Spirit RM Rear Mount Cuspidor & Assistant’s Instrumentation

Installation Instructions
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CAUTION: Federal law restricts this device to sale by or on the order of a dentist.

Technical Support
Technical assistance is available Monday through Friday, 8:00 am to 6:00 pm (Eastern Standard Time).

Phone: 800-659-5922
Fax: 800-659-7255
Customer Service: 800-659-6560
RM SYSTEM OVERVIEW

CATALOG: RM88

CATALOG: RM89

CATALOG: RM87

CATALOG: RM89S
**GENERAL INFORMATION**

**Definition of Symbols**

The following symbols and terms may be used throughout this manual and your equipment:

**WARNING:** Failure to carefully follow the described procedure may result in damage to the equipment and/or injury to the patient/operator.

Risk of electrical shock present. Make sure power is disconnected before attempting this procedure.

See operating instructions.

(AC) Alternating current.

Protective earth (Ground)

Manufacturing Date

Manufacturing Place

Waste Electrical and Electronic Equipment.

Type B Electrical Equipment


Conforms with the Essential Requirements of the European Medical Device Directive 93/42/EEC for Class IIa Devices.

Indicates conformity to General Requirements for Safety is certified by Intertek Testing Services.

General mandatory action required, important to follow instruction. Not a caution.

Warning, strong magnetic field.

Off

On

Light Switch

European Authorized Representative

USB Port

**Product Disposal**

Contact your local authorized dealer for proper disposal of the device to ensure compliance with your local environmental regulations.

**Interference with Electromedical Devices**

To guarantee the operational safety of electromedical devices, it is recommended that the operation of mobile radio telephones in the medical practice or hospital be prohibited.

Strong EMI sources such as electro surgery units or x-ray units may affect performance. If performance problems occur, move the unit to another electrical circuit or physical location.

**Incompatible Units or Accessories**

Incompatible Units or Accessories: To guarantee the operational safety and function of this device, the use of unapproved units or accessories is not advised. Doing so could result in potential hazard. Using accessory equipment not complying with the equivalent safety requirements of this equipment may lead to a reduced level of safety of the resulting system. Connecting electrical equipment to multiple socket outlets effectively leads to creating an ME SYSTEM, and can result in a reduced level of safety. All configurations shall comply with the system standard IEC 60601-1-1 or IEC 60601-1:2005

**Product Identification**

This product can be identified by its product label. This label states the unit model and serial number, electrical specifications, manufacture date and safety classification. Note the SAMPLE label shown below.

**Working Environment**

The unit is to be used in an office environment only.

Recommended working condition is:

**Ambient Temperature:** 68°F to 76°F (20°C to 25°C)

**Relative Humidity:** 20% to 60% non-condensing

**Atmospheric Pressure:** 13.1 to 15.3 PSI (900 to 1060hPa)

**WARNING:** It is not safe to use the unit where there is flammable gas or other hazardous material. Such materials can easily catch fire resulting loss of lives and heavy property damages

**Storage Conditions:** The device is appropriately packaged in a box. If product is to be stored before installation, storage and handling instructions in the packaging should be adhered to. Handling and storage conditions are marked on the box.

**Temperature:** -4°F to 122°F/ -20°C to 50°C

**Relative Humidity:** 10% to 90%

If the device is not to be used for some time, ensure the water line is disinfected and flushed with air before the master switch is switched off.
SAFETY INSTRUCTIONS
Please read the safety warnings and instructions before using the device. The manufacturer’s liability is applicable only if the device is used in compliance with the directions and safety warnings provided in this manual. Safety warnings are spread throughout the manual.

WARNING: This product is intended for use by trained dental professionals only.

WARNING: A dental unit may include magnets in the construction of the device which may temporarily affect the function/programming of some implantable pacemakers or defibrillators. If the implanted device is programmed to respond to a magnet, people who have these type of devices should avoid dental units with magnets.

WARNING: Only authorized service technicians should install and service this equipment. Use of other than authorized technicians will void the warranty.

