

# AniFM 3 series product introduction

**PMLS Marketing  
Department**



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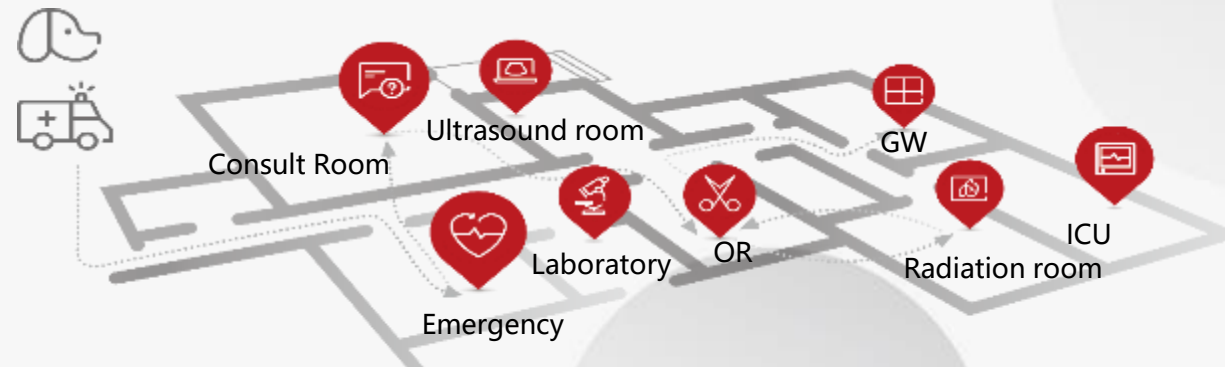
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01

# Vet Infusion Pump Product Overview

# Veterinary Infusion Pump Application Department



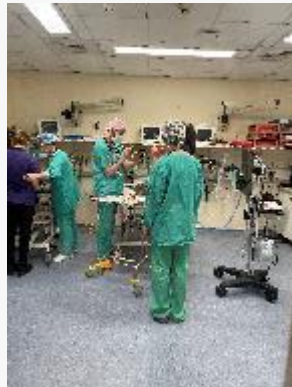
## Preoperative

Consult/ Infusion Room



Cage: infusion pump = 1:1

Induction Room



Bed: Syringe pump: Infusion pump=1:1:1

## OR

OR



Bed: Syringe pump: Infusion pump=1:1:1

Emergency room



Cage: infusion pump = 1:1

## GW /ICU

GW



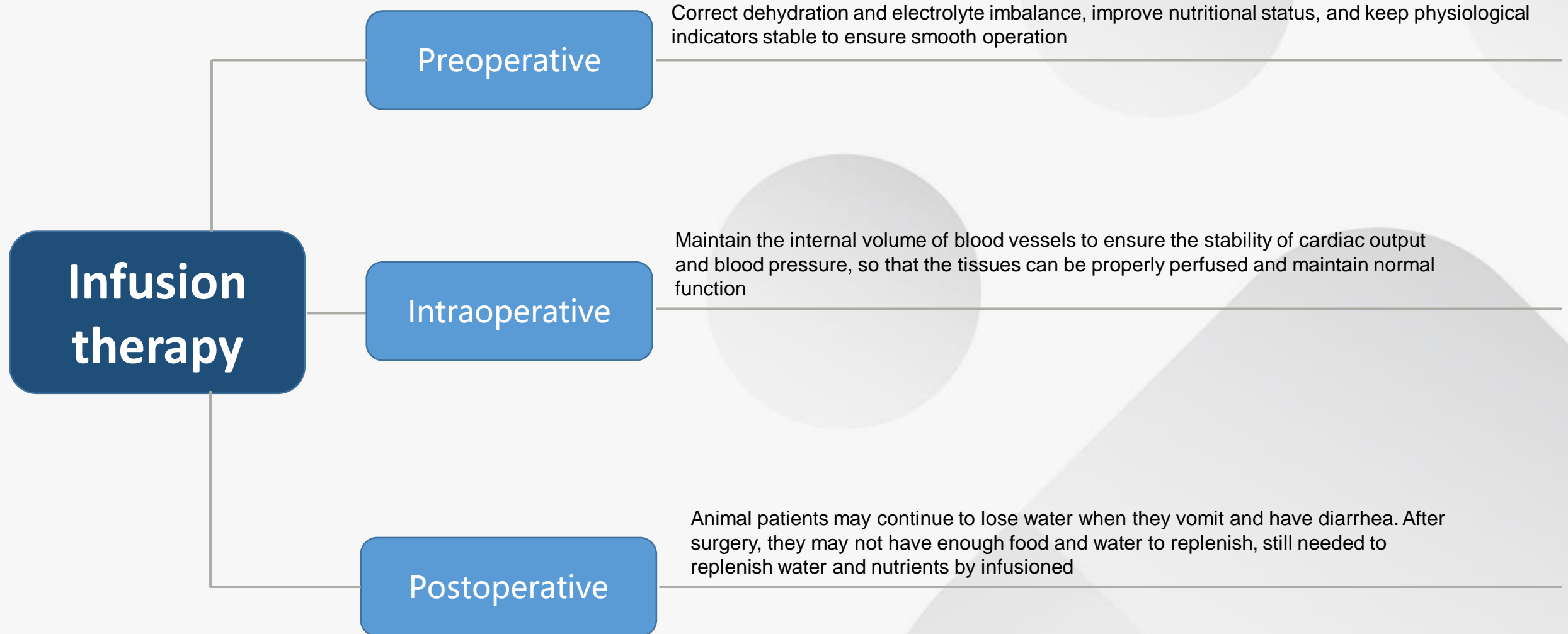
Cage: infusion pump = 4:1

ICU



Cage: infusion pump = 1:1

# Clinical application scenarios of veterinary infusion pumps



# Clinical requirements for veterinary infusion pumps

## Disadvantages of traditional infusion methods

- Difficult to precisely control infusion speed
- Unable to accurately measure and control the infusion volume
- No air bubbles, blockage, completion of infusion and other accidental faults, automatic alarm infusion channel
- There is no protection device after a failure, and the infusion pipeline cannot be cut off in time
- Increased infusion risk, reduced quality of care

Imprecise Unsafe

- Requires manual recording of infusion information, no electronic records
- Nursing workload is heavy, prone to conflicts between nurses and patients

No informatic



## Benefits of using an infusion pump

- Good liquid flow linearity and small pulsation
- Can accurately measure and control the infusion rate
- Can accurately measure and control the infusion volume
- Realize intelligent control of infusion
- It can alarm for abnormal conditions such as air bubbles, empty liquid, liquid leakage and infusion tube blockage, and automatically cut off the infusion channel

Accurate Safety

- Historical information storage function, review and trace events during infusion therapy

