Penlon HP TCi Syringe Pump

INFUSION SOLUTIONS

A UK COMPANY

- 3.0” touchscreen operation
- Easy operation
- Auto/manual syringe installation
- Extra bolus delivery during TCi
- High infusion accuracy
- Multiple TCi models including Eleveld

Penlon

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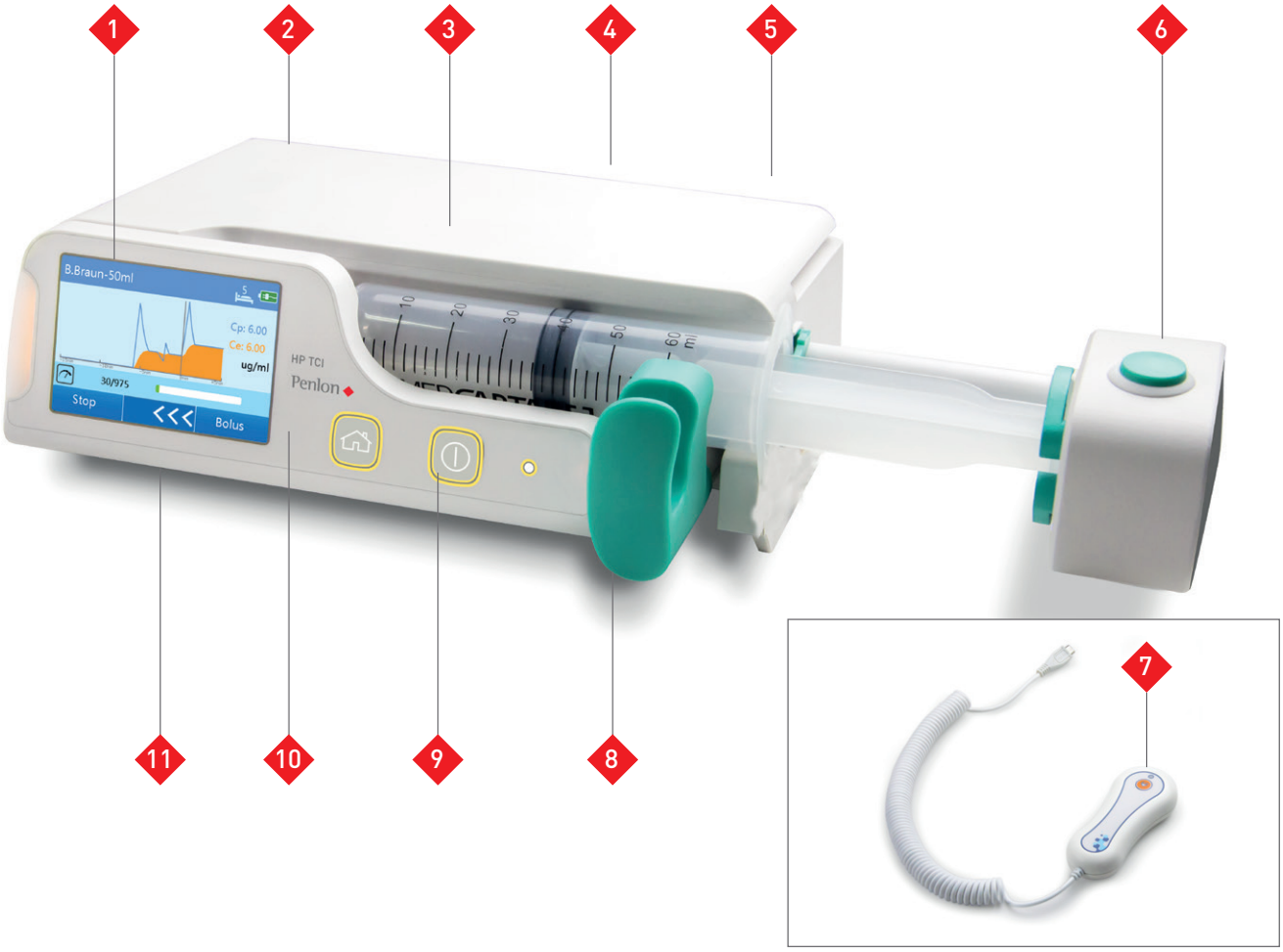


The Penlon HP TCi syringe pump's advanced features deliver efficient, accurate and reliable IV anaesthesia

