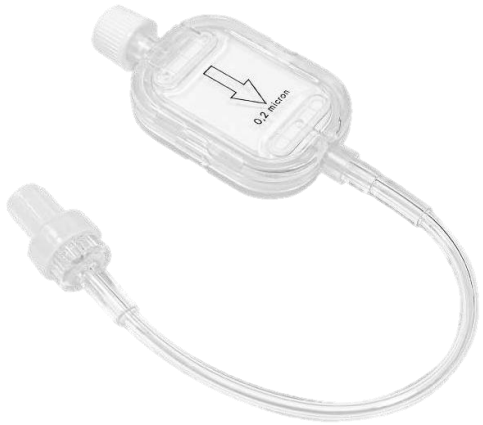
PRODUCT SPECIFICATION

CE 0051

Product PN GSS022A01S GSS023A01S GSS024A00S GSS025A00S	Mod. 984e-ext
Description HI-FLO Extension Set Adult 0.2/1.2/0.2+/5.0 µm	Rev. 07

HI-FLO Extension Set Adult with 0.2/1.2/0.2+/5.0 µm Filter



PRODUCT DESCRIPTION	Infusion extension set for infusion for intravascular applications. The device is sterile and can be used in combination with an infusion set or an infusion device (pump or syringe). The connections are a female luer lock with vented cap inlet and a rotating male luer lock with cap outlet, compliant with ISO 80369-7 The set is provided with a vented Speedflow® Adult filter, with an hydrophilic PES membrane with 0.2/1.2/0.2+/5.0 µm pore size for particles retention and a hydrophobic PTFE membrane with 0,03 µm pore size. The approximate total length of the set is 241 mm. The set includes the following components: ▪ Female luer lock with vented cap inlet; ▪ Speedflow Adult 0.2/1.2/0.2+/5.0 µm IV Filter; ▪ Rotating male luer lock with cap outlet.
CONFIGURATIONS	**GSS022A01S** 0.2 µm filter **GSS023A01S** 1.2 µm filter **GSS024A00S** 0.2+ µm filter **GSS025A00S** 5.0 µm filter
MANUFACTURER NAME	**GVS SpA** Via Roma, 50 40069 Zola Predosa (BO) – ITALY Phone: +39.051.6176311 – Fax: +39.051.6176200 e-mail: gvs@gvs.it – website: www.gvs.com
INTENDED USE / APPLICATION	Infusion of Drugs (including chemotherapy), Anesthetics, Nutritional Solutions and Saline Solutions for intravascular applications. The set can be connected via Luer Locks to all commercially available infusion administration sets compliant with ISO 80369-7. The set can be used either for gravity or in combination with an infusion set or an infusion device (pump or syringe). The set is intended to retain different particles depending on its filter pore size: ▪ 0.2 µm filter is intended specifically to eliminate air bubbles and to retain particles and bacteria, ▪ 1.2 µm filter is intended specifically to eliminate air bubbles and to retain fungi and microorganisms, ▪ 0.2+ µm filter is intended specifically to eliminate air bubbles and to retain particles, bacteria and endotoxins, ▪ 5.0 µm filter is intended specifically to eliminate air bubbles and to retain particles. The set is a single-use device that can be used applications that last: ▪ Devices with 0.2 µm filter: up to 96 hours; ▪ Devices with 1.2 µm filter: up to 24 hours; ▪ Devices with 0.2+ µm filter: up to 120 hours. The set has to be disposed after each therapy. Sets with 0.2/0.2+ µm filter cannot be used for infusion of hyper alimentation liquids, lipids, blood and/or blood derivatives. Sets with 1.2 µm filter cannot be used for infusion of blood and/or blood derivatives. Sets with 5.0 µm filter cannot be used for infusion therapy without further bacterial retention filter. The device should only be supervised and used by qualified healthcare personnel.
CLASS OF THE PRODUCT	Class IIa – sterile – single use Rule 2 and 3 Annex VIII 2017/472/UE
EMDN	A03020101 LOW PRESSURE EXTENSION LINES

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MATERIALS

Filter media: PES Hydrophilic membrane / PTFE Hydrophobic membrane / 0.2+ filters include also Polyethylenimine
Filter housing: MBS
Tubes: PU
Luer Lock: ABS / MABS
Caps: HDPE

Regulatory Compliance:

- Biocompatibility according to ISO 10993-1
- Rohs directive 2011/65/UE
- DEHP plasticizer Free
- Latex free
- Reach 1907/2006/CE (hazardous substances regulation)
- Reg. 1272/2008/CE (classification, labelling and packaging of substances and mixtures)

PRODUCT CHARACTERISTICS

Physical/Mechanical:

Approximate total length:	241 mm
Total internal volume of the set:	5 ml
Weight:	12.7 g
Input/output connectors:	Female luer lock with cap inlet compliant with ISO 80369-7 Male luer lock with cap outlet compliant with ISO 80369-7
Operating temperature Range:	From 5 °C to 40 °C
Storage temperature Range:	From 0 °C to 40 °C
Maximum applicable pressure:	3,2 bar

Biological:

Biocompatibility:	Compliant with ISO 10993-1

Features:

Type of administration:	gravity / pressure
Duration of the application:	0.2 µm up to 96 hours 1.2 µm up to 24 hours 0.2+ µm uo to 120 hours
Filter:	Speedflow Adult 0.2/1.2/0.2+/5.0 µm vented
Filter pore size:	0.2/1.2/0.2+/5.0 µm
Filter internal volume:	< 2.4 ml
Filter media:	hydrophilic PES membrane and hydrophobic PTFE membrane, 0.2+ filters include also Polyethylenimine
Flow Regulator:	No
Drip Chamber:	No
Roller:	No
Y-injection site:	No
Clamp:	No
Tubing:	PU tube – inner Ø 1.5 mm / outer Ø 3.0 mm