Informatic



## Infusion pump needs

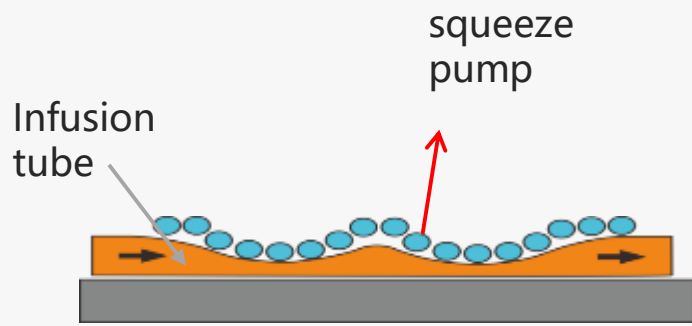
- Speed adjustment
- timing
- Quantitative
- Uniform speed
- Bubble alarm
- Jamming alarm
- Complete alarm

Accurate Safety

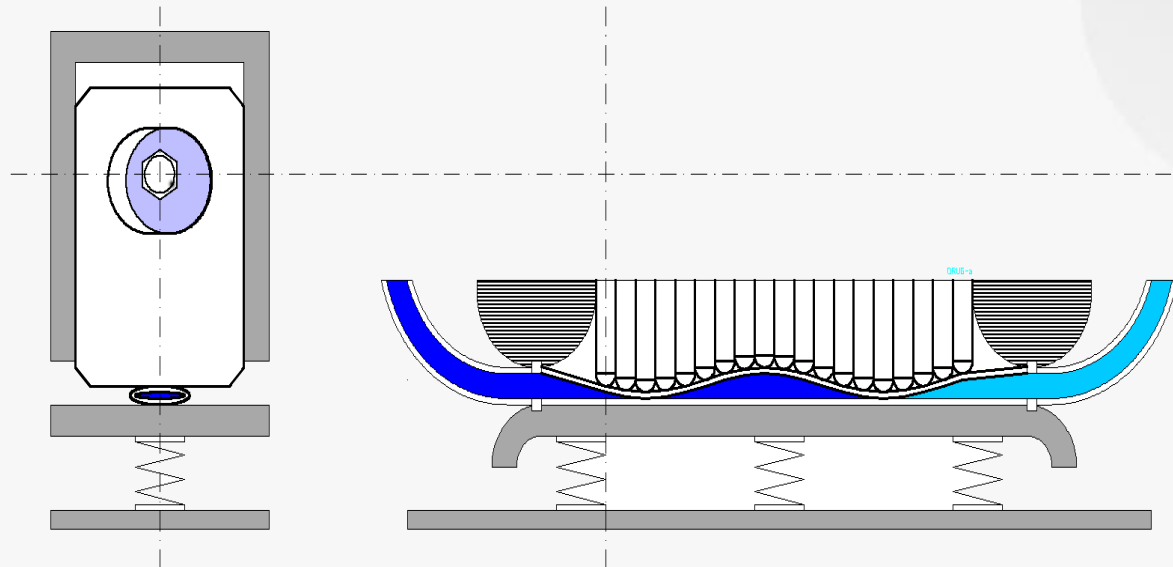
- Incoming statistics
- history record
- Connect information system

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# Infusion Pump Working principle

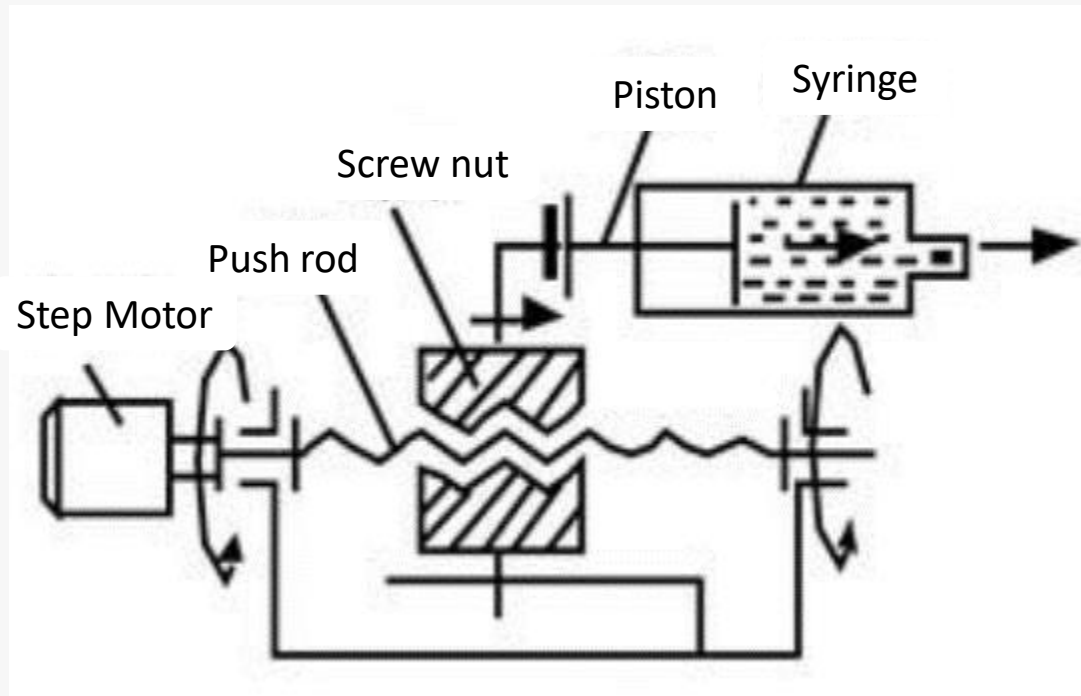


**Finger-like peristaltic pumps** are widely used. When working, the stepping motor drives the camshaft to rotate, so that the slider moves up and down according to a certain order and movement law, and squeezes the infusion tube sequentially like a wave, so that the liquid in the infusion tube Directional flow at a certain velocity. More precise and easy to control.



# Syringe Pumps Working Principle

A stepper motor controlled by a microcomputer and various sensors, screw rods and brackets. **The step motor drives the screw to convert the rotary motion into a linear motion**, pushing the plunger of the syringe for injection and infusion, and finally realizes high-precision, smooth and pulsation-free liquid transmission.

