



Steam Sterilization

A complete range of direct seal papers dedicated to hospital packaging applications and reusable medical devices

Direct Seal against PP films

Grammage: 60 gsm and 70 gsm



Applications :

- Sterilization pouch and reel used in hospital sterilization centers
- Industrial Packaging for steam sterilization (gauze, swabs...)
- Compliant to ISO 11607-1 and EN 868-3

EO / Irradiation Sterilization

A complete range of direct seal paper dedicated to industrial packaging applications and single-use medical devices

Direct seal against PE films

Grammage: 60 gsm and 67 gsm

Applications :

- Industrial packaging of syringes, needles, swabs, dressings and wound care products.
- Compliant to ISO EN 11607 part 1 and EN 868 part 6



Greathealth offers



HANGZHOU ZHONGYI
AUTOMATION, China

- Blister Packing Machine for **Hard** & Soft Blisters
- Online Flexographic printer
- Auto loader on blister packing machine
- Automatic Assembly equipments
- Blister forming Dies & plugs, Sealing & Cutting Dies



A UNO TEC SRL, ITALY

- Automatic Assembly Machines for : IV Set, 3 way Stop cock
Flow regulator etc.
- Customized automatic machines for allied medical devices
- Automatic machine for drapes slicing,
cutting, folding, adhesive application etc.



- Direct Seal Paper for
Steam, ETO & Irradiation.
- Treated Paper for ETO
& Irradiation.



- Medical Grade Films :
PP/PA/PE, PE/PA/PE etc.
for medical device
packaging
- IV Solutions Packaging

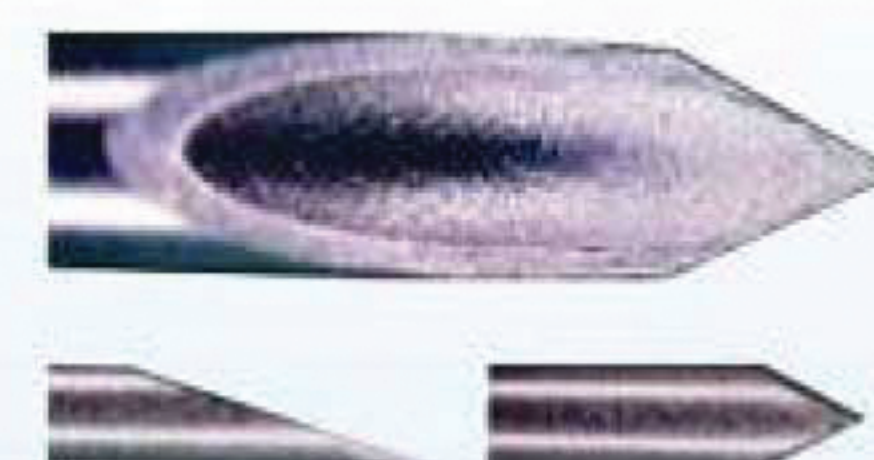


- Flow Regulator
- I.V. Filters
- I.V. Filter Oncology treatment
- Epidural Filter
- Haemodialysis Blood
Line Components



KOBAYASHI-SHOJI k.k.
JAPAN

- Stainless Steel Cannula
for various medical devices
e.g. IV Cannula, Blood Bag,
AV Fistula Needle etc



- Methods and Equipment
for Laboratory random
tests of Medical
Disposable Products



Hangzhou Unique Disinfection
Equipment Co., Ltd. China

- Humidification Equipment
- ETO Sterilizer.
- ETO Gas Scrubber.



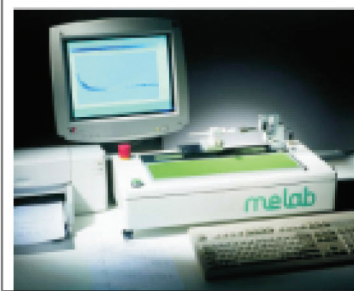
- FEP Tubing for
I.V. Catheter



METHODS AND EQUIPMENT FOR LABORATORY RANDOM TESTS OF MEDICAL DISPOSABLE PRODUCTS

Load Measuring Equipment

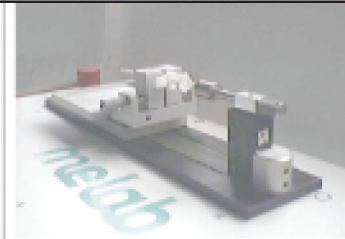
DEKA 9



Computer aided measuring process:

- speed
- length
- direction: angular, push or pull

exemplified setting up for syringe testing



for **Sharpness Tests** for Needles, Blades
Friction Tests of Needles and Plungers of Syringes
Filling Load Tests of Ballons and Infusor-Depots
Plunger Forwarding Forces
Bending Tests of Cannulae (ISO 9626) and Suture Needles
Kinking Tests of Needles and Tubings
Pull off Forces of Protectors, Caps and Blisters
Pull out Forces of glued or crimped connections
Separation Forces of LUER fittings
Torque Tests