No unauthorized modification of this equipment is allowed.

Refer to the Installation Instructions, Use & Care manual and accessory manufacturer’s literature to install and operate safely.

CAUTION: Federal law restricts this device to sale by or on the order of a dentist.

WARNING: This product must be disinfected before use. Failure to disinfect may promote contamination.

WARNING: Dental instruments and accessories are sharp - use care when near the dental unit. Remove sharp tips when not in use to prevent injury.

WARNING: Failure to return handpieces to proper location could result in alternate or additional handpieces operating without notice.

WARNING: Proper personal protective equipment (PPE), including, but not limited to, gloves and eye protection, must be used when operating the dental unit. Failure to use protective equipment can expose operator and patient to cross-contamination.

WARNING: Failure to install the syringe tip correctly can result in injury or damage. Refer to the documentation that came with the syringe for full instructions on proper installation and use.

WARNING: Use a licensed electrician for all wiring.

WARNING: Failure to disinfect equipment between patients could expose user/patient to cross contamination and bio-burden/bio-contamination.

Use only Pelton and Crane replacement parts. All repairs should be performed by authorized Pelton & Crane Dealers or their representatives.

The dental unit complies with IEC/EN 60601-1 third edition.

As manufacturers of electro-medical products we can assume responsibility for safety-related performance of the equipment only if maintenance, repair and modifications are carried out only by Pelton & Crane or agencies we have authorized for this purpose, and if components affecting safe operation of the unit that may be needed are replaced with original parts.

We suggest that you request a certificate showing the nature and extent of the work performed, from those who carry out such work, and specify that the certificate show any changes in rated parameters or working ranges, as well as the date, the name of the firm and a signature.
**TECHNICAL DESCRIPTION**

**Intended Use - Dental Unit**

**Indications for Use:**
The Spirit Dental Operative Units are intended to supply power to and serve as a base for other dental devices and accessories by providing air, water, vacuum and low voltage electrical power to hand held dental instruments. The Spirit Dental Operative Units are intended for use by professional dental practitioners in providing treatment to dental patients in a dental operatory.

**Product Description:**
The Spirit Dental Operative Units serve as a base that includes components to deliver air, water, electrical power, and vacuum to dental handpieces, instruments, and accessories. The controls are contained in a Doctor’s Unit, an Assistant’s Unit, and a Cuspidor. Additional parts include mount arms, foot control, and a junction box that houses a power supply and air/water regulators. Various Handpieces and accessories can be added to the Spirit Dental Operative Unit which Pelton & Crane does not manufacture but does provide a means to connect them into the Spirit Dental Operative Units. These include, but are not limited to, pneumatic handpieces, electric motors with handpieces, scalers, intra-oral cameras, curing lights, air/water syringes, SE and HVE vacuum instruments.

The dental delivery system is classified as Class 1 device under rule FDA CFR 21, Class II device under Health Canada guidelines and a Class IIa device under rule 11 of the MDD 93/42/EEC of Annex IX.

**Air and Water Supply Requirements**

- **Air Quality:** Dry and clean
- **Pressure:** 80-100 psi (5.5 - 7.2 bar)
- **Water Quality:** Potable
- **Hardness:** 7.2 - 7.8 pH
- **Pressure:** 40-80 psi (2.75-5.5 bar)

**Incompatible Units or Accessories**

To guarantee the operational safety and function of the device, the use of unapproved units or accessories is not advised. Doing so could result in potential hazard. Using accessories or equipment not compliant with the equivalent safety requirements of this equipment may lead to a reduced level of safety of the resulting system.

The manufacturer will supply, upon request, plumbing diagrams, component parts lists, descriptions and other information needed to assist service technicians in repairing or servicing the dental unit.
Cuspidor Mount

1. Remove the chair’s safety cover and truss end cover. Locate and unpack the hygiene unit and post mount. Position post mount to the chair bracket located on the backside of chair. Secure unit to chair using the two 1/4-20 x 3/4” flat hex head screws and the one 5/16-18 shoulder screw (Figure C). Lightly tighten these screws.

