The NPWT Irrigation Delivery Set consists of a single lumen tubing with SpeedConnect™ and an irrigation delivery bag that allows the irrigation of choice to be delivered through the delivery bag. Both tubing options deliver irrigation solution to the wound.

**Precautions**

- Simultaneous Irrigation™ Technology can be utilized with the ALLY™. Appropriate solutions for Simultaneous Irrigation™ Technology may include normal saline or other solutions indicated for topical wound treatment.
- Any solution cleared for use in topical wound irrigation can be used.
- Various topical agents, such as hydrogen peroxide and solutions containing alcohol, are not intended for extended tissue contact. If in doubt about the appropriateness of using a solution with the ALLY™, contact the solution's manufacturer.
- Do not apply solutions in conflict with the manufacturer's instructions for use.
- During irrigation therapy, the dressing is a closed system and is NOT vented to atmosphere.
- Do not use where temperature of fluid could cause and adverse reaction, such as a change in patient's core body temperature.
- During irrigation therapy, check the irrigation bag periodically to ensure proper fluid delivery. In addition, when a canister fills with fluid, it should be immediately replaced as irrigation fluid and wound exudate are not removed from the wound if the canister is full.
**Instructions**

1. Make sure the irrigation fluid supply remains clamped off until the therapy is started and target pressure is achieved.

2. Obtain a physician order for irrigation solution type and delivery rate.

3. Apply NPWT Dressing (**3.1 Applying the Dressing**).

4. Connect NPWT Irrigation Tubing attachment to the irrigation solution container or use the NPWT Irrigation Delivery Set, which incorporates an irrigation bag with a tubing set together. Close the irrigation clamp completely.

5. Hang irrigation bag on IV pole higher than the wound.

6. Select desired location for Irrigation SpeedConnect™. Cut a 1cm diameter hole in the top of the drape where the Irrigation SpeedConnect™ is to be placed (**Figures 20 and 21**).

![Figure 20 and 21]

7. Peel off the SpeedConnect™ backing to expose the adhesive pad and place over hole made in Step 5 (**Figure 22**). Using the tips of the fingers, gently press down around the Irrigation SpeedConnect™ to ensure a good seal to the dressing.

![Figure 22]
NOTE: The Irrigation SpeedConnect™ may be placed in close proximity to the SpeedConnect™, or in larger wounds may be placed over another area of the wound distal to the SpeedConnect™.

8. Turn on ALLY™ and allow dressing to reach set pressure.
9. Open the clamp on the Irrigation tubing to allow irrigation solution to flow until the solution begins to move through the tubing and into the canister.
10. Set the drip rate per the physician order. The drip rate does not need to be exact with continuous wound irrigation.

NOTE: The irrigation rate remains constant unless the Pressure Setting is changed or if ALLY™ is in Intermittent Mode.

### 3.5 Removing the NPWT Dressing

Carefully read 1.4 Safety Tips before removing the dressing.

NOTE: Wounds must be carefully monitored at regular intervals. In a non-infected wound, dressings should be changed every 48 to 72 hours as determined by the clinician. Infected wounds must be monitored continuously. For infected wounds, dressings may need to be changed more often than 48-72 hours based on a clinical evaluation of the wound.

Standard Precautions should be used to minimize the risk of infection and contact with contaminated blood or bodily fluids during the dressing changes. It is important to protect all exposed skin and mucous membranes by using Personal Protective Equipment (PPE). PPE includes:

- Disposable gloves
- Protective eyewear
- Protective mask
- Disposable impervious gown

1. With the ALLY™ on, lift a corner of the drape to allow air to enter the system, moving any fluid in the tubing into the canister.
2. Close tubing clamp (Figure 16). To clamp the tubing, ensure the top of the clamp is centered on the black line on the tubing approximately four inches from the Twist N’ Connect™ end of the tubing (Figure 17).
3. Press the OFF Button on the ALLY™.
4. Remove the tubing by holding the blue Twist N’ Connect™ end on the tubing, gently twist counterclockwise and remove the tubing from the canister (Figure 18).
5. Gently stretch the drape laterally and slowly pull up and away from skin. Lateral stretching of the drape will help release the adhesive and minimize trauma to the patient’s skin.

NOTE: If the patient complains of discomfort during the dressing change, consider pre-medication, use of a non-adherent wound contact layer prior to foam placement in the wound or irrigation of a topical anesthetic agent such as 1% Lidocaine prior to dressing removal.
6. Remove foam from wound. Make sure that the number of pieces removed from the wound matches the number of pieces that were placed into the wound. If the numbers do not match, further procedures may have to be performed to resolve the difference.

7. Discard used foam, tubing, canister and drape in accordance with applicable rules, regulations and infection control protocols, and always follow Standard Precautions.

3.6 Disposal of Used Components

After patient use, all used disposable components of the system should be treated as contaminated.