Cannula Tip Testing

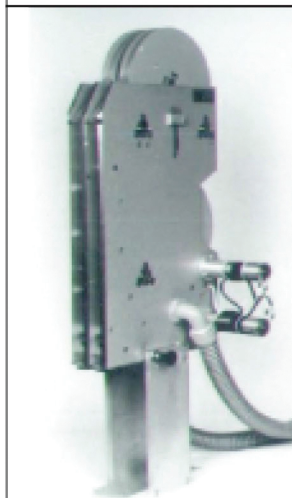


Deformities like:

- hooks
- burrs
- blunt tips

are detected

PLC controlled autonomous stations for cannula assembly lines or filling lines of pre-filled syringes e.g. Penetration Load Testing Station
DEKAMAT on a blood bag assembly line
FEEDOMAT →



AKUTEST Tip Testing Station

using the significant clapping noise of a deformed cannula tip when piercing the special testing foil

LASER Angle Measuring Unit **FACET**

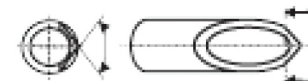


Touchless angle measuring with LASER

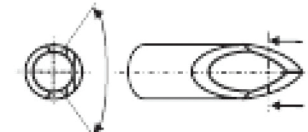
for: Cannulae
 Lancets
 Suture Needles
 Trocars

Common cannula bevels (ISO 7864 and ISO 10555-5)

back bevel:



facet bevel:



Measuring Parameters (see ISO 7864):

- rotation angle θ_1, θ_2
 - facet angle γ
 - back bevel angle γ'
 - symmetry
- accuracy +/- 0,5 degree

CUSTOM-AUTOMATION FOR COMPONENTS AND TUBING ASSEMBLY



A UNO TEC aim is to supply simple and reliable solutions: from the idea to the finished product, including designing, prototyping, installation, and final testing. Special attention has been paid to reducing production costs and increasing productivity, while meeting the customers' expectations.

A UNO TEC Construction Technology is based on parts moving systems that use rotary tables, linear transfer or free pallets. Machines are generally managed by PLC or industrial PC.

User interface by LCD touch screen display, allows prompt diagnosis for the causes of the machine stop, and supervision of the production data (batch quantity, actual production, cycle time, machine down-time, black box with the alarms list, etc).

For the best suitability of the machines to be used in clean-rooms, the construction materials are selected to meet the requirement of easy cleaning; the parts that come in contact with the components to be assembled are in most cases 100% stainless steel.

Pneumatic system is oil-free and the discharges are silenced. High-technology applications may require the use of anthropomorphic robots, for the movement of parts.

Either to the robotized lines as well as in the traditional automations, it is possible to integrate X-ray vision systems, for the inspection of assembled parts, which allows 100% quality control of production.

A UNO TEC also performs precision mechanical processing in-house with state-of-the-art machines.



CUTTING BENCHES FOR MATERIALS AND FABRICS

COMPANY PROFILE

For more than 30 years A UNO TEC srl has been designing and manufacturing high-tech, innovative and reliable machines, systems and accessories, dedicated to the automation of production and packaging processes for many industries, such as: Food, Mechanical, Medical, Pharmaceutical. The experience acquired in the manufacturing of customised solutions for a multinational clientele, allows A UNO TEC to support customer from drawing up the specifications, designing and building the machines, as far as granting a prompt after-sale technical support.

Since 2005 A UNO TEC is part of the Di Quattro Group (www.diquattrosl.it)

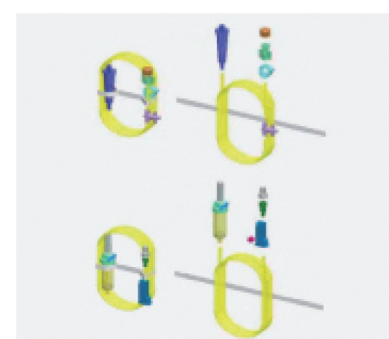
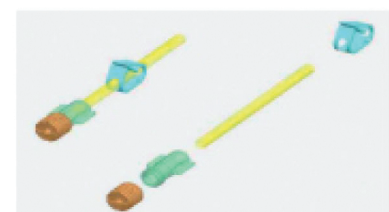
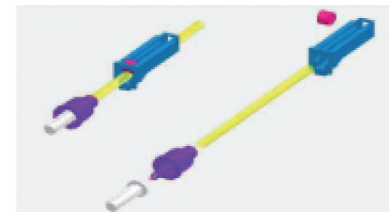
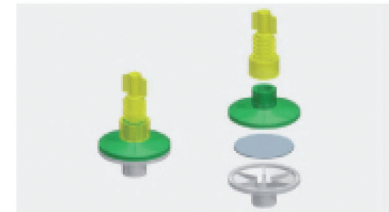
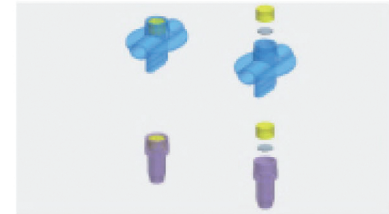


