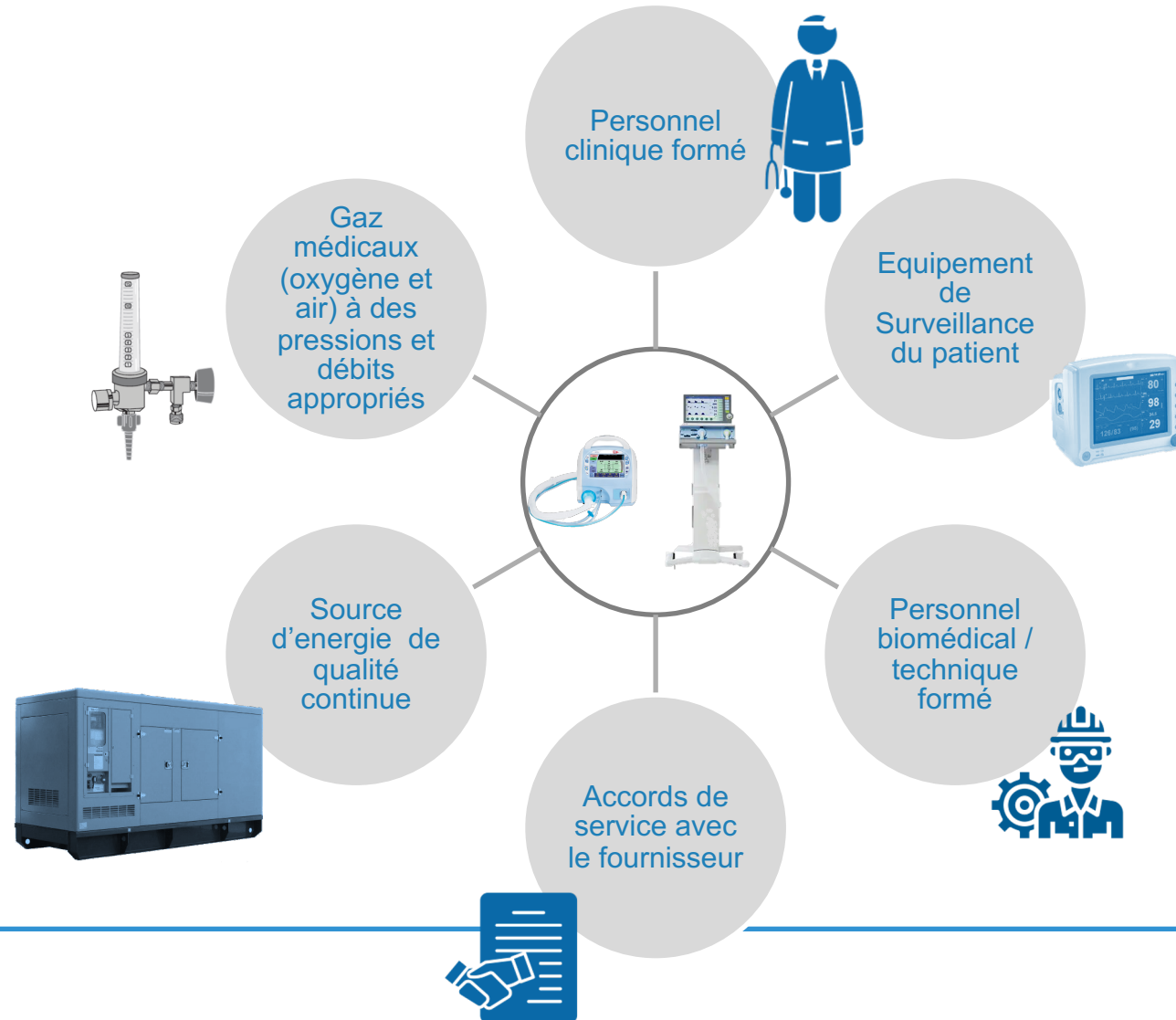


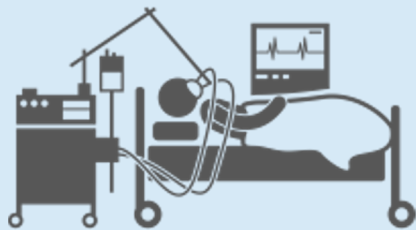
# Ventilation Non-Invasive

# Considérations doivent être prises en compte lors de la sélection et de la mise en place des équipements pour garantir son fonctionnalité, sûreté efficace des équipements médicaux