These may include:
- The NPWT foam dressing and polyurethane drape
- The canister
- The tubing
- Irrigation tubing set and irrigation delivery set

Dispose of all used components in accordance with facility protocols as well as local, state and federal regulations.
4. Operating Instructions

Carefully read 1.3 Precautions and 1.4 Safety Tips before attempting to operate and adjust the ALLY™.

**CAUTION:** The ALLY™ must be used with the supplied A.C. Power Adapter. Use of any other adapter/power cord could create a shock hazard for the patient or caregiver, cause fire and/or severely damage the ALLY™. If a replacement A.C. Power Adapter is needed, call Cardinal Health at 1.866.484.6798.

4.1 ON/OFF

The ON and OFF Buttons are located on the front of the ALLY™ (Figure 23).
4.2 Power-Up Procedure

1. Verify the dressing is correct, the tubing is connected and clamp is open.

2. Keep the ALLY™ upright. The ALLY™ can be placed on a table, or attached to an IV pole using the IV pole adapter, but it is recommended to keep level with or below the wound.

   **CAUTION:** The clamp on the IV pole adapter should only be used on poles that are in excess of 2.2cm (0.9 in.) diameter and are securely attached to a suitable stand. To ensure stability of the ALLY™ on the IV pole, ensure the clamp is no higher than two times the width of the pole base. The clamp should be tightened to ensure that the ALLY™ cannot slide down the pole.

3. Press the ON Button. All indicators sequentially light up during the power-on self-test.

4. The Alert Display flashes 4 numbers to represent the number of hours the ALLY™ has been in use.

5. The dressing should slowly collapse, indicating the presence of negative pressure. Once dressing integrity is verified, adjust the ALLY™ for desired Pressure Setting.

   **NOTE:** It is recommended that the ALLY™ is connected to the A.C. Power Adapter while attempting to obtain an initial dressing seal.

6. Carefully check dressing for leaks and repair with additional drape, if necessary.

7. The ALLY™ should be operated at least 22 hours out of every 24 hour period. Remove the dressing if the negative pressure wound therapy is terminated or the ALLY™ is off for more than two hours in a 24 hour period.

4.3 Negative Pressure Wound Therapy Setting Adjustment

**CAUTION:** Only a physician can prescribe the proper settings and protocols for the ALLY™. Failure to follow instructions, adjusting settings or performing negative pressure wound therapy without the express direction and/or supervision of your trained clinical caregiver may lead to improper performance and possible serious or fatal injury.

There are five Pressure Settings: -50 mmHg, -75 mmHg, -100 mmHg, -125 mmHg and -150 mmHg.

The Up Button increases the Pressure Setting and the Down Button decreases the Pressure Setting (Figure 22).

When the ALLY™ is turned on, the current Pressure Setting is selected automatically (unless Pressure Setting has been locked previously by the clinical caregiver, see 4.4 Negative Pressure Wound Therapy Selection Lock/Unlock).

To change the Pressure Setting, press either the Up Button or Down Button until desired Pressure Setting is indicated by the green light next to the Pressure Setting.

The green light next to the Pressure Setting number flashes, indicating the selection has been made and continues flashing until the desired pressure has been achieved. Once the desired pressure has been achieved, the green light next to the Pressure Setting remains stable. If the green light begins to flash during therapy, the ALLY™ is unable to maintain the therapeutic setting.
4.4 Negative Pressure Wound Therapy Selection Lock/Unlock
The ALLY™ has a Pressure Setting lockout feature designed to prevent unauthorized individuals from changing the Pressure Setting.

**Locking**
To lock the ALLY™, press and hold the ON Button for three seconds until three audible beeps are heard. The ALLY™ is locked. The Pressure Setting is set even if the ALLY™ is powered off and then back on. The ALLY™ remains locked.

**Unlocking**
To unlock the ALLY™, press and hold the ON Button until three audible beeps are heard. The ALLY™ is unlocked and Pressure Setting can be changed. If the ALLY™ is powered off and on, the ALLY™ remains unlocked.

4.5 Intermittent Mode ON/OFF
The ALLY™ can operate in Intermittent Mode with a 5-minute “ON” and 2-minute “OFF” cycle. Press the Intermittent Mode Button to turn the Intermittent Mode on and off.

During intermittent operation, ALLY™ provides desired pressure during the “ON” part of the cycle and approximately -25 mmHg during the “OFF” part of the cycle. Cycling to this lower pressure while the ALLY™ is off helps maintain the integrity of the drape seal.

4.6 Alert Volume
The volume of the alert can be adjusted. To increase the alert volume, press and hold the ON Button while pressing the Up Button. To decrease the alert volume, press and hold the ON Button while pressing the Down Button. The Alert Display indicates the volume level, which ranges from 1 to 5. The factory set alert volume level is 2.

4.7 Battery Operation
**NOTE:** The ALLY™ continues to operate while the internal battery is charging.

**Battery Life**
The battery life of the ALLY™ with a fully-charged battery and a well-sealed dressing is up to 24 hours. The actual life is dependent on the integrity of the dressing. A leak in the dressing and using Intermittent Mode can reduce overall battery longevity.

