BMC

Therapeutic Product for COVID-19 Patients

Non-invasive ventilator

G3 B30VT

G3 B30VT is a bi-level device with S/T mode and target tidal volume feature for patients with respiratory insufficiency.

Clinical Results

The following recommendations pertain to adult and paediatric patients with ARDS who are treated with non-invasive or high-flow oxygen systems.

High-flow nasal oxygen (HFNO) should be used only in selected patients with hypoxemic respiratory failure.

Non-invasive ventilation (NIV) should be used only in selected patients with hypoxemic respiratory failure.

Patients treated with either HFNO or NIV should be closely monitored for clinical deterioration.

--Reference *Clinical management of severe acute respiratory infection (SARI) when COVID-19 disease is suspected*

Treatment of severe and critical cases:

a. Treatment principle:

Based on symptomatic treatment, actively prevent complications, treat basic diseases, prevent secondary infections, and provide organ function support in a timely manner

b. Respiratory support:

(a) Oxygen therapy: Severe patients should receive nasal cannula or mask to inhale oxygen and evaluate in time whether respiratory distress and / or hypoxemia is relieved.

(b) High-flow nasal cannula oxygen therapy or non -invasive mechanical ventilation: When patients have respiratory distress and / or hypoxemia cannot be relieved after receiving standard oxygen therapy, high -flow can be considered Nasal catheter oxygen therapy or non-invasive ventilation. If the condition does not improve or worsens within a short time (1 to 2 hours), tracheal intubation and invasive mechanical ventilation should be performed in time.

-- Reference *Diagnosis and treatment of pneumonitis for a new coronavirus infection (Trial Version 7)*

How to avoid nosocomial infections with non-invasive

Filter needs to pay attention to the problem of increased resistance to water overload. The increased resistance needs to be replaced at any time!
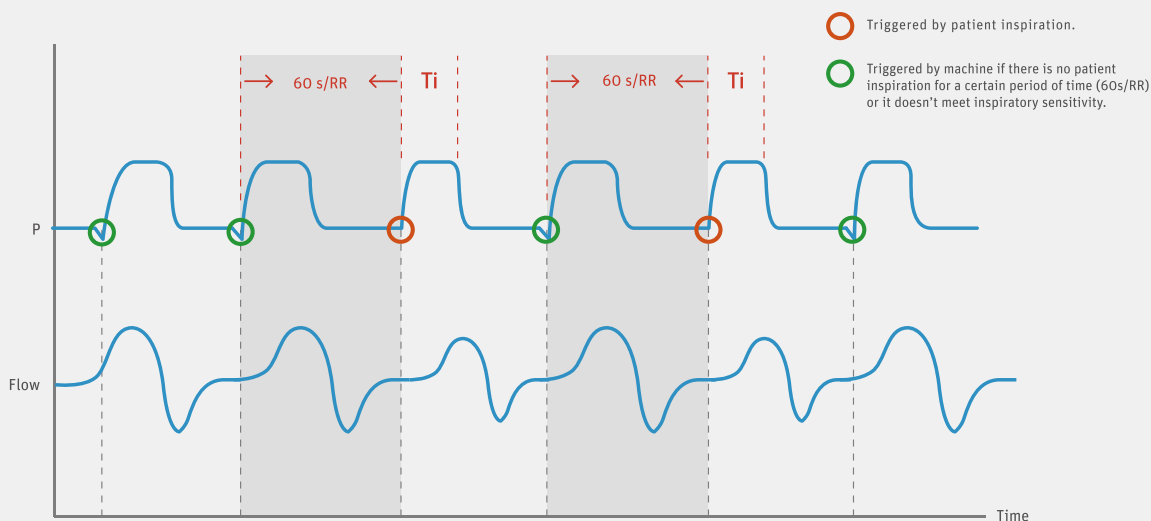