# Prise en charge de la COVID-19: Px Avec état critique critical cases nécessitent des concentrations d'oxygène plus élevées ainsi que des débits à pression positive qui peuvent être fournis à l'aide d'un Ventilateur.

Il existe deux catégories de ventilateurs qui peuvent fournir une assistance ventilatoire aux cas critiques de COVID-19:



## Ventilation Non Invasive (VNI)

- Px Avec état critique: syndrome de détresse respiratoire aiguë (SDRA)
- Traités avec des systèmes d'oxygénothérapie à haut débit (OHD) ou Ventilation non-invasive : Pression positive continue (PPC) / A deux niveaux de pression (BiPAP)
- Les patients sous VNI ne sont pas intubés



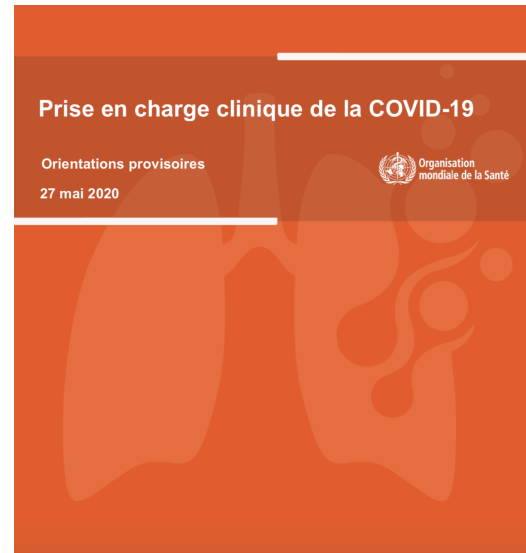
## Ventilation Invasive

- Px Avec état critique: nécessitant une pression positive dans les voies respiratoires et une ventilation assistée
- Requires highly skilled healthcare providers for intubation and case management
- Options: ICU ventilators, transport ventilators, and homecare ventilators
- IMV requires sedation of patient
- Can also be used non-invasively

*En raison de l'incertitude concernant le risque de génération d'aérosols, l'**oxygénothérapie à haut débit (OHD)** et la **ventilation non invasive (VNI)**, y compris par pression positive continue (PPC) à bulles,*

*Imposent de prendre des précautions contre la transmission aérienne des agents pathogènes jusqu'à ce qu'une évaluation plus approfondie de leur sécurité puisse être effectuée. Les données factuelles sont insuffisantes pour classer le traitement par nébuliseur comme un acte générateur d'aérosols associé à la transmission de la COVID-19. Des recherches supplémentaires sont nécessaires.*

# Techniques de ventilation Non invasive



[https://www.who.int/medical\\_devices/priority/COVID-19\\_medequipment/en/](https://www.who.int/medical_devices/priority/COVID-19_medequipment/en/)

## Resources en Anglais

1. Outil de prevision d'équipements essentiels (ressources humaine)
2. List des Equipement Medicaux Essentiel
3. Specification Techniques

World Health Organization WHO/2020-cov/meddev/ts02t.v1 09/04/20

### Priority Medical Devices in the context of COVID-19

#### A. Medical Devices for Case Management

**Objective**  
 The list of priority medical devices in the context of COVID-19 provides descriptions for the management of patients with severe acute respiratory infection (SARI) when a COVID-19 virus infection is suspected at different levels of health care provision. The first level, for outpatient; second level includes general hospitals and laboratories; and third level, includes specialized hospitals with intensive care units and SARI units. The devices listed are for the interventions and should be adapted to the health care workforce, infrastructure and technological resources available.