2. Check the level of the control unit. Level if needed. To adjust pitch from side to side, use the set screw located on the upper left side of the mount. To adjust pitch from front to back, use the two set screws located on the lower right and left side of the mount. Loosen the 1/4-20 flat head screw or the 5/16-18 shoulder screw as needed. Then, adjust the set screws to move the mount in the desired direction (Figure C). Route umbilical through in the chair continuing through pump cover and to the inside of the junction box. Make all tubing connections in the junction box.

3. Adjust tension to the pivots by turning clockwise to tighten tension and counterclockwise to loosen tension. To adjust the pivot closest to the chair, remove the bearing cover and adjust the 5/8-11 nut as needed to attain the desired amount of tension. Replace the bearing cover. To adjust the outer pivot, adjust the 5/8-11 nut closest to mount as needed to attain the desired amount of tension (Figure C).

4. Replace the chair’s truss end cover and safety cover with the new truss end and safety cover (Figure A).
ELLIPSE CUSPIDOR INSTALLATION

**Cuspidor Bowl**

1. Unpack the cuspidor bowl and position it over the cuspidor support as shown (figure D).

2. Install the bowl rinse and cup filler spouts by inserting in each hole and rotating slightly until fully seated.

3. Place the bowl strainer in the cuspidor drain.

**Vacuum Instruments**

1. Locate and install the HVE and SE at this time. Shorten the tubing if necessary, then slide the tubing over the barb on quick connect to the port on the vacuum canister (figure E).

2. Cap off any unused ports with the supplied rubber caps. Hang the instruments on the correct holder as shown in figure E.
The following information is written specifically for installation of the Spirit chair-mounted cuspidor.

NOTE:
Prior to junction box installation it will be necessary to flush out the office plumbing. Connect a hose to the water line and flush into a drain or pail. This will prevent debris getting into unit lines. Flush the air line also.

1. Locate the junction box template and refer to figure F for general layout. Place the junction box base over the office plumbing with the umbilical opening facing the chair. Using a 5/8" wrench, install the air and water shut-off blocks onto the master valves. Tighten the compression nuts securely.

2. Run air/water, vacuum and drain lines from the rear mount through the chair.

3. Install the gravity drain tubing and vacuum tubing to the office plumbing.

4. Connect air and water tubing from the rear mount to corresponding tubing coming from the air/water shut-off blocks. Match tubing by color and number.
5. Air regulator is set at 80 psi and water regulator at 40 psi by factory. Check to ensure regulators are correctly set by switching the master on-off switch. Adjustment may be done at this stage as needed. Regulator knobs are turned clockwise to increase pressure and counterclockwise to decrease pressure.

6. Check air and water flow at syringe as master on-off switch is turned on. Also check to ensure air and water is cut off when master on-off switch is turned off. The master on-off switch may be located under the cuspidor/assistant's arm when there is no delivery unit.

7. Make repairs if there are any air or water leaks. Ensure all quick-connects are tight.

8. Check the cup fill and bowl rinse to ensure proper function. Check drain for leak.

9. Check the vacuum line for leaks.

10. For Optional Touchpad:
    Connect assistant's touchpad cable to either of the two connectors in the back of the chair as shown in figure H. Chair is controlled by this touchpad.

11. Rear mount installation is complete.
DELIVERY SYSTEM INSTALLATION AND SERVICE CHECKLIST

☐ All manuals are present.

☐ All Labels are present and legible.

☐ No mechanical damage on new installations.

☐ The unit is setting on a level surface.

☐ All air/water connections are properly attached.

☐ All air/water connections are properly adjusted.

☐ When the master switch is “on” all air and water is available. When the master switch is “off” and the system pressure is bled down, the air and water stop flowing.

☐ If applicable, the cover is closed and fasteners tightened (take care not to pinch tubing).

☐ When depressing the touchpad (if applicable), the unit/chair functions properly.

☐ While running the unit there is no water or air leaking from the tubing.

☐ All terminals are connected securely.