**Low Battery Alert**
While operating on battery, a Low Battery alert is activated when remaining capacity of the battery is less than 20 percent. A number 3 will show in the Alert Display window, and three audible beeps will be heard (4.8 Troubleshooting). Typically, the ALLY™ continues to operate for 30-60 minutes after the Low Battery alert is activated.
**Low Battery Shutoff**
If the battery charge falls below a critical level, the ALLY™ shuts off and negative pressure wound therapy is discontinued. At this point, the ALLY™ must be plugged into an outlet using the A.C. Power Adapter for negative pressure wound therapy to resume. Once the A.C. Power Adapter is plugged in, pressing the ON Button restarts the ALLY™.

**Recharging the Battery**
Plug the A.C. Power Adapter into the Battery Charging Port on the side of the ALLY™ ([Figure 24](#)). Plug the A.C. Power Adapter into a wall outlet.

![Figure 24](image)

When the ALLY™ is connected to an outlet, the green light next to the Plugged In symbol and the amber light next to the Battery Charging symbol on the front of the ALLY™ lights up.

**NOTE:** If the ALLY™ is plugged in and green light does not turn on, check to make sure outlet is working properly.

Once the battery is fully charged, the amber light next to the Battery Charging symbol turns off, showing the battery is fully charged. When the A.C. Power Adapter is disconnected from the outlet, the ALLY™ automatically switches over to the internal battery and continues to operate.

**Average Time for Recharging**
After approximately 2 hours of charging, the ALLY™ achieves 80 percent of the total battery capacity. To ensure that the battery is fully charged, the ALLY™ should be connected to an outlet for approximately 3 hours.
4.8 Troubleshooting
Clearing an Alert Condition

To manually reset alert types 1-3, turn the ALLY™ off and then back on. Pressing the ON Button after an alert silences the alert for five minutes. The alert clears when the ALLY™ is turned off and then back on. Alert Type 4 cannot be manually reset or muted.

<table>
<thead>
<tr>
<th>What you see or hear</th>
<th>Problem</th>
<th>What to do</th>
<th>More information</th>
</tr>
</thead>
<tbody>
<tr>
<td>“1” flashing in Alert Display.</td>
<td>Possible air leak in either the dressing or the tubing connections.</td>
<td>• Clamp the tubing. To clamp the tubing, ensure the top of the clamp is centered on the black line on the tubing approximately four inches from the Twist N’ Connect™ end of the tubing (Figure 17).</td>
<td>If the leak is properly sealed, pump becomes quiet and the alert stops. If alert continues, call Cardinal Health at 1.866.484.6798 for more assistance.</td>
</tr>
<tr>
<td>Single beep.</td>
<td>Leaks often occur over areas of moist skin, creases or folds in skin, and wrinkles in the drape. They can occur if the drape snags on clothing or bed sheets.</td>
<td>• If audible alert resets, there is a leak between the clamp and the dressing — often in the dressing. Reopen the clamp before addressing the leak. Gently press around drape to check for leaks. If leak is found, patch with extra drape material.</td>
<td></td>
</tr>
<tr>
<td>ALLY™ is making more noise.</td>
<td></td>
<td>• If “1” continues flashing in the Alert Display and alert beep continues, there is a leak between the clamp and the ALLY™. Check tubing connection at the canister. Check to ensure the canister is fully sealed and locked. Check for cracks in the canister or lid separation. If found, replace the canister.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Open the clamp.</td>
<td></td>
</tr>
<tr>
<td>“2” flashing in Alert Display.</td>
<td>The canister is full or there may be a blockage in the tubing and/or dressing.</td>
<td>• Visually assess the canister to see if full. If the canister is full, change the canister.</td>
<td>The Canister Full alert begins when the canister is 90% full, but the ALLY™ will continue to work until the canister completely fills.</td>
</tr>
<tr>
<td>Two beeps.</td>
<td></td>
<td>• If the canister is not full, turn the ALLY™ off by pressing the OFF Button and then turn the ALLY™ back on to resume therapy.</td>
<td>If the ALLY™ is placed on its front, fluid entering the canister causes a false Canister Full alert and the canister must be changed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• If changing the canister and/or turning the ALLY™ off and then back on does not resolve the alert, look for obstructions in the tubing or possibly in the dressing. Change the tubing and/or dressing as needed to resolve the alert.</td>
<td>If alert continues, call Cardinal Health at 1.866.484.6798 for more assistance.</td>
</tr>
<tr>
<td>What you see or hear</td>
<td>Problem</td>
<td>What to do</td>
<td>More information</td>
</tr>
<tr>
<td>----------------------</td>
<td>---------</td>
<td>------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>“3” flashing in Alert Display. Three beeps.</td>
<td>The battery is low and has approximately 30 minutes before the battery will be too low to support continued operation of the ALLY™.</td>
<td>Plug in the ALLY™. A green light shows next to the Plugged In symbol and a yellow light shows next to the Battery Charging symbol to indicate that the battery is charging. The yellow light turns off after battery is fully charged.</td>
<td>Use only the A.C. Power Adapter that came with the ALLY™. If alert continues or replacement A.C. Power Adapter is needed, call Cardinal Health at 1.866.484.6798 for more assistance.</td>
</tr>
<tr>
<td>“4” flashing in Alert Display. Four beeps.</td>
<td>ALLY™ is ready to be serviced.</td>
<td>Call Cardinal Health at 1.866.484.6798 for assistance.</td>
<td>This alert cannot be muted or manually reset by turning the ALLY™ off and on.</td>
</tr>
<tr>
<td>Pressure Setting will not change.</td>
<td>Pressure lock-out is engaged.</td>
<td>Unlock the ALLY™ by pressing and holding ON Button for three seconds. The ALLY™ beeps three times indicating that the setting is unlocked. Pressure Setting can now be changed.</td>
<td>To lock pressure setting, press and hold the ON Button for three seconds. The ALLY™ beeps three times indicating Pressure Setting is locked.</td>
</tr>
<tr>
<td>ALLY™ is quiet and fluid is not moving in the tubing.</td>
<td>This is NOT a problem. The dressing has a good seal and the ALLY™ is maintaining target pressure.</td>
<td>No action needed.</td>
<td>Change the ALLY™ to Intermittent Mode to move fluid in the tubing to the canister.</td>
</tr>
<tr>
<td>An amber light is showing on the front of the ALLY™ below the Pressure Setting. The ALLY™ is making more noise every five minutes.</td>
<td>This is NOT a problem. The ALLY™ is operating in Intermittent Mode.</td>
<td>No action needed.</td>
<td>Intermittent Mode maintains target pressure for five minutes and decreases to -25 mmHg for two minutes.</td>
</tr>
</tbody>
</table>