**Audience**  
 This document is recommended to support decision-making regarding the allocation and use of medical devices in the context of COVID-19 and is intended for healthcare providers, managers of SARI Units, procurement regulatory agencies and Ministries of Health. Recommendation to involve Biomedical Engineer in the selection and verification of installation of the equipment and ensure training of health care workforce.

**Assumptions**  
 Assessment of the health facility is required prior to choosing equipment from the list in order to have a fully functional unit. For more details consult the technical specifications per equipment. Accessories and consumables for starting operation are not disaggregated in this list. They should be provided with the purchase of the equipment for at least 3 months of operation. A minimum warranty of at least one year and additional spare parts for maintenance should be also aggregated, according to the health care capacity. Training is indispensable for invasive ventilation.

**Table 1. Medical Devices for Case Management of severe and critical patients by health facility level.**

Type	Medical Purpose	Remarks	Medical Device Generic Name	Triage	Treatment of severe patients	Treatment of critical patients	1st level	2nd Level	3rd Level
-	-	-	Infrared thermometer	X			*		
Option 1 - Desirable			Pulse oximeter - portable handheld, with cables and sensor		X	X		*	*
Option 2			Pulse oximeter - fingertip	X	X	X	*	*	*
Option 3			Pulse oximeter - table top with cables and sensor					*	*

# Catalogue COVID products, include PPE, ( for 120 LMI countries) Supply portal COVID-19, includes all priority medical devices: Dx, Tx, PPE





<https://covid-19-response.org/>

## Catalogue

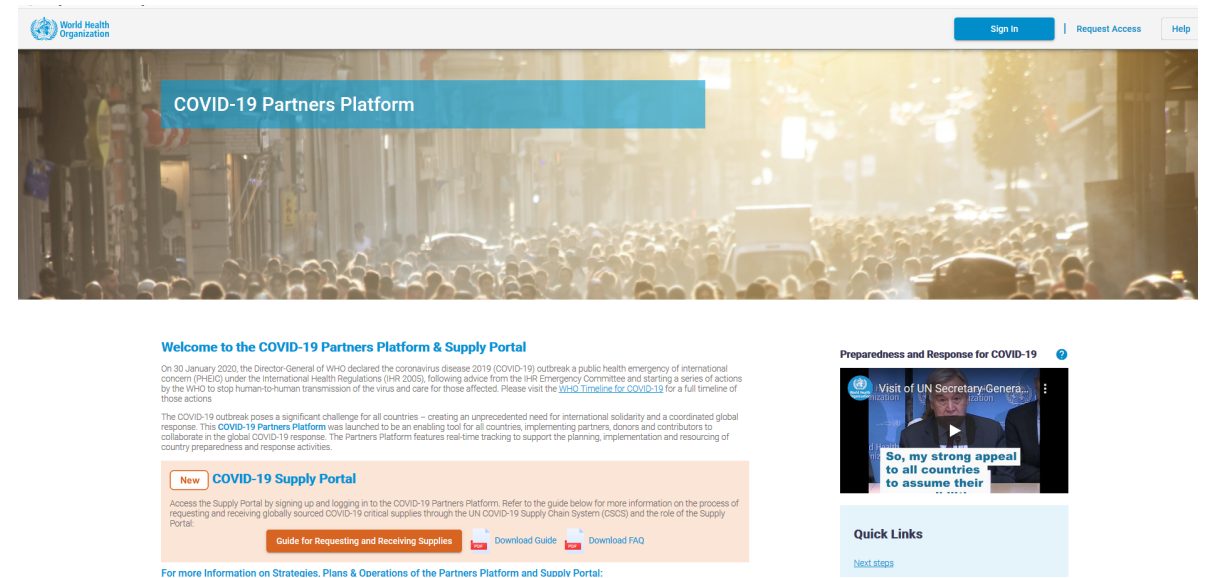
### Emergency Global Supply Chain System (COVID-19)

Catalogue as of 22.04.2020

The items in this catalogue represent an initial prioritized selection of items and are subject to constant review. Nothing in this catalogue should be construed as offer or guarantee for allocation of supplies. Item costs are estimates only.

