OMID DARMAN APADANA

دیامد DIAMED

3M Kish Group

About Us

Mahan Med Meymeh Kish factory area is about 32000 sq.m located in Kish island in the south of IRAN.

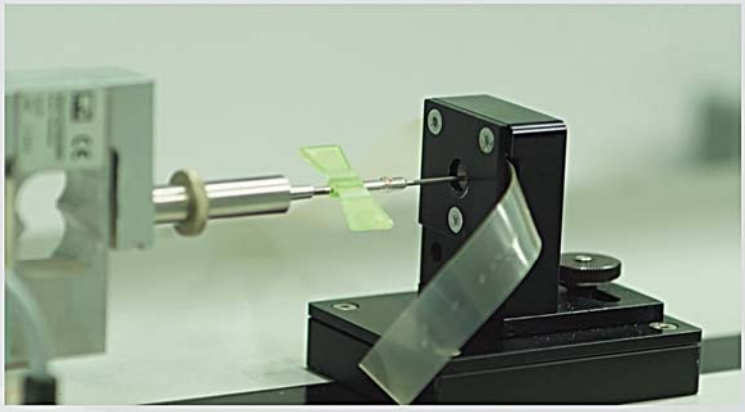


Building & Factory Overview

Production area 1#: 3000 sq.m (2700 sq.m high quality clean room ISO 8 - i.e. 100000 F209 class, ISO 14644 standard)

- Hemodialysis and Fistula Needle and also dialyzer filter plastic injection part production
- Hemodialysis line fully automatic assembly
- Fistula Needle fully assembly
- Dialyzer filter auto assembly
- Chemical / physical / microbiology laboratory – quality control department
- Raw material warehouse & packing area





Production Area 2# & Plant Facilities

7000 sq.m (1500 sq.m high quality clean room ISO 8-D & ISO 14644 standard,
500 sq.m for hollow fiber and 1000 sq.m for development plan)
Medical & industrial hollow fiber membrane production plant
Production before and after warehouse
Ethylene oxide sterilization area
Chemical / physical / microbiology laboratory – quality control department



Company Annual Production Mission

Produce 8,000,000 / year hemodialysis set
Produce 6,000,000 / year Fistula Needle
Produce hollow fiber membrane 12,000,000 km / year
Produce 2,500,000 / year hemodialysis filter





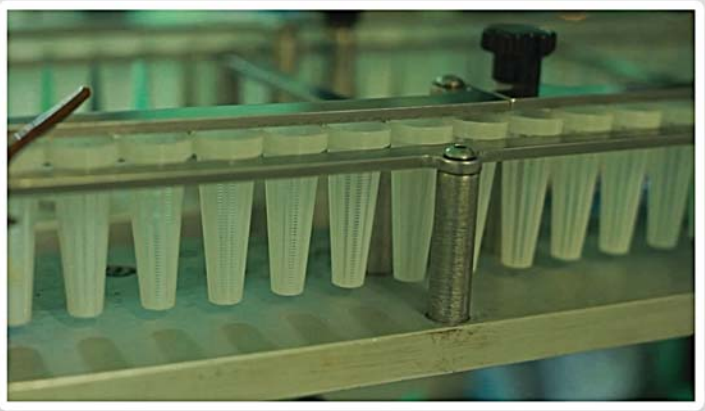
Assembly Line Facilities

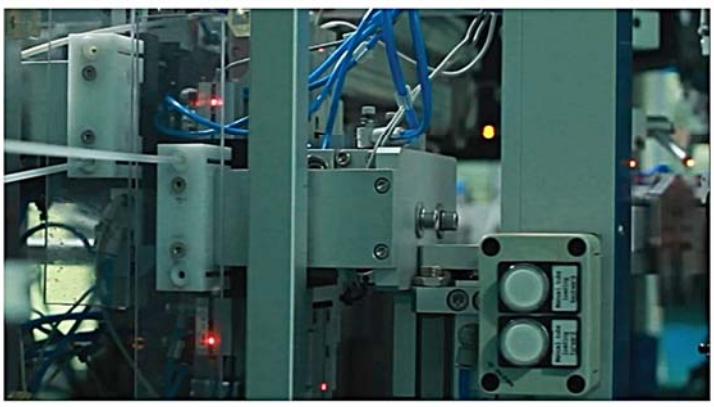
Full automatic assembly hemodialysis line