**NOTE:** If an alert persists and cannot be resolved, please contact Cardinal Health at 1.866.484.6798.

**NOTE:** In the event of an emergency, please contact the treating physician, caregiver or emergency responders.
## 5. Symbols Glossary

### Symbols Recognized by Standard/Law

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Standard/Law Reference</th>
<th>Standard/Law Title</th>
<th>Symbol Title/Text Reference</th>
<th>Explanatory Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Manufacturer Symbol]</td>
<td>ISO 15223-1, Clause 5.1.1</td>
<td>Medical devices - Symbols to be used with medical device labels, labelling and information to be supplied</td>
<td>Manufacturer</td>
<td>Indicates the medical device manufacturer.</td>
</tr>
<tr>
<td>![Date of Manufacture Symbol]</td>
<td>ISO 15223-1, Clause 5.1.3</td>
<td>Medical devices - Symbols to be used with medical device labels, labelling and information to be supplied</td>
<td>Date of Manufacture</td>
<td>Indicates the date when the medical device was manufactured.</td>
</tr>
<tr>
<td>![Authorized European Representative Symbol]</td>
<td>ISO 15223-1, Clause 5.1.6</td>
<td>Medical devices - Symbols to be used with medical device labels, labelling and information to be supplied</td>
<td>Authorized European Representative</td>
<td>Indicates the Authorized Representative in the European Union.</td>
</tr>
<tr>
<td>![Catalogue or Model Number Symbol]</td>
<td>ISO 15223-1, Clause 5.1.5</td>
<td>Medical devices - Symbols to be used with medical device labels, labelling and information to be supplied</td>
<td>Catalogue or Model Number</td>
<td>Indicates the manufacturer's catalogue number so the device can be identified.</td>
</tr>
<tr>
<td>![Serial Number Symbol]</td>
<td>ISO 15223-1, Clause 5.1.4</td>
<td>Medical devices - Symbols to be used with medical device labels, labelling and information to be supplied</td>
<td>Serial Number</td>
<td>Indicates the manufacturer's serial number so that a specific device can be identified.</td>
</tr>
<tr>
<td>![Batch/Lot Code Symbol]</td>
<td>ISO 15223-1, Clause 5.1.2</td>
<td>Medical devices - Symbols to be used with medical device labels, labelling and information to be supplied</td>
<td>Batch/Lot Code</td>
<td>Indicates the manufacturer's batch/lot code so that the batch or lot can be identified.</td>
</tr>
<tr>
<td>![Use by Date Symbol]</td>
<td>ISO 15223-1, Clause 5.1.7</td>
<td>Medical devices - Symbols to be used with medical device labels, labelling and information to be supplied</td>
<td>Use by Date</td>
<td>Indicates the date after which the medical device is not to be used.</td>
</tr>
<tr>
<td>![In vitro diagnostic medical device Symbol]</td>
<td>ISO 15223-1, Clause 5.5.1</td>
<td>Medical devices - Symbols to be used with medical device labels, labelling and information to be supplied</td>
<td>In vitro diagnostic medical device</td>
<td>Indicates that a medical device is intended to be used as an in vitro diagnostic medical device.</td>
</tr>
<tr>
<td>Symbol</td>
<td>Standard/Law Reference</td>
<td>Standard/Law Title</td>
<td>Symbol Title/Text Reference</td>
<td>Explanatory Text</td>
</tr>
<tr>
<td>--------</td>
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</tr>
<tr>
<td><img src="image" alt="Exclamation Mark" /></td>
<td>ISO 15223-1, Clause 5.4.4</td>
<td>Medical devices - Symbols to be used with medical device labels, labelling and information to be supplied</td>
<td>Caution</td>
<td>Indicates the need for the user to consult the instructions for use for important cautionary information such as warnings and precautions that cannot, for a variety of reasons, be presented on the medical device itself.</td>
</tr>
<tr>
<td><img src="image" alt="Exclamation Mark" /></td>
<td>IEC 60601-1, Table D.1, Symbol 10</td>
<td>Medical electrical equipment - Part 1: General requirements for basic safety and essential performance</td>
<td></td>
<td></td>
</tr>
<tr>
<td><img src="image" alt="Graphical Symbols" /></td>
<td>ISO 7000-0434</td>
<td>Graphical symbols for use on equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td><img src="image" alt="Graphical Symbols" /></td>
<td>ISO 15223-1, Clause 5.3.7</td>
<td>Medical devices - Symbols to be used with medical device labels, labelling and information to be supplied</td>
<td>Temperature Limit</td>
<td>Indicates the temperature limits to which the medical device can be safely exposed.</td>
</tr>
<tr>
<td><img src="image" alt="Graphical Symbols" /></td>
<td>ISO 7000-0632</td>
