



Spring - A Patch Pump Without a Motor

Presented at ATTD 2011 by Hezkiah Tsoory, COO D-Medical/Spring

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D-Medical/Spring

Spring Health Solutions Ltd. (formerly NiliMEDIX), a D-Medical company NASDAQ & TASE (DMED) is a medical device company engaged in the full product life cycle of research, development, manufacturing, and sales of the next generation diabetes drug delivery solutions.

Insulin delivery systems

- Durable and associated disposables
- Semi disposable hybrid patch pump and associated disposables

Infusion sets

Intellispring™ – Architecture Advantages

- Eliminates the need for a motor and gear train, yielding performance advantages
- Moving elements are in the disposable unit, increasing service and reliability
- Substantial weight reduction and size miniaturization
- Discreet and quiet with no mechanical motor and gear hum



Intellispring Technology – System

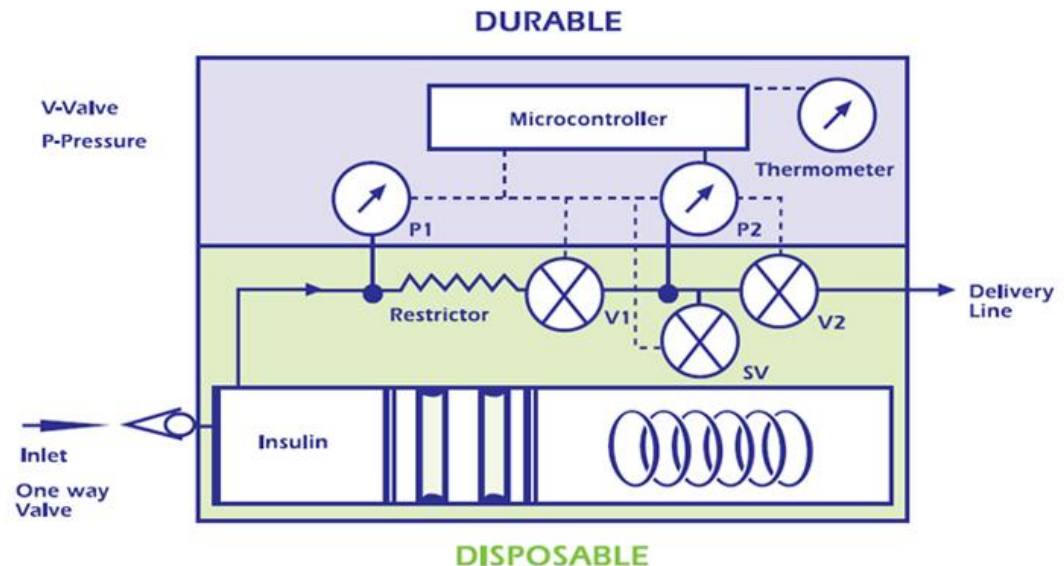
The Spring pump is comprised of two parts

Durable:

- Microcontroller
- User interface
- Energy source (AAA battery)
- Valve actuators
- Temperature sensor
- Pressure sensors (P1, P2)
- Disposable unit housing