F2 NV2 Full Face Mask

O_2

Filter

Tube

Expiratory valve

CO_2

Filter
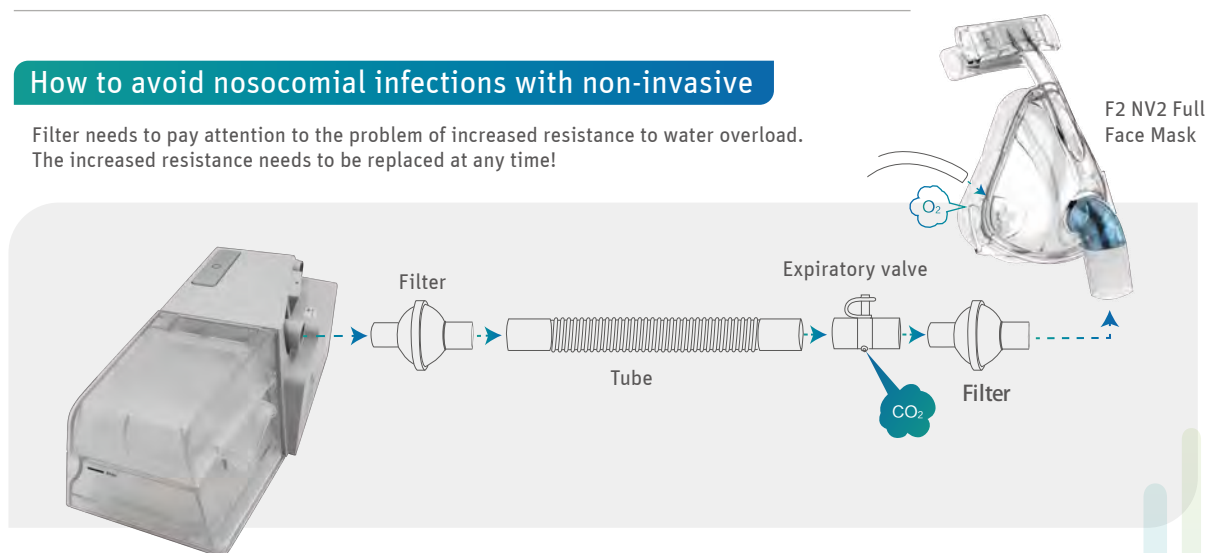
G3 B3OVT Non-invasive ventilator with humidifier

-- Reference *Chinese Journal of Respiratory and Critical Care medicine, Feb. 2020, Vol. 19, No. 2*

Efficiencies in Therapy

S/T Mode

Machine complies with patient breathing. However, if there is no inhalation for a certain period of time, the machine will give a forced ventilation to ensure the minimum ventilation.

○ Triggered by patient inspiration.

○ Triggered by machine if there is no patient inspiration for a certain period of time (60s/RR) or it doesn't meet inspiratory sensitivity.

Auto Leak Compensation

The machine detects the leaks during treatment in real time and adjusts the baseline to ensure correct triggering and related functions.
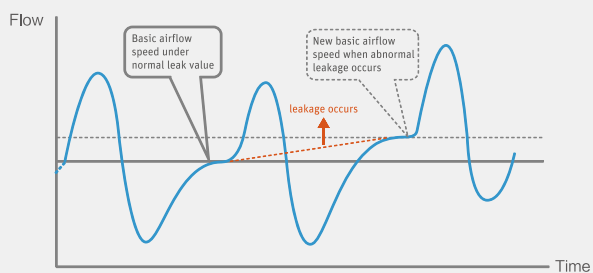
Inspiratory time control

Ti min and Ti max could be set independently, avoiding insufficient ventilation due to short inspiratory time. At the meantime, cases can be prevented where expiratory sensitivity is unable to meet due to large leaks.
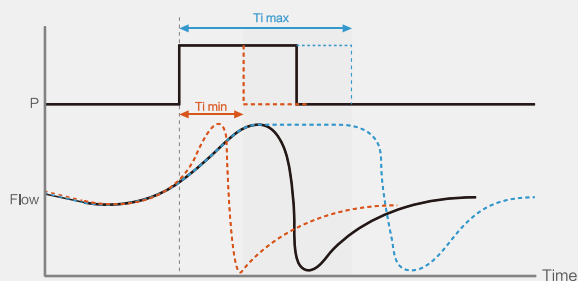
Target Tidal Volume Function

Optimize IPAP according to mean Vt of last 5 breathings and prescribed Target Vt. Larger difference between mean Vt and target Vt takes more evident adjustment in IPAP.

- Inspiratory pressure is between IPAP min and IPAP max.
- Larger difference between mean Vt and target Vt takes more evident adjustment in IPAP.
- Patient Vt is the mean of Vt values from patient's last 5 breathings.