A UNO TEC s.r.l., ITALY

www.aunotec.it

RANGE OF SOLUTIONS

Automatic components assembly machine		
re.	description	nominal productivity
1a	Injection point for blood and infusion lines: connector housing + pierceable rubber + membrane	2,400 + 4,800 pcs/h
1b	Dialyzer connector for blood lines: connector housing + cap + identification ring	2,400 + 4,800 pcs/h
1c	Male luer-lock connector with rotating ring nut for blood lines: male luer-lock connector housing + rotating ring nut + cap	2,400 + 4,800 pcs/h
1d	Infusion line terminal: adaptor connector + flashball connector + male luer-lock connector + cap	2,400 + 4,800 pcs/h
1e	Blood lines transducer protection filter (blood catcher): upper housing + hydrophobic membrane + lower housing + snap-off connector	1,800 + 3,600 pcs/h
1f	Infusion drip chamber filter: connector housing + hydrophobic membrane	1,800 + 3,600 pcs/h
1g	Expansion chamber / drip chamber for blood lines: chamber housing + pressed filter + cover	1,500 + 3,000 pcs/h
1h	Expansion chamber / drip chamber for blood lines: chamber housing + pressed filter + cover	1,500 + 3,000 pcs/h



Automatic components and tubing assembly machine		
re.	description	nominal productivity
2a	Subassembly for blood and infusion lines: tube + clamp + female luer-lock connector + cap	1,500 + 3,000 pcs/h
2b	Subassembly for infusion lines: tube + roller housing + wheel + male luer-lock connector + cap	1,500 + 3,000 pcs/h
2c	Subassembly for infusion lines: tube + roller housing + wheel + connector with spike + cap	1,500 + 3,000 pcs/h
2d	Subassembly for blood lines: injection point + tube + clamp + male luer-lock connector with rotating ring nut + cap	1,500 + 3,000 pcs/h
2e	Pump-chamber segment subassembly for infusion circuits: chamber + silicone tube + connector	1,500 + 3,000 pcs/h

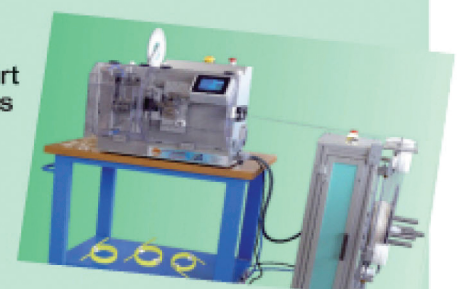
Automatic components and tubing, coiled and fastened, assembly machine		
re.	description	nominal productivity
3a	Subassembly for blood and infusion lines: tube + clamp + female luer-lock connector + cap	1,500 pcs/h
3b	Subassembly for infusion lines: tube + roller housing + wheel + male luer-lock connector + cap	1,800 pcs/h
3c	Subassembly for infusion lines: tube + roller housing + wheel + connector with spike + cap	1,800 pcs/h

Customized Automatic and Semi-automatic Solutions

In addition to fully automatic assembly machines, A UNOTEC can support the medical device manufacturing process with either small automations and semi-automatic solutions, such as:

- tube cutting
- tube / tubing set coiling
- tube / tubing set banding
- solvent bonding of tube and components assembly
- ultrasonic welding
- pressure testing
- packing
- belt conveying

A UNOTEC engineering staff is available to assist customer in defining the specifications and to design and build the best solution according to specific manufacturing requirements.