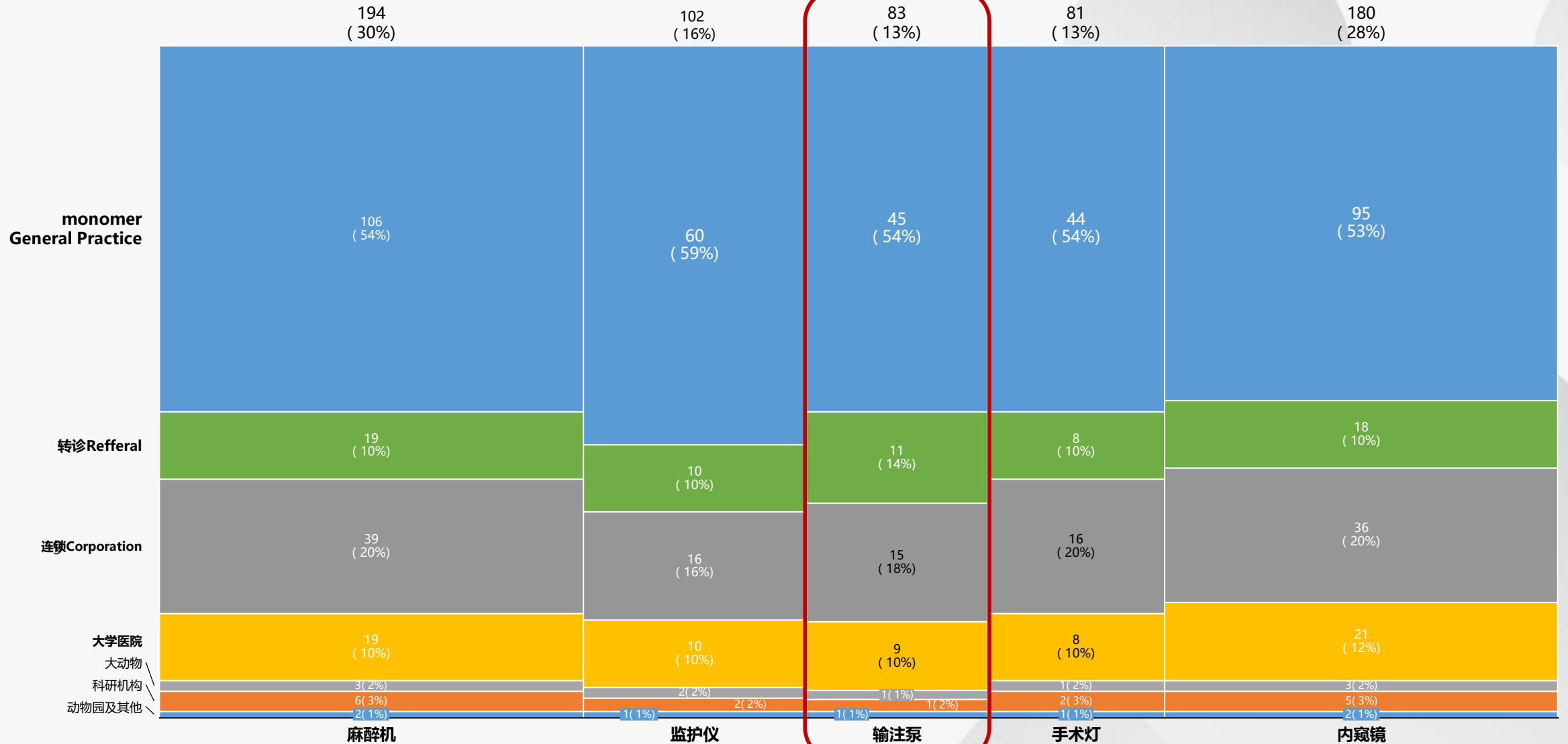


screw

Step motor



# VetPump Market Capacity



The market capacity is close to monitors, the quantity is large due to single machine price is low