Emergency Global Supplies Catalogue(COVID-19)						
Medical Purpose	Sample picture (not exhaustive)	Name	Covid19 Item Code	Indicative price* (USD / unit)	UOM*	
Biomed		Filter, heat and moisture exchanger (HMEF), high efficiency, with connectors, for adult, single use	BIOFIL001	4.0	EA	
		Filter, heat and moisture exchanger (HMEF), high efficiency, with connectors, for pediatric, single use	BIOFIL002	4.1	EA	
		Compressible self-refilling ventilation bag for adult, capacity > 1500 mL, with masks (small, medium, large)	BIOBAGV001	62	EA	
Oxygen therapy - Non-Invasive Ventilation		BIPAP, with tubing and patient interfaces for adult and pediatric, with accessories	BIOBIP001	1,800	EA	
		CPAP, with tubing and patient interfaces for adult and pediatric, with accessories	BIOCPAP001	5,606	EA	
		High Flow Nasal Cannula, with accessories	BIOCAHF001	0.4	EA	
Healthcare providers protection		APRON PROTECTION, plastic, disposable	PPEAPR001	0.2	EA	
		GLOVES, SURGICAL, s.u., sterile, size 6.5, pair	PPEGLOS001	0.4	PAIR	
		GLOVES, SURGICAL, s.u., sterile, size 7, pair	PPEGLOS002	0.4	PAIR	
		GLOVES, SURGICAL, s.u., sterile, size 7.5, pair	PPEGLOS003	0.4	PAIR	
		GLOVES, SURGICAL, s.u., sterile, size 8, pair	PPEGLOS004	0.4	PAIR	
		GLOVES, SURGICAL, s.u., sterile, size 8.5, pair	PPEGLOS005	0.4	EA	
		GLOVE EXAMINATION, nitrile, pf, size S	PPEGLOE001	0.1	EA	
		GLOVE EXAMINATION, nitrile, pf, size M	PPEGLOE002	0.1	EA	
		GLOVE EXAMINATION, nitrile, pf, size L	PPEGLOE003	0.1	EA	
		GLOVE EXAMINATION, nitrile, pf, size XL	PPEGLOE004	0.1	EA	
PPE		GLOVE EXAMINATION, nitrile, pf, size XXL	PPEGLOE005	0.1	EA	
		FACE SHIELD, clear plastic, disposable	PPEFACE001	1.0	EA	

## Supply portal



**Welcome to the COVID-19 Partners Platform & Supply Portal**

On 30 January 2020, the Director-General of WHO declared the coronavirus disease 2019 (COVID-19) outbreak a public health emergency of international concern (PHEIC) under the International Health Regulations (IHR 2005), following advice from the IHR Emergency Committee and starting a series of actions by the WHO to stop human-to-human transmission of the virus and care for those affected. Please visit the [WHO Timeline for COVID-19](#) for a full timeline of those actions.

The COVID-19 outbreak poses a significant challenge for all countries – creating an unprecedented need for international solidarity and a coordinated global response. This **COVID-19 Partners Platform** was launched to be an enabling tool for all countries, implementing partners, donors and contributors to collaborate in the global COVID-19 response. The Partners Platform features real-time tracking to support the planning, implementation and resourcing of country preparedness and response activities.

**New COVID-19 Supply Portal**

Access the Supply Portal by signing up and logging in to the COVID-19 Partners Platform. Refer to the guide below for more information on the process of requesting and receiving globally-sourced COVID-19 critical supplies through the UN COVID-19 Supply Chain System (SCSS) and the role of the Supply Portal.

