



# Pinnacle

by PEC®

Long-term solutions  
for future generations





# The Pinnacle Design

## Pinnacle has a deliberate minimalist design.

It is an innovative platform for fuel companies to project their unique image and personality. The PEC® equipment steps back to allow the equipment owners to speak for themselves.

The dispenser is the critical point of contact where you can engage with your customers. Pinnacle allows you to personalise the experience with the look, feel and tone of your business.

With its processing power and visual graphic capabilities, the Pinnacle platform allows you to follow the technological wave wherever it may lead.

## Available Pinnacle Models

	L Series	L Series Options	H Series	H Series Options
Dispenser	6, 8 or 10 Hose		6, 8 Hose	
Pump	6, 8 Hose		6, 8 Hose	
Hose Retractors		✓ (Option)		
Premium UI	✓		✓	
Standard UI		✓ (Option)		✓ (Option)
Flow Rate Control	✓	✓ (Option)	✓	✓ (Option)
Grade Selection	✓	✓ (Option)	✓	✓ (Option)
Biofuel Compatible	✓		✓	
Quick Cal Calibration	✓		✓	
Service Menus	✓		✓	
Advanced Security	✓		✓	
Custom User Messaging	✓		✓	
Holster Locks		✓ (Option)		✓ (Option)
PEC® Interactive		✓ (Option)		✓ (Option)
Integral VR2 (NSW Spec)		✓ (Option)		✓ (Option)



## Features of the Pinnacle

# User Interface Display Hardware

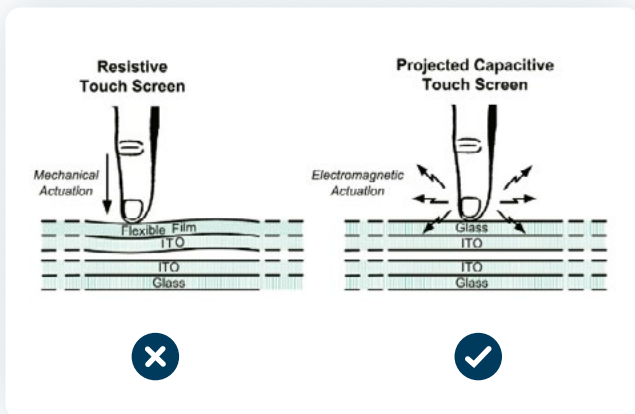
The Pinnacle range uses a projected capacitance, Thin Film Transistor (TFT) display, optically bonded to toughened glass ideally suited to extremes of temperature, weather and light conditions.



## TFT display

**A proven platform, ideal for fast moving colour graphics.**

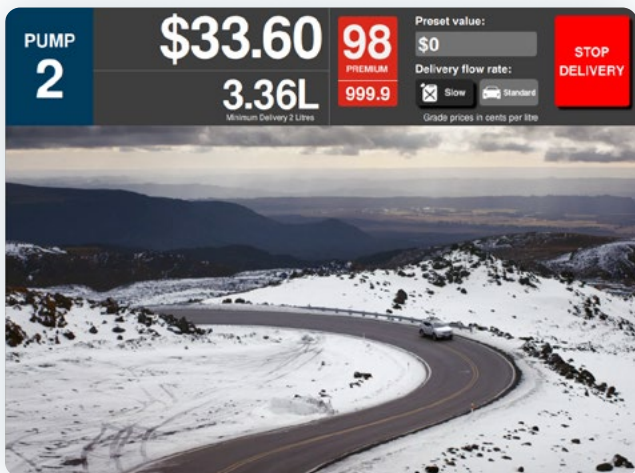
TFT displays are active-matrix LCDs with full RGB colour screens. These screens feature bright, vivid colours and can show everything from fast animations to complex graphics. TFTs are perfect low energy consumption displays for providing a rich user interface well suited for industrial applications.



## Projected capacitive touchscreen

**Reliable, no mechanical action.**

The projected capacitive touchscreen uses a glass panel coated with a transparent conductor. It does not require mechanical action to activate a touch event. This is the same technology used in modern smartphones. Superior to touchscreen alternatives, projected capacitive touchscreens have the key benefits of clarity, sensitivity, and accuracy, along with high resistance to scratches, humidity, contamination and vibration.