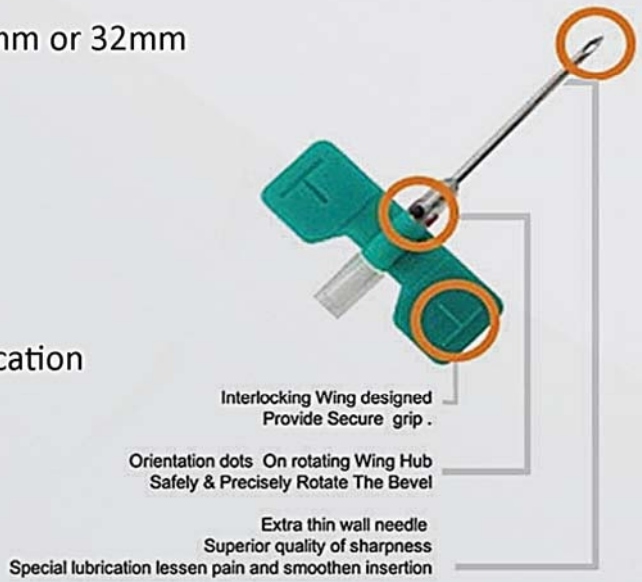


A.V. Fistula Needle Component

Fistula needle is used for connecting blood lines to the blood vessel through needle when dialysis is carried out via an internal fistula.

Product Features

- Offer injection part and extrusion tube.
- Needle gauge from 17, 16, 15 in length of 25mm or 32mm
- Fixed or rotating wing available.
- Easy removal of luer cap.
- Medical grade materials.
- Clear kink-free tube in 15 cm or 30 cm length.
- Color coded wings for easy gauge size identification



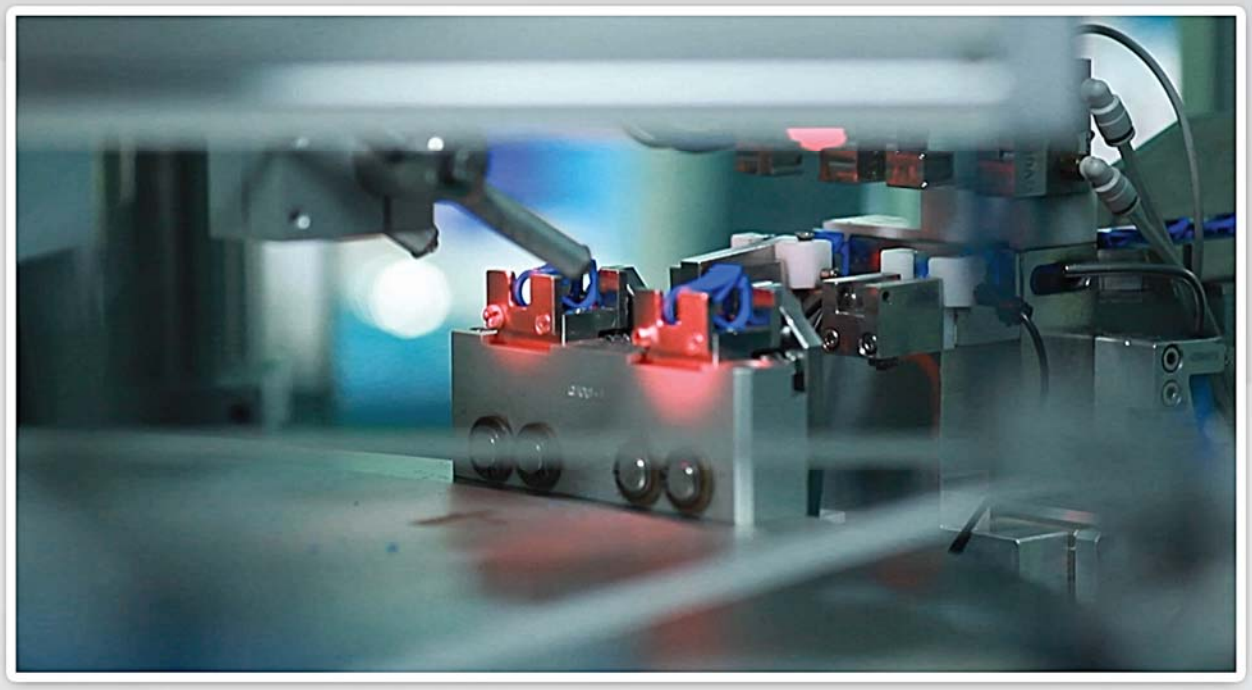
Design & Safety Innovations

- Interlocking Wing designed to provide secure grip.
- Orientation dots on rotating wing hub to safely & precisely rotate the bevel.
- Extra thin wall needle with superior quality of sharpness.
- Special lubrication to lessen pain and smoothen insertion.