<td>Graphical symbols for use on equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td><img src="image" alt="Graphical Symbols" /></td>
<td>ISO 15223-1, Clause 5.3.4</td>
<td>Medical devices - Symbols to be used with medical device labels, labelling and information to be supplied</td>
<td>Keep Dry</td>
<td>Indicates a medical device needs to be protected from moisture.</td>
</tr>
<tr>
<td><img src="image" alt="Graphical Symbols" /></td>
<td>ISO 7000-0626</td>
<td>Graphical symbols for use on equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td><img src="image" alt="Graphical Symbols" /></td>
<td>ISO 15223-1, Clause 5.3.1</td>
<td>Medical devices - Symbols to be used with medical device labels, labelling and information to be supplied</td>
<td>Fragile, Handle With Care</td>
<td>Indicates a medical device that can be broken or damaged if not handled carefully.</td>
</tr>
<tr>
<td><img src="image" alt="Graphical Symbols" /></td>
<td>ISO 7000-0621</td>
<td>Graphical symbols for use on equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td><img src="image" alt="Graphical Symbols" /></td>
<td>ISO 15223-1, Clause 5.4.2</td>
<td>Medical devices - Symbols to be used with medical device labels, labelling and information to be supplied</td>
<td>Do Not Reuse</td>
<td>Indicates a medical device that is intended for one use or for use on a single patient during a single procedure.</td>
</tr>
<tr>
<td><img src="image" alt="Graphical Symbols" /></td>
<td>ISO 7000-1051</td>
<td>Graphical symbols for use on equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td><img src="image" alt="Graphical Symbols" /></td>
<td>ISO 15223-1, Clause 5.2.3</td>
<td>Medical devices - Symbols to be used with medical device labels, labelling and information to be supplied</td>
<td>Sterilized by Ethylene Oxide</td>
<td>Indicates a medical device that has been sterilized using ethylene oxide.</td>
</tr>
<tr>
<td><img src="image" alt="Graphical Symbols" /></td>
<td>ISO 7000-2501</td>
<td>Graphical symbols for use on equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td><img src="image" alt="Graphical Symbols" /></td>
<td>ISO 15223-1, Clause 5.2.7</td>
<td>Medical devices - Symbols to be used with medical device labels, labelling and information to be supplied</td>
<td>Non-sterile</td>
<td>Indicates a medical device that has not been subjected to a sterilization process.</td>
</tr>
<tr>
<td><img src="image" alt="Graphical Symbols" /></td>
<td>ISO 7000-2609</td>
<td>Graphical symbols for use on equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Symbol</td>
<td>Standard/Law Reference</td>
<td>Standard/Law Title</td>
<td>Symbol Title/Text Reference</td>
<td>Explanatory Text</td>
</tr>
<tr>
<td>--------</td>
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<td>--------------------</td>
<td>----------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td><img src="image" alt="Information Symbol" /></td>
<td>ISO 15223-1, Clause 5.4.3</td>
<td>Medical devices - Symbols to be used with medical device labels, labelling and information to be supplied</td>
<td>Consult Instructions for Use</td>
<td>Indicates user needs to consult instructions for use.</td>
</tr>
<tr>
<td><img src="image" alt="Not Allowed Symbol" /></td>
<td>ISO 15223-1, Clause 5.2.8</td>
<td>Medical devices - Symbols to be used with medical device labels, labelling and information to be supplied</td>
<td>Do Not Use if Package is Damaged</td>
<td>Indicates that the medical device should not be used if the package holding device has been damaged or opened.</td>
</tr>
<tr>
<td><img src="image" alt="Medical Symbol" /></td>
<td>ISO 7000-1641</td>
<td>Graphical symbols for use on equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td><img src="image" alt="Medical Symbol" /></td>
<td>ISO 7000-2606</td>
<td>Graphical symbols for use on equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td><img src="image" alt="Medical电气设备 Symbol" /></td>
<td>IEC 60601-1, Table D.1, Symbol 19</td>
<td>Medical electrical equipment - Part 1: General requirements for basic safety and essential performance</td>
<td>Type B Applied Part</td>
<td>Identifies a type B applied part complying with IEC 60601-1.</td>
</tr>
<tr>
<td><img src="image" alt="Battery Symbol" /></td>
<td>ISO 7000-5840</td>
<td>Graphical symbols for use on equipment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| ![Prescription Symbol](image) | 21 CFR Part 801.1(c)(1)(i)F | Labeling - Medical devices; prominence of required label statements | Prescription Use Only | Requires prescription for sale in the United States and is used in place of the statement below: 