## Optical bonding to toughened glass

**Strong, durable and keeps contaminants out.**

Optical bonding is a process where a layer of resin is applied between the glass and TFT panel, bonding them to make a solid laminate with no gaps or pockets of air. Toughened glass has greatly improved mechanical strength and can withstand significant physical mistreatment.

## Features of the Pinnacle

# Software

In the fast-moving world of fuel and convenience, the Pinnacle platform is designed for the future.

### Improved interaction

#### Customers

Pinnacle leads customers through the delivery process with customisable messages and prompts.

#### Equipment Owners

Pinnacle allows equipment owners to personalise messages to match on-site conditions, including the ability to have different messages for different times of day.

#### Service and Site Staff

The Service and Attendant menus are simple to follow, using plain language. A copy of the Pinnacle manual is hosted within the service menu for easy referencing.

### Improving security of dispensing

The fuel dispensing operation is secure and strictly controlled, kept entirely separate from the interactive area where advertising, media and third party applications can run. Pinnacle offers an increased security environment across the entire platform.



## Features of the Pinnacle

# Electronics Hardware

Pinnacle uses an all-new set of high quality, modern componentry, designed and built by PEC® to ensure ongoing performance.



## Main Control Board (MCB)

The MCB combines the functions of the Central Controller, Stack, Valve Drive, and Barrier functions into a single board. This eliminates inter-module wiring, removing potential failure points and lessening spare parts carrying requirements. Replacement of the MCB will likely address any issues where the cause is uncertain.

The MCB uses a powerful processor which provides the ability to add further functionality as PEC® continues to develop and offer improvements and enhancements over the coming years.



## Pinnacle Encoders

Pinnacle's all new encoders send secure, encrypted messages (not pulses) from the meters to the MCB. The encoders provide greater ability to detect anomalies and report to the MCB.

Each encoder has a unique code and is 'registered' to the dispenser upon installation. This, along with the provision for mechanical sealing, adds a further layer of security to the metering system.

The system allows for 'Quick Cal' calibration. A far more efficient way to verify/calibrate the dispenser.



## Connectivity

The Pinnacle platform allows for Ethernet (wired) network connection. Wi-Fi, for connecting to the service station LAN, will soon be available.

These connections are useful for the delivery of advertising/media files, third party applications, and service/log file purposes. The dispenser status and log information can be accessed using the touchscreen interface via the secure service menus.



## Power Factor Correction, Variable Speed Drive and Induction Motors

Pinnacle has an all-new Variable Speed Drive (VSD) system providing greater efficiency and control for suction systems. The VSD sits in the head and controls the new efficient induction motors. It controls the flow of energy, providing a smooth soft start and run down, eliminating motor jump and power peaks. The PFC circuit provides high efficiency AC to DC conversion.



## Uninterrupted Power Supply (UPS) Battery Backup

Fuel dispensers must continue to display the last transaction details for a period after a power outage. Traditionally, this is achieved by having a small battery on the display. Pinnacle uses a UPS provided by a small bank of lithium batteries.

This not only keeps the display active, it keeps the Main Control Board powered, but will not allow fuel delivery during a power outage.

The result is that the POS can still communicate with a dispenser that has had its power cut. In addition, the system is more tolerant of power variability that is sometimes experienced.

## Features of the Pinnacle

### Mechanical and Hydraulic System

Pinnacle dispensers retain the engineering features that PEC® are known for from decades of producing highly reliable products designed for the market. The quality materials PEC® has chosen will translate into a unit that looks good today and will continue to perform well into the future.



### Proven Equipment

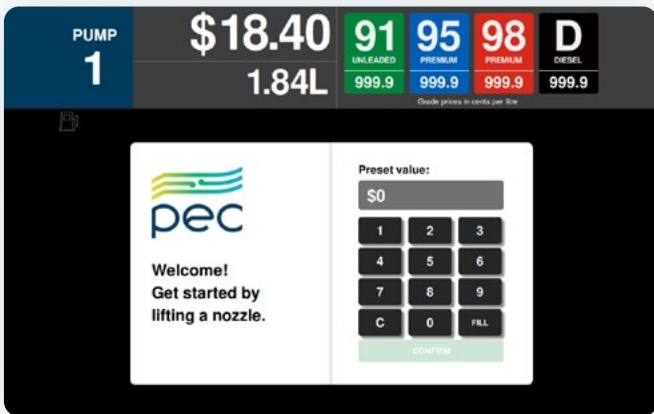
The PEC® Pinnacle uses the Tatsuno meters and pump units that have proven themselves after many decades in PEC® equipment. Buyers can be assured of the same high level of accuracy and long service life that Tatsuno components are renowned for.

