



WATO™ EX-30/20

Anesthesia Machines



mindray
healthcare within reach

WATO™ EX-30/20

Anesthesia Machines

Maximum technical performance, contemporary and ergonomic design, closed with the latest modern anesthesia concept

The WATO EX-30/EX-20 is designed for ease of use and incorporating the maximum patient safety in daily anesthesia practice. A small footprint and compact size is appropriate for any environment where space is limited.

Some of the specifications are:

- Classical flow-meters for O₂, N₂O or Air
- Support up to 2 vaporizer positions
- An electronically-controlled, pneumatically-driven ventilator, either mechanical ventilation or spontaneous breath, support a variety of patients.
- Switching Auxiliary Common Gas Outlet (ACGO) allows you to use in the 3rd party's semi-open circuits
- Integrated pressure, volume and oxygen monitoring
- Compatible with Mindray patient monitors and other medical devices
- Back-up batteries support up to 150min continuous work.

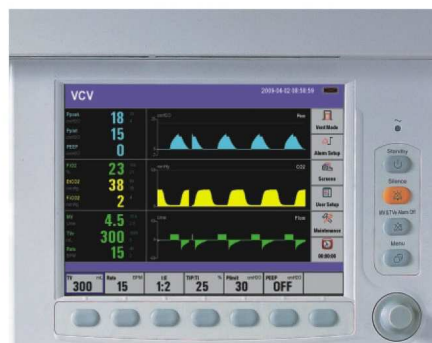


Proven technology of vaporizers!

- The large color LCD screen displays all ventilator's setting data, measurement information and numeric/graphic trends
- Multi-selectable displays, e.g. single, 3 waveforms and large font
- Intelligent alarm management, e.g. permanent silent volume/apnea alarm

The highest quality and reliability of Sigma Delta® vaporizer:

- Service free
- Selectatec® compatible interlock safe systems
- Superb performance over a wide range of vapor concentration and temperature, particularly at low flow
- Available for Halothane, Enflurane, Isoflurane, Sevoflurane and Desflurane (Sigma Alpha®)



Friendly and intuitive user interface!

- Besides Volume and Pressure ventilation, there is SIMV, which can be assisted in patient weaning once the operation has ended
- Minimum TV down to 40ml suitable for pediatric, by only one bellows and one circuit
- TV compensation and electronic PEEP automatically corrects for fresh gas flow, system leak and the compliance change in the circuit
- The ascending bellows can provide immediate visual information on the adequacy of fresh gas flow and gives indication of the system leaky occurrence



What you set is what the patient will get!

- Compact device for closed and semi-closed system
- Easy to disassemble and assemble all the components - convenient for clean and maintenance
- Fully autoclavable at 134°C and nature latex free
- Informative message displayed on screen to confirm the assembly of CO₂ canister.
- Quick release canister



Excellent ergonomic breathing circuit!



Optional monitoring capabilities!

- External EtCO₂ monitoring available
- The measurement for CO₂ can be displayed both in numeric and curves
- RJ45 port support Ethernet communication

Model Selections			
Input voltage	100 to 240 V	100 to 120 V	120 to 240 V
Input current	8.5 to 3.5 A	8.5 A	3.5 A
Input frequency	50/60 Hz		
Leakage current	< 500μA		
Fuse	T10 AL/250V		
Power cord	5 m		
Auxiliary output supply			
Output voltage	220 to 240 V	100 to 120 V	
Output frequency	50/60 Hz	50/60 Hz	
Output current(outlet 1)	1.6A	3.8A	
Output current(outlet 2)	0.5A	1.0A	
Output current(outlet 3)	0.5A	1.0A	
Fuse(outlet 1)	T 3.0AL/250V	T6.3AL/250V	
Fuse(outlet 2)	T1.6AL/250V	T1.6AL/250V	
Fuse(outlet 3)	T1.6AL/250V	T1.6AL/250V	

Inlet and Outlet Modules

3 outputs: without separate transformer, include:

Type	Area	Input power	3auxiliary output
With no isolated transformer	Europe	100-240V~ 6.2-2.6A 50/60Hz	100-240V~ 1.2-0.6A 50/60Hz
	UK		
	India		
	US(B type)		
	Australia		
	US	100-120V~ 5.6A 50/60Hz	100-120V~ 1.2A 50/60Hz
With isolated transformer	Europe	220-240V~ 2.7A 50/60Hz	220-240V~ 0.6A 50/60Hz
	UK		
	India		
	US(B type)		
	Australia		
		US	100-120V~ 5.6A 50/60Hz

DISTRIBUTOR:

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WATO™ EX-20

Anesthesia Machines

Technical Specifications

Physical specifications

Dimensions and Weight

Height:	1375 mm
Width:	710 mm (without breathing circuit) 880 mm (with breathing circuit)
Depth:	620 mm
Weight:	<120 kg (including trolley base, without vaporizer and cylinder)

Top Shelf

Weight limit:	30kg
Length:	550mm
Width:	265mm

Work surface

Height:	820 mm
Width:	500cm
Depth:	310mm

DIN Rail

Side of machine:	320mm
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Drawer--internal dimensions

Height:	240mm
Width:	350 mm
Depth:	275mm

Bag arm

Height:	1030mm
Length:	320mm
Connection:	ISO 22mm OD, 15mm ID

Casters

Diameter:	125 mm
Brakes:	two of four casters

Screen

Display type:	Color active matrix TFT
Display size:	7.0 in diagonal
Resolution:	800×480
Brightness	Disadjustable
Multi-display selectable :	Standard
Display Parameters:	All settings and alarm parameters(Breath rate, I/E ratio, tidal volume, minute volume, PEEP, Pmean Ppeak, Pplat and O ₂ concentration,)
Display Graphics:	Waves of Pressure-Time, Flow-Time, Volume-Time,



Ventilator Specifications

Standby Mode: Machine is on call; System settings, ventilation and alarm parameters can be set

Mode of Ventilation

Volume-Controlled Ventilation (VCV) with tidal volume compensation
Pressure Mode Ventilation (P-mode) Manual

Ventilator Parameter Ranges

Tidal volume range:	40~1500 ml (VCV mode)
Incremental settings:	40~100ml(increments of 5 ml) 100~300 ml(increments of 10 ml) 300 ~1500 ml (increments of 25 ml)
Pressure (inspired) range:	5 ~ 60 cmH ₂ O increments of 1 cmH ₂ O
Pressure (limit) range:	10~100 cmH ₂ O increments of 1 cmH ₂ O
Rate range:	4~100 bpm increments of 1 bpm (VCV, P-mode)
Inspiratory/Expiratory ratio (I:E) range:	4:1~1:8 increments of 0.5 (VCV, P-mode)
Inspiratory pause time:	OFF, 5~60% of inspiratory time Increments of 5%.

Positive End Expiratory Pressure (PEEP)

Type:	Integrated, electronically controlled
Range:	OFF, 4 ~30 cmH ₂ O increments of 1 cmH ₂ O

Ventilator Performance

Pressure range at inlet:	0.28~0.6 MPa
Peak gas flow:	100 L/min + Fresh gas

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Flow valve range: 1 to 100 L/min

Ventilator Accuracy

Delivery/ monitoring accuracy

Volume delivery: < 75 ml, ±15ml
≥75 ml, ±20ml or ±10%, whichever is larger

Plimit: ±4.0 cmH₂O, or ±10% ,whichever is larger

PEEP delivery: ±2.0 cmH₂O, or ±10% ,whichever is larger

Volume monitoring: < 75 ml, ±15ml
≥75 ml, <1500 mL, ±20ml or ±10%, whichever is larger
>1500mL unspecified