**CAUTION:** Federal law restricts this device to sale by or on the order of a physician, dentist, or licensed practitioner. |
| ![Rx Only Symbol](image) | 21 CFR Part 801.109 | Labeling - Prescription devices | | |
| ![Class II Equipment Symbol](image) | IEC 60417-5172, Section 7.2.6 | Class II equipment | Marking Requirements for Class II Equipment | Power adapter meets the safety requirements specified for Class II equipment according to IEC 61140. |
| ![External Cord Symbol](image) | ISO 7000-2616 | External cord connected | External Cord Connected | Indicates that device is connected to an external power source. |
| ![Battery Check Symbol](image) | ISO 7000-5546 | Battery check | Battery check | To to identify the battery condition indicator. |
## Symbols Not Recognized by Standard/Law

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Standard/Law Reference</th>
<th>Standard/Law Title</th>
<th>Symbol Title</th>
<th>Explanatory Text</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="Image" alt="UL Listed" /></td>
<td>UL Listed</td>
<td>UL Listed</td>
<td>Product is certified under UL's Listing and Classification services and for UL certifications for Canada and the USA.</td>
<td></td>
</tr>
<tr>
<td><img src="Image" alt="Device plugged into outlet" /></td>
<td></td>
<td>Device plugged into an outlet.</td>
<td>Indicates that device is connected to an external power source.</td>
<td></td>
</tr>
<tr>
<td><img src="Image" alt="Battery charging" /></td>
<td></td>
<td>Battery charging.</td>
<td>Device is plugged into an outlet and the internal battery is charging.</td>
<td></td>
</tr>
</tbody>
</table>
6. Specifications

Cardinal Health™ ALLY™
Dimensions ............................................................................................................. 19.3 x 11.1 x 7.1cm (7.6 x 4.4 x 2.8 in.)
Weight ........................................................................................................................................................ 0.4kg (0.9 lbs.)
Pressure Settings ..............................................................................................................-50, -75, -100, -125, -150 mmHg

IEC Classification
With respect to electric shock, fire, and mechanical hazards, conforms to IEC60601-1.
• Medical Equipment
• Equipment not suitable for use in presence of flammable anesthetic mixture with air, oxygen, or nitrous oxide.
• Continuous Operation
• Type B Applied Part
• Class II Internally Powered Equipment
• IPXO

Battery
Duration (Fully Charged) .............................................................................................................................. Up to 24 hours

Electrical
External Power Supply Input ................................................................................. 100-240 VAC, 50/60Hz, 0.5 Amps A Max
External Power Supply Output .................................................................................................................... 5 VDC, 1.0 Amp

Environmental Conditions
Storage Conditions
Temperature Range ............................................................................................................... -12°C (10°F ) to 43°C (110°F)
Relative Humidity Range ............................................................................................................60 +/-25% (35% to 85%)
Atmospheric Pressure Range ................................................................................................................... 50 kPa to 110 kPa

Operating Conditions
Temperature Range ......................................................................................................................4°C (40°F) to 32°C (90°F)
Relative Humidity Range ............................................................................................................60 +/-25% (35% to 85%)
Atmospheric Pressure Range ................................................................................................................... 80 kPa to 110 kPa
Service Life ...............................................................................................................................................................3 years

CAUTION: Federal law restricts this device to sale by or on the order of a physician.
### 6.1 Electromagnetic Compatibility