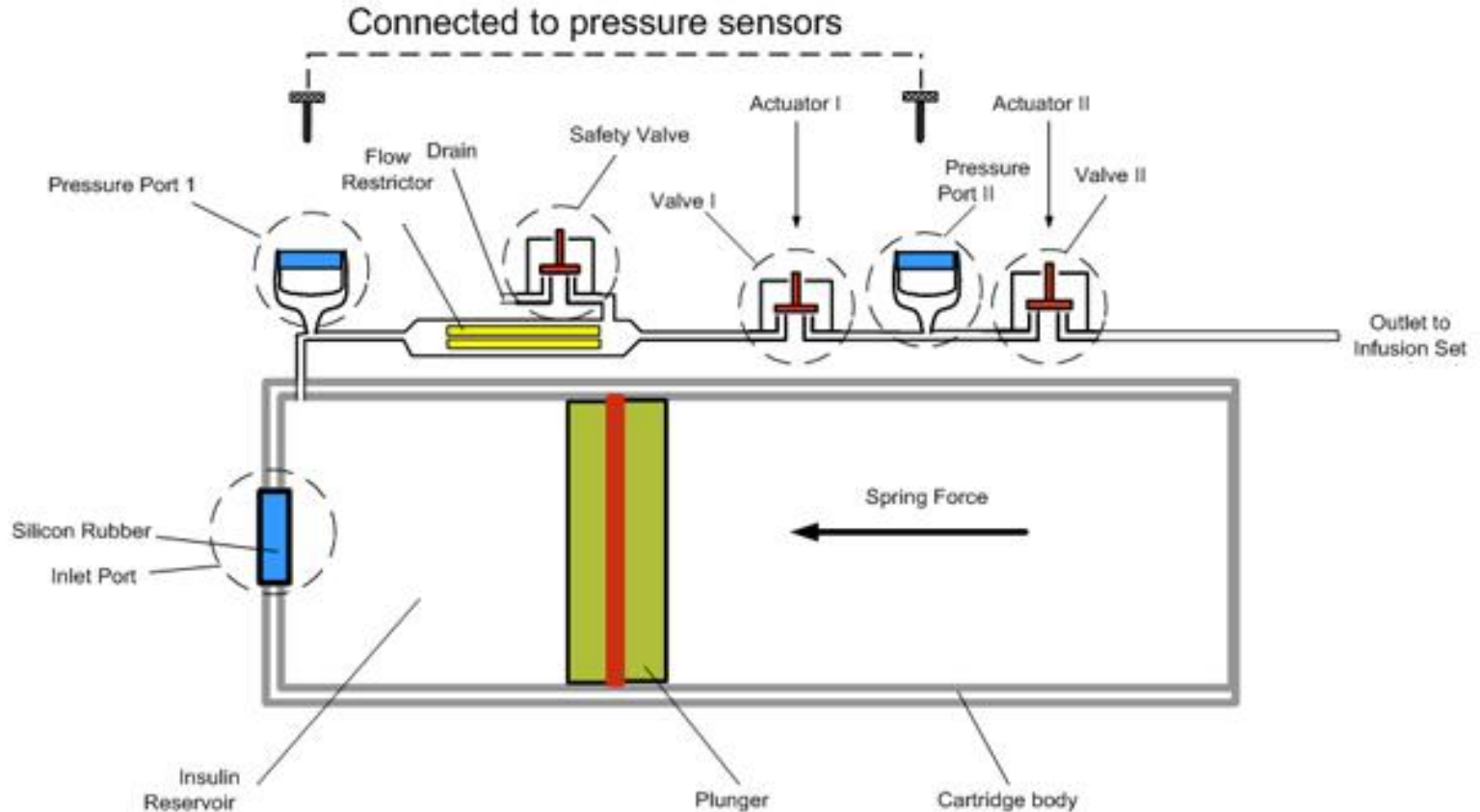
Disposable:

- Insulin reservoir
- Valves (V1, V2, SV)
- Delivery system
- Infusion set



Intellispring Technology – Flow

1. Insulin is injected into the cartridge
2. The plunger slides accordingly, storing the energy needed for delivery in the spring
3. The insulin doses are delivered from the reservoir, through the TLC, all the way to the cannula in the user's body



