

**TERUFUSION® Infusion Pump TE-171/TE-172**

**MID  
PRESS**



TE-171

TE-172

**The outstanding reliability of Terumo's MIDPRESS puts you at ease**



Through high accuracy and dependability, Terumo makes my choice easy.

The TERUFUSION® Infusion Pump TE-171/TE-172 boasts a new MIDPRESS system that provides highly accurate infusions.

With other user-friendly and advanced safety features, the TE-171/TE-172 fully meets the demands of modern infusion therapy.



**MID  
PRESS**



# User-friendly features and easy operation in

## Body weight mode

The TE-172 automatically calculates and sets the proper flow rate when the dose rate, body weight, drug mass and solution volume are entered. This eliminates the need for time-consuming calculations and having to refer to a conversion table.

- 1) Press the [DISPLAY ON/OFF] switch and the body weight mode screen lights up.
- 2) Press [SELECT] switch to select between the dose rate ( $\mu\text{g}/\text{kg}/\text{min}$ ), body weight (kg), drug mass (mg), and solution volume (mL).
- 3) The flow rate is automatically calculated and displayed after entering the specified dose rate, body weight, drug mass and solution volume.

$$\text{Flow rate (mL/h)} = \frac{\text{Dose rate } (\mu\text{g}/\text{min}) \times \text{Body weight (kg)} \times \text{Solution volume (mL)}}{\text{Drug mass (mg)} \times 1,000 (\mu\text{g})} \times 60 (\text{min})$$

\*1 Coefficient to convert "minute (min)" to "hour (h)"

\*2 Coefficient to convert "mg" to " $\mu\text{g}$ "



## Convenient time remaining indication function

After the flow rate and volume to be delivered have been input, the time required to complete the delivery is automatically indicated.



## Selectable three-step (L, M and H) occlusion detection pressures

As versatile as they are reliable, these infusion pumps provide a variety of pressure level settings (three in all) to match virtually any requirement. For earlier alarm notification during occlusion, the detection pressure can be set at the lowest setting.



## Informative alarms and added safety functions

User-friendly alarms and safety functions include: air-in-line, occlusion, irregular flow, door alarm, low battery, re-alarm, start reminder alarms and self check, and a front panel lock-out safety functions.

## Easy-to-read, large display

### Brightness adjustable display

The brightness of the display can be lowered to allow a patient to enjoy undisturbed sleep.

### Door light for easy nighttime use

The light inside the door is convenient for nighttime use.



## Convenient battery indicator

The TE-171/TE-172 features a series of informative battery indicator lamps for easy confirmation of the onboard battery power\* (three levels).

\* Operates for approximately three hours in continuous use.



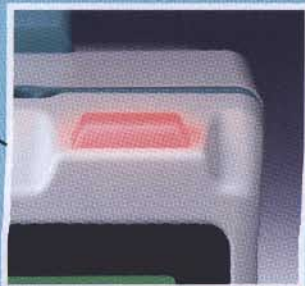
single space-saving unit

## TERUFUSION® Infusion Pump TE-171/TE-172

### Easy-to-see operation indicators

For easy confirmation from any angle, the indicator lamp protrudes from the unit.

A green lamp blinks to indicate that operation is in progress, while a flashing red warning lamp informs the user that a problem has occurred.



### Connects to the drip sensor (option)

For safety, this drip sensor (option) can double check irregular flow rates.



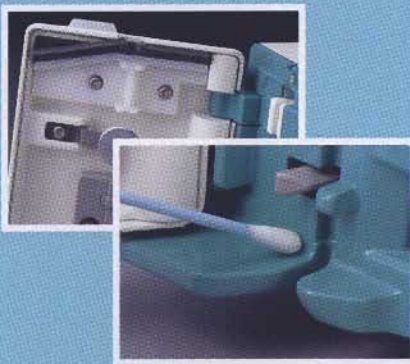
TE\*971

### History function

Historical data of infusion records: warnings, settings, starts and stops of infusion, etc.

### Simple maintenance care

The main body and door construction employ rubber sealing to prevent solution leakage. Solution left on the surface can be easily wiped off thanks to its rounded-corner design.



### Computer interface connector available

Computer interface connection enables connection to RS-232C/RS-485.

### Nurse call connector available

#### Options



TERUFUSION Solution Administration Set Kit Pump (S\*EP004-471)



TERUFUSION Short-term Soluble Administration Set for Pump (S\*EM004-441)



SAFEED Extension Tube for use with pumps (S\*EP010-001)



### Three-way power supply (AC/DC/internal battery)

#### Trouble-free battery replacement

The battery can be easily exchanged via the quick-access battery compartment. Now replacing a battery does not require removing the unit's entire casing.