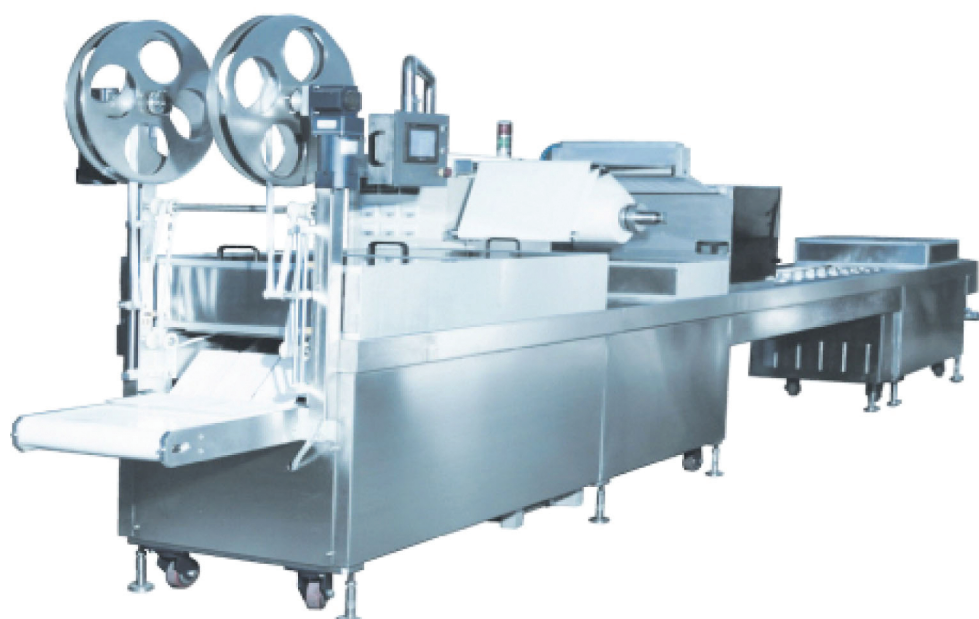
BLISTER PACKING MACHINE



Hangzhou Zhongyi Automation Equipment Co., Ltd. is a high-tech enterprise specialized in developing, producing Packaging Machinery and Automation Equipment of medical machinery for production purpose. In the competitive market environment, company pays more attention to technological progress and personnel training, constantly incorporate international advanced technology, to continuously improve product quality and performance. Company has obtained the authentication of ISO 9001 Quality Management System, with good corporate reputation and product quality, and win the trust of its customers.

The company employs around 40 people, including more than 40% of science and technology personnel, and has developed a successful new product projects a number of about 20, such as XB series Blister packing machine, BRY series Flexographic printing machine, QSL series Automatic syringe loader and other related automation equipments for medical devices and dressings. XB 40B blister packing machine has been widely used in medical equipment, medical dressings, food packaging and other industries, its technical performance and product quality packaging fully comply with international standards and accord with the "CE" certificate required by the European Community.

In stress, while providing quality products to customers, they pay more attention to providing satisfactory services to customers, also timely, efficient and satisfactory after-sales service really wins customers.



HANGZHOU ZHONGYI AUTOMATION
EQUIPMENTS CO. LTD., China

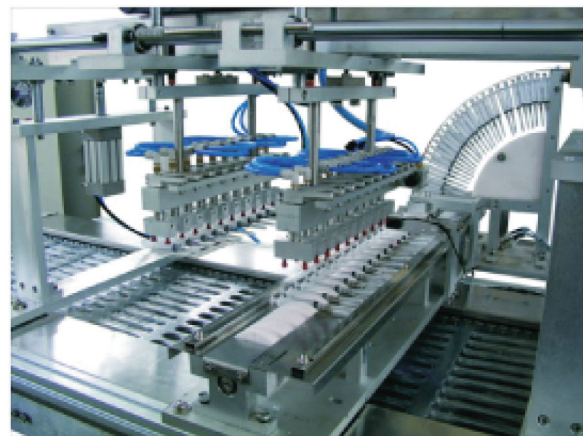
www.zy zdh.cn

AUTOMATIC NEEDLE LOADER



The loader specially fits to support use of XB40B blister packing machine for packing syringe needle automatically. According to requirement of packaging, achieving either single row placing or double rows placing in each shot. For double rows placing, with either order or reverse direction placing is available.

AUTOMATIC SYRINGE LOADER



The loader specially fits to support use of XB40B blister packing machine for packing syringe automatically. According to requirement of packaging, achieving either single row placing or double rows placing in each shot. For double rows placing, with either order or reverse direction placing is available.



FLEXOGRAPHIC PRINTER

The equipment is mainly used for online printing to be equipped with various blister packing machines. The features of printer are clear image printing, printing stereo at cheap cost, also easy to replace the Barcode, Lot No. etc. The equipment is available for single color printing only. To print more than two colors, it could be equipped with two or more machines to overlay for it.