Pressure monitoring: ±3.0 cmH₂O, or ±8% ,whichever is larger

Alarm Settings

Tidal volume(expiratory):High: 5~1600 ml
Low: 0 ~1595 ml

Minute volume(expiratory):High: 0.2 ~100L
Low: 0 ~99 L

Inspired oxygen: High: 20~100%
Low: 18 ~ 98%

Low airway pressure: 0 ~98 cmH₂O

High pressure: 2~100 cmH₂O

Apnea alarm: 20s

Ventilator Monitoring

Minute volume range(expiratory):0~100 L/min

Tidal volume range(expiratory):0~1500 ml

Inspired oxygen(FiO₂):18~ 100%

Peak pressure: -20~120 cmH₂O

Mean pressure: -20~120 cmH₂O

Plateau pressure: -20~120 cmH₂O

Sweep speed: 12.5 or 6.25 mm/s

Positive End Expiratory Pressure (PEEP): 0~30 cmH₂O

Trend Chart

Continuous trend information together with time discrete events are stored and shown by lines for the latest 24 hours with 5 s, 30s, 1min, 2min, or 4min, resolution for TVe, Ppeak, MV, Pplat, PEEP, Pmean,Rate and optional FiO₂

New trend chart will be recorded when restart the machine

Trend Table

Continuous trend information together with time discrete events are stored and shown by table for the latest 24 hours for TVe, Ppeak, MV, Pplat, PEEP, Pmean,Rate and optional FiO₂

Resolution: 30s,1min, 5 min, 30 min, optional
New trend form will be recorded when restart the machine

Vaporizer

Type: Penlon Sigma Delta or Sigma Alpha vaporizer, options include Desflurane, Isoflurane, Enflurane, Sevoflurane, Halothane vaporizer

Position of vaporizer: one or dual-positions

Installation mode: selectatec® with interlock

Electrical Specifications

Current Leakage

100~240V< 500 μA

Power and Battery Backup

Power input:

Without isolated transformer:

100-240V~ 6.2-2.6A 50/60Hz

100-120V~ 5.6A 50/60Hz

With isolated transformer:

220-240V~ 2.7A 50/60Hz

100-120V~ 5.6A 50/60Hz

Battery backup: 90 min for 1 piece battery (powered by new fully-charged batteries with 25°C ambient temperature)
150 min for 2 piece battery (powered by new fully-charged batteries with 25°C ambient temperature)

Battery type: build-in Li-ion battery, 11.1 VDC, 4400 mAh

Number of batteries: 1 or 2 pieces

Time to shutdown: At least 5min (powered by new fully-charged batteries after the first low-power alarm)

Power cord: 5 m

Interface Specifications

Wire network: RJ 45 connector 100-Base-TX
support upgrading of main unit

Pneumatic Specifications

Switching Auxiliary Common Gas Outlet(ACGO)

Connector: ISO 22 mm OD and 15 mm ID

The outlet locates at the inspiratory limb

Gas Supply

Pipeline input range: 0.28~0.6MPa

Pipeline connections: NIST or DISS

Cylinder input: PISS, Maximum 2 cylinders, optional

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Flow valve range: 1 to 100 L/min

Ventilator Accuracy

Delivery/ monitoring accuracy

Volume delivery: < 75 ml, ±15ml
≥75 ml, ±20ml or ±10%, whichever is larger

Plimit: ±4.0 cmH₂O, or ±10% ,whichever is larger

PEEP delivery: ±2.0 cmH₂O, or ±10% ,whichever is larger

Volume monitoring: < 75 ml, ±15ml
≥75 ml, <1500 mL, ±20ml or ±10%, whichever is larger
>1500mL unspecified

Pressure monitoring: ±3.0 cmH₂O, or ±8% ,whichever is larger

Alarm Settings

Tidal volume(expiratory):High: 5~1600 ml
Low: 0 ~1595 ml

Minute volume(expiratory):High: 0.2 ~100L
Low: 0 ~99 L

Inspired oxygen: High: 20~100%
Low: 18 ~ 98%

Low airway pressure: 0 ~98 cmH₂O

High pressure: 2~100 cmH₂O

Apnea alarm: 20s

Ventilator Monitoring

Minute volume range(expiratory):0~100 L/min

Tidal volume range(expiratory):0~1500 ml

Inspired oxygen(FiO₂):18~ 100%

Peak pressure: -20~120 cmH₂O

Mean pressure: -20~120 cmH₂O

Plateau pressure: -20~120 cmH₂O

Sweep speed: 12.5 or 6.25 mm/s

Positive End Expiratory Pressure (PEEP): 0~30 cmH₂O

Trend Chart

Continuous trend information together with time discrete events are stored and shown by lines for the latest 24 hours with 5 s, 30s, 1min, 2min, or 4min, resolution for TVe, Ppeak, MV, Pplat, PEEP, Pmean,Rate and optional FiO₂