1. 3.0" touchscreen with screen lock, to prevent unauthorised changes to parameter settings
2. USB 2.0 port to connect to infusion workstation, optional barcode scanner or DC power input
3. Up to 5000 drug types can be stored in the drug library for easy direct drug selection
4. Pole clamp enables secure fixing to horizontal pole, vertical pole, or trolley
5. High capacity li-ion battery automatically charges when connected to AC power
6. Precision controlled drive head secures and drives the syringe plunger to accurately perform the infusion
7. Optional PCA controller
8. Syringe holder provides secure positioning and facilitates easy identification of syringe size
9. IP33 rating protects against spraying water
10. Multiple TCi models including Eleveld
11. Networkable as standard, with wireless LAN option, to connect to Infusion Central Monitoring System

Technical Specifications

Dimensions	
Dimensions	258 × 75 × 152 mm (W × H × D)
Weight	1.7 kg, approximately (including battery)
Screen	3.0" LCD touchscreen Resolution: 480 × 320 pixels Angle of visibility: 80° in all directions
Classification	Defibrillation-proof type CF applied part, IP33
Syringe Type	2, 3, 5, 10, 20, 30, and 50/60 ml
Special Function	
Recent Therapy	20 recent therapies are recorded and can be directly used by simple selection
Rate Change During Infusion	Infusion rate can be changed during infusion without stopping
Auto Screen Lock	Available
Repeat Alarm	A muted alarm will resume after 118 seconds if the alarm condition remains
Storage	3000 records (maximum) can be stored and reviewed
Alarm Levels	Low, medium and high priority
Power Supply Switching	When AC/DC power supply is cut off, the pump automatically switches to internal battery supply
Power Supply	
AC Power	100 to 240 V AC, 50/60 Hz, 40 to 45 VA input power
External DC Power	12 V DC, 2.5 A
Internal Battery	Lithium battery 10.8 V, 3000 mAH
Battery Charging Time	• Fast charge: > 4 hours (power off) • Normal charge: > 10 hours (power on)
Battery Operating Time	Not less than 10 hours NOTE: Infusion at 5 ml/h with new battery, at room temperature
Basic Parameters	
Infusion Modes	Rate mode, Time mode, Weight mode, Sequence mode, Trapezia mode, Micro mode, Loading dose mode, TIVA mode, PCA mode (optional), TCI mode, and Intermittent mode
Infusion Rate Range	2 ml syringe: 0.1 to 60.0 ml/h 3 ml syringe: 0.1 to 90.0 ml/h 5 ml syringe: 0.1 to 150.0 ml/h 10 ml syringe: 0.1 to 300.0 ml/h 20 ml syringe: 0.1 to 600.0 ml/h 30 ml syringe: 0.1 to 900.0 ml/h 50/60 ml syringe: 0.1 to 2300.0 ml/h
VTBI Range	0.10 to 9999.99 ml Minimum increment: 0.01 ml
Accumulated Volume	0 to 9999.99 ml
Infusion Accuracy	≤±2%
KVO Rate	0.1 to 5.0 ml/h Minimum increment: 0.01 ml/h
Bolus Rate	0.1 to 2300.0 ml/h
Occlusion Level	12 levels selectable, 150 to 975 mmHg
Alarm	
Visual and Acoustic Alarm	Infusion End, BAT Empty, Patient Side OCCL, Infusion End KVO Start, KVO End, Relay Failed, Syringe Empty, Holder Error, Drive Head ERR, Standby End, Infusion Near End, No Battery, No AC Power, BAT Low, Reminder Alarm, Syringe Near Empty, PCA 1h overrun, and PCA 4h overrun; Pre OCCL; Tube Off; Drive Head Position ERR, Incorrect Syringe Installation
Patient-Controlled Analgesia (Optional)	
Modes	P Mode, CP Mode, or LCP Mode
Bolus Volume	0.10 to 9999.99 ml
Bolus Rate	0.1 to 2300.0 ml/h
Lockout Time	00:00:01 to 99:59:59 (h:m:s)
Dose Limits	1 hour: 0.10 to 9999.99 ml 4 hours: 0.10 to 9999.99 ml
Safe Conditions	
Operating Conditions	Temperature: 5 to 40°C Humidity: 15 to 95% RH, non-condensing Atmospheric pressure: 57 to 106 kPa Altitude: ≥4,500 m
Storage Conditions	Temperature: -20 to +55°C Humidity: 10 to 95% RH, non-condensing Atmospheric pressure: 22.0 to 107.4 kPa
Connectivity	
Wired	LAN via RJ45, 10/100 Mbps
WiFi	802.11-b/g/n protocol (optional)