[Guide for Requesting and Receiving Supplies](#) [Download Guide](#) [Download FAQ](#)

For more Information on Strategies, Plans & Operations of the Partners Platform and Supply Portal:

**Preparedness and Response for COVID-19**

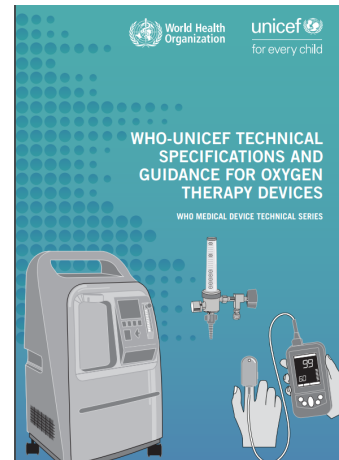
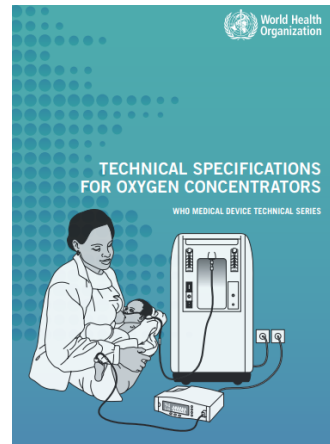
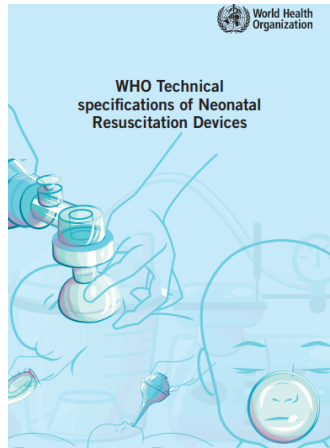
Visit of UN Secretary-General...  
So, my strong appeal to all countries to assume their...  
Next steps



World Health Organization

HEALTH EMERGENCIES programme

# Technical specifications for procurement



## Systèmes de distribution d'oxygène Ventilateurs, oxymètres de pouls EKG, pompes

Technical specifications for invasive and non-invasive ventilators  
COVID-19  
Interim guidance  
15 April 2020

These technical specifications describe the minimum requirements that invasive and non-invasive ventilators must comply with to ensure quality, safety and effectiveness when used for the management of COVID-19.

All these ventilators require a source of air and oxygen to operate their internal blenders. Some of the equipment includes an internal air compressor, but all these pieces of equipment require either a low-flow oxygen source (e.g. oxygen concentrator) or a high-flow oxygen source (e.g.

### Definitions and intended use

#### 1.1 Invasive ventilators

1.1.1 Patient ventilators for intensive care units to provide temporary ventilatory and respiratory support for adult and paediatric patients who cannot breathe on their own or who require assistance to maintain adequate oxygenation. This equipment is usually connected to a 50-psi air supply. Some ventilators have their own air compressor.

### Medical Devices

#### Medical devices for patient management

This page refers only to the specific priority medical devices for clinical management, including: diagnostic imaging, monitoring equipment; oxygen supply therapy and equipment for intensive care units.

This is a subset of the complete priority medical devices list which can be found [here](#).

#### Technical specifications for the medical devices for clinical management are listed below:

These technical specifications describe the minimum requirements that the medical devices must comply with to ensure quality, safety and effectiveness when used for the management of COVID-19.



[Access technical specifications for invasive and non-invasive ventilators \(15 April 2020\)](#)

[COVID-19 Technical specifications of invasive and non-invasive ventilators V2 \(Draft 11 August 2020\)](#)

[Technical specifications for pressure-swing-adsorption \(PSA\) plants](#)

[COVID-19 Technical specifications for procurement of oxygen therapy and monitoring devices \(final draft 10 July 2020\)](#)

[COVID-19 Technical specifications for infusion devices \(final draft 10 July 2020\)](#)

[COVID-19 Technical specifications for imaging devices: portable ultrasound; mobile radiographic digital equipment; computed tomography \(CT\) scanning system \(4 August 2020\)](#)

The draft specifications will be integrated in a single publication along with other sets that are being updated.