\*Infusion pump: syringe pump =3:1

# Some pictures of pump in the hospital



**Austria**



**U.K.**



**USA**



**Spain**



**Mexico**



**Brazil**



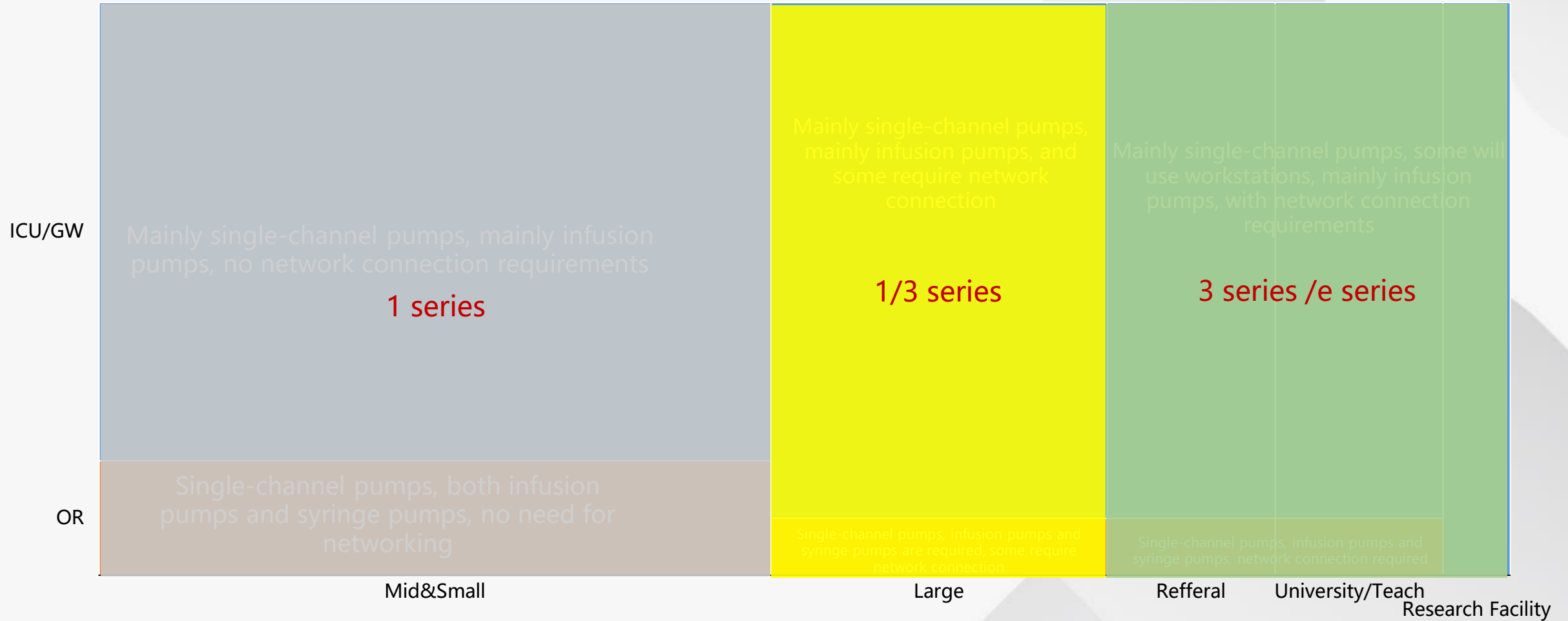
**Thailand**



**China**

**Infusion pumps are in great demand in single hospital**

# Vet Infusion Pump Market Segmentation



# Mindray Animal Vet infusion pump positioning

## high end

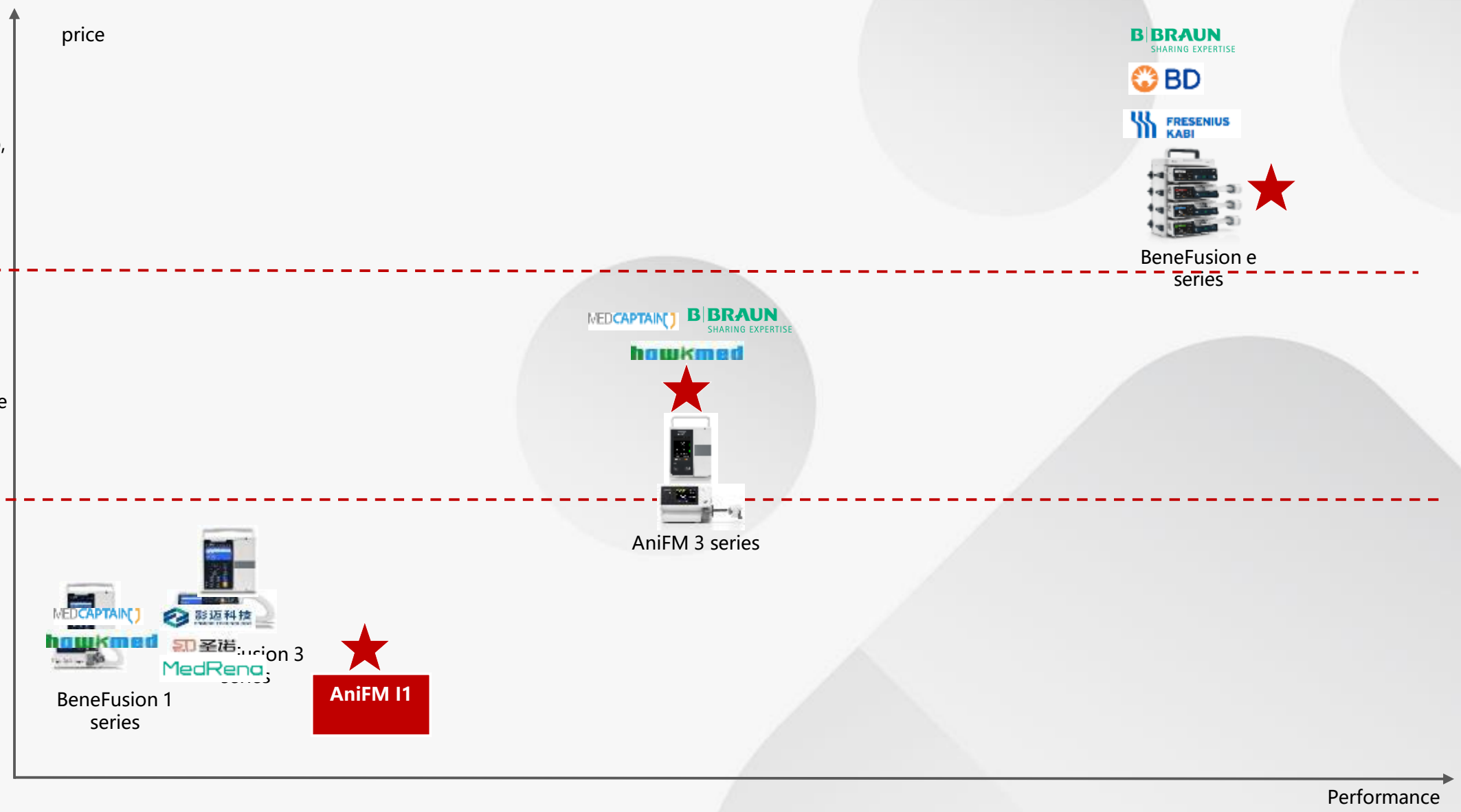
- Referral & University: e-series - Industry Leadship, high-end Break through

## Middle

- Large single hospital: AniFM 3 series - Improve customer demand, Increase the market size

## Entry level

- Small and medium hospitals : AniFM 1 series -Cash cow, increasing market share



Performance

# Target department

## Core Department



GW



OR



ICU

## other departments



Consult/Infusion Room



Postoperative recovery room



Emergency room

02

# Product Overview



**AniFM**

**Animal Fluid Management**

**mindray**

# AniFM I3





# AniFM S3

**3.5 inch** capacitive touch screen

Alarm light

on / off key



"Stop" button

Infusion tube  
extension and  
fixation

Weight  $\leq$  **1.7** kg

03

# Features

# Innovation In Drop



## Innovation

**Suspension System**

**Certified Blood transfusion**



## Intelligent

**Rotate Magic cube**

**Dynamic Alarm**

**Automatic Brake**



## Informatics

**Multi machine Connection**

**Batch Preset**

\* Effective at the end of the year

**Innovation**



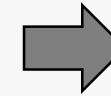
## Suspension system



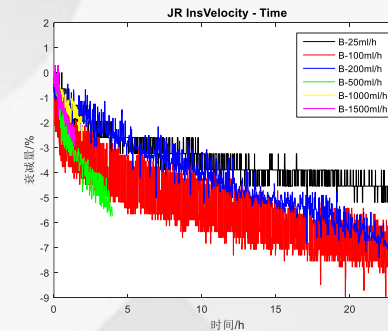
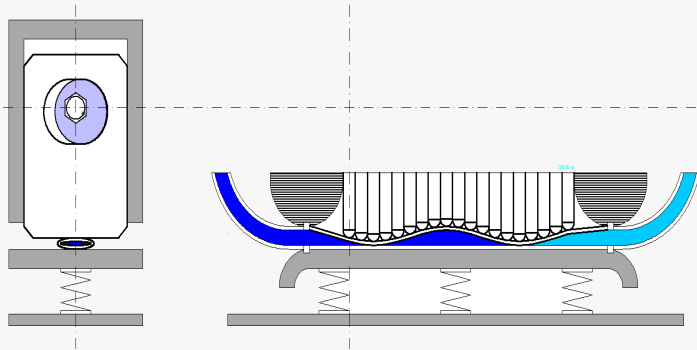
### Intelligent pipeline fatigue compensation technology

- ✓ Floating pump body design ensures consistent infusion accuracy for different infusion tubes

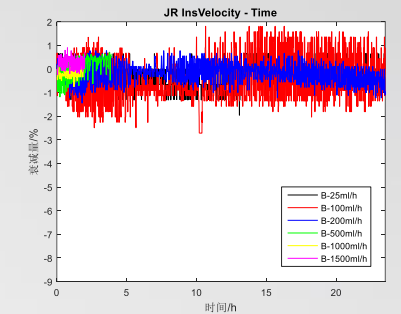
- The infusion tube will be fatigued after long-term use, and its rebound ability will become weaker, resulting in lower accuracy



- Carried out the fatigue compensation of the pipeline by intelligently increasing the movement of the motor is to ensure long-term accurate infusion



No Line Fatigue Compensation



With pipeline fatigue compensation

# Innovation



## Certified blood transfusion



### Blood transfusion

It has been verified by the laboratory that when AniFM I3 is used for blood transfusion, the deviation of red blood cell damage is  $\leq 3\%$ , which can effectively reduce the occurrence of accidents such as hyperkalemia, acute kidney injury and thrombosis caused by blood cell destruction.

