

Comparing funded insulin pumps and Automated Insulin Delivery (AID) systems



AID System features	Control-IQ with Tandem T:Slim X2 pump	CamAPS FX with mylife YpsoPump
NZ Supplier	NZMS	Pharmaco
Automated Insulin Delivery (AID)	Control-IQ Technology	CamAPS FX (CamDiab)
Where the AID algorithm is stored	In the Tandem pump with a software update	In an Android smart phone app (IOS/Apple app coming 2025)
Compatible CGM	Dexcom G6 and Dexcom G7	Freestyle Libre 3 Plus and Dexcom G6

AID System features continued	Control-IQ with Tandem T:Slim X2 pump	CamAPS FX with mylife Ypsopump
How the Algorithm works	<p>Automates insulin delivery to a fixed glucose target (6.1 mmol/L)</p> <p>Can adjust basal insulin delivery every 5 minutes up and down from the pre-programmed basal rates.</p> <p>Automated correction bolus can be given every 60 minutes. This is calculated from your pump settings based on 60% of a your usual correction dose.</p>	<p>Automates insulin delivery to a customisable glucose target (4.2 - 11.0 mmol/L).</p> <p>Insulin delivery is adjusted every 8-12 minutes.</p> <p>The system is adaptive meaning that it learns and updates every 24 hours based on your glucose levels and insulin needs.</p>
Approved for use in*	People with Type 1 diabetes ages 6 years and over. Not approved in pregnancy*	People with type 1 diabetes ages 1 year and over. Approved for use in pregnancy*
Total daily dose range*	10 - 100 units per day*	5 - 350 units per day*
Weight range*	25 - 140 kg*	10 - 300 kg*
Pump features		
Pump Manufacturer	Tandem Diabetes Care	Ypsomed
Insulin that can be used	Humalog and Novorapid	Apidra Humalog and Novorapid Fiasp and Lyumjev

Pump features continued	Control-IQ with Tandem T: Slim X2 pump	CamAPS FX with mylife YpsoPump
Pump size	7.8cm (L) x 4.6cm (W) x 1.6cm (D) Weighs 112 grams	8cm (L) x 5.1cm (W) x 1.5cm (D) Weighs 83 grams
Insulin cartridge / reservoir size	300 units	160 units
Battery and charging	Chargeable battery built into pump charged via USB cable Recommended to charge for 10-15 mins daily and 1 hour weekly	AAA alkaline battery (lasts approximately 1 month)
Water resistance	1 meter depth for 30 mins	1 meter depth for 60 mins
Algorithm features		
Settings that are adjustable that do affect the automated insulin delivery algorithm	Basal rates, insulin to carbohydrate ratios, insulin sensitivity factor (ISF) and total daily dose (TDD)	Insulin to carbohydrate ratios and target glucose level (adjustable at different times of the day)
Settings that are adjustable but do not affect the automated insulin delivery algorithm	Target glucose and active insulin time (fixed at 6.1 mmol/L and 5 hours in the AID algorithm)	Basal rates, insulin sensitivity factor and active insulin time (algorithm adjusts both of these based on adaptive learning)

Algorithm features continued	Control-IQ with Tandem T: Slim X2 pump	CamAPS FX with mylife YpsoPump
Glucose target	6.1 mmol/L - fixed while running Control-IQ unless in exercise or sleep mode	4.4 - 11.0 mmol/L - adjustable for different times of the day typically set at 5.3 mmol/L
Additional features	<p>Exercise activity targets a glucose range of 7.8 - 8.9 mmol/L</p> <p>Sleep activity targets a glucose range of 6.25 - 6.7 mmol/L</p> <p>Extended bolus function allows you to deliver some insulin for carbohydrate up front and some over the next 15 minutes - 2 hours</p>	<p>Ease-off mode reduces insulin delivery by raising the personalised glucose target</p> <p>Boost mode increases insulin delivery by around 35% when your glucose levels are running high.</p> <p>Slowly absorbed meal function allows you to deliver less insulin 'upfront' and the algorithm to deliver more insulin over the next 3-4 hours to manage meals that are low GI, higher in fat or protein</p>
Control, connectivity and sharing data		
Control and connectivity with a smart phone	<p>Not currently available (Tandem T: Slim app expected 2025)</p> <p>CGM can be connected to smart phone with Dexcom G6 or G7 phone app</p>	<p>Bolus and manage automated insulin delivery using the myLife CamAPS FX app on an Android smart phone (iOS expected 2025)</p>
Remote monitoring with a smart phone	CGM monitoring only with the Dexcom Follow app. You cannot see insulin delivery.	Yes, CGM and insulin delivery - add up to 10 companions with the myLife CamAPS FX app on Android smart phones

	Control-IQ with Tandem T: Slim X2 pump	CamAPS FX with mylife YpsoPump
Cloud based diabetes management system (DMS) to share with healthcare professionals	<p>Manually upload to Glooko on a computer using a microUSB cable</p> <p>CGM reports can be generated in the Dexcom Clarity app and sent via email.</p>	<p>Automatically uploaded to Glooko via the myLife CamAPS FX app</p> <p>Reports can also be generated from the myLife CamAPS FX app and sent via email</p>
Where to find more information	Pharmac and Diabetes NZ websites	
Helpful websites and simulator apps	<p>Visit the NZMS website</p> <p>T:simulator app to explore what it is like using Control-IQ</p>	<p>Visit the Pharmaco website</p> <p>Mylife CamAPS FX app use in virtual mode</p> <p>YpsoPump explorer app</p>

Definitions:

- CGM - Continuous Glucose Monitor
- AID - Automated Insulin Delivery
- DMS - Diabetes management system, this is a cloud based server where your healthcare team can login to review your glucose levels/pump data remotely

Notes

* Approved for use refers to FDA approval, these systems can be used outside of the approved for use parameters with support and advice from a specialist team
 Pharmac funding for insulin pumps and AID is for people with Type 1 Diabetes, Neonatal diabetes, Pancreatogenic diabetes and Atypical inherited forms of diabetes. Pharmac funds pump compatible CGM to be used with Automated Insulin Delivery systems,.