PRODUCT SPECIFICATION

Product P/N	**2800/22**	**Mod. 984A Rev. 06**
Description	**Spiroguard**	

2800/22

Spiroguard

PRODUCT DESCRIPTION	Inlet Outlet Connectors: OD34mm ID29.25mm - Machine Side; OD31.2mm ID26.09mm - Patient Side. Approx. Dimensions: 97mm diameter x 85mm height. Weight: 37gm (approx.). Bidirectional Filter.
MANUFACTURER NAME	**GVS Filter Technology UK** NFC House Vickers Industrial Estate Mellishaw Lane, Morecambe Lancashire LA3 3EN - United Kingdom **Information** Tel. +44 (0) 1524 847600 e-mail: gvsuk@gvs.com
INTENDED USE / APPLICATION	Spirometer pre filters are used in pulmonary function tests for trapping bacteria and viruses and other particulates, reducing the risk of cross-contamination between the patient and the machine. Filters can be supplied with accessories, such as nose clip, mouthpiece and bite grip.
CLASS OF THE PRODUCT	Disposable medical device - Class IIa Rule 2 Annex IX 93/42 / EEC Rule 5 Annex VIII MDR 2017/745
MATERIALS	**Filter media:** ***Electrostatic Blended Synthetic Fiber*** **Frame/Housing Polymer:** ***White Polypropylene Homopolymer (PP)*** **Colour:** ***White.*** **Regulatory Documentation Required:** - Biocompatibility according ISO 10993-1 - ROHS - BSE/TSE - DEHP plasticizer Free and latex free - Aging - REACH - Conflict minerals

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PRODUCT CHARACTERISTICS

Appearance/Visual
As shown on drawing.

Physical/Mechanical
Approx. Dimensions: ***97mm diameter x 85mm height.***
Weight: ***37gm (approx.).***

Interfaces (ex: Input / Output connectors): ***OD34mm ID29.25mm - Machine Side;***
OD31.2mm ID26.09mm - Patient Side.
Operating temperature Range: ***N/A***
Storage temperature Range: ***5 °C to 40 °C***
Bidirectional Filter, Male connector – Patient Side.

Biological
Pyrogenicity: ***<0.3 EU/ml***
Biocompatibility to ISO10993
Category – ***Surface device***
Contact – ***Oral cavity***
Contact Duration - ***<24hrs***

Functional
Air Flow Rate: ***30l/min, 60l/min, 90l/min.***

Filtration Efficiency: *Filter Efficiency @ 30L/min using TSI 8130*: ***Min. 99%***
(REP: 1433/17 with factor of safety applied to Min.)

Pressure Drop:
Flow Resistance @ 30l/min in accordance with EN ISO 9360-1: ***Max.35.2Pa***
Flow Resistance @ 60l/min in accordance with EN ISO 9360-1: ***Max.75.9Pa***
Flow Resistance @ 90l/min in accordance with EN ISO 9360-1: ***Max.132Pa***
(REP:1255/17 with 10% of safety margin added to Max.)

Internal Volume: ***100ml (approx.)***

Operating Lifetime: ***Refer to Instructions for Use.***

Shelf Lifetime: ***5 years from the date of manufacture.***

Bacterial Filtration Efficiency in accordance with ASTM F2101-07: ***Min. 99.999%***
(Staphylococcus aureus @ 30L /minute) REP: EXT607770.

Viral Filtration Efficiency in accordance with ASTM F2101-07: ***Min. 99.999%***
(Bacteriophage @ 30L/ minute) REP: EXT620332.

Cleanliness
Device assembled within Class 8 Cleanroom.

Testing
Torque test @ 10Nm. (REP: 1348/17)

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INSTRUCTIONS / WARNINGS	*Multi-language IFU available.*
PRODUCT SHELF LIFE	*5 years from the date of manufacture.* *Expiration date and date of manufacture are detailed on the product labelling.*
APPLICABLE STANDARDS AND REGULATIONS	**Product Certification required:** - CE mark - FDA **Applicable Standards and Technical Regulations:** *Biological evaluation of Medical Devices - Part 1: Evaluation and Testing - ISO 10993-1.* *Respiratory protective devices - Method for test - Part 7: Determination of particle filter penetration - BS EN 13274-7.* *Medical devices- Application of risk management to medical devices - BS EN ISO 14971.* *Medical devices – symbols to be used with medical device labels, labelling and information to be supplied - Part1: General requirements - ISO 15223-1.*
PACKAGING AND LABELING	*Number of pcs per bag is determined by the sales order.* *The first barcode label is applied to the outside of the bags.* *The second barcode label is applied onto the outside of the box.* *Each bag is labelled with the following traceability information:* ✓ *Quantity* ✓ *Product description* ✓ *Product Date* ✓ *Lot Number (OL and 5-digit batch number to trace back to raw materials used)* ✓ *Operator Code* *Different lots in one box are separately closed and separately labelled.* *Bulk products will be packed in double PE bags.*
CERTIFICATE OF COMPLIANCE	*With each shipment, GVS UK Customer Service will send the CofC to the Customer, based on the lot numbers and date of manufacture.* *Conformity declaration is printed on every invoice and Certificate is according to UNI EN 10204 type 2.1.* *The Quality management system is in compliance with ISO 9001, ISO 13485.*
DRAWING	*The attached drawing is part of this product specification and must not be duplicated or made accessible to a third party without written permission from GVS Filter Technology UK Ltd.*