**Intelligent**



## Rotate Rubik's Cube



### On cage



### Vertical pole



- ✓ Standard bracket supports hanging cage and pole mounting bracket

### Desktop



- ✓ The bottom is raised to support placing on the Operating bed / Desktop

### Power socket



- ✓ The side design of the power socket prevents the power cord from being bitten by animals





## Dynamic Alarm - Dynamic Pressure Monitoring (DPS)



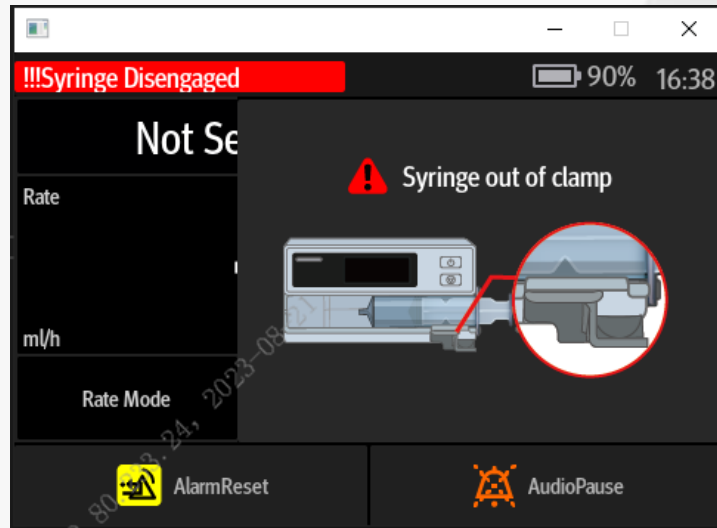
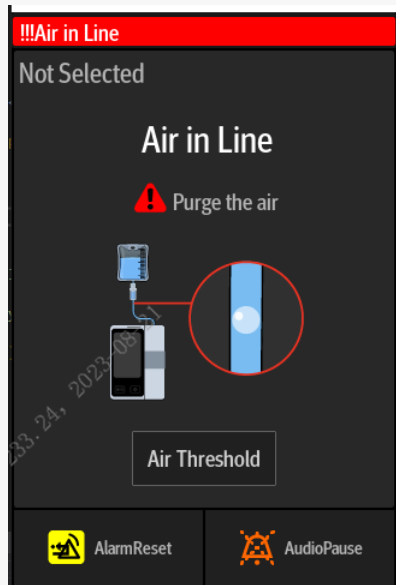
- ✓ **Innovative speedometer** style indicator
- ✓ **Customized** occlusion alarm levels: **50-1125mmHg in 1mmHg increments**
- ✓ **Early warning** : when the pressure increases, the auxiliary blockage alarm intervenes in advance
- ✓ **Anti-bolus** : Avoid accidental boluses after pressure is released
- ✓ **Automatic restart** : Identify and resolve temporary blockages



## Dynamic alarm - Visual alarm

Infusion Pump

Syringe Pump



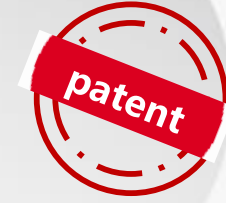
### Visual alarm

- ✓ Graphics + text, clearly presenting the alarm content
- ✓ Help doctors and nurses quickly identify and deal with problems

# Intelligent



## Auto Brake – Anti-Bolus



- ✓ Manual tube loading to ensure tube loading speed in emergencies
- ✓ **Automatic brake (clutch)** technology to avoid accidental injection when the syringe is loaded or accidentally dropped, ensuring **infusion safety**



# Intelligent



## Intelligent touch - Touch control, intuitive display of key parameters

### Touch Control & Easy Interaction

Smooth touch experience

**3.5 inch** capacitive touch screen

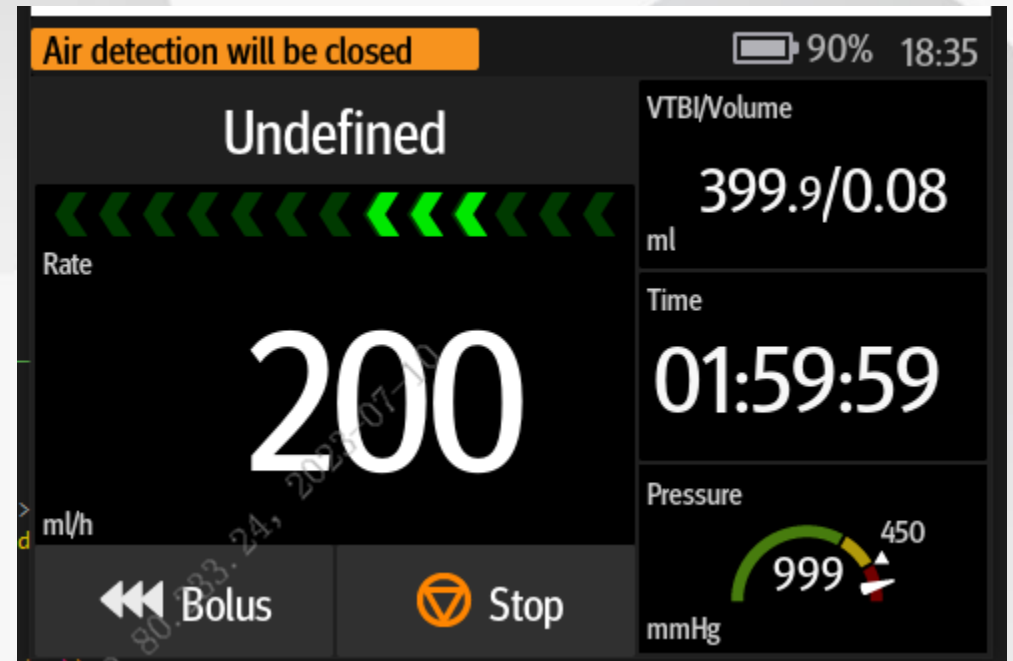
Smooth control even with **5 layers** of sterile gloves



### Intuitive control interface design

More prominent presentation of key parameters

Swipe up and down to see more information





## Smart Touch - Big Front

Personalized **Big front** interface, the interface is simple and focused

01

Drug name / color / concentration

02

speed / dose



03

Time, total infusion volume,  
infusion volume, body weight  
/ body surface area

Can be observed clearly from **3M** away

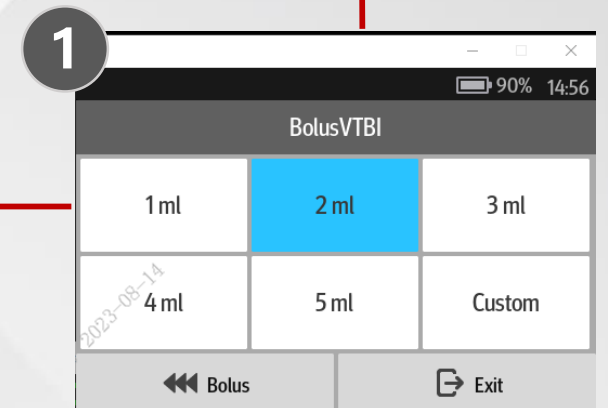
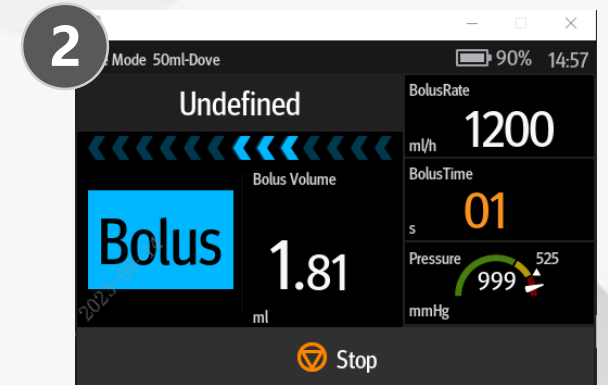
- Customizable display of key infusion parameters