New trend chart will be recorded when restart the machine

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Continuous trend information together with time discrete events are stored and shown by table for the latest 24 hours for TVe, Ppeak, MV, Pplat, PEEP, Pmean,Rate and optional FiO₂

Resolution: 30s,1min, 5 min, 30 min, optional
New trend form will be recorded when restart the machine

Vaporizer

Type: Penlon Sigma Delta or Sigma Alpha vaporizer, options include Desflurane, Isoflurane, Enflurane, Sevoflurane, Halothane vaporizer

Position of vaporizer: one or dual-positions

Installation mode: selectatec® with interlock

Electrical Specifications

Current Leakage

100~240V< 500 μA

Power and Battery Backup

Power input:

Without isolated transformer:

100-240V~ 6.2-2.6A 50/60Hz

100-120V~ 5.6A 50/60Hz

With isolated transformer:

220-240V~ 2.7A 50/60Hz

100-120V~ 5.6A 50/60Hz

Battery backup: 90 min for 1 piece battery (powered by new fully-charged batteries with 25°C ambient temperature)
150 min for 2 piece battery (powered by new fully-charged batteries with 25°C ambient temperature)

Battery type: build-in Li-ion battery, 11.1 VDC, 4400 mAh

Number of batteries: 1 or 2 pieces

Time to shutdown: At least 5min (powered by new fully-charged batteries after the first low-power alarm)

Power cord: 5 m

Interface Specifications

Wire network: RJ 45 connector 100-Base-TX
support upgrading of main unit

Pneumatic Specifications

Switching Auxiliary Common Gas Outlet(ACGO)

Connector: ISO 22 mm OD and 15 mm ID

The outlet locates at the inspiratory limb

Gas Supply

Pipeline input range: 0.28~0.6MPa

Pipeline connections: NIST or DISS

Cylinder input: PISS, Maximum 2 cylinders, optional

system does

not work or the pump rate is lower than 50 L/min.

Connector of the disposal system: BS6834-1987 standard connector

Environment specification

Operation conditions

Temperature: 10~40°C

Relative humidity: 15~95%(noncondensing)

Barometric (KPa): 70~106 kPa

Storage conditions:

Temperature: -20~60°C for main unit, -20~50° for O₂ sensor

Relative humidity: 10~95%(noncondensing)

Barometric (KPa): 50~106 kPa (optional Artema Multi-Gas module: 70~106 kPa)

Model Selections			
Input voltage	100 to 240 V	100 to 120 V	120 to 240 V
Input current	8.5 to 3.5 A	8.5 A	3.5 A
Input frequency	50/60 Hz		
Leakage current	< 500µA		
Fuse	T10 AL/250V		
Power cord	5 m		
Auxiliary output supply			
Output voltage	220 to 240 V	100 to 120 V	
Output frequency	50/60 Hz		50/60 Hz
Output current(outlet 1)	1.6A	3.8A	
Output current(outlet 2)	0.5A	1.0A	
Output current(outlet 3)	0.5A	1.0A	
Fuse(outlet 1)	T 3.0AL/250V	T6.3AL/250V	
Fuse(outlet 2)	T1.6AL/250V	T1.6AL/250V	
Fuse(outlet 3)	T1.6AL/250V	T1.6AL/250V	

Inlet and Outlet Modules

3 outputs: without separate transformer, include:

Type	Area	Input power	3auxiliary output
With no isolated transformer	Europe	100-240V~ 6.2-2.6A 50/60Hz	100-240V~ 1.2-0.6A 50/60Hz
	UK		
	India		
	US(B type)		
	Australia		
	US	100-120V~ 5.6A 50/60Hz	100-120V~ 1.2A 50/60Hz
With isolated tranformer	Europe	220-240V~ 2.7A 50/60Hz	220-240V~ 0.6A 50/60Hz
	UK		
	India		
	US(B type)		
	Australia		
	US	100-120V~ 5.6A 50/60Hz	100-120V~ 1.2A 50/60Hz