Height (m)	Ideal Weight (kg) (BMI=20)	Target Vt (mL) (8 mL/kg)	Target Vt (mL) (10 mL/kg)
1.50	45	360	450
1.55	48	380	480
1.60	51	410	510
1.65	54	440	540
1.70	58	460	580
1.75	61	490	610
1.80	65	520	650
1.85	68	550	690
1.90	72	580	720

IPAP max

IPAP min

EPAP

Target Vt

Patient Vt

Time

IPAP increases when Patient Vt is lower than Target Vt

IPAP decreases when Patient Vt is higher than Target Vt
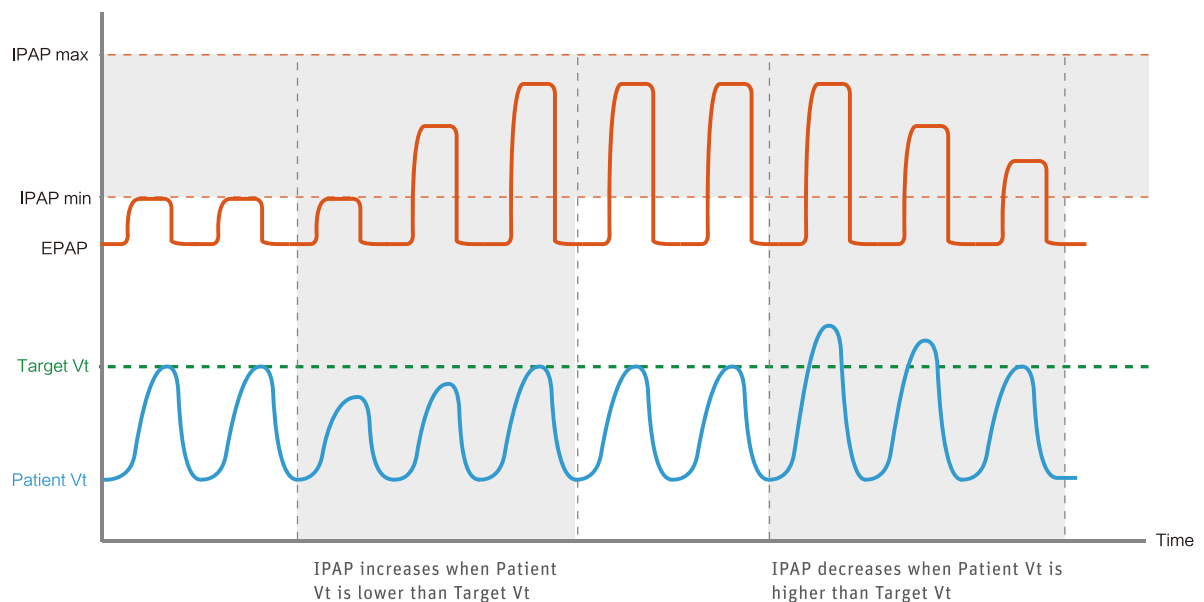
Intelligent comfort features
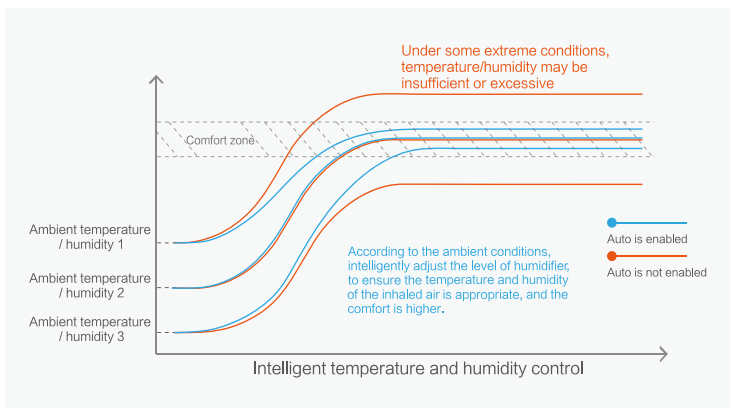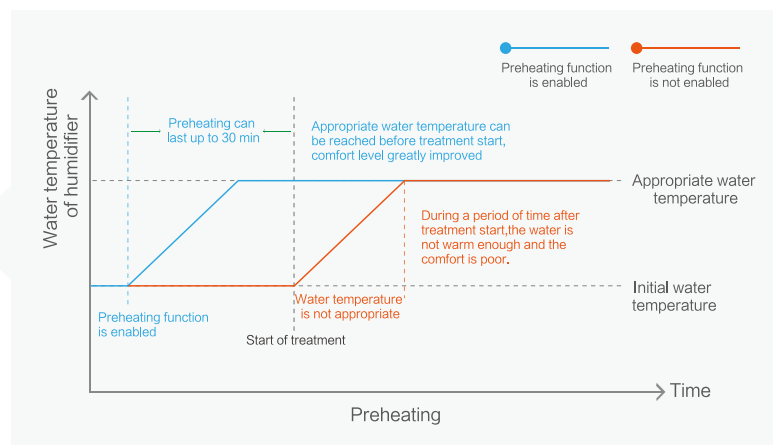
Pre-heat

G3 B3OVT has a pre-heat feature, to warm your humidifier water up for ultimate comfort during cold, dry weather.