Pinnacle uses aluminium internal piping, the strong galvanised frame is clad with powder coated aluminium panels — which have a five year warranty on the adhesion of the powder coating. The setup is complemented with world leading ZVA hoses and nozzles.

## Service Menu

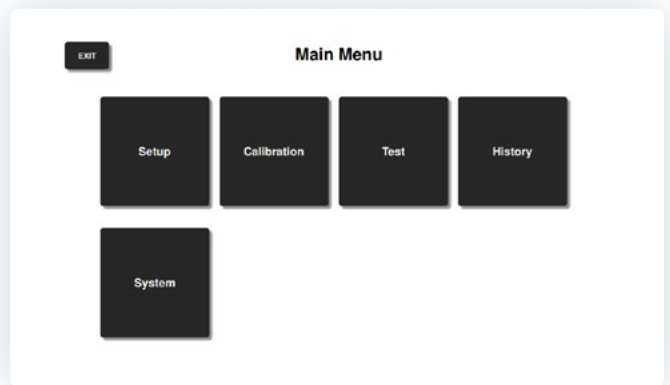
The secure service menu items are arranged by groups, each accessed via the touch screen.

All 'Day One' installation settings are found in one place and are easy to follow. The Test Delivery and 'Quick Cal' calibration menus come with prompt messages like, 'Lift hose to start' and 'Press to calibrate'. A detailed manual is also found in the system menu for any questions.



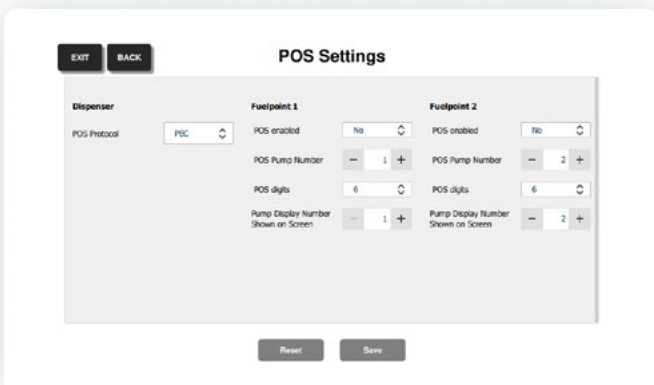
### Pinnacle Welcome Screen

Custom colours, logos and welcome messages.



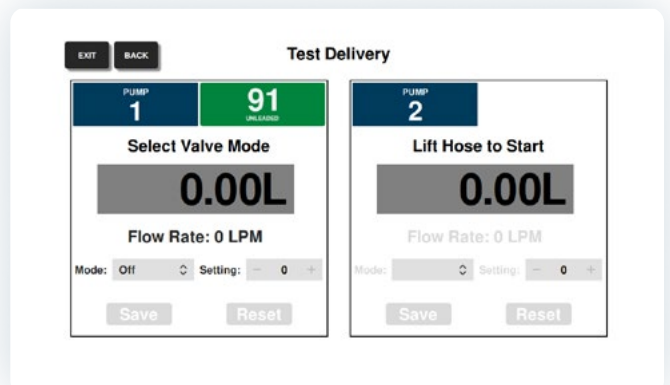
### Service Mode Menu

Easy to follow, plain language service menu.



### Typical Settings Screen

Settings by easy-to-use drop-down menus.



### Test Delivery Screen

Talks you through testing and quick calibration.



# Technical Specifications

## Suction System

1 pump and motor per product	Dedicated meter for each product hose/nozzle
Standard - suction head limit 4.0m (petrol @ 25°C @ sea-level) max, includes vertical lift and losses in supply pipelines and fittings	
Standard - suction head limit 5.0m (diesel @ 25°C @ sea-level) max, includes vertical lift and losses in supply pipelines and fittings	

## Air Separation

Tatsuno PGS-0257 FP1001 Pumping Unit

## Pressure System

Submersible Pump Unit (STP) in the remote fuel tank - controlled from on-board AC Control system. Minimum 1 STP/product	
Inlet Manifold Pressure	100 - 350kPa max (MUST NOT exceed 350kPa)