Blood Tubing Set Overview

Mahan Med Meymeh Kish produced all plastic parts & components of Hemodialysis blood lines and automatically assembled completely to standard for Gambro, Fresenius, B.Braun, Baxter, Nikkiso, Belco, and Nipro dialysis equipment.



Key Features

- ISO standard connector
- Optimal tubes length and diameter
- High quality medical grade raw material
- Full test and quality control
- Sterilization with ETO
- Toxicological safety test
- Latex-free T-injection site



Full Automatic Assembly Hemodialysis Line — Heparin Line

Parts to be assembled automatically:

- PVC tubing 2.5mm, length 370mm & 1200mm
- Pump connector
- Clamp
- Cap for F.L.L connector
- Cohesive 13mm width



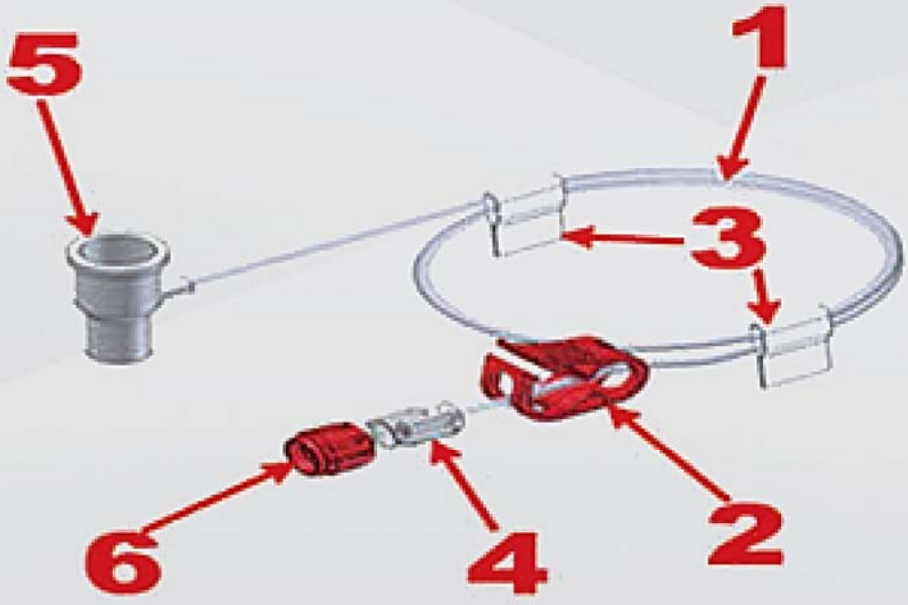
Control tests:

- Obstruction test
- Torque test
- Solvent dispensing test
- Vision check

Product codes:

a) Heparin line 37cm: 12-01-01-07-20

b) Heparin line 120cm: 12-01-02-07-20



Full Automatic Assembly Hemodialysis Line — Service Line

Parts to be assembled automatically:

- PVC tubing OD 4.8 & 4.2 length 100mm, 150mm, 300mm
- Clamp
- F.L.L connector ID 4.1mm & 4.7mm
- Cap for F.L.L connector

Control tests:

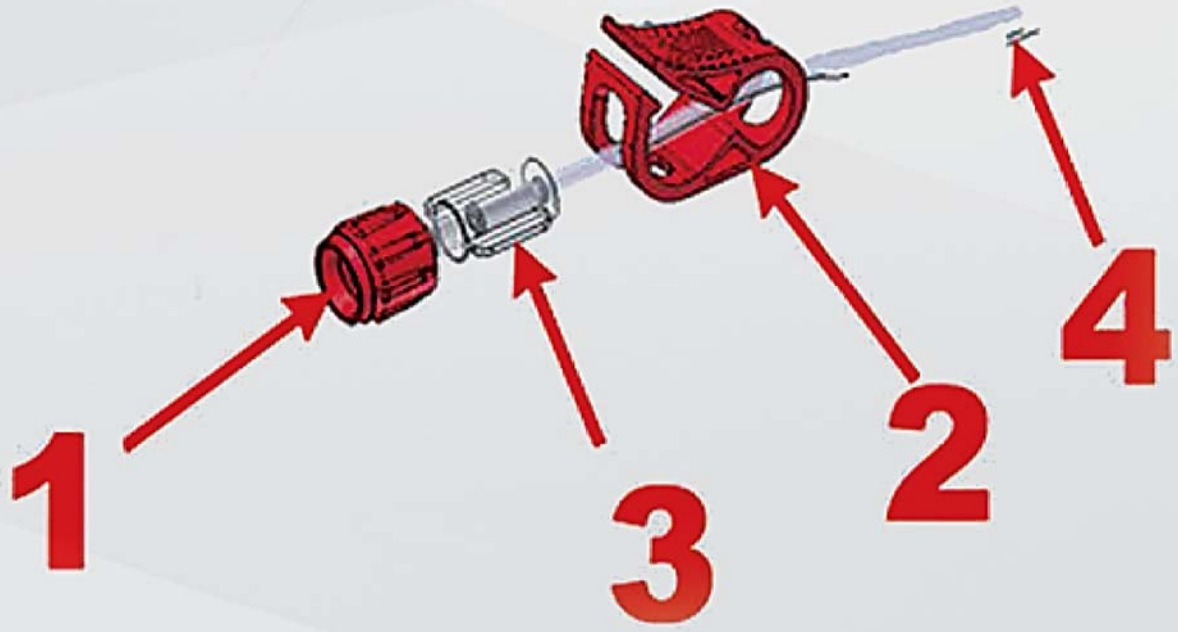
- Solvent dispensing test
- Vision check
- Tube transparency test

Product codes:

a) 10cm: 12-01-01-08-20

b) 15cm: 12-01-02-08-20

c) 30cm: 12-01-03-08-20



Full Automatic Assembly Hemodialysis Line — Patient Line

Parts to be assembled automatically (Patient connector):

- Patient connector cap
- Clamp
- PVC tubing 6.8mm, length 400mm & 1600mm
- T-injection site
- Cohesive paper 25mm

Control tests:

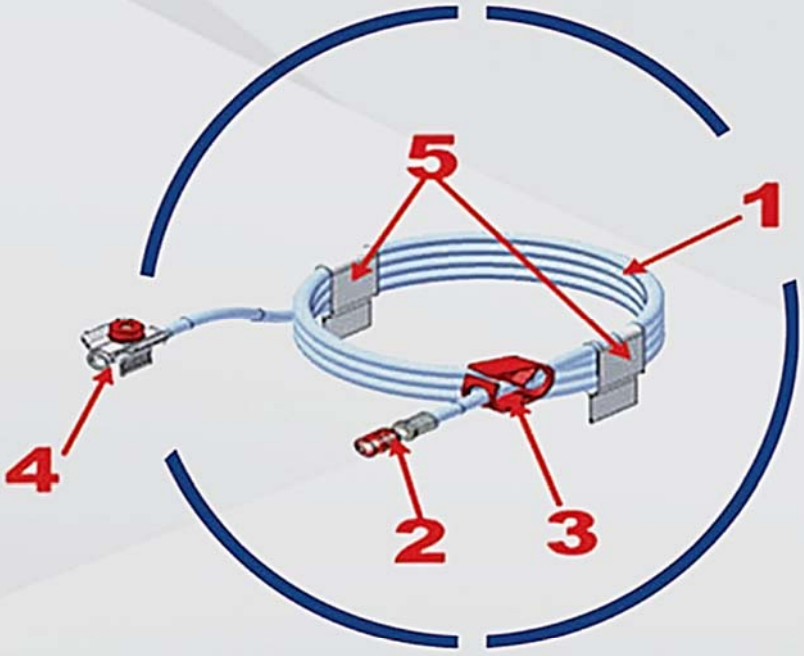
- Solvent dispensing test
- Vision check
- Tube transparency test

Product codes:

a) 160cm: 12-01-01-12-20

b) 80cm: 12-01-02-12-20

c) 40cm: 12-01-03-12-20



Full Automatic Assembly Hemodialysis Line — Blood Chamber

Parts to be assembled automatically:

- **Arterial chamber (without filter):**
  - Chamber body (Φ22mm)
  - Cap (Φ26mm 2 ways)
- **Venous chamber (with filter):**
  - Chamber body (Φ22mm)
  - Filter (Φ16mm)
  - Cap (Φ26mm 3 ways)
  - Cap (Φ26mm 4 ways)

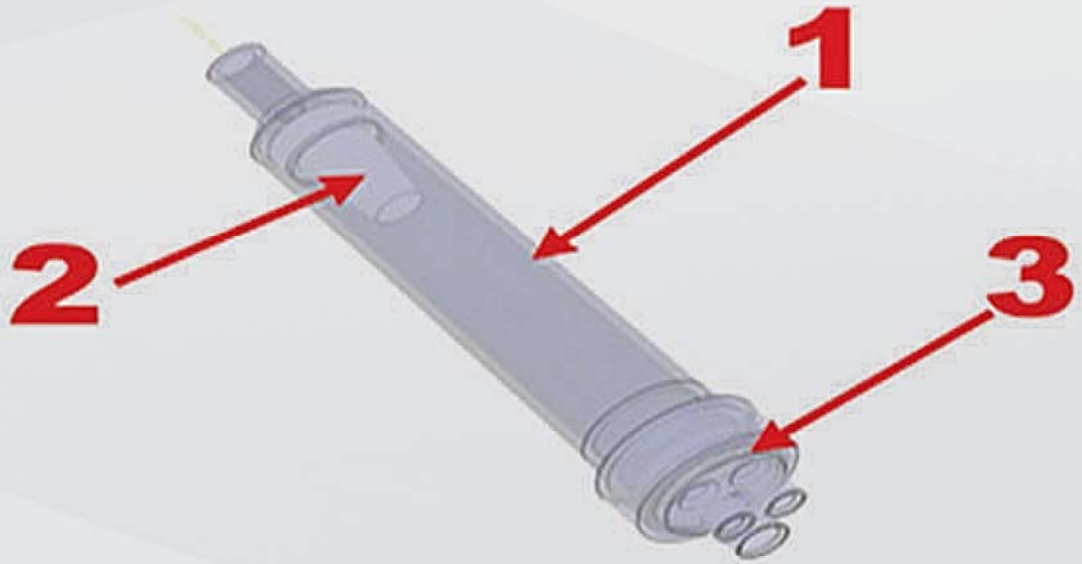
Control tests:

- Solvent dispensing test
- Torque check

Product codes:

a) Arterial (A): 12-01-01-09-20

b) Venous (V): 12-01-02-09-20



Full Automatic Assembly Hemodialysis Line — Dialyzer Line

Parts to be assembled automatically:

- PVC tubing OD 6.8mm, length 1000mm & 800mm
- T-injection site
- Dialyzer connector
- Dialyzer connector cap



Control tests:

- Solvent dispensing test
- Vision check
- Tube transparency test

Product codes:

a) 100cm: 12-01-01-11-20

b) 80cm: 12-01-02-11-20



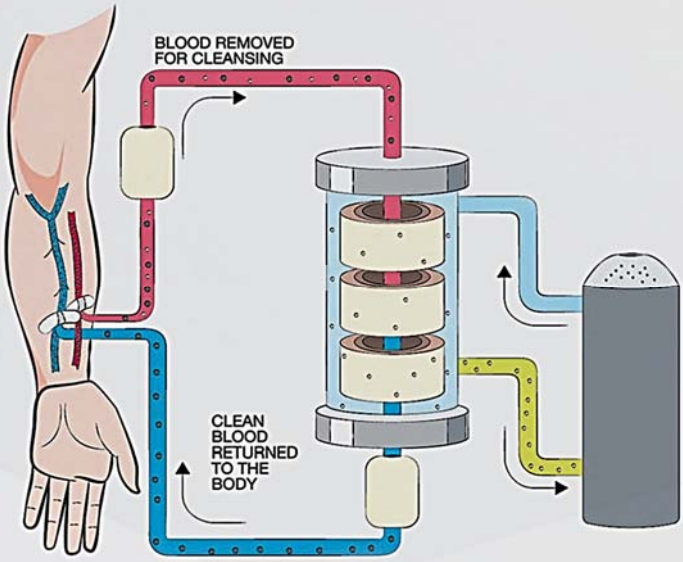


Full Synthetic Hemodialysis Filter

Mahan Med Meymeh Kish produced all plastic parts of dialyzer filter and auto assembled completely in clean room ISO 8-D standard.