**Reduce frequent and ineffective running , improve the work efficiency of veterinarians / nurses**



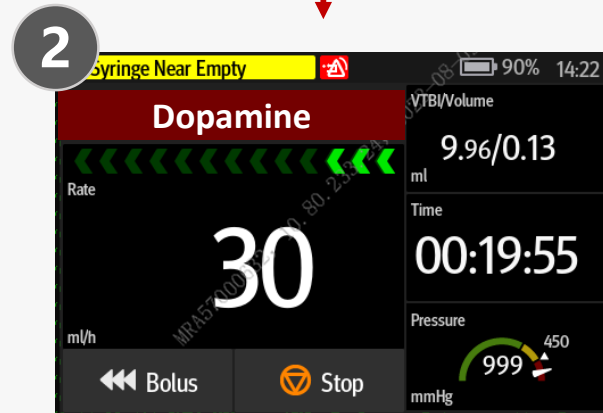
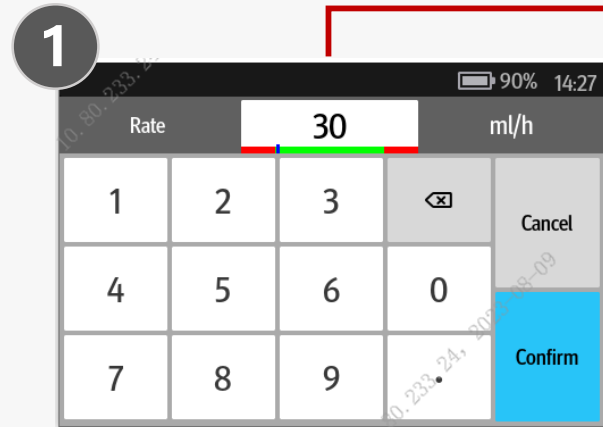
## Smart touch - preset fast push amount

- ✓ Default fast push amount
- ✓ The boost rate can be changed online
- ✓ Support manual / automatic fast push





## Smart Touch - Online Titration

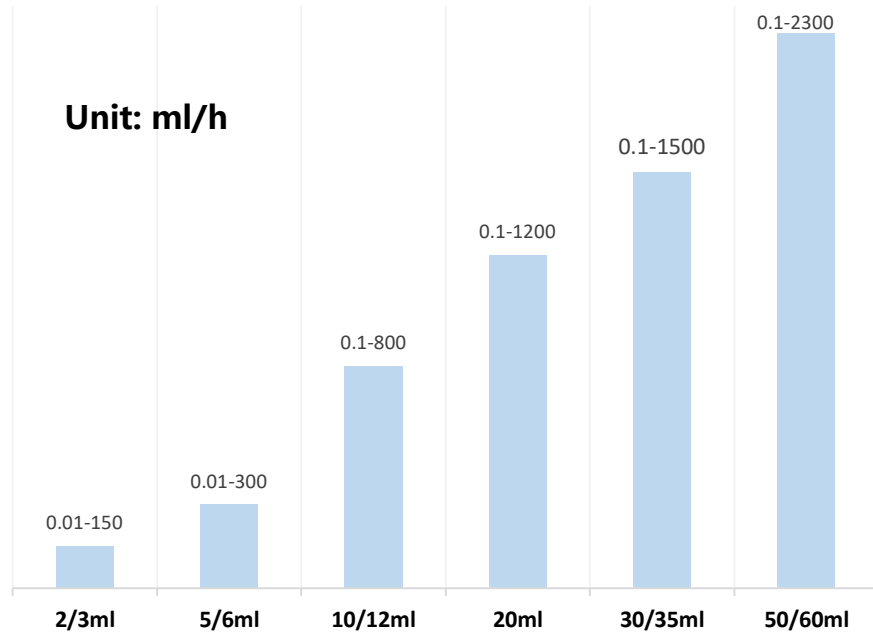


- ✓ Online titration: No need to stop the machine to change the flow rate



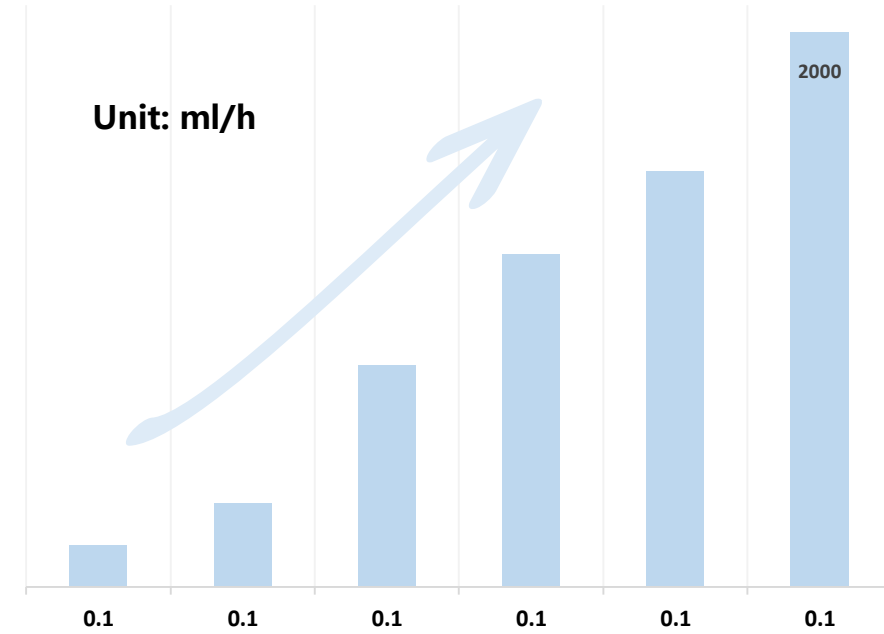
## Smart Safety - Precise Infusion

### Syringe pump



- ✓ Syringe pump  $\leq \pm 1.8\%$
- ✓ Support 2-60ml syringe
- ✓ The minimum initial volume is 0.01ml/h
- ✓ Flow rate up to 2300ml/h

### Infusion Pump



- ✓ Infusion pump  $\leq \pm 4.5\%$  (Berant tube)
- ✓ The minimum initial volume is 0.1ml/h
- ✓ Flow rate up to 2000ml/h