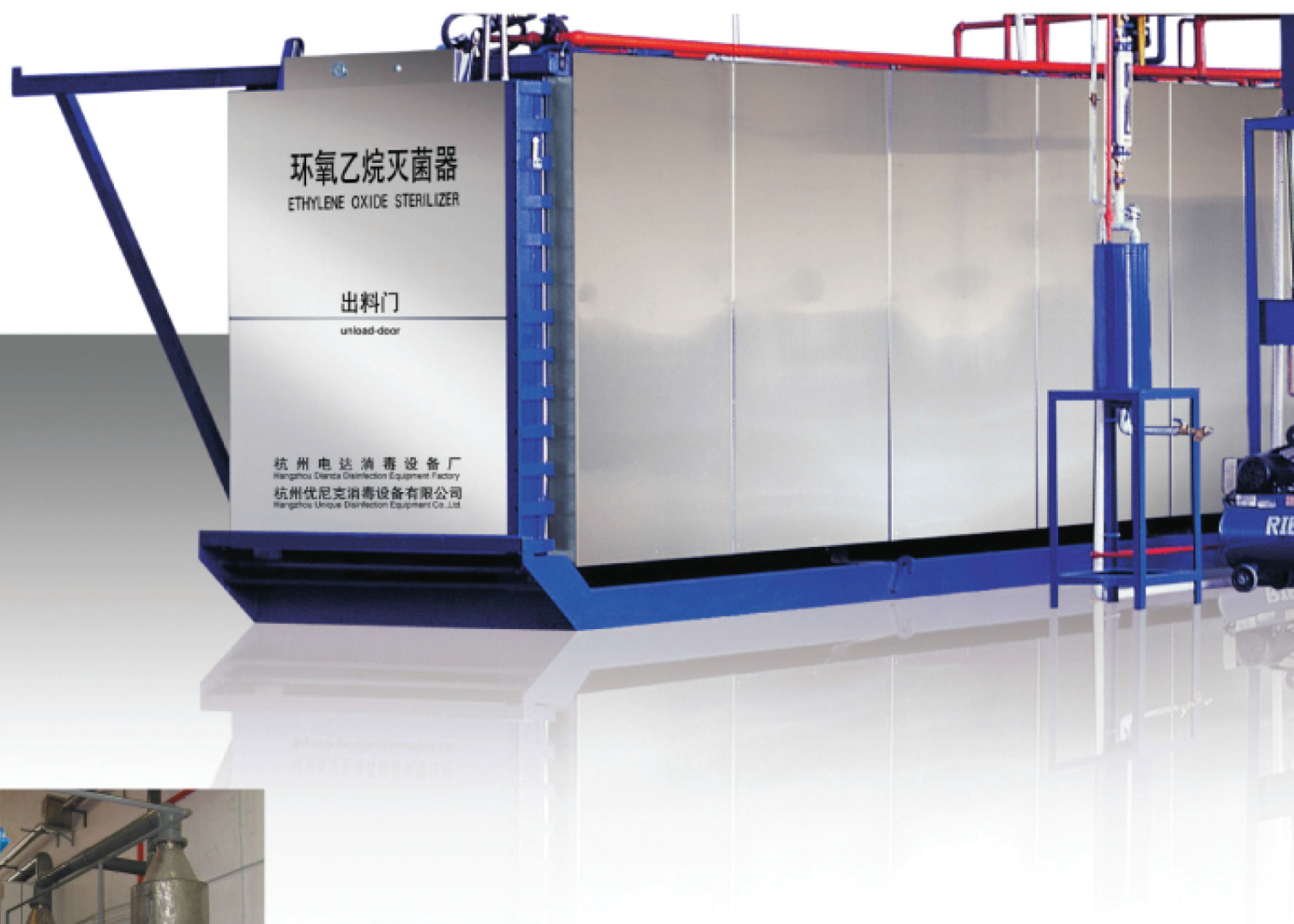
Also the company provides special inks for printing.



HANGZHOU ZHONGYI AUTOMATION
EQUIPMENTS CO. LTD., China

www.zydh.cn

ETHYLENE OXIDE STERILIZER
ETHYLENE OXIDE STERILIZATION PRECONDITION CHAMBER
Meets the requirement of ISO11135-1 & 2 Standards



ETHYLENE OXIDE SCRUBBER
(Waste Gas Treatment Plant)

Specially engineered systems for removing ethylene oxide from air/inert gas exhausted from a sterilization process, typically carried out in commercial sterilizer facilities. Gas scrubbing systems absorb gaseous pollutants in water. Neutralises ETO mixed in water with Acid. Output water is at 7 PH. The output is containing Ethylene glycol which can be drained safely.

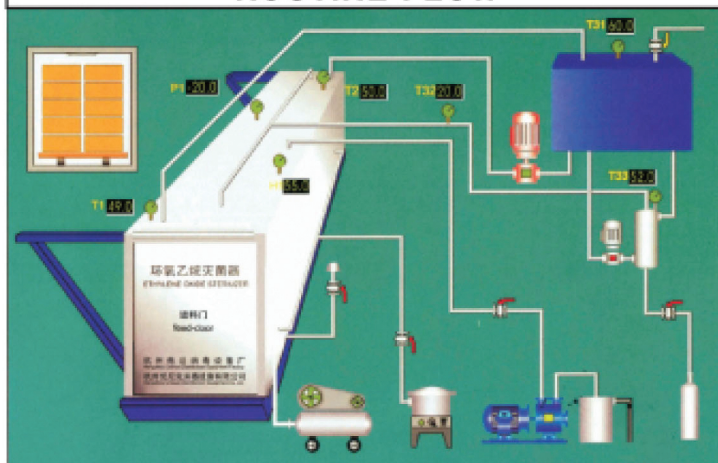


Primary Technical Parameters

Inside Volume: 1, 3, 6, 10, 15, 20, 25, 30m ³
Humidity : 60%RH \pm 10%
Loading Rate : 70%
Parameters Display, Record, Print, Storage
Temperature : 0–60°C, PID adjustable
Time : User Specific
Max Electrical Heating Power : 3-36KW
Max Temperature Deviation : \pm 3°C



ROUTINE FLOW



Capability of Product :

Whole process automatic control by computer (Two-Level control); Industrial control computer + SIEMENS PLC

Automatic door opening and closing (shifting type), automatic air-inflation sealing

Automatic control of the entire sterilizing process

Automatic alarming and safety protection

EASYDROP/EURODROP® FLOW REGULATOR



Applications

Easydrop/Eurodrop is a single-use disposable flow regulator which allows highly accurate control of flow rate with IV solutions. It is a low-cost alternative to highly expensive IV pump systems (with special IV sets).