Key specifications:

- ISO standard connectors and ports
- High quality medical grade PC & PUR glue
- Sterilization with ETO or Beta/Gamma ray
- Testing with ultra-pure & sterilized water
- High flux & low flux hollow fiber
- Poly Sulfone & Poly Ether Sulfone



Hemodialysis Process & Mechanism

Illustration and flow breakdown of dialysis procedure:

- Blood removed for cleansing
- Dialyzer chamber operation
- Clean blood returned to the body
- Renal / Kidney interaction

Synthetic High Flux Dialyzers: Technical Specifications & Performances

Eliminates middle molecular weight toxins without loss of useful proteins.

Is available in 4 different surface areas, tailored to meet patient's needs.

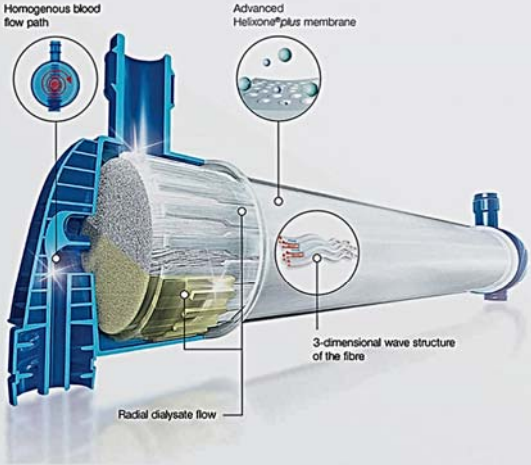
Specification Parameter	Diamed 1.4	Diamed 1.7
Surface Area (m^2)	1.4	1.7
Membrane Material	HF M-PES	HF M-PES
Internal Fiber Diameter (µm)	210 ± 10	210 ± 10
Wall Thickness (µm)	40 ± 5	40 ± 5
Priming Volume (ml)	90	111
Clearance (Qb=200, Qd=500, Qf=10 ml/min) — Urea	191 ml/min	195 ml/min
Clearance (Qb=200, Qd=500, Qf=10 ml/min) — Creatinine	183 ml/min	189 ml/min
Clearance (Qb=200, Qd=500, Qf=10 ml/min) — Phosphate	174 ml/min	181 ml/min
Clearance (Qb=300, Qd=500, Qf=10 ml/min) — Urea	243 ml/min	254 ml/min
Clearance (Qb=300, Qd=500, Qf=10 ml/min) — Creatinine	211 ml/min	216 ml/min
Clearance (Qb=300, Qd=500, Qf=10 ml/min) — Phosphate	200 ml/min	205 ml/min
Clearance (Qb=300, Qd=500, Qf=10 ml/min) — Vitamin B12	141 ml/min	173 ml/min
KUF (ml/h/mmHg)	312	378
TMP Max (mmHg)	600	600

High Performance Hollow Fiber Membrane

Mahan Med Meymeh Kish Hollow Fiber Membrane Production Plant

- **Product Scope:** High performance medical & industrial hollow fiber.
- **Annual Capacity:** About 12,000,000 km / year.
- **Membrane Material:** Poly Ether Sulfone (PES).
- **Filtration Types:** High flux & low flux hollow fiber options.
- **Biocompatibility:** Excellent biocompatibility characteristics.
- **Regional Leadership:** First in Iran & Middle East.