#### Guidance and manufacturer’s declaration – electromagnetic emissions

<table>
<thead>
<tr>
<th>Emissions test</th>
<th>Compliance</th>
<th>Electromagnetic environment – guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF emissions</td>
<td>Group 1</td>
<td>The [ME EQUIPMENT or ME SYSTEM] uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.</td>
</tr>
<tr>
<td>CISPR 11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RF emissions</td>
<td>Class B</td>
<td>The ALLY™ is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.</td>
</tr>
<tr>
<td>CISPR 11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harmonic emissions</td>
<td>Class B</td>
<td></td>
</tr>
<tr>
<td>IEC 61000-3-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voltage fluctuations/ flicker emissions</td>
<td>Complies</td>
<td></td>
</tr>
<tr>
<td>IEC 61000-3-3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Guidance and manufacturer’s declaration – electromagnetic immunity

<table>
<thead>
<tr>
<th>Immunity test</th>
<th>IEC 60601 test level</th>
<th>Compliance level</th>
<th>Electromagnetic environment – guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrostatic discharge (ESD)</td>
<td>IEC 61000-4-2</td>
<td>± 6 kV contact</td>
<td>Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>± 8 kV air</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>± 6 kV contact</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>± 8 kV air</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical fast transient/burst</td>
<td>IEC 61000-4-4</td>
<td>± 2 kV for power supply lines</td>
<td>Mains power quality should be that of a typical commercial or hospital environment.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>± 1 kV for input/output lines</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>± 2 kV for power supply lines</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>± 1 kV for input/output lines</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>± 1 kV line(s) to line(s) to line(s)</td>
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<tr>
<td></td>
<td></td>
<td>± 2 kV line(s) to earth</td>
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<tr>
<td></td>
<td></td>
<td>± 2 kV line(s) to earth</td>
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<td></td>
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</tr>
<tr>
<td>Surge</td>
<td>IEC 61000-4-5</td>
<td>&lt;5 % $U_t$</td>
<td>Mains power quality should be that of a typical commercial or hospital environment.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(&gt;95 % dip in $U_t$) for 0,5 cycle</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>40 % $U_t$</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(60 % dip in $U_t$) for 5 cycles</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>70 % $U_t$</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(30 % dip in $U_t$) for 25 cycles</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>&lt;5 % $U_t$</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(&gt;95 % dip in $U_t$) for 5 s</td>
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<td>40 % $U_t$</td>
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<td></td>
<td></td>
<td>(60 % dip in $U_t$) for 5 cycles</td>
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<tr>
<td></td>
<td></td>
<td>70 % $U_t$</td>
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<tr>
<td></td>
<td></td>
<td>(30 % dip in $U_t$) for 25 cycles</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>&lt;5 % $U_t$</td>
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<tr>
<td></td>
<td></td>
<td>(&gt;95 % dip in $U_t$) for 5 s</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voltage dips, short interruptions and voltage variations on power supply input lines</td>
<td>IEC 61000-4-11</td>
<td>&lt;5 % $U_t$</td>
<td>Mains power quality should be that of a typical commercial or hospital environment. If the user of the ALLY™ requires continued operation during power mains interruptions, it is recommended that the ALLY™ be powered from an uninterruptible power supply or a battery.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(&gt;95 % dip in $U_t$) for 0,5 cycle</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>40 % $U_t$</td>
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</tr>
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<td>(60 % dip in $U_t$) for 5 cycles</td>
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<tr>
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<td></td>
<td>(30 % dip in $U_t$) for 25 cycles</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>&lt;5 % $U_t$</td>
<td></td>
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<td></td>
<td></td>
<td>(&gt;95 % dip in $U_t$) for 5 s</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>40 % $U_t$</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>(60 % dip in $U_t$) for 5 cycles</td>
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<tr>
<td></td>
<td></td>
<td>70 % $U_t$</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>(30 % dip in $U_t$) for 25 cycles</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>&lt;5 % $U_t$</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>(&gt;95 % dip in $U_t$) for 5 s</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Power frequency (50/60 Hz) magnetic field</td>
<td>IEC 61000-4-8</td>
<td>3 A/m</td>
<td>Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 A/m</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** $U_t$ is the a.c. mains voltage prior to application of the test level.
### Guidance and manufacturer’s declaration – electromagnetic immunity

The ALL™ is intended for use in the electromagnetic environment specified below. The customer or the user of the ALL™ should assure that it is used in such an environment.