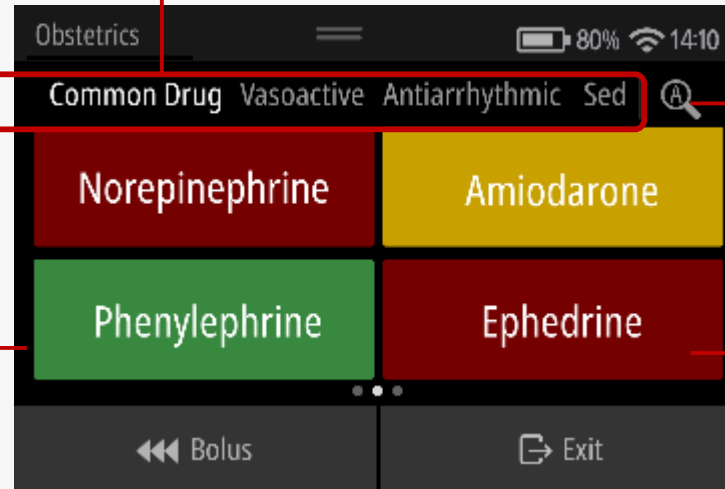


## Intelligent Safety - Drug List

✓ Routine medication

✓ Types of drugs (up to 30 )

✓ Up to 5000 drugs



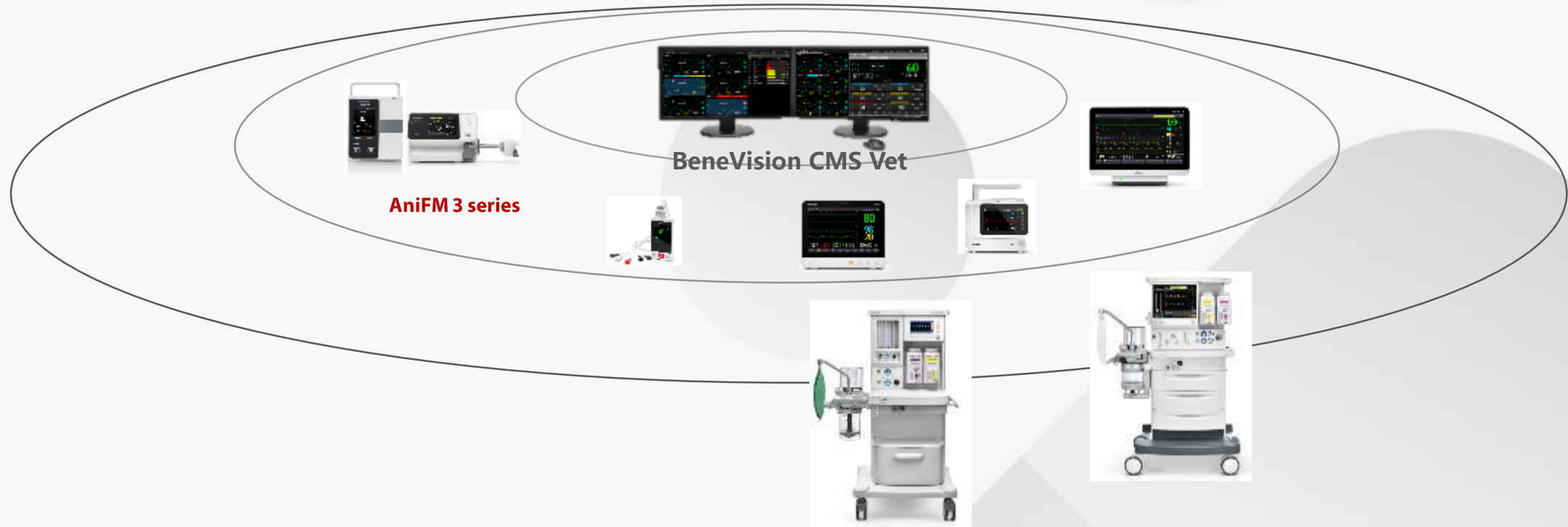
✓ Search function, quickly find the drug you want to choose

✓ 30 default colors

**Drug color identification** , classified management  
of high-risk drugs

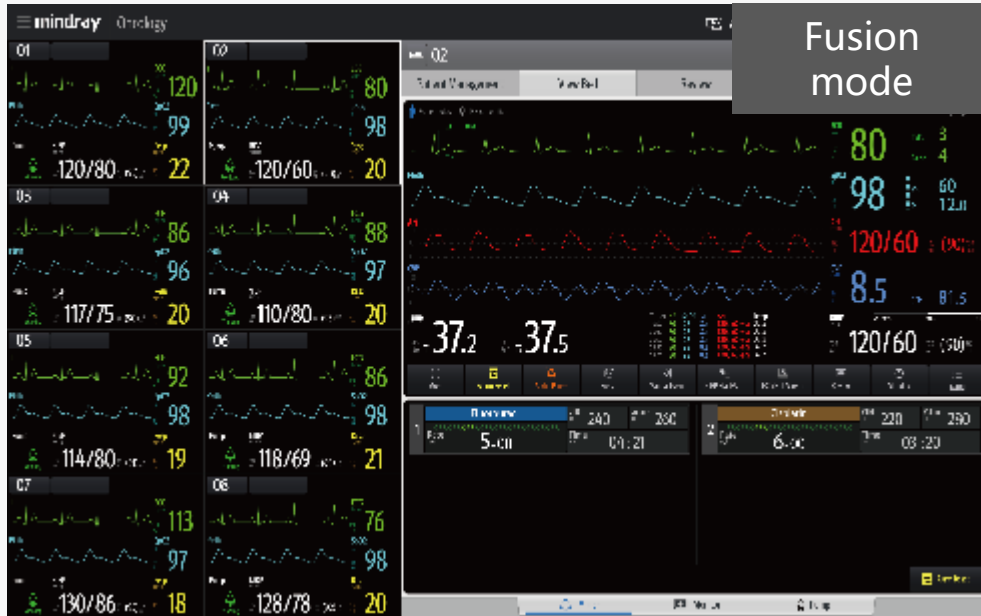
**Informatic**

Can be connected to CMS with anesthesia machines, monitors, telemetry and other products together





## Centralized monitoring



- Eye-catching colored droplet icons identify different infusion states
- Centralized alarm management to ensure infusion safety
- Bedside drug color coding system for quick identification of highly vigilant drugs



## Batch preset





Load the configuration / infusion tube / syringe calibration data to all infusion pumps through the network by one click on the central station, improving the efficiency of vets work