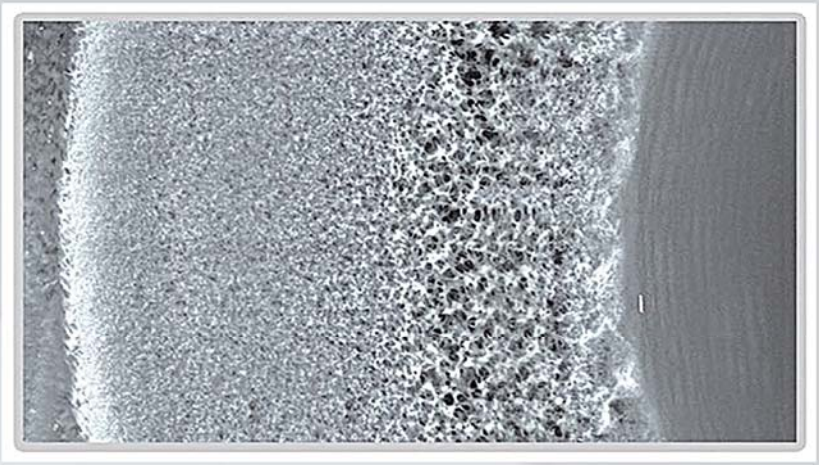
Membrane Specifications and Data

Versatile-PES™ Hollow Fiber Membrane

Versatile-PES™ is the new DIAMED hollow fiber membrane specially developed for plasma separation. It is a polyether sulfone membrane which is used for plasmapheresis and blood donation. The asymmetric structure of Versatile™-PES DIAMED membrane has been designed to obtain:

- An optimized diameter and wall thickness to ensure a remarkable fiber mechanical resistance and the highest filtering surface in the minimum space.
- Very smooth internal membrane surface, ensures less damage to red blood cells in the blood stream and minimizes hemolysis risk.
- A high separation performance, in terms of plasma proteins crossing the membrane (over 90%).
- An optimized membrane cut off resulting in the possibility to use a significant TMP value: DIAMED guarantees a maximum TMP of 100 mmHg without any hemolysis risk.

PLASMART: PLASMA FILTERATERS



New Dialysis Machine HD100 Family

System Configuration & Core Features

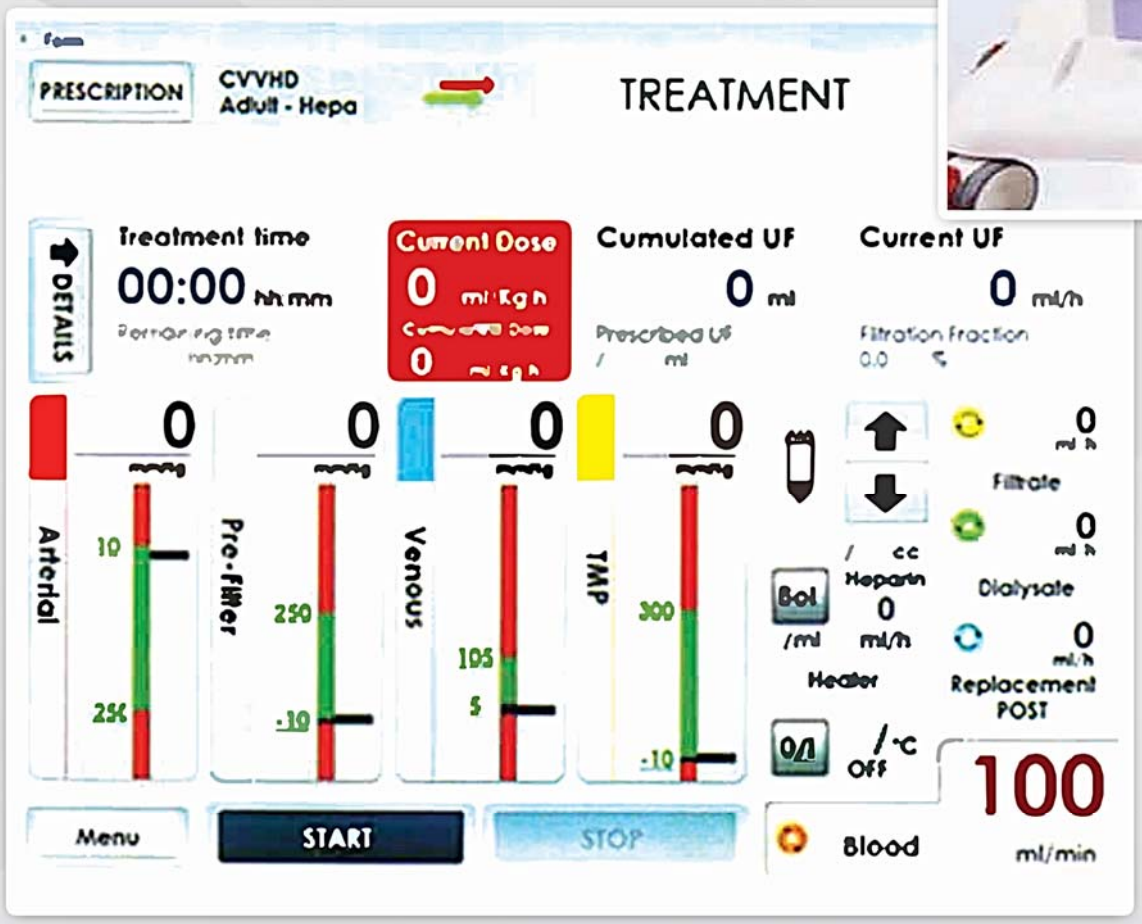
- **Peristaltic Pumps:** 1 or 2 pumps
- **HDF ON-LINE:** Yes (two pumps model)
- **Single Needle Mode:** Yes (two pumps model)
- **ON-LINE KT/V:** Yes (two pumps model)
- **Battery Backup:** 15 minutes full operation backup
- **Concentrates Supply:** Basic (powder in cartridge) or Acid (liquid in tank)
- **Pressure Monitoring:** 2 domes, 1 blood catcher
- **Disinfection System:** Disinfectant in tank + heat disinfection
- **Connectivity Ports:** LAN + USB connectivity
- **Therapy Software:** Optional therapy data management software