Intellispring Technology – TLC™

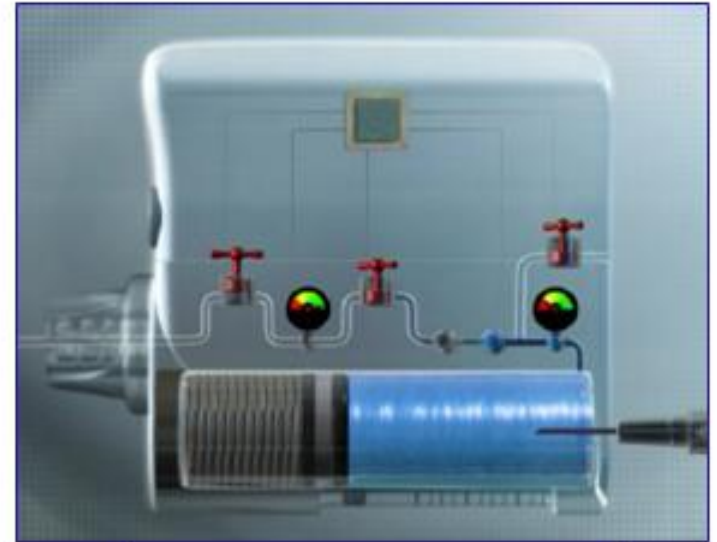
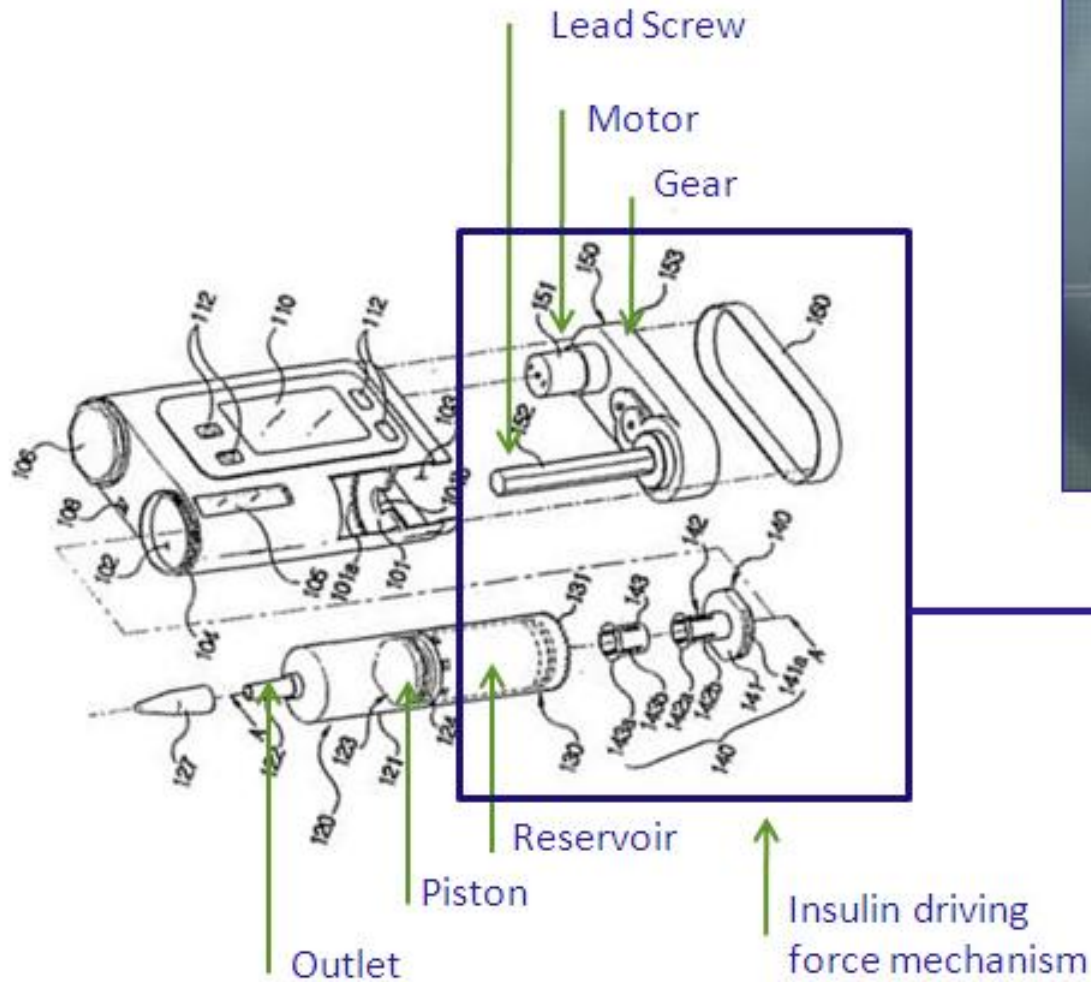
The Total Line Control (TLC) safety check system is the distinctive benefit of the Spring drug delivery technology. Among its functions:

- Two control valves and the flow restrictor **continuously regulate insulin dosage**
- Temp compensation algorithm
- Safety valve is **activated in case of system malfunction** immediately aborting insulin delivery to the user and completely draining insulin from the cartridge.
- Built in test every 5 seconds, checking for the presence of **air bubbles, and allowing a real-time occlusion detection or cannula detachment.**
- The spring is **less prone to failure** relative to other insulin delivery methods

Motor-Based Pump

vs.

Spring-Based Pump



Spring Based Platform- Architecture's Benefits

Motor + Gear Train

- Many things can interfere with delivery command
- Demands utmost craftsmanship
- Wear & tear affects performance
- Big
- Heavy
- Drug needs to be supplied separately
- One motor – one fluid

Spring

- **Output is what runs the system...**
- **Simpler**
- **With ΔP – wear is irrelevant**
- **Size advantage**
- **Lighter than all others**
- **Drug + device combo is easy**
- **One brain – several fluids**

Spring Hybrid Patch Pump - Revealed

Greatest lifestyle flexibility by allowing an alternative between **tube-free** insulin delivery on a skin-patch or using it as the **smallest available** traditional insulin pump

- Attractive \ desired lifestyle product
- Small and discreet
- No tube
 - Significantly more user friendly
 - Eliminates main source of pump malfunction
- No need to take pump off (for shower \ exercise), IPX 8 water-tight device
- Can be used with or without a dedicated remote control
- Remote control has an integrated blood glucose monitor
- Suspend the pump at the push of a button

Spring Hybrid Patch Pump - Revealed

Brand new industry level of environmental friendliness:

- Comprised of a multiple-use, long-lasting control element that clasps on a single-use drug reservoir.
- No electronic elements, soldering material or batteries are being disposed of; the only waste consists of a small plastic cartridge.
- User can suspend insulin delivery at a push of a button without disposing of insulin or cartridge
- Energy-saving, motorless system - may run for about thirty days on a standard AAA battery.



Highlights Revisited

- Best of Both Worlds: Patch and a Pocket Pump – Wear it either directly on the skin or with an infusion set
- Choose your accessory - bolus with or without the remote unit
- Environmentally friendly with reusable durable part
- Economically friendly – less waste, less cost, greater adherence

more information:
www.SpringNow.com