## WHO IAEA Technical specification under development (Aug 2020) US, XRAY, CT (scanner)

# Specifications Techniques- CPAP (Continuous Positive Airway Pressure)

Mode de support ventilatoire : CPAP ventilation en pression positive continue

Pression positive: 4–20 cmH<sub>2</sub>O.

Déclencheur d'inspiration pour le démarrage automatique.

IP21 (IP22 preferable)

Préférable: Option de rampe de pression, Capacité de se connecter à un système d'humidification actif

Alarm: Ventilation haute / basse pression et / ou minute. Oxygène élevé / faible (préférable). Déconnexion du circuit respiratoire.

## Considerations

1. Notamment très couramment utilisée pour traiter le syndrome d'apnée du sommeil (SAS).
2. Appareils pour l'utilisation a domicile (Home Care)
3. Il a été utilisé en raison de la pénurie de produits dans le marche





# Specifications Techniques- BiPAP - Biphasic intermittent positive airway pressure

Mode de support ventilatoire : CPAP, Timed, Pressure assisted control/pressure control (PAC/PC) (preferable). Automatic positive airway pressure (also called APAP or AutoPAP)

Fournit une pression positive plus élevée lors de l'inhalation que lors de l'expiration. 4–25 cmH<sub>2</sub>O.

Déclencheur d'inspiration pour le démarrage automatique.

IP21 (IP22 preferable)

Préférable: Fonctions de soulagement expiratoire qui réduisent légèrement la pression à la fin de chaque respiration pour faciliter l'expiration du patient

Alarm: Ventilation haute / basse pression et / ou minute. Oxygène élevé / faible (préférable). Déconnexion du circuit respiratoire.

## Considerations

1. CPAP Inclue
2. Hopital et A domicile
3. Possibilité d'utiliser une source d'oxygène auxilliare- 15 l/min
4. Adult/Paediatric Utilization (a partir de 30 kg or 13 kg)



# CPAP et BiPAP- Approvisionnement expérience

## Comparatifs et Évaluations

Manufacturer	Alnov Corp MACS	Alnov Corp MACS epic	APEX Medical Corp CH	APEX Medical Corp KT	Beijing Aesmed Co Ltd AS100A	Beijing Aesmed Co Ltd AS100C	Conto Medical Technology Co Ltd AP-20	Conto Medical Technology Co Ltd BP-20	Conto Medical Technology Co Ltd BP-25	Conto Medical Technology Co Ltd CP-20	Driv Heat DAP Auto
WHERE MARKETED	Worldwide	Worldwide	Worldwide	Worldwide	Worldwide	Worldwide	Worldwide	Worldwide	Worldwide	Worldwide	World
FDA CLEARANCE	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes
CE MARKING	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MODES	CPAP	CPAP	CPAP, AutoCPAP	CPAP, AutoCPAP	CPAP	CPAP	CPAP, AutoCPAP	CPAP S, S/T, T	CPAP S, S/T, T	CPAP	CPA
MASK Configuration	Face	Face	Nasal, nasal pillow, full-face	Nasal, nasal pillow, full-face	Nasal, nasal pillow, full-face	Nasal, nasal pillow, full-face	Mask	Mask	Mask	Mask	Nasal cannula
Material	PCV, silicone	PC									
CONTROL											
Inspiratory Time, sec	NA	NA									
Pressure, cm H2O	0-20	0-20									
Expiratory Time, sec	NA	NA									

## Résultats sur les appareils CPAP pour les établissements de santé

- Très couramment utilisée pour traiter le syndrome d'apnée du sommeil (SAS).
- Spécifications techniques Non compliant: Alarmes de déconnexion du circuit respiratoire, haute basse pression, remplacement du filtre à air, panne d'alimentation en gaz, entre autres
- Caractéristiques cliniques limitées: par ex. Décompression expiratoire absente, pas de capacité de compensation de fuite, limitation de FiO2.
- Un appareil BiPAP inclut déjà le mode CPAP par défaut