\* Effective end of the year



BeneVision CMS Vet

# Compare with online model

model	AniFM V3	VP3 Vet	AniFM S	SP3 Vet
				
<b>Screen screen</b>	3.5'Capacitive Touch Screen 3.5 inch capacitive touch screen	3.5'LCD	3.5'Capacitive Touch Screen 3.5 inch capacitive touch screen	3.5'LCD
<b>Infusion mode</b>	Rate /Time/Body weight / Sequential / <b>Loading Dose</b> / <b>Micro-</b> <b>infusion</b> / <b>Ramp</b> / <b>Dose time</b> / <b>Drip</b> / <b>Intermittent</b> / <b>Rhythm Dose</b>	Rate /Time / Body Weight / Drop Rate / Sequential	Rate /Time /Body weight / Sequential/ <b>Loading Dose</b> / <b>Micro-infusion</b> / <b>Ramp</b> /Intermittent	Speed / Time / Body Weight / I ntermittent
<b>Flow rate</b>	0.1-2000ml/h	0.1-2000ml/h	0.1-2300ml/h	0.1-2000ml/h
<b>Bolus rate</b>	0.1-2000ml/h	0.1-2000ml/h	0.1-2300ml/h	0.1-2000ml/h
<b>Preset volume (VTBI)</b>	0.1-9999 ml	0.1-9999 ml	0.1-9999 ml	0.1-9999 ml
<b>Weight</b>	< 1.4 kg	< 1.8kg _	< 1.7 kg _	< 1.8kg _
<b>Battery time</b>	≥ 5.5hours at 25ml/h;	≥4 hours at 25ml/h;	≥ 6.5 hours at 25ml/h	≥6 hours at 25ml/h
<b>CMS connection</b>	√	x	√	x
<b>Blood transfusion</b>	√	√	-	-

# Configuration

## AniFM I3

<b>CTO</b>	AP31B-CTO-S01
<b>PA</b>	AP31B-PA0001A
Model	AniFM I3
Sale machine / Return machine	Sale machine
Main Unit	Main Unit w/o Extensions
Power cord	Power cord - European
Language(software)	English(Software)
Language(Label)	English(Label)
Wifi	Wifi
Battery	Standard Battery
Drop	/
Manual kit	Manual kit
Special country request	/
Software	Software for I3

## AniFM S3

<b>CTO</b>	AP32B-CTO-S01
<b>PA</b>	AP32B-PA0001A
Model	AniFM S3
Sale machine / Return machine	Sale machine
Main Unit	Main Unit w/o Extensions
Power cord	Power cord - European
Language(software)	English(Software)
Language(Label)	English(Label)
Wifi	Wifi
Battery	Standard Battery
Manual kit	Manual kit
Special country request	/
Software	Software for S3

04

# Competition analysis



**mindray**



**B BRAUN**



**BD**



**FRESENIUS KABI**



**MEDCAPTAIN**



**ENMIND**



Display screen	Disposable Loading consumables loading	UI Design interface design	Infusion indicator Infusion instructions	Large font view Large font display	alarm Call the police
3.5" HD color Capacitive Touchable	Fast loading can avoid accident bolus	Same interface less layers	Big and clear	Yes	Intuitive indicator alarm solving guidance
2.4" color non-touchable	Slower loading can avoid accident bolus	Complicated layers	Small and not clear	no	No alarm solving guidance
3.3"/6.8" monochrome non-touchable	No accident bolus avoiding solution	Complicated interface	Small and not clear	no	Not intuitive alarm solving guidance
4"/4.3" color non-touchable	No accident bolus avoiding solution	Complicated layers	Small and not clear	no	Small alarm light No alarm solving guidance
3.5" color LCD resistive touchscreen	No accident bolus avoiding solution	Complicated layers	Small and not clear	no	Not intuitive No alarm solving guidance
2.8" color non-touchable	No accident bolus avoiding solution	Complicated layers	Small and not clear	no	No alarm solving guidance

**AniFM 3 series pumps compared with competing products: large font display, graphical alarm**

**mindray**



Drug library  
drug library

Occlusion management  
congestion management

Accuracy  
precision

Flow rate range  
Velocity range

Syringe  
range  
Syringe  
range

Infusion  
modes  
infusion  
mode

Battery  
battery life

Color coding  
With search

50-1125mmHg  
Speedometer indicator  
Pre-alarm  
Auto-restart

S3: ± 1.8%;  
V3: ± 5%

0.01-2300ml/h ( S3 )  
0.1-2000ml/h ( V3 )

2-60ml

V3: 11  
S3: 11

V3: 5.5 hrs  
S3: 6.5 hrs

**B BRAUN**



Color coding  
no search

75-900mmHg  
No intuitive indicator  
Np Pre-alarm  
No Auto restart

SP: ± 2.0%  
VP: ± 5.0%

0.01-900ml/h (SP)  
0.1-1000ml/h (VP)

2-60ml

VP: 3  
SP: 3

VP: 8 hrs  
SP: 10 hrs

**BD**



Color coding  
no search

50-1000mmHg  
No intuitive indicator  
Np Pre-alarm  
No Auto restart

SP: ± 2.0%  
VP: ± 5.0%

0.1-1200ml/h (SP)  
0.1-1200ml/h (VP)

5-60ml

VP: 3  
SP: 3

VP: 6 hrs  
SP: 8 hrs

**FRESENIUS  
KABI**



Color coding  
no search

375-1125mmHg  
No intuitive indicator  
Np Pre-alarm  
No Auto restart

SP: ± 2.0%  
VP: ± 5.0%

0.1-1200ml/h (SP)  
0.1-1200ml/h (VP)

5-60ml

VP: 3  
SP: 3

VP: 8 hrs  
SP: 8 hrs

**MEDCAPTAIN**



Color coding  
no search

75-975mmHg  
No intuitive indicator  
Np Pre-alarm  
No Auto restart

SP: ± 2.0%  
VP: ± 5.0%

0.1-2000ml/h (SP)  
1-1500ml/h (VP)

5-60ml

VP: 8  
SP: 8

VP: 10 hrs  
SP: 10 hrs

**ENMIND**



Color coding  
no search

150-900mmHg  
No intuitive indicator  
Np Pre-alarm  
No Auto restart

SP: ± 2.0%  
VP: ± 5.0%

0.1-1500ml/h (SP)  
0.1-2000ml/h (VP)

5-60ml

VP: 7  
SP: 4

VP: 10 hrs  
SP: 12 hrs

**AniFM 3 series pump compared with competing products: 1.8% injection accuracy, infusion mode, drug list**

Industrial design design

IP Level  
Dustproof and waterproof

IT Solutions  
IT solutions

**mindray**



Compact and light in weight design

IP44

Integrated management - BeneVision CMS  
More clinically meaningful

**B BRAUN**



Bigger size and heavier

IP34

Only infusion monitoring system

**BD**



Bigger size and heavier

VP: IPX3  
SP: IP24

Only infusion monitoring system

**FRESENIUS KABI**



Bigger size and heavier

IPX4

No infusion monitoring system

**MEDCAPTAIN**



Bigger size and heavier

VP: IP34  
SP: IP24

Only infusion monitoring system

**ENMIND**



Bigger size and heavier

VP: IP44  
SP: IP24

Only infusion monitoring system

**Anifm 3 series pumps compared with competing products: connection to central station, smaller size**

# Innovation In Drop



## Innovation

**Suspension System**

**Certified Blood transfusion**



## Intelligent

**Rotate Magic cube**

**Dynamic Alarm**

**Automatic Brake**



## Informatics

**Multi machine Connection**

**Batch Preset**

\* Effective at the end of the year



Thank you