

# TARGET CONTROLLED INFUSION SYRINGE PUMP

 **ESP-1000**  
(One channel)



**ESP-1000 (target controlled infusion)** pump is a kind of intellectualized automatic infusion device, which is designed for delivery of anesthetic drugs by target controlled infusion (TCI) mode according to the pharmacokinetics and the experience in clinical use. It makes use of the integration of the technology of micro-processor control and precise manufacture. It is available for performing an intravenous analgesia infusion. It is applicable to all the inpatient surgical anesthesia and endoscopic examination, sedation of ICU patients etc.

It is characterized by accurate infusing, sufficient function and simple operation.

## Functions and Features:

**A. Operation modes:** Plasma TCI (target controlled infusion) mode, Effect site TCI (target controlled infusion) mode and Constant flow rate infusion mode.

1) Plasma TCI (target controlled Infusion) mode enables the users to set the target plasma concentration.

2) Effect site TCI (target Controlled Infusion) mode enables the users to set the target effect site concentration.

**The pump delivers drugs to maintain the desired concentration according to the pharmacokinetic model. The Infusion rates are altered automatically.**

3) Constant flow rate infusion mode: It enables the users to control the infusion by setting the flow rate. There are seven flow rate units of available such as ml/h, mg/h, ug/h, mg/kg/h, mg/kg/min, ug/kg/h, ug/kg/min.

**B. Available drugs:** Fentanyl, Alfentanil, Sufentanil, Midazolam, Propofol, Etomidate, Vecuronium, Atracurium, Rocuronium, Remifentanil, Ketamine.

**C. Automatic compensation** for drug when the infusion is paused and maintain the Plasma or Effect site concentration required. Advanced intelligence, recovery time forecast function, which helps the doctors to stop the infusion at the right time.

**D. RS-232 communication:** It enables the history data to be transmitted from pump to PC.

**E. Alarm and Warns:** when something abnormal occurs, the pump can give out audible alarm and warning information such as AC power failure, battery low, drug near empty, drug empty, occlusion, end of infusion, syringe disengaged, forget operation, infusion rate abnormal, motor abnormal, pushfit error etc.

### Specification:

<b>Range of Flow Rate:</b>	5ml syringe:	0.1~150ml/h;
	10ml syringe:	0.1~300ml/h;
	20ml syringe:	0.1~600ml/h;
	30ml syringe:	0.1~900ml/h;
	50(60) ml syringe:	0.1~1200ml/h;

**Suitable Syringe:** All the syringe in the standard capacity set 5ml, 10ml, 20ml, 30ml, 50(60) ml can be used in the pump by custom syringe's setting. **Accuracy:**  $\pm 2\%$

**Display:** A large screen (240x128 pixel), rotary setting with convenient operation interface.

**Non-volatile memory:** The pump memories all the setup parameters and history data of the last infusion.

### Pill Dosage and Occlusion Threshold:

Pressure level	Low 300 $\pm$ 100mmHg	Medium 500 $\pm$ 150 mmHg	High 900 $\pm$ 200mmHg
Reaction Time	$\leq 10$ minutes	$\leq 20$ minutes	$\leq 35$ minutes
Pill Dose	$\leq 1$ ml	$\leq 1.5$ ml	$\leq 2.5$ ml

**Power supply :** AC 100V -245V 50/60 Hz

**Battery:** 11.1 V battery can use for more than 5 hours after charged for 10 hours

**Input power** 30-45 VA

### Operating conditions:

**Safety standard:** Class IIb ( CE standard) complies with

EN60601-1-2:2001, EN60601-1:1990+A1:1993+A11:1993+A12:1993+A2:1995+ A13:1996;

EN60601-2-24:1998, ISO8536-8:2004

**Ambient temperature :** +5 to +40°C

**Relative Humidity (RH):**  $\leq 90\%$

**Dimension (mm):**336(L) $\times$ 153(W) $\times$ 132(H)

**Weight:** 2.5kg



ESSE 3 Via Garibaldi 30  
14022Castelnuovo D.B. (AT)  
tel +39 011 99 27 706  
fax +39 011 99 27 506  
e-mail [esse3@chierinet.it](mailto:esse3@chierinet.it)  
web : [www.esse3-medical.com](http://www.esse3-medical.com)