<table>
<thead>
<tr>
<th>Immunity test</th>
<th>IEC 60601 test level</th>
<th>Compliance level</th>
<th>Electromagnetic environment – guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conducted RF</td>
<td>IEC 61000-4-6</td>
<td>[V₁] 3 V</td>
<td>Portable and mobile RF communications equipment should be used no closer to any part of the ALL™, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</td>
</tr>
<tr>
<td></td>
<td>3 Vrms</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>150 kHz to 80 MHz</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 Vrms</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>150 kHz to 80 MHz</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>in ISM bands</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 Vrms</td>
<td></td>
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</tr>
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<td></td>
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<td></td>
<td>150 kHz to 80 MHz</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>in ISM bands</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radiated RF</td>
<td>IEC 61000-4-3</td>
<td>[E₁] 3 V/m</td>
<td>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, should be less than the compliance level in each frequency range. Interference may occur in the vicinity of equipment marked with the following symbol: ![Symbol]</td>
</tr>
<tr>
<td></td>
<td>10 V/m</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>80 MHz to 2,5 GHz</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[E₁] 3 V/m</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>80 MHz to 800 MHz</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[E₁] 10 V/m</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>800 MHz to 2,5 GHz</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Recommended separation distance**

\[
\begin{align*}
    d &= \left[ \frac{3.5}{P} \right] \ V₁ \\
    d &= \left[ \frac{12}{E₁} \right] \ V₁ \\
    d &= \left[ \frac{12}{E₁} \right] \ P \ 80 \text{ MHz to 800 MHz} \\
    d &= \left[ \frac{23}{E₁} \right] \ P \ 800 \text{ MHz to 2,5 GHz}
\end{align*}
\]

where \( P \) is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and \( d \) is the recommended separation distance in metres (m).

**Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, should be less than the compliance level in each frequency range.**

**Interference may occur in the vicinity of equipment marked with the following symbol:** ![Symbol]

**NOTE 1** At 80 MHz and 800 MHz, the higher frequency range applies.

**NOTE 2** These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

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4 The ISM (industrial, scientific and medical) bands between 150 kHz and 80 MHz are 6,765 MHz to 6,795 MHz; 13,553 MHz to 13,567 MHz; 26,957 MHz to 27,283 MHz; and 40,66 MHz to 40,70 MHz.

5 The compliance levels in the ISM frequency bands between 150 kHz and 80 MHz and in the frequency range 80 MHz to 2,5 GHz are intended to decrease the likelihood that mobile/portable communications equipment could cause interference if it is inadvertently brought into patient areas. For this reason, an additional factor of 10/3 has been incorporated into the formulae used in calculating the recommended separation distance for transmitters in these frequency ranges.

6 Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the ALL™ is used exceeds the applicable RF compliance level above, the ALL™ should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the ALL™.

6 Over the frequency range 150 kHz to 80 MHz, field strengths should be less than [V₁] V/m.
7. Additional Parts

7.1 Replacement Product
A.C. Power Adapter ................................................................................................................................................47-9100

7.2 Disposables and Accessories
Dressings
Cardinal Health™ NPWT Small Foam Dressing Kit 10 x 8 x 3cm (10 per case) .............................................................. 48-1702
Cardinal Health™ NPWT Medium Foam Dressing Kit 20 x 12.5 x 3cm (10 per case) ......................................................... 48-1701
Cardinal Health™ NPWT Large Foam Dressing Kit 25 x 15 x 3cm (10 per case) .............................................................. 48-1700
Cardinal Health™ NPWT X-Large Foam Dressing Kit 58.5 x 33 x 3cm (10 per case) ......................................................... 48-1703
Cardinal Health™ NPWT Small White Foam Dressing 9.5 x 9.5 x 0.5cm (10 per case) ...................................................... 47-1751
Cardinal Health™ NPWT Large White Foam Dressing 35 x 25 x 0.635cm (5 per case) ...................................................... 47-1755

Canisters
Canister without Gel, 300cc (10 per case) ............................................................................................................. 48-4100
Canister with Gel, 300 cc (10 per case) ................................................................................................................... 48-4000
Canister with Gel, 500 cc (10 per case) ................................................................................................................... 48-4500

Accessories
NPWT Irrigation Delivery Kit (5 per case) ............................................................................................................. 47-6500
NPWT Irrigation Tubing with SpeedConnect™ (5 per case) ...................................................................................... 47-6000
NPWT Bridging Kit (5 per case) ............................................................................................................................ 47-1704
ALLY™ IV Pole Adapter (1 per case) .................................................................................................................... 47-5600
ALLY™ Carrying Case (1 per case) ........................................................................................................................ 48-9600
NPWT Tubing with SpeedConnect™ (10 per case) ................................................................................................. 48-2000
NPWT Polyurethane Drape (10 per case) .................................................................................................................. 47-7000
NPWT SensiSkin™ Drape (10 per case) ................................................................................................................... 47-7100

NOTE: In order to assure the highest safety, quality and efficacy of the products, the Cardinal Health™ ALLY™ should only be used with the Cardinal Health™ products. Cardinal Health™ Dressings should only be used with the Cardinal Health™ ALLY™.
8. Questions and Information

For questions, comments or additional information pertaining to the Cardinal Health™ ALLY™, please contact your local Cardinal Health representative, or:

Call Customer Service at at 1.866.484.6798

Cardinal Health
Waukegan, IL 60085
www.cardinalhealth.com

*Always consult a physician and product instructions for use prior to application.*

**CAUTION:** Federal law restricts these devices to sale by or on the order of a physician.