PRODUCT SPECIFICATION

Product P/N	**4222/01DFK**	**Mod. 984A Rev. 06**
Description	**Eco slimline, Luer Lid + Expandable Tube**	

4222/01DFK

Eco slimline, Luer Lid + Expandable Tube

PRODUCT DESCRIPTION	Inlet/Outlet Connectors of **4222/01**: 22mm Male/15mm Female – 22mm Female/15mm Male ISO and Ø4.3mm ISO Luer Port. Approx. dimensions: 68.5mm diameter x 67.1mm height. Weight: 25g (approx.). Bidirectional Filter. Inlet/Outlet Connectors of catheter mount **A626/60** - **DFK**: - connector 22mm Male / 15mm Female-15mm Male; - collapsible tube with connector sizes 14.3mm and 21.5mm (approx.).
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	Filters protect the patient's airways effectively from exogenous microbial loads, thus reducing the risk of extrinsic colonisation and infection. Used to help reduce cross contamination between patient and machine. The luer port connector is used for monitoring respiratory and/or anaesthesia gases.
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**: *4222/01:* ***Transparent Clear Polypropylene (PP)*** *A626/60 - DFK:* ***Clear Styrene - Butadiene Copolymer (SBC) and Clear Polypropylene (PP)*** **Colour:** ***Transparent White*** **Regulatory Documentation Required:** - Biocompatibility according ISO 10993-1 - ROHS

	- BSE/TSE - DEHP plasticizer Free and latex free - Aging - REACH - Conflict minerals
PRODUCT CHARACTERISTICS	**Appearance/Visual** As shown on drawing. **Physical/Mechanical** *Approx. dimensions of 4222/01:* ***68mm diameter x 67.1mm height.*** *Weight:* ***25g (approx.).*** Interfaces (ex: Input / Output connectors): *4222/01:* ***22mm Male/15mm Female – 22mm Female/15mm Male ISO and Ø4.3mm ISO Luer Port.*** *A626/60 - DFK:* ***- connector 22mm Male / 15mm Female-15mm Male;*** ***- collapsible tube with connector sizes 14.3mm and 21.5mm (approx.).*** Operating temperature Range: ***N/A*** Storage temperature Range: ***5 °C to 40 °C*** ***Bidirectional Filter.*** **Biological** Pyrogenicity: ***<0.3 EU/ml*** ***Biocompatibility to ISO10993*** *Category –* ***Surface device*** *Contact –* ***Skin*** *Contact Duration -* ***<24hrs*** For kit performance characteristics for 4222/01DFK – Please refer to 4222/01 Technical data sheet. **Functional** Air Flow Rate: ***30l/min, 60l/min, 90l/min.*** Filtration Efficiency: *NaCl Filter Efficiency @ 30L/min using TSI 8130:* ***Min. 98.5%*** (Ref.4222/700 REP: 0840/16 with factor of safety applied to Min.) Pressure Drop: *Flow Resistance @ 30l/min in accordance with EN ISO 9360-1:* ***Max.99Pa*** *Flow Resistance @ 60l/min in accordance with EN ISO 9360-1:* ***Max.231Pa*** *Flow Resistance @ 90l/min in accordance with EN ISO 9360-1:* ***Max.363Pa*** (REP:0827/16 with 10% of safety margin added to Max.) Internal Volume: ***29ml (approx.)*** Operating Lifetime: ***Refer to Instructions for Use.*** Shelf Lifetime: ***5 years from the date of manufacture.***

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	Bacterial Filtration Efficiency in accordance with ASTM F2101-07: ***Min. 99.999%*** *(Staphylococcus aureus @ 30L /minute)* REP: EXT439447. *Viral Filtration Efficiency in accordance with ASTM F2101-07:* ***Min. 99.9 %*** *(Bacteriophage @ 30L/ minute)* REP: EXT439446. *Gas leakage in accordance with EN9360:* ***Max.0.0 ml/min*** (REP:1524/18) **Cleanliness** Device assembled within Class 8 Cleanroom. **Testing** ***Leak test at 3PSI.***
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.*
STERILIZATION	*N/A*
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.* *Breathing system filters for anaesthetic and respiratory use — Part 1: Salt test method to assess filtration performance - ISO 23328-1.* *Anaesthetic and respiratory equipment – conical connectors – part 1: Cones and sockets – ISO 5356-1.*
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)*

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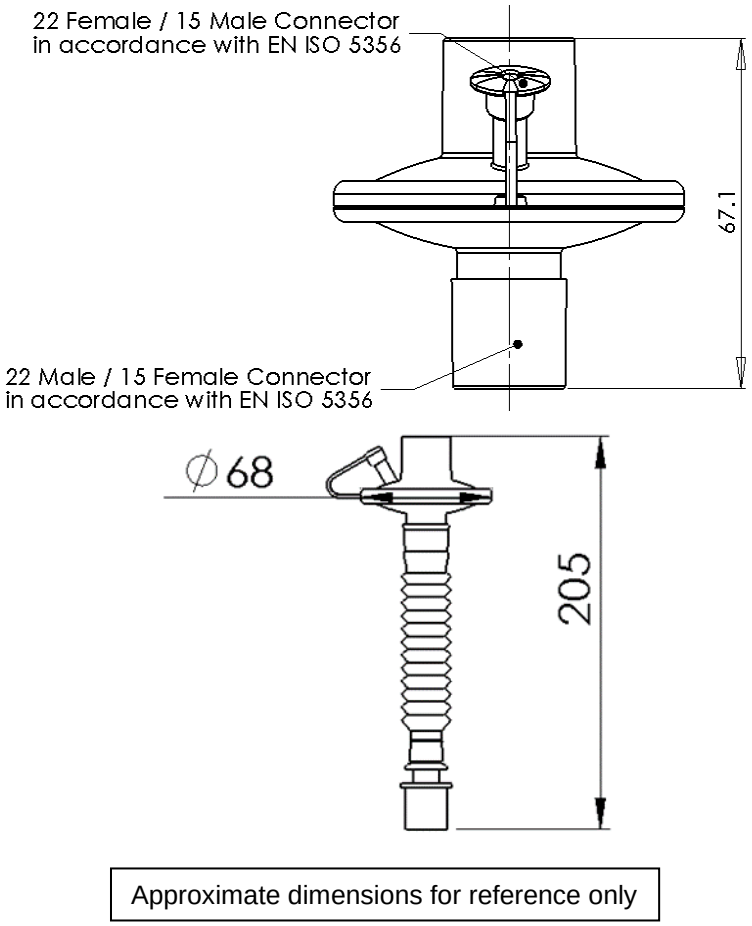
	✓ *Operator Code* *Different lots in one box are separately closed and separately labelled.* *Bulk products will be packed in double PE bags.*
CERTIFICATE OF COMPLIANCE	*With each shipment, GVS UK Customer Service will send the CofC to the Customer, based on the lot numbers and date of manufacture.* *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 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.*  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.*

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	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: *NaCl 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.*

Special Characteristic # 04: *Conical connectors compliant in accordance with EN5356.*

Special Characteristic # 05: *Gas Leakage compliant in accordance with EN9360.*

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

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REVISIONS AND APPROVALS:

DATE	REV.	REASON FOR CHANGE	ISSUED AND CONTROLLED BY: (NAME/FUNCTION/SIGNATURE)	APPROVED BY: (NAME/FUNCTION/SIGNATURE)
03/08/2021	3	Functional characteristics updated.	Kinga Gawdzik – Engineering Support Technician 	Andrew Pearce – Quality Manager 

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.