AC/DC

BATTERY

F E

#### Battery operation time reference:

approx. 160 minutes or longer

approx. 90 minutes or longer

approx. 30 minutes or longer\*\*

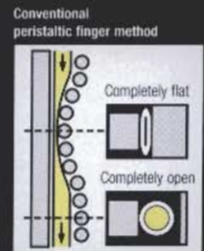
\*\* When the low-battery alarm is not on.



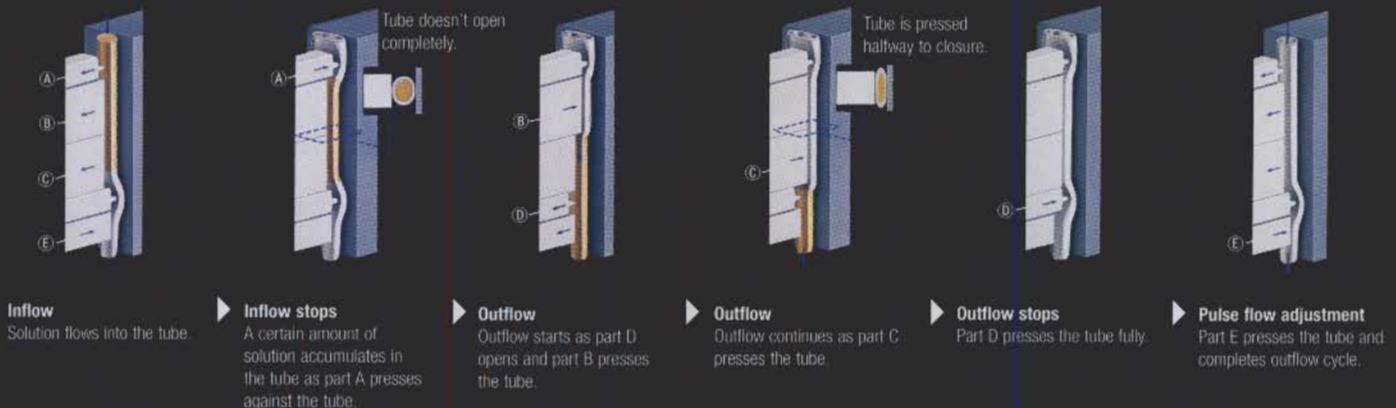
# TERUFUSION® Infusion Pump TE-171/TE-172

Terumo has developed an innovative MIDPRESS system that uses a new peristaltic finger method. With the conventional peristaltic finger method, solutions are administered by occluding the solution-administration tube until it becomes completely flat.

With the new MIDPRESS method, however, solutions are administered with high accuracy by pressing the solution-administration tube only halfway to closure. By precisely controlling the finger and stroke through the MIDPRESS, a stable volume is delivered and a more accurate flow rate is achieved.



## MIDPRESS System



### • High accuracy

High flow-rate accuracy is achieved: within  $\pm 3\%$  using the specified infusion sets type E for pump and within  $\pm 5\%$  using conventional infusion sets for pump. The MIDPRESS method succeeds in minimizing flow-rate changes even over long periods, particularly for the delivery of vasopressor or depressor drugs.

### • Wide range of flow rate settings is possible — from very low to high.

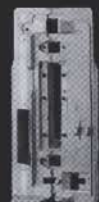
Flow rates can be set within a wide range (from 0.1 mL/h to 1,200 mL/h). This makes it possible to perform infusions in a wide variety of situations and applications, such as small infusions for newborn babies, rapid infusion for emergency care and the delivery of parental nutrition.

### • Transfusion

Since the MIDPRESS system doesn't press the tube completely flat, damage to hemocytes is reduced. This means the TE-171/TE-172 can be used for blood transfusions in pediatric or ICU cases with the specified extension tube for pumps.

### • Solid aluminum die-cast frame

The TERUFUSION® infusion pump TE-171/TE-172 has a precision machined solid aluminum die-cast frame for the base of the MIDPRESS finger part. This structure helps ensure highly accurate flow rates.