Preheating function is enabled • Preheating function is not enabled

Water temperature of humidifier

Preheating can last up to 30 min

Appropriate water temperature can be reached before treatment start, comfort level greatly improved

Appropriate water temperature

During a period of time after treatment start, the water is not warm enough and the comfort is poor.

Initial water temperature

Preheating function is enabled

Water temperature is not appropriate

Start of treatment

Time

Preheating

Intelligent Auto Humidity control

Intelligent Auto Humidity control allows G3 B3OVT maximum moisture while ensuring rain out in the tubing is not an issue.

Under some extreme conditions, temperature/humidity may be insufficient or excessive

Comfort zone

Ambient temperature / humidity 1
Ambient temperature / humidity 2
Ambient temperature / humidity 3

According to the ambient conditions, intelligently adjust the level of humidifier, to ensure the temperature and humidity of the inhaled air is appropriate, and the comfort is higher.

Auto is enabled
Auto is not enabled

Intelligent temperature and humidity control

Inspiratory / Expiratory sensitivity

8 grades of I Sens and E Sens optimize the compliance of the device with the patient.

I sense   8 7 6 5 4 3 2 1

8 7 6 5 4 3 2 1   E sense

Ultra modern design with a user friendly interface

All new humidifier design keeps the G3 B30VT compact and attractive.

Innovative PUSH water chamber is simple to use.

Humanized UI Design

▯ ♦5 ∩5		2020/03/31 05:10 pm
〰	🔲 Accessories	👤 Mask
Preheat		📈 Report 🛠 Settings
S/T	6.0	8.0	10
Mode	EPAP	IPAP	Res Rate

Real-time data	Real-time waveforms	Current Settings
5.0 cmH₂O Pressure	23.5 L/min Flow	516 mL Vt
16 bpm Res Rate	8.4 L/min MV	1.1 s Ti
11.8 L/min Leak		

Real-time data	Real-time waveforms	Current Settings
20		
10	P	
200		
100		
0	F	

Real-time data	Real-time waveforms	Current Settings
S/T Mode	Off Target Vt	Off ASV	4.0 Initial EPAP
5.0 EPAP	12.0 IPAP	2 Rise Time	6 I Sens
4 E Sens	0.5 Ti Min	2.0 Ti Max	10 Res Rate
1.0 Ti	Off Leak Alarm		

Accessories replacement reminder

Accessories replacement reminder and reminder cycle can be set for mask, air tubing and air filter, so that the consumables can be replaced regularly in time to ensure a better therapy effect.

Air Filter	Tubing	Mask
2/30 days	2/180 days	2/60 days
Reset	Reset	Reset
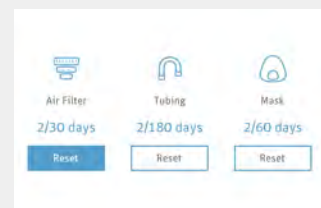
Therapy	Comfort	Alarm	Maintenance
Alert Log			>
Low Pressure			4.0 cmH₂O
High Pressure			30.0 cmH₂O
Low RR			6 bpm

Alarms to make therapy reliableVarious visual and auditory alarming - Leak, High/Low RR, High/Low Pressure, Low Minute Ventilation, Power Failure, etc.

Specifications

Model Comparison

G3 B30VT	IPAP: 4 - 30 hPa EPAP: 4 - 25 hPa CPAP mode: 4 - 20 hPa	3.5-inch	CPAP, S, T, S/T

Device Size

Dimensions (L x W x H): 265 mm × 145 mm × 114 mm

Weight: 1.7 kg

Water capacity: To maximum fill line 360 mL

Heated Humidifier

Humidifier Settings: Off, 1 to 5, Auto (95°F to 154.4°F / 35°C to 68°C)

Humidifier Output: No less than 15 mg H2O/L

Sound Pressure Level

< 26 dB, when the device is working at the pressure of 10 hPa.

Data Storage

On board: Summary data, all the time;
Detailed airflow data, 1 day.
SD card: Summary data, all the time;
Detailed airflow data, 546 hours.

Key Parameters

Target Vt: On / Off
150~1500 mL

I Sens.: 1~8

E Sens.: 1~8

Rise Time: 1~4

Res Rate:
3~40 BPM

Ti: 0.3-3.0s