Insulin pumps and Artificial Insulin Delivery (AID) systems

‘Closed loop’ systems

Two insulin pumps and associated consumables will be funded from 1 October:

Tandem t:slim

The Tandem t:slim can hold up to 300 units of insulin, which it administers according to the readings taken by a connected Continuous Glucose Monitor (CGM). It works by delivering insulin directly into the body via an infusion set or tubing system. There are several infusion sets to choose from so you can find what works for you. The t:slim has a rechargeable battery and a touch colour screen, plus sleep and exercise modes.

mylife YpsoPump

The mylife YpsoPump also reads the data from a CGM to calculate the appropriate dose of insulin to administer directly into your body. It also has a touch screen and uses pre-filled cartridges to deliver insulin. The technology learns and adapts to your own individual needs, and you can opt to use empty reservoirs and fill them with insulin yourself. You do not need to change insulin set each time you change insulin cartridge.

If you qualify for a funded pump, you can get a CGM that is compatible with your pump. Funding does not include the cost of GP visits and you will pay a co-payment (usually $5) at the pharmacy if you do not qualify for free prescriptions. Adhesive patches are provided for Dexcom devices and FreeStyle Libre devices do not require them.

TDD - Total Daily Dose (of insulin)
ICR - Insulin to Carb Ratio
ISF - Insulin Sensitivity Factor

Read on to our comparison table for details of how these devices compare with each other.

COMPARISON TABLE

diabetes new zealand

Insulin pumps and Artificial Insulin Delivery (AID / closed loop) systems

	Tandem t:slim	YpsoPump
Pump weight (gross)	112 grams	83 grams
Pump dimensions	7.8cm x 4.6cm x 1.6cm	8.0cm x 5.1cm x 1.5cm
Pump interface	Touchscreen	Touchscreen
Water resistance	IPX7: 1m depth for 30 mins	IPX8: 1m depth for 60 mins
Algorithm - software/app that interprets readings	Basal IQ or Control IQ	mylife CamAPS FX
Location of algorithm	Pump-integrated	Android app based (iOS expected 2025)
Compatible CGM	Dexcom 6, Dexcom 7 (FreeStyle Libre 3+ compatibility expected 2025)	Dexcom 6, FreeStyle Libre 3+ (plus Dexcom
Control + bolus delivery options	Pump	App-based
Pump charging mechanism	Rechargeable li-ion	AAA battery
Pump battery life	Between 4 and 7 days use between full charge when used in a closed loop system	Typically, 30 days per battery
Target glucose	6.1-8.9 mmol/L	Customisable from 4.4-11.1 mmol/L (default 5.8 mmol/L)
Exercise mode target glucose	7.8-8.9 mmol/L	No specific target - ease-off mode can be used for exercise
Sleep mode target glucose	6.25-6.7 mmol/L	Customisable glucose target can be adjusted overnight
Automated correction bolus settings	If predicted glucose in 30 mins >10 mmol/L & increasing/max delivery is reached	Incorporated into continuous insulin delivery. Adjusts insulin delivery every 8-12 mins
Active insulin time	Not adjustable (set at 5 hours)	Adjustable
Set up requirements	TDD, bodyweight, basal rates, ICR & ISF	TDD and bodyweight
Learning mechanisms Remote monitoring available	Uses bodyweight & TDD. Predicts glucose 30 mins ahead	Overall insulin needs, diurnal, post meal
Data share with health care professional	Yes via Glooko	Yes via Glooko
Pump reservoir capacity	300 units	160 units
Insulin compatibility	NovoRapid & Humalog	NovoRapid, Humalog, Fiasp, Apidra & Lyumjev