

The Spring Advantage	Company	Spring	Animas	Disetronic	MiniMed	Sooil USA
Model	Zone	OneTouch Ping	Spirit	Paradigm Revel	Diabcare IIS	
Basal Profiles	5 (4+doctor)	4	5	3	1	
Basal Increment	0.025u/hr or 0.05u/hr or 0.1 u/hr	0.025u	0.1u from 0.1 to 25.0 u/hr	0.025 units for basal amounts in the range of 0.025 to 0.975 units, 0.05 units for basal amounts in the range of 1 to 9.95 units, 0.1 units for basal amounts of 10.0 units or larger	0 to 16 units/ hour	
Total Basals	48/day	12/day	24/day	48/day	24/day	
Basal Interval	30 min	30 min	60 min	30 min	60 min	
Basal Delivery	Varies, 0.5 u/hr=every 3 min	varies, 0.2 u/hr every 3 min	every 3 min	0.025–35 units/hour	Every 4 min	
Temp Basal	between -100% an +200% from current basal, in increments of 5%	-90% to +200% in increments of 10% for 0.5 to 24 hours (30 min increments)	in 10% increments from 0% to 200%, and 15 min to 24 hr	Temp basal rate for 0.5 to 24 hrs in units or as % of current basal (0–200 % limited to Maximum basal rate setting)	up to 100% in 25% increments available for 12 hours	
Bolus Increments	0.05 visual or quick, 0.1-1 unit according to quick bolus increments	0.05 visual or audio, 0.1, 1.0, 5.0 audio	0.1, 0.2, 0.5, 1.0, 2.0	0.025 u; 0.05 u; 0.10 u	0.1, 1.0u	
Bolus Type	Quick normal extended, combination	units or carbs: standard, extended, combination	quick, scroll, extended, multiwave	units or carbs: standard, dual and square	Normal, extended, dual pattern bolus	
1 u Bolus Duration	10-60 sec	1 or 3 sec	5 sec	30 sec.	8 sec	
Carb and Correction Factors	yes, carb and bg values can be entered into the pump	yes, carb and bg values can be entered into the pump or meter-remote	yes, manual carb, BG from Accu-Chek BG monitor	yes, manual carb, BG direct from OneTouch Ultralink or BD Paradigm Link meters or manual entry	Yes, manual carb	
Dim. [mm]	59 x 55 x 22	51 x 77 x 18	80 x 47 x 24	523: 510 x 830 (710 at the battery cap) x 200 723: 510 x 940 (890 at the battery cap) x 210	75 x 45 x 19	
Weight [oz]	3.1 oz (82gr) w/battery	3.9 with battery full cartridge inf set	2.8, 4.8	523: 3.35 oz (without cartridge) 723: 3.59 oz	1.8 oz (excluding battery)	
Reservoir Size	300u plastic	200u plastic	315u	523: 176 u 723: 300 u	300u plastic	
Connection	Proprietary	Luer lock	Luer lock	Proprietary	Proprietary	
Screen Size	445 sq mm	992 sq mm	665 sq mm	920 sq mm	595 sq mm	
Motor	No motor	DC	DC	DC	DC	
Battery	AAA x 1 alkaline	AA lithium or alkaline x 1	AA x 1 Alkaline or Rechargeable	AAA for pump, A23 for remote	1/2 AA 3.6v lithium	
Memory	non-volatile: 900 boluses, 120 daily totals, 120 alarms, 20 errors 200 primes	non-volatile: 500 boluses, 270 basals, 120 daily totals, 60 alarms, 60 primes, 900 bg levels	non-volatile: 90 days (4,500 events); history recall of last 30 boluses, alerts, daily insulin totals, and temporary basal rate increases	10 event records, 36 alarm records, 24 bolus records, 32 total daily insulin records, 20 reservoir+ set records, user setting history	Last 50 boluses, primes and daily totals. Last 12 alarms (all time and date stamped)	
Software Download	available	ezManager Max, downloads in 3 minutes with dongle and software that is available at Animas	Pocket Compass with Bolus Calculator, insulin pump configuration software, IR Communication Port	Medtronic CareLink Therapy Management System and ParadigmPAL 3.0 Software at Medtronic	none	
Water Resistance	Splash Resistant IPX4	IPX 8	IPX 8	splash resistant	IPX 8	
Colors	silver	blue, silver, black, pink, green	Blue, with 30 pump skins in colors and styles	blue, clear, pink, purple, smoke	Black, Gray, Pink, Green, White	
Warranty	4 years	4 years	4 years	4 years	4 years	