Easydrop/Eurodrop is easy to use with gravity IV sets and requires "two hands" safety operation for any adjustment.

The Easydrop/Eurodrop operating principle is the "triple labyrinth," the GVS patented technology that ensures a very accurate flow rate and high stability in delivery throughout the entire infusion session.

No electrical power is required. Easydrop/Eurodrop has a very light weight and modern look.

These attributes also make it ideal for home infusion.

Easydrop/Eurodrop can be used in a standard IV line or provided in an extension set.



Specifications

Biosafety

Materials comply with USP class VI-121°C test and ISO 10993

Dimensions

Diameter x Height: 32.00 x 34.20mm

Weight: 9.00g

Operating range

20 to 250ml/h*

Inlet/Outlet connectors

Standard IV tubing connectors (Tube 2.7 x 3.5 or 3.0 x 4.1mm – Please ask for drawing)

Materials of construction

Housing: White ABS (also available in other colours or materials)

Gasket: SEBS (also available in other materials)

Max operating pressure

0.5 bar (7psi) is static condition, gravity set

Max storage and operating temperature

40°C (104°F) indoor operation

Calibrated scale

- ? Easydrop/Eurodrop is available in single and double scales.
- ? Easydrop/Eurodrop single scale has a general purpose scale that can be used for any kind of solution.
- ? Easydrop/Eurodrop double scale has one scale for liquid lower than 10% density (light solutions) and a second scale for liquid with higher density (40%).

Flow rate tolerance

range 5-15 ml/h not defined

range 20ml/h tolerance on flow rate -10 / + 50%

range 21-40ml/h tolerance on flow rate -10 / + 30%

range 41-250ml/h tolerance on flow rate -10 / + 20%

Stability of flow rate

10% flow rate fluctuation during 24 hours of infusion (tested with NaCl, 0.9% solution from glass bottles).

Pyrogenicity

<0.25 EU/ml using the LAL test method

Sterilization Compatibility

Suitable for EtO (44°C / 111°F max.) and gamma (25kGy). Higher temperature can cause a reduction in performance.

*NOTE: Easydrop/Eurodrop scales have been calibrated to GVS standard test conditions

Easydrop

eurodrop



EPI-MAX[®] EPIDURAL FILTER

Applications

- ? Ampoule drug injection
- ? Epidural anesthesia, local anesthesia
- ? Intraocular injectables
- ? TPN solutions additives
- ? Low volume pain control
- ? Small volume sterilization
- ? Pharmacy admixture

Materials of construction

Filter media: Hydrophilic HI-FLO PES membrane 0.2 other pore size on request

Max operating pressure

8.0bar (116psi)



SPEEDFLOW[®] ADULT LIQUID FILTER

Applications

- ? Aqueous IV solutions
- ? Adult IV therapy
- ? Chemotherapy
- ? Antibiotic therapy
- ? Nutrient admixture, TPN and lipid solutions (1.2 µm)
- ? High accuracy drug delivery therapy (home infusion therapy, alternate-site infusion therapy)
- ? Drug delivery therapy (recommended for oncology drugs)
- ? Apheresis solutions
- ? Dialysate for kidney dialysis

Materials of construction

Filter media: Hydrophilic HI-FLO PES membrane 0.2 or 1.2 µm, 5 µm, 0.2 µm positive charged

Vent: Hydrophobic PTFE membrane 0.03 µm

Max operating pressure

3.2bar (46.4psi)



SPEEDFLOW[®] BABY - IV AND LIQUID FILTER

Applications

- ? Neonate IV therapy
- ? Chemotherapy
- ? Antibiotic therapy
- ? Nutrient admixture, TPN and lipid solutions (1.2 µm)
- ? High accuracy drug delivery therapy (home infusion therapy, alternate-site infusion therapy)
- ? Portable pumps
- ? PCA pumps
- ? Syringe Filter

Materials of construction

Filter media: Hydrophilic HI-FLO PES membrane 0.2 or 1.2 µm, 5 µm, 0.2 µm positive charged

Vent: Hydrophobic PTFE membrane 0.03 µm

Max operating pressure

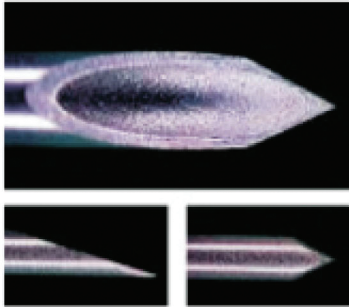
5.2bar (75.4psi)