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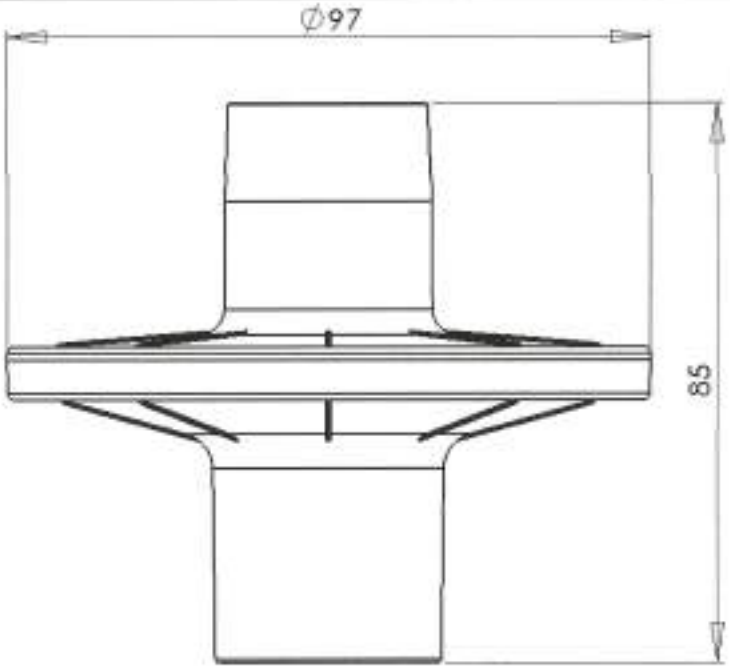

Approximate dimensions for reference only

ACCEPTABLE QUALITY LEVEL

AQL: 0.65 with sampling Plan: ISO2859.

VISUAL REQUIREMENTS

Visual acceptance requirements apply when inspected under below conditions:

Magnification: *Unaided eye at a distance of approximately 35-40cm.*
Light type: *Lighting level must be reasonable for visual detection.*
Timings: *Maximum inspection period per item is 25 seconds.*
For detailed defect list, refer to product control plan.

	Acceptance Requirement	AQL	Sampling Plan
1	Black particle contamination	0.65	ISO 2859 Part 1 General Inspection Level 1
2	Damaged/broken item	0.65	
3	Blocked connector/luer	0.65	
4	Weld marks	0.65	
5	Short fill moulding	0.65	
6	Rough surface or edges	0.65	

7	Pronounced injection gate	0.65	
8	Deformation/distortion	0.65	
9	Crack	0.65	
10	Oil/grease	0.65	
11	Wrong colour	0.65	
12	Weld fault	0.65	

GENERAL SAFETY AND PERFORMANCE REQUIREMENTS

Special characteristic: *Product characteristic which can affect safety or compliance with regulations, fit, function, performance or subsequent processing of product.*

Special Characteristic # 01:

Flow Resistance @ 30L/min in accordance with EN ISO 9360-1

Flow Resistance @ 60L/min in accordance with EN ISO 9360-1

Flow Resistance @ 90L/min in accordance with EN ISO 9360-1

Special Characteristic # 02: *Filter Efficiency @ 30L/min using TSI 8130 in accordance with EN 13274-7.*

Special Characteristic # 03: *Bacterial Filtration Efficiency in accordance with ASTM F2101-07*

Viral Filtration Efficiency in accordance with ASTM F2101-07

This material specification describes the properties of product above indicated. This document contains general requirements, material description, drawing references, defect specification, biological material requirements.

REVISIONS AND APPROVALS:

DATE	REV.	REASON FOR CHANGE	ISSUED AND CONTROLLED BY: (NAME/FUNCTION/SIGNATURE)	APPROVED BY: (NAME/FUNCTION/SIGNATURE)
10/08/2020	2	Filter Efficiency updated.	Kinga Gawdzik – Engineering Support Technician	Andrew Pearce – Quality Manager

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CUSTOMER APPROVAL:

We accept this material specification as a part of the agreed terms of delivery.

Company Name:

Approved by:

NAME/FUNCTION

SIGNATURE

DATE

COMPANY STAMP

Please send back this document signed for approval. If we will not receive this specification signed, we consider the first order placed as implicit approval.