## Delivery Flow Rate

Jerry Can	10L/min	Standard nozzle with reduced spout
Standard	38L/min	Standard nozzle with reduced spout
Boost Button	up to 60L/min	Standard nozzle with 19mm standard diesel spout
Minimum Delivery	2L or 5L depending on nozzle selection	

## Metering

Tatsuno FM-1007 Flow Meter

## Electronic System

All electronic components located in the hazardous areas (hydraulic cabinet and hose stowage area) are intrinsically safe  
 All other electronic components are located in the non-hazardous area within the Head Cabinet Display

Display	7" or 15" LCD Panel	Colour Graphics	LED Backlight >800Cd/m2
	Showing	Total Volume	7 Digits (limited to 9990.00 maximum by POS Protocol)
		Total Price	7 Digits (limited to 9990.00 maximum by POS Protocol)
		Unit Price	5 Digits
		Pre-set	5/6 Digits (limited to 9990.00 maximum by POS Protocol)
		Totaliser	8 Digits (Per hose, accumulated volume and dollars)
	Touch Sense	Capacitive Touch Screen	
Tote		Digital	8 digit totalisator for total volume and dollars per hose
Pulser		PINNACLE Pulser	
Forecourt Communications		PEC® MPD (a single product must be set up as MPD)	
		Gilbarco Australia Two-wire Pump Protocol 2	

## Electrical System

Motor	Elnor	750W IECEx certified Ex d three phase
Solenoid Valves	ASCO	24VDC proportional solenoid valve. IECEx certified Ex m
Temperature Range	-20°C to +50°C	
Electrical Requirements	220-240VAC	

## Mechanical System

Hose	Elaflex	16mm AS 2683 compliant
Nozzle	Elaflex	ZVA Automatic Nozzle: ZVA Slimline 2
Dry-Break Couplings	Elaflex	SSB16 Straight - Safety Swivel Break at the Nozzle
MAX No. of Products Dispensed	L Series: 5 per side H Series: 4 per side	
Ethanol, Biodiesel Capable	(Limits: Ethanol up to E85. Biodiesel up to B20)	
Vapour Recovery Option	Yes. Integral with Elaflex VR Hoses and Nozzles	
Hose Reach	L Series:	Reach: Hanging hose: 3.3m Retractor activates at 3.3m extending to 4.1m
	H Series:	Reach: Hanging hose: 3.8m

## Compliance

H Series	Certificate No.: ANZEx 22.4178X	Ex db eb ib mb IIA T3 Type 3 IP23 AS/NZS 2229:2004
L Series	Certificate No.: ANZEx 22.4179X	Ex db eb ib mb IIA T3 Type 3 IP23 AS/NZS 2229:2004

## Trading Standards

Pattern Approval No. TS2439

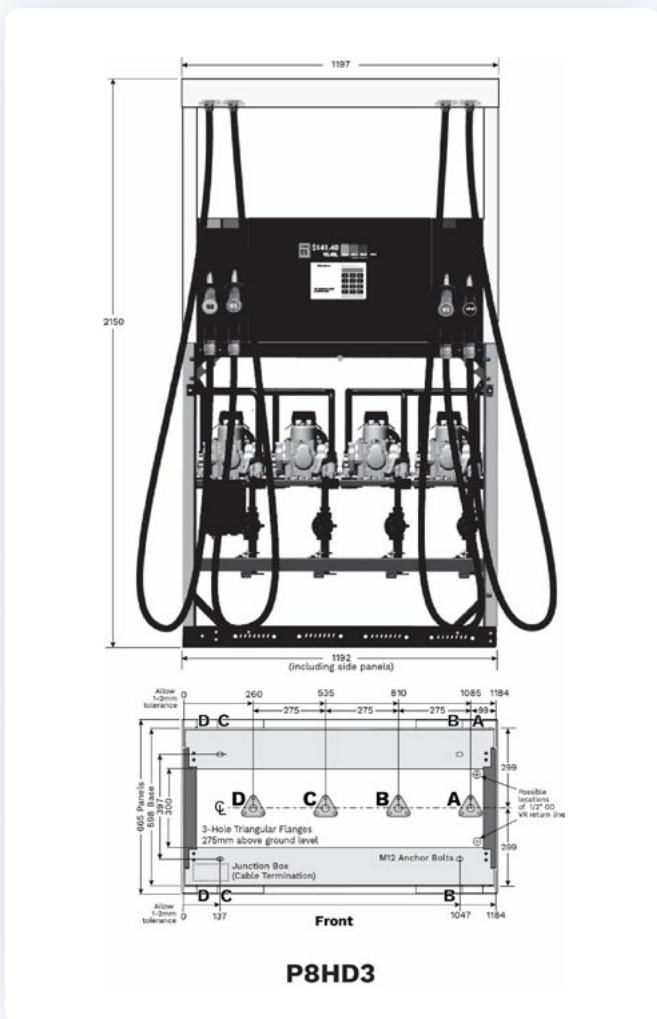
# Site Planning

Pinnacle is designed to be compatible with your existing forecourt.