PRODUCT SHELF LIFE

5 years

STERILIZATION

Sterile: Yes – EtO

Suitable for Sterilization/Re-sterilization: No

APPLICABLE STANDARDS AND REGULATIONS

Product Certification:
CE mark

Applicable Standards and Technical Regulations:

EN 556-1	Sterilization of medical devices — Requirements for medical devices to be designated "STERILE" — Part 1: Requirements for terminally sterilized medical devices
EN ISO 8536-4	Infusion equipment for medical use — Part 4: Infusion sets for single use, gravity feed
EN ISO 8536-9	Infusion equipment for medical use — Part 9: Fluid lines for single use with pressure infusion equipment
EN ISO 8536-11	Infusion equipment for medical use — Part 11: Infusion filters for single use with pressure infusion equipment

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Product PN	**GSS022A01S GSS023A01S GSS024A00S GSS025A00S**
Description	**HI-FLO Extension Set Adult 0.2/1.2/0.2+/5.0 µm**

Mod. 984e-ext

Rev. 07

	EN ISO 10993-1 — Biological evaluation of medical devices — Part 1: Evaluation and testing within a risk management process EN ISO 10993-4 — Biological evaluation of medical devices — Part 4: Selection of tests for interactions with blood EN ISO 10993-5 — Biological evaluation of medical devices — Part 5: Tests for in vitro cytotoxicity EN ISO 10993-7 — Biological evaluation of medical devices — Part 7: Ethylene oxide sterilization residuals EN ISO 10993-10 — Biological evaluation of medical devices — Part 10: Tests for irritation and skin sensitization EN ISO 10993-11 — Biological evaluation of medical devices — Part 11: Tests for systemic toxicity EN ISO 10993-18 — Biological evaluation of medical devices — Part 18: Chemical characterization of materials EN ISO 10993-23 — Biological evaluation of medical devices — Part 23: Tests for irritation EN ISO 11135 — Sterilization of health-care products — Ethylene oxide — Requirements for the development, validation and routine control of a sterilization process for medical devices EN ISO 11607-1 — Packaging for terminally sterilized medical devices — Part 1: Requirements for materials, sterile barrier systems and packaging systems EN ISO 11607-2 — Packaging for terminally sterilized medical devices — Part 2: Validation requirements for forming, sealing and assembly processes EN ISO 13485 — Medical devices — Quality management systems — Requirements for regulatory purposes EN ISO 14971 — Medical devices — Application of risk management to medical devices EN ISO 15223-1 — Medical devices — Symbols to be used with medical device labels, labelling and information to be supplied - Part 1: General requirements EN ISO 20417 — Medical devices — Information to be supplied by the manufacturer IEC 62366-1 — Medical devices — Part 1: Application of usability engineering to medical devices EN ISO 80369-1 — Small-bore connectors for liquids and gases in healthcare applications — Part 1: General requirements EN ISO 80369-7 — Small-bore connectors for liquids and gases in healthcare applications — Part 7: Connectors for intravascular or hypodermic applications EN ISO 80369-20 — Small-bore connectors for liquids and gases in healthcare applications — Part 20: Common test methods
INSTRUCTIONS FOR USE	Available languages: English / Italian / German / French / Spanish
PACKAGING	**Primary Packaging:** Devices are individually packed and label in medical paper bags. Bag Size: 130 X 200 mm **Secondary Packaging:** Bags are placed inside a microperforated sack. **Tertiary Packaging:** Carton Box. Box Size: 60 x 40 x 20 cm Box Weight: 4.5 kg Devices per box: 300
CERTIFICATIONS	**ISO 9001:2015** **ISO 13485:2016** **CE Certificate (2017/745/UE)**

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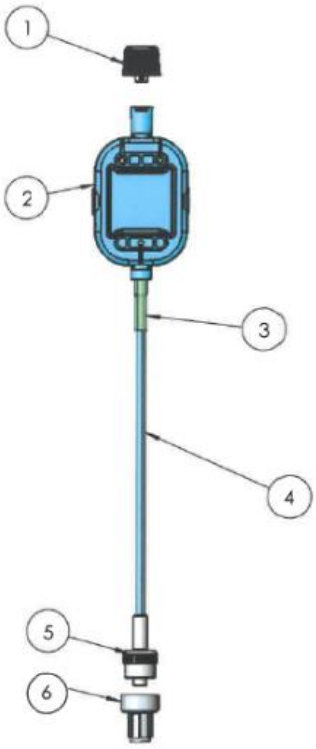
DRAWING



ID	Description
1	Cap for Female Luer Lock
2	'22' model: Speedflow Adult 0.2 µm IV filter with FLL '23' model: Speedflow Adult 1.2 µm IV filter with FLL '24' model: Speedflow Adult 0.2+ µm IV filter with FLL '25' model: Speedflow Adult 5.0 µm IV filter with FLL
3	Tube 2 cm – inner Ø 2.9 mm / outer Ø 4.1 mm
4	Tube 11 cm – inner Ø 1.5 mm / outer Ø 3.0 mm
5	Male luer lock
6	Vented cap for rotating male luer lock

REVISIONS AND APPROVALS:

DATE	REV.	REASON FOR CHANGE	ISSUED BY: (name/function/signature)	VERIFIED BY: (name/function/signature)	APPROVED BY: (name/function/signature)
26/02/2023	00	First issue	Barbara Palmieri RA Specialist	Barbara Finessi QA Manage	Luca Zanini VP Healthcare and Lifesience