The Spring Zone Insulin Delivery System's key innovative features, designed for enhanced drug delivery assurance:

- 1) superior occlusion and detachment detect on
- 2) temperature and pressure environmental adaptability
- 3) constant dose delivery check



**STAY IN YOUR ZONE**



[www.SpringZonePump.com](http://www.SpringZonePump.com)

### Top 10 Spring Zone Attributes:

1. Intellispring™ innovative technology enables exceptional reliability for continuously controlled and monitored insulin delivery
2. TLC™ (Total Line Control) system ensures superior safety, including real-time notification of compromised delivery in case of detachment, or occlusion detect on
3. Light & Comfortable: ergonomic shape, one of the lightest available pumps (82 gr = less than 3 oz.)
4. Discreet: no mechanical hum, compact design
5. Smallest insulin pump with tubing on the market (5.9 x 5.5 x 2.2 cm = 2.3 x 2.2 x 0.9 inches)
6. Straight forward: one-piece cartridge and tubing assembly and operation
7. Durable: strong, lightweight magnesium housing prevents accidental damage
8. Reliable: disposable insulin cartridge houses most of the moving parts making the insulin delivery mechanism less prone to failure
9. Cost-effective: smart materials and technology ensure economical manufacturing
10. Company Support: thorough training from a trusted network of distribution partners



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Pending CE and FDA clearance

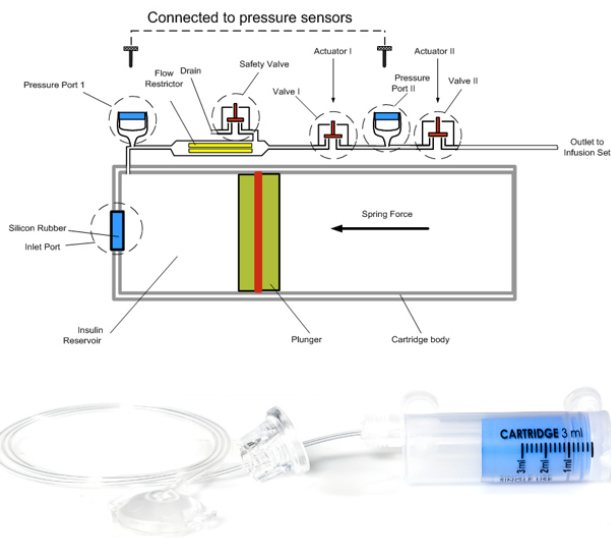


# The Spring™ Technology

The proprietary **Intellispring™** technology is at the heart of delivery from pressure created when insulin is loaded into the disposable set-integrated cartridge and its spring mechanism is compressed. This ingenious mechanism, backed by the **Total Line Control™ (TLC)** safety check system, provides accurate and reliable insulin delivery.

## Intellispring™ Advantages:

- Eliminates the need for a motor and gear train, yielding performance and cost advantages
- Moving elements are in the disposable unit, increasing longevity
- Discreet and quiet with no mechanical hum



## TLC: A Closer Look

**Leak Detection** - Every 5 seconds, the pump checks the pressure (P1-P2) between the reservoir and the pump outlet, as well as the pressure at the user's body, assuring that there are no leaks in the spring-driven delivery system, ensuring adaptability.

**No uncontrolled insulin delivery** - A special safety valve is used to prevent insulin from leaking back into the reservoir. Prior to being stopped by the two control valves, the safety valve further assures the integrity of the insulin delivery.

**No insulin leakage from the reservoir** - A sterile needle injects the insulin into the reservoir through a silicon rubber, a one-way valve, or medicine vials.

**Mechanical reliability of the core insulin delivery mechanism** - The pump's mechanical components are designed for long-term reliability and consistent performance.

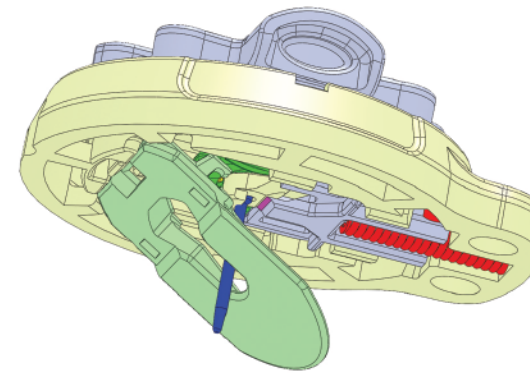
The Spring pump is comprised of two units, durable and disposable. The durable unit includes a microcontroller, temperature and pressure sensors (P1, P2) and the housing for the disposable unit. The disposable unit is a custom all-in-one cartridge that includes an insulin reservoir, valves (V1, V2, SV) delivery system, and an infusion set.