DISTRIBUTOR:

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Mindray is listed on the NYSE under the symbol "MR"

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WATO™ EX-30

Anesthesia Machines



Technical Specifications

Physical specifications

Dimensions and Weight

Height:	1375 mm
Width:	710 mm (without breathing circuit) 880 mm (with breathing circuit)
Depth:	620 mm
Weight:	<120 kg (including trolley base, without vaporizer and cylinder)

Top Shelf

Weight limit:	30kg
Length:	550mm
Width:	265mm

Work surface

Height:	820 mm
Width:	500cm
Depth:	310mm

DIN Rail

Side of machine:	320mm
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Drawer--internal dimensions

Height:	240mm
Width:	350 mm
Depth:	275mm

Bag arm

Height:	1030mm
Length:	320mm
Connection:	ISO 22mm OD, 15mm ID

Casters

Diameter:	125 mm
Brakes:	two of four casters

Screen

Display type:	Color active matrix TFT
Display size:	8.4 in diagonal
Resolution:	800×600
Brightness	Adjustable
Multi-display selectable :	Standard
Display Parameters:	All settings and alarm parameters(Breath rate, I/E ratio, tidal volume, minute volume, PEEP, Pmean Ppeak, Pplat and O ₂ concentration,)
Display Graphics:	Waves of Pressure-Time, Flow-Time, Volume-Time, Wave of CO ₂ (Optional);

Timer:	Time of operation will be displayed on the screen
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Ventilator Specifications

Standby Mode:	Machine is on call; System settings, ventilation and alarm parameters can be set
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Mode of Ventilation

Volume-Controlled Ventilation (VCV) with tidal volume compensation
Pressure Mode Ventilation (P-mode)
Manual

Ventilator Parameter Ranges

Tidal volume range:	40~1500 ml (VCV mode)
Incremental settings:	20~100ml(increments of 5 ml) 100~300 ml(increments of 10 ml) 300 ~1500 ml (increments of 25 ml)
Pressure (inspired) range:	5 ~ 60 cmH ₂ O increments of 1 cmH ₂ O
Pressure (limit) range:	10~100 cmH ₂ O increments of 1 cmH ₂ O
Rate range:	4~100 bpm increments of 1 bpm (VCV, P-mode) 4~60 bpm Increments of 1bpm (SIMV)
Inspiratory/Expiratory ratio (I:E) range:	4:1~1:8 increments of 0.5 (VCV, P-mode)
Inspiratory pause time:	OFF,5~60% of inspiratory time Increments of 5%.
Trigger window:	5-90% Increments of 5% (SIMV)
Flow trigger:	0.5~15L/min Increments of 0.5L/min (SIMV)
Pressure trigger:	-20~ -1cmH ₂ O Increments of 5% (SIMV)

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Positive End Expiratory Pressure (PEEP)

Type: Integrated, electronically controlled
Range: OFF, 4 ~30 cmH₂O
increments of 1 cmH₂O

Ventilator Performance

Pressure range at inlet: 0.28~0.6 MPa
Peak gas flow: 100 L/min + Fresh gas
Flow valve range: 1 to 100 L/min

Ventilator Accuracy

Delivery/ monitoring accuracy
Volume delivery: < 75 ml, ±15ml
≥75 ml, ±20ml or ±10%, whichever is larger
Plimit: ±4.0 cmH₂O, or ±10% ,whichever is larger
PEEP delivery: ±2.0 cmH₂O, or ±10% ,whichever is larger
Volume monitoring: < 75 ml, ±15ml
≥75 ml, <1500 mL, ±20ml or ±10%, whichever is larger
>1500mL unspecified
Pressure monitoring: ±3.0 cmH₂O, or ±8% ,whichever is larger

Alarm Settings

Tidal volume(expiratory):High: 5~1600 ml
Low: 0~1595 ml
Minute volume(expiratory):High: 0.2~100L
Low: 0~99 L
Inspired oxygen: High: 20~100%
Low: 18~98%
Low airway pressure: 0~98 cmH₂O
High pressure: 2~100 cmH₂O
Apnea alarm: 20s