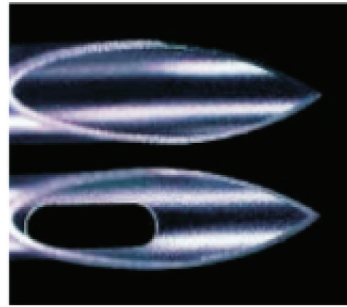
STAINLESS STEEL CANNULAE FOR MEDICAL DEVICES



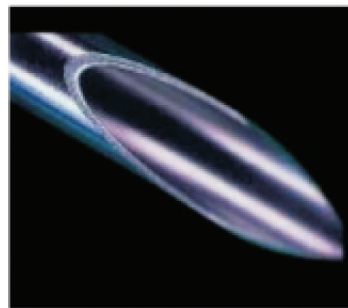
I.V. catheter back cut point



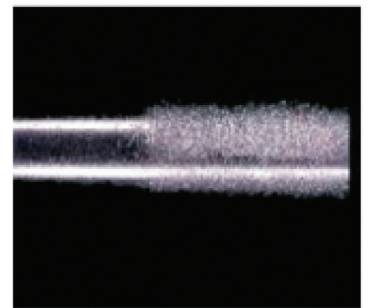
AVF set with elliptical hole
or without hole - non coring



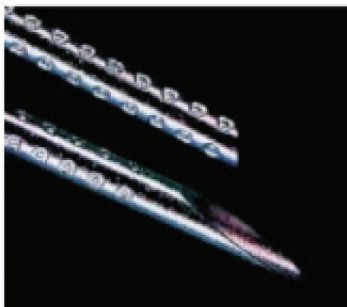
Blood bag needle - non coring



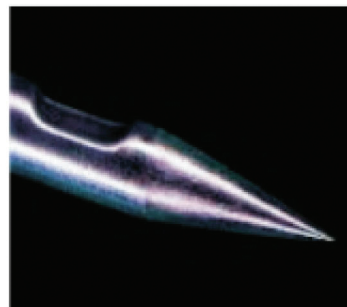
Sand blasting zone



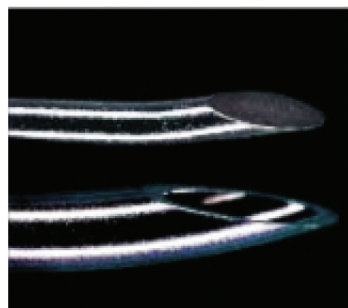
Super ultrasound detectable
"Dimple" point



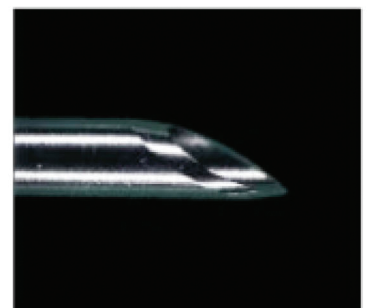
Spinal needle "Pencil point"



Epidural needle
"Huber point" and Stylet



Biopsy set "Menghini"