The microcontroller is the control center, acquiring data from the temperature and pressure sensors in the insulin delivery system. The **Spring Exclusive Infusion Set with Cartridge All-in-One** is what houses the core of the **Intellispring** technology. Once the insulin is injected into the cartridge, the plunger slides accordingly allowing pressure to be built up by the spring. The pressure is then delivered through the tubing to the cannula in the user's body and is delivered through the cannula into the subcutaneous tissue. The pump also features a flow restrictor, valves, and pressure ports.

This **Total Line Control (TLC)** safety check system is the backbone of the Spring technology, ensuring accurate and reliable insulin delivery.



The Spring Exclusive Infusion Set with Cartridge All-in-One is a revolutionary technology, where each component ensures mechanical precision and user safety, while striving to enhance the user's experience. Besides the best-in-class features such as a hidden, auto-retractable needle, 360° connector, and smallest, all-in-one inserter, the Spring Exclusive comes integrated into the insulin cartridge, allowing for unparalleled **Total Line Control (TLC)** safety check system that sets the Spring insulin delivery system apart.



The core of the Spring Infusion Set is the proprietary **Detach-Detect mechanism**. If any part of the infusion set base becomes detached from the user's body, the lever (shown in green) opens, allowing the pressure of the insulin to be released, thereby evoking an occlusion alarm in an attempt to prevent insulin delivery.

Feature	Benefit	Advantage
Insertion	Insertion velocity 12 meters/sec.	Lightning-fast insertion based on the lowest mass and the spring strength – minimizes sensation.
	37mm (H) x 27mm (W) x Ø28mm (D) of base.	Smallest* in class.
	All-in-one audible one-button push insertion.	Eliminates assembly hassle, offers an audible insertion assurance. One-handed activation with the push of one button.
Needle	Protective covering.	Prevents accidental activation.
	Hidden at all times.	Never see or handle the needle. Eliminates possibility of accidental pricking and exposure to bio hazard.
	28 gauge auto-retractable needle with a spiral trajectory.	Offers one of the least painful insertion experiences.
Cannula	Trocar (rather than bevel) tip.	Could reduce tissue irritation and scarring potential, as well as minimize cannula bending.
	The needle trigger spring is pre-cocked, 2nd spring retracts the needle.	One of the thinnest subcutaneous insertions available
	90° straight-angle Teflon. 6, 9 mm = (0.23, 0.345 inches) length. 22 gauge.	The most versatile category of cannula serving majority of body types and individual preferences.
Attachment	Lubricated with medical silicone fluid.	Reduces friction and thus sensation.
	At-site disconnection, 360° rotation prior to insertion and for adjustment, locks in place during use.	Best-in-class for easy temporary disconnection, or on-site rotation for placement adjustment.
	Includes protective cap.	User-friendly for insertion site protection after disconnection.
Safety	Detach-Detect mechanism.	The pump alarm sounds upon sensing occlusion resulting from even a partial detachment thus preventing insulin-delivery disruption.
	Transparent window for site inspection.	Effortless inspection of the insertion site.
	Water-proof, hypoallergenic self-adhesive tape.	User-friendly.
Flexibility	Base is attached to the body by a "tunnel" guides the needle and cannula.	Assures that the needle or the cannula is less likely to bend at insertion and reduces sensation.
	24, 31, 43 inches = 60, 80, 109 cm.	Convenient for all body builds and user preferences.
	Co-extrusion of two proprietary materials.	The inner lining is made of a material ensuring tubing durability, the outer lining flexibility.
Transparency	High transparency.	Enhances visual air bubble detection.

\* Based on the internal data comparing leading infusion sets on the market.

**Barry H. Ginsberg, MD, PhD**

*"In diabetes care, proper insulin dosing requires a delivery device that is accurate, safe, comfortable and discreet. Among insulin pumps, I've found Spring products to offer one of the best diabetes management solutions with its small size and redundant valves."*