Overview of Possible Protocols

Drug	Model	Plasma	Effect-Side TCi
Propofol	Marsh	✓	✗
Propofol	Schnider	✓	✓
Propofol	Kataria*	✓	✗
Propofol	Paedfusor*	✓	✗
Propofol	Eleveld*	✓	✓
Propofol	Eleveld with Opioid*	✓	✓
Dexmedetomidine	Dyck*	✓	✗
Remifentanil	Minto	✓	✓
Sufentanil	Gepts*	✓	✓
Sufentanil	Bovil*	✓	✓
Alfentanil	Maitre*	✓	✓
Fentanyl	Shafer*	✓	✓

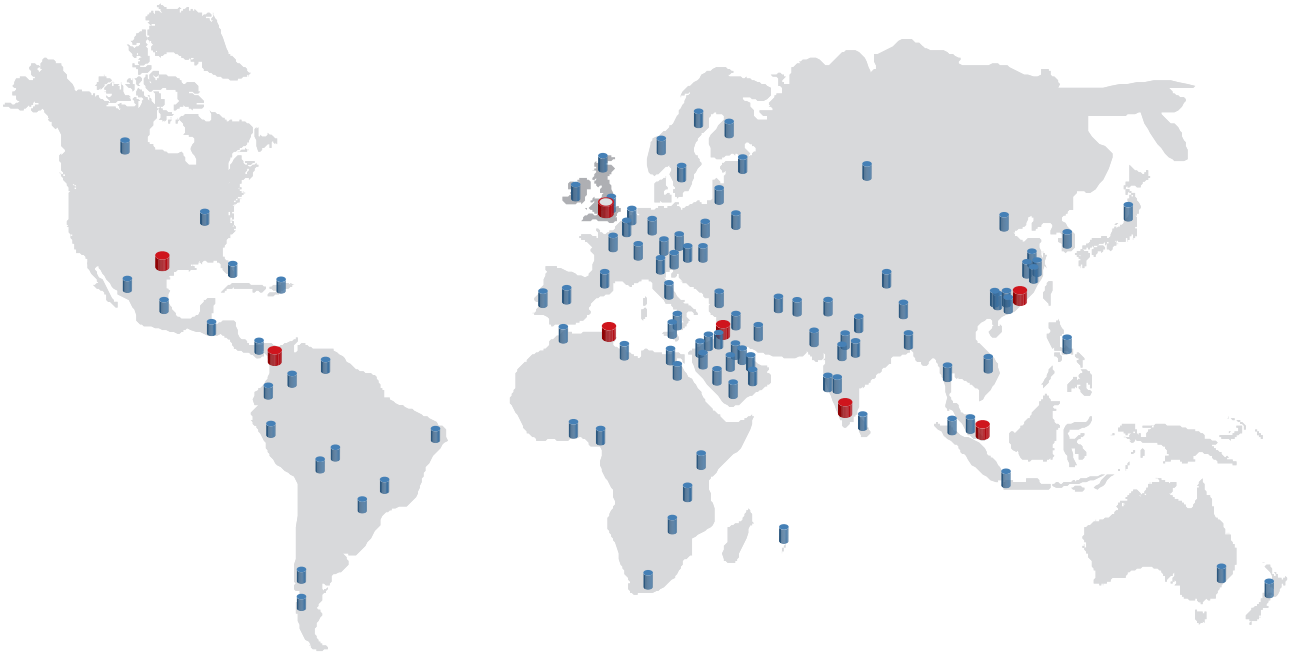
*Optional

About Penlon

Penlon was founded in 1943 by personnel from the Department of Anaesthesia at Oxford University. One of the first products was the Macintosh Laryngoscope, then a revolutionary design, and still the most widely used today, invented by the late Sir Robert Macintosh, Professor of Anaesthetics.

Today Penlon continues to design, engineer and build high quality anaesthesia products at its UK operations headquarters. The company is proud to have 80 years' dedicated experience, many awards for product design, and an impressive four Queen's Awards for Enterprise, one for 'Innovation' and three for 'International Trade'.

Penlon devices feature intuitive user interfaces that require minimal operator training, putting clinicians in control, enabling them to focus on what is most important – patient safety and wellbeing.



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Penlon Limited
Abingdon Science Park
Barton Lane, Abingdon
OX14 3NB, UK

General
t +44 (0) 1235 547000
w www.penlon.com

International Sales
t +44 (0) 1235 547001
e international.sales@penlon.com

UK Sales
t +44 (0) 1235 547036
e uk.sales@penlon.com

Technical Support
t +44 (0) 1235 547060
e tech.support@penlon.com

EC REP
Shanghai International Holding Corp. GmbH (Europe)
Eiffestraße 80,
20537 Hamburg Germany