# CONSOMMABLES ET ACCESSOIRES;

Items required	Catalog number as per quotation	Unit price	Qty per equipment	Total Price	Category	Brand specific	Timeframe	Comments
<b>BIPAP AirCurve/Lumis STA</b>	<b>28226</b>	\$2,870.00	1	\$2,870.00	Equipment		N/A	
<b>Included:</b>								
HumidAir humidifier			1		Accessory			
Air tubing		Standard on the machine	1		Accessory			
Power supply unit		Standard on the machine	1		Accessory			
Travel bag		Standard on the machine	1		Accessory			
SD card (already inserted)		Standard on the machine	1		Accessory			
<b>CONSUMABLES</b>								
Antibacterial filters	24966	\$2.00	180	\$360.00	Consumable		6 months	For Non Invasive Ventilation, consumable usage for 2 weeks is assumed, however filters specified for 24hrs. Total Filter requirement for 625 units for 6 months: 112,500 filters Note: AB Filters come in packs of 50
Disposable full mask, adult fit, with oxygen port: SIZE SMALL	60786	\$20.00	2	\$36.00	Consumable		6 months	Assume 15% Small, NV AcuCare F1-0 FFM SML-EU1 5pk
Disposable full mask, adult fit, with oxygen port: SIZE MEDIUM	60787	\$20.00	8	\$168.00	Consumable		6 months	Assume 70% Medium: NV AcuCare F1-0 FFM MED-EU1 5pk
Disposable full mask, adult fit, with oxygen port: SIZE LARGE	60788	\$20.00	2	\$36.00	Consumable		6 months	Assume 15% Large: NV AcuCare F1-0 FFM LGE-EU1 5pk
Disposable full mask, paediatric fit, with oxygen port				\$0.00	Consumable			ResMed do not have a disposable paediatric mask
Air tubing standard	14994	\$5.50	12	\$66.00	Consumable		6 months	
Leak Valve	24988	\$12.50	24	\$300.00	Consumable		6 months	7 days usage specified
O2 Port	14915	\$15.00	12	\$180.00	Consumable		6 months	
A10 hypo-allergenic filter (50pk)	36858	\$75.00	0	\$3.00	Consumable		1 year	2 filters per device per year: 1,250 filters total
<b>ACCESSORIES</b>								
ResMed Power Station II (RPS II) (Battery, Power Supply Unit adaptor and Carry Bag)	24921, 37342, 37343	\$631.00	1	\$631.00	Accessory			37342 Air 10 Power supply unit adaptor & 37343 RPS II Air10 DC cable**
90 W AC Power Supply Unit + AC Power Cord (for ResMed Power Station)	37346	\$44.00	1	\$44.00	Accessory			Air10 PSU 90W EUR specified
Standard Trolley			1	\$0.00	Accessory			This part is currently unavailable
Reusable full mask, adult fit, with oxygen port		\$145.00	2	\$290.00	Accessory			NV Quattro Air FFM (Medium)
Reusable full mask, paediatric fit, with oxygen port		\$107.00	2	\$214.00	Accessory			Pixi Paediatric Mask
<b>SPARE PARTS</b>								
1 year spare parts kit as per preventive maintenance program			1		Spare part	Yes	1 year	Lumis STA does not require preventative maintenance. The air filter should be replaced every 6 months. Air filters have been included under consumables
<b>MAINTENANCE / SLA</b>								
Service Level Agreement (Reduced Price for Spare parts)								
Service Level Agreement (Preventive Maintenance, 1 year)								
Service Level Agreement (Preventive Maintenance+Corrective Maintenance, 1 year)								
Service Level Agreement (Preventive Maintenance, 2 year)								
Service Level Agreement (Preventive Maintenance+Corrective Maintenance, 2 year)								

**Merci**

HFNC? –OHD?

**Merci**