# TERUFUSION® Infusion Pump TE-171/TE-172

## Specifications

<b>Product Name</b>	TERUFUSION Infusion Pump TE-171	TERUFUSION Infusion Pump TE-172
<b>Model</b>	TE-171	TE-172
<b>Pumping System</b>	MIDPRESS peristaltic finger system (A newly developed system to provide accurate infusion without pressing the tubing completely.)	
<b>Accuracy (Nominal value)</b>	Within ±3% (Conditions) Infusion set: Specified TERUFUSION infusion sets type E for pump, solution: water/saline, test time: second hour, delivery rate: 1.0mL/h or more, temperature: 25°C Within ±5% (Conditions) Infusion set: Specified TERUFUSION infusion sets for pump, solution: water/saline, test time: second hour, delivery rate: 1.0mL/h or more, temperature: 25°C	
<b>Delivery Rate</b>	0.1 – 1,200mL/h (0.1 – 99.9mL/h: 0.1mL/h step, 100 – 1,200mL/h: 1mL/h step). The delivery rate can be set in 1mL/h step throughout the range by the internal mode select switch.	
<b>Delivery Limit</b>	1 – 9,999mL (1mL step) or "----" (delivery limit free)	
<b>Volume Delivered</b>	0.0 – 9,999mL (0.0 – 99.9mL: 0.1mL step, 100 – 9,999mL: 1mL step). The volume delivered reading is in 1mL step from 1 to 9,999mL by the internal mode select switch.	
<b>Purging</b>	Higher than 500mL/h	
<b>Alarms</b>	AIR/OCCCLUSION/FLOW ERR./DOOR/LOW BATT. *Operation indicator flashes red, and the alarm message come on. Pump stops except during the "LOW BATT." alarm.	
<b>Occlusion Detection Pressure</b>	13.3 – 133.3kPa (100 – 1,000mmHg, 0.1 – 1.4kgf/cm <sup>2</sup> ) The detection pressure can be adjusted in 3 levels (L, M, H) within the above range.	
<b>Completion Function</b>	When the total volume delivered reaches the preset delivery limit, the indicator and buzzer notify the operator.	
<b>Nurse Call Alarm</b>	Outputs an alarm relay contact. (Can be connected to the nurse call system) Contact rating: DC12V 1.0A	
<b>Computer Interface*</b>	RS-232C/RS-485	
<b>Special Functions</b>	<ul style="list-style-type: none"> <li>• "Keep vein open" function (After the delivery limit has been reached, delivery continues at 1mL/h for a set flow rate of ≥ 1mL/h; or at the delivery rate setting &lt; 1mL/h.)</li> <li>• Tubing clamp function (When the door is opened, tubing is automatically clamped.)</li> <li>• Volume delivered clear function</li> <li>• Time remaining display</li> <li>• Battery capacity indicator (In 3 levels)</li> <li>• Adjustable display brightness (Can be switched to 2 levels.)</li> <li>• Adjustable buzzer volume (In 3 levels)</li> <li>• Operation history function (Storage/display of operation history)</li> <li>• Standby function</li> <li>• Repeat alarm function</li> <li>• Start reminder function</li> </ul>	

<b>Special Functions</b>	The following functions can be selected via internal switches. • Volume memory function • Delivery rate 1mL/h step
<b>Operating Conditions</b>	Temperature: +10 to +40°C, humidity: 20 to 85%
<b>Storage Conditions</b>	Temperature: -20 to +45°C, humidity: 10 to 95% (No condensation)
<b>Power Supply</b>	AC 100 – 120V/AC 100 – 240V, 50/60 Hz DC12 – 15V Internal Nickel-Cadmium battery Operating time: approx. 3 hours Conditions: new battery, delivery rate: 25mL/h, temperature: 25°C, with the power off, after 15-hour charging
<b>Power Consumption</b>	24VA (AC 100 – 120V)/28VA (AC 100 – 240V), 11W (DC power)
<b>Classification</b>	Class I & internal power supply: Type CF/IPX1 Continuous operation
<b>Dimensions</b>	100 (W) x 215 (H) x 208 (D) mm (Excl. protrusions)
<b>Weight</b>	Approx. 3.6kg (TE-171), 3.7kg (TE-172)

\*Computer interface is available on the specified product.

<b>TE-172</b>	
<b>Body Weight Mode (Dose Rate Calculation)</b>	Dose Rate: 0.01 – 99.99µg/kg/min. (0.01µg/kg/min. step) Body weight: 0.1 – 300.0kg (0.1kg step) Drug mass: 0.1 – 999.9mg (0.1mg step) Solution volume: 0.1 – 999.9mL (0.1mL step)
<b>Memory Function</b>	The latest five patterns of the above four parameters are automatically saved and can be displayed.

\*The specifications and design are subject to change without notice.

## Units available

Reorder number	Voltage	Plug type	Socket type	Body weight mode	Computer interface
TE*171NX1	100 to 120V	American	☒	-	-
TE*171NW2	100 to 240V	UK	☒	-	-
TE*171NW3	100 to 240V	European	☒	-	-
TE*171NW3*	100 to 240V	European	☒	-	-
TE*171CX1	100 to 120V	American	☒	-	yes
TE*171CW2	100 to 240V	UK	☒	-	yes
TE*171CW3	100 to 240V	European	☒	-	yes
TE*171CW3*	100 to 240V	European	☒	-	yes
TE*172CX1	100 to 120V	American	☒	yes	yes
TE*172CW2	100 to 240V	UK	☒	yes	yes
TE*172CW3	100 to 240V	European	☒	yes	yes
TE*172CW3*	100 to 240V	European	☒	yes	yes

\*Separate setup procedures are required for product with voltage-plug combination other than listed above.



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