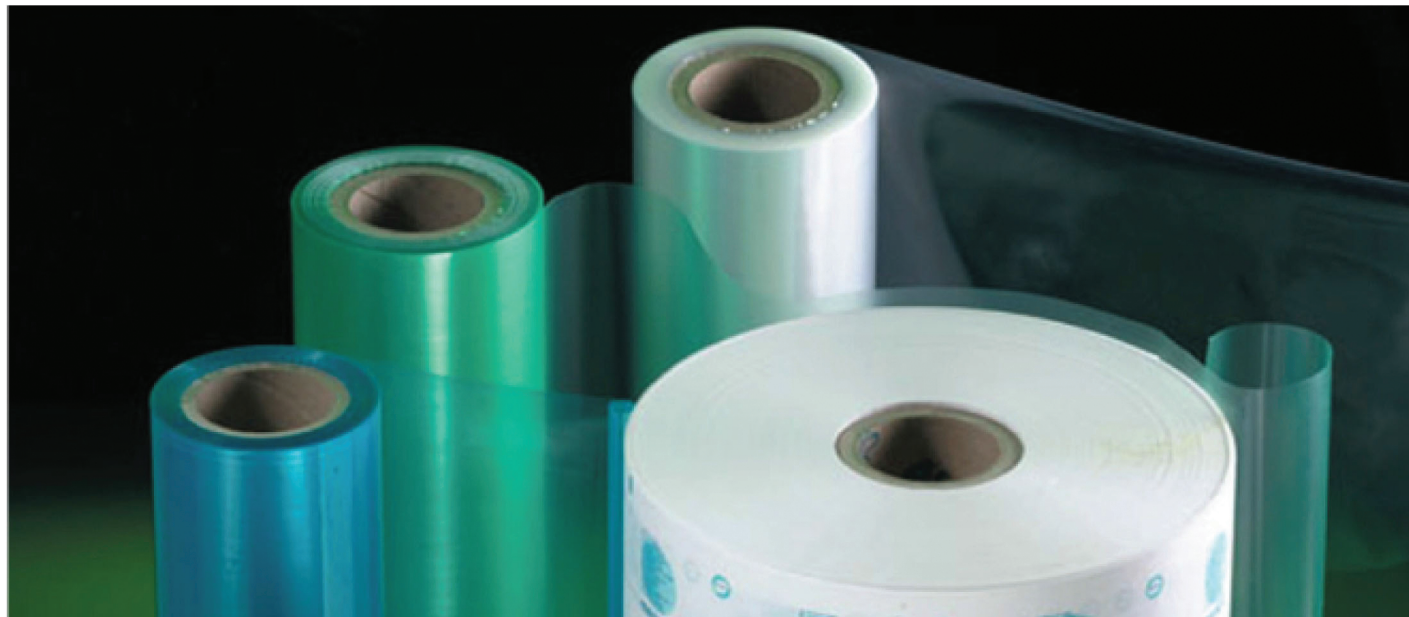


MEDICAL GRADE FILMS



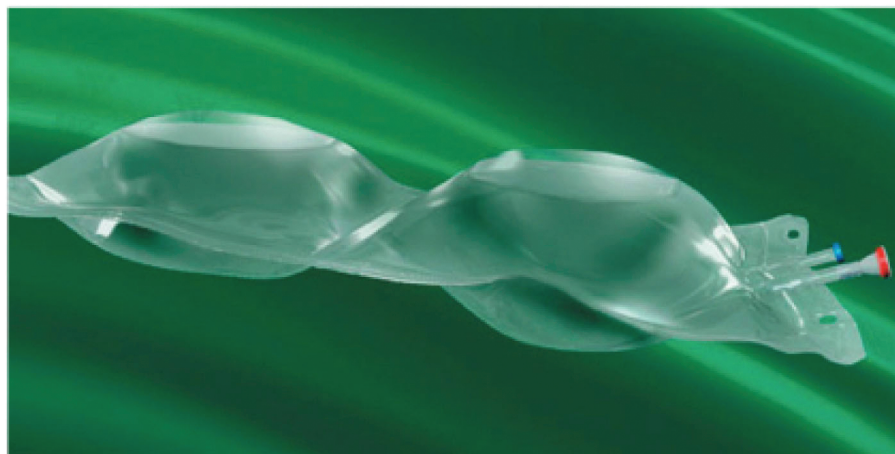
- ▶ Flexible Forming Webs
- ▶ Semirigid Forming Webs

- ▶ Non-Forming & Top Webs
- ▶ Specialty Films



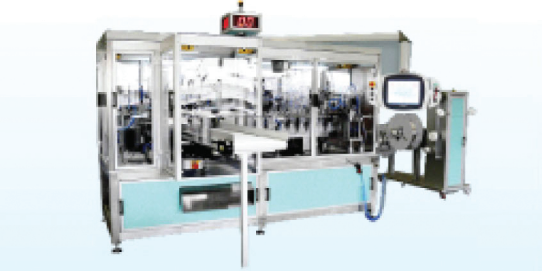
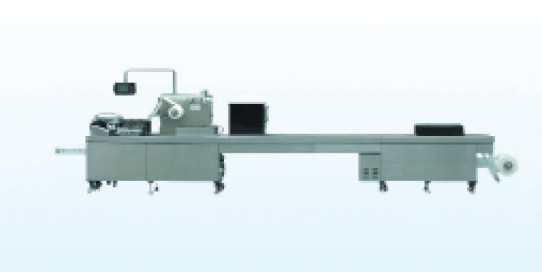
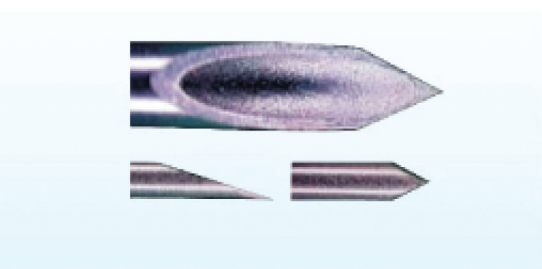
A Wide Range of Medical Grade Films : PP/PA/PE, PE/PA/PE etc. for medical device packaging

The complexity of modern medical technology and the wide variety of packing methods, machines and sterilization methods have made packaging design highly challenging. The selection of optimal packaging material starts from the identification of the sterilization method to be used. Wipak materials are designed to ensure high productivity on the packaging lines.



IV SOLUTIONS PACKAGING

Soft bags are gaining in popularity over traditional glass bottles and hard packs. Polyolefin based materials are replacing soft PVC due to environmental requirements. Wipak range of PVC-free packaging materials meets the most stringent quality standards. The products are tested on the pouchmaking machines of the types commonly used in the medical industry.



Greathealth

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