Operator Control & Connectivity Features

- 12-inch graphic display for intuitive navigation and treatment view.
- Two axis rotating display to maximize operator comfort.
- Resistive touch screen operable with gloves.
- Lexan screen protection to allow easy cleaning and surface disinfection.
- USB 2 connector to download machine log files and upgrade system software.
- RJ45-Ethernet port to remotely monitor machine while operating through optional therapy data management software.





New Dialysis Machine HD100 — Technical Data

Technical Specifications Table

Parameter	Specification / Value
Approximate Dimension	1500 x 360 x 460 mm
Weight	Approx. 100 kg
Monitor / Screen	12" TFT LCD with touch screen. 45° rotation around vertical axes, 30° rotation around horizontal axes
Water Supply	Inlet pressure: 1.5 - 6 bar | Inlet temperature: 10 - 30°C
Electrical Data	Power supply: 100 to 230 V AC, 47 - 63 Hz
External Connections	LAN (RJ45), USB 2.0
Arterial & Pre-filter Pressure Monitor	Range: -500 mmHg to +500 mmHg Accuracy: <±15 mmHg at ±300 mmHg; <±4 mmHg at 0 mmHg Sensor to detect incorrect closure of the dome
Venous & Transmembrane Pressure Monitor	Range: -500 mmHg to +500 mmHg Accuracy: <±15 mmHg at ±300 mmHg; <±4 mmHg at 0

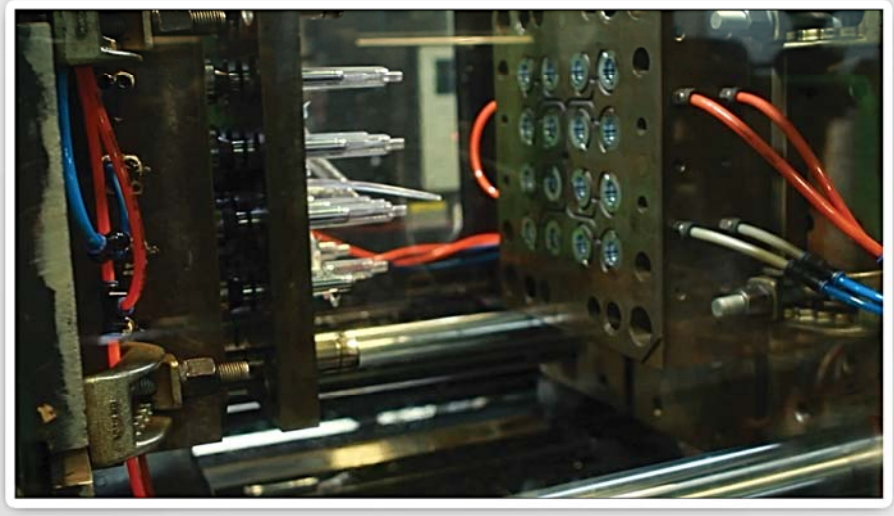
New Dialysis Machine HD100 — Technical Data