Ventilator Monitoring

Minute volume range(expiratory):0~100 L/min
Tidal volume range(expiratory):0~1500 ml
Inspired oxygen(FiO₂):18~100%
Peak pressure: -20~120 cmH₂O
Mean pressure: -20~120 cmH₂O
Plateau pressure: -20~120 cmH₂O
Sweep speed: 12.5 or 6.25 mm/s
Positive End Expiratory Pressure (PEEP): 0~30 cmH₂O

Trend Chart

Continuous trend information together with time discrete events are stored and shown by lines for the latest 24 hours with 5 seconds resolution for Tve, Ppeak, MV, Pplat, PEEP, Pmean,Rate and optional

FiO₂, EtCO₂.

New trend chart will be recorded when restart the machine

Trend Table

Continuous trend information together with time discrete events are stored and shown by table for the latest 24 hours for Tve, Ppeak, MV, Pplat, PEEP, Pmean,Rate and optional FiO₂, EtCO₂,
Resolution: 30s,1min,2min ro 4min optional
New trend form will be recorded when restart the machine

Vaporizer

Type: Penlon Sigma Delta or Sigma Alpha vaporizer, options include Desflurane, Isoflurane, Enflurane, Sevoflurane, Halothane vaporizer
Position of vaporizer: one or dual-positions
Installation mode: selectatec® with interlock

Electrical Specifications

Current Leakage

100~240V< 500 μA

Power and Battery Backup

Power input: 100-240 Vac, 50/60 Hz, 3.0~2.6A
Battery backup: 90 min for 1 piece battery (powered by new fully-charged batteries with 25°C ambient temperature) 150 min for 2 piece battery (powered by new fully-charged batteries with 25°C ambient temperature)
Battery type: build-in Li-ion battery, 11.1 VDC, 4400 mAh
Number of batteries: 1 or 2 pieces
Time to shutdown: 5~15 min (powered by new fully-charged batteries after the first low-power alarm)
Charge time: Approximately 8 hours (in running status or standby mode)
Power cord: 5 m

Pneumatic Specifications

Switching Auxiliary Common Gas Outlet(ACGO)

Connector: ISO 22 mm OD and 15 mm ID
The outlet locates at the inspiratory limb

Gas Supply

Pipeline input range: 0.28~0.6MPa
Pipeline connections: NIST, DISS
Cylinder input: PISS, Maximum 2 cylinders, optional
Primary regulator nominal output: 207kPa
Mechanical control flow meters
O₂ range: two flow tubes with the ranges of 0~1L/Min

and 10 L/min
 N₂O range: two flow tubes with the ranges of 0 ~1L/Min and 10 L/min
 Air range: two flow tubes with the ranges of 0 ~1L/Min and 10 L/min
 Accuracy: <±10% of indication
 Auxiliary O₂ Flowmeter (Optional)
 Range: 0 ~15L/min
 Indicator: flow tube

Hyoxic Guard System

Type: Mechanical
 Range: Provides a nominal minimum 25% concentration of oxygen in O₂ /N₂O mixture

O₂ Controls

Method: N₂O shut off with loss of O₂ pressure
 Supply failure alarm: <200 kPa

O₂ Flush: 25~75 L/min

Breathing Circuit Specification

Operational Modes: closed and semi-closed circuit system
 Volume of CO₂ canister: about 1500 mL
 Water Trap: 6mL, easy to be disassembled
 Port and Connectors:
 Inspiration/ expiration connector: 22 mm OD and 15 mm ID conical connector
 Manual bag port: 22 mm OD and 15 mm ID conical connector
 System Pressure Gauge:
 Range: -20~100 cmH₂O
 Accuracy: ±2.5% full scale
 Bag/Mechanical Ventilation Switch:
 Type: Bi-stable
 Control: the switch between manual ventilation and ventilator

Adjustable Pressure Limiting (APL)valve:

Range: 1~75 cm H₂O
 Tactile knob indication at: >30 cm H₂O
 Accuracy: ±10cmH₂O
 Start pressure: 1cmH₂O

Breathing Circuit Parameters:

Compliance: ≤4mL/100Pa
 Automatically compensates for compression losses within the breathing circuit in

mechanical mode
 Expiration resistance: < 6 cm H₂O @60 L/min
 Inspiration resistance: < 6 cm H₂O @60 L/min
 Material: The material contact with exhaled gas is autoclavable and natural latex free , except flow sensors , O₂ fell cell and mechanical pressure meter.