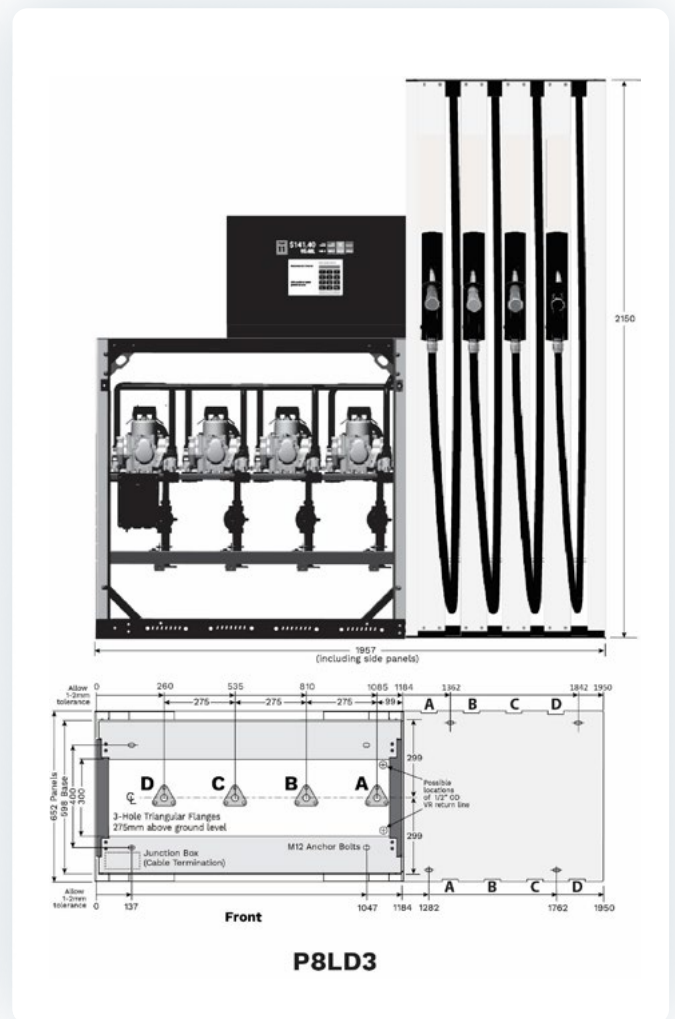
Standard electrical, hydraulic and communications connections ensure that minimal site work is required to upgrade your site to Pinnacle.

## Example Footprints

### 8 Hose H Series Dispenser



### 8 Hose L Series Dispenser



All Pinnacle footprints and CAD model files are available on request.

## Pinnacle

# Real World. Real Words.

It was a huge leap when we were the first to put a microprocessor in a fuel dispenser. Now you will struggle to find a dispenser without one. We're confident that we've introduced the next groundbreaking technology, which we've named 'Pinnacle' because it represents our most innovative platform so far.

We are proud to hear the positive impacts that the first dispensers have had on technicians, site owners and end users alike. This feedback is simple proof that the forecourt revolution starts with the Pinnacle.

**The customers who have experienced the Pinnacle pumps have highlighted how simple and intuitive the units are.**

Compliments included how striking the Pinnacle units looked compared to older units on the forecourt. One customer noted how clear and readable the screens were in full, low winter sun.



**“PEC® has set the new benchmark here for how pumps should be set-up and calibrated.”**

- Service Technician

**“Everyone loves the pumps! Loads of people are saying how modern-looking and easy to use they are.”**

- Shift Manager

**“They look great and are being well received by our customers. The large screen's lighting and illumination makes it easier to read. They provide a difference for us and we couldn't be happier.”**

- Site Owner



## Contact PEC®

Contact your PEC® agent below to organise an in-depth conversation about how the Pinnacle range will change the way you do business.

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