Gas Monitoring

Mindray Side-stream Carbon Dioxide (CO₂) Module

Measurement range: 0~99 mmHg
 Accuracy : ±2 mmHg (0~40 mmHg)
 ±5% of reading (41~76 mmHg)
 ±10% of reading (77~99 mmHg)
 Resolution: 1 mmHg
 Gas compensations: N₂O, O₂ and Anesthetic Gas(only for Desflurane) compensation,optional
 Humidity compensation: BTPS or ATPD
 BTPS : Body Temperature and Pressure, Saturated Gas
 ATPD : Ambient Temperature and Pressure, Dry Gas
 Sampling rate: 70 or 100ml/min
 Sampling rate accuracy: 0.15% or 15ml/min whichever is larger
 Start-up time: less than 1min. The module enters the warming up status after the startup
 10minute later, it enters the Full accuracy mode
 Delay time: When measured with a neonatal watertrap and a 2.5m-long neonatal sampling line: <3 s @ 100 ml/min
 <3.5 s @ 70 ml/min
 When measured with an adult watertrap and a 2.5m-long adult sampling line:
 <5 s @ 100 ml/min
 <6.5 s @ 70 ml/min
 Alarm limit: EtCO₂ high:(low limit+2) to 99mmHg
 EtCO₂ low: 0 to (high limit-2) mmHg
 FiCO₂ High : 0 to 99mmHg
 Increments of 1 mmHg

Anesthetic gas scavenging system:

Active AGSS:
 Size: 443 x 145 x 140mm (height x width x depth)
 Type of disposal system: High-flow disposal system
 Applicable standard: ISO 8835-3: 2007
 Pump rate: 50 to 80 L/min
 Pressure relief device: Pressure compensation opening to the air
 Filter: Stainless screen with hole diameter of 140~150 μ m
 State indication of the disposal system: The float falls below the "MIN" mark on the sight glass when the disposal



Wato

[110 A.D. - 207 A.D.]

The first Chinese surgeon who developed the use of anesthesia and furthered the Chinese knowledge of anatomy

Order Information

Main unit includes ventilator, mechanical flow-meters, breathing circuit with 1 CO ₂ absorber, 1 drawer, 1 lithium battery (90min), pipeline pressure gauges and user manual and quick guide.		
	WATO EX-20	WATO EX-30
Color LCD screen	7 inch	8.4 inch
Pipeline Gas supply	O ₂ , O ₂ +N ₂ O, O ₂ +N ₂ O+Air	O ₂ , O ₂ +N ₂ O, O ₂ +N ₂ O+Air
Backup Cylinder yokes	O ₂ /O ₂ +O ₂ /O ₂ +N ₂ O/O ₂ +Air	O ₂ /O ₂ +O ₂ /O ₂ +N ₂ O/O ₂ +Air
Work surface	Standard	Standard
Position for vaporizers	1 or 2	1 or 2
LED working lights	N/A	Optional
ACGO switch	N/A	Yes
Electronic PEEP	Yes	Yes
Vaporizers(Selectatec [®] compatible)	Isoflurane, Enflurane, Sevoflurane, Halothane, Desflurane	Isoflurane, Enflurane, Sevoflurane, Halothane, Desflurane
Volume-controlled ventilation	40-1500ml, with tidal volume compensation	40-1500ml, with tidal volume compensation
Pressure ventilation	Optional	Yes
SIMV	N/A	Optional
Airway pressure monitoring	Yes	Yes
Inspired oxygen monitoring	Yes	Yes
CO ₂ monitoring	N/A	Optional

For more information, please contact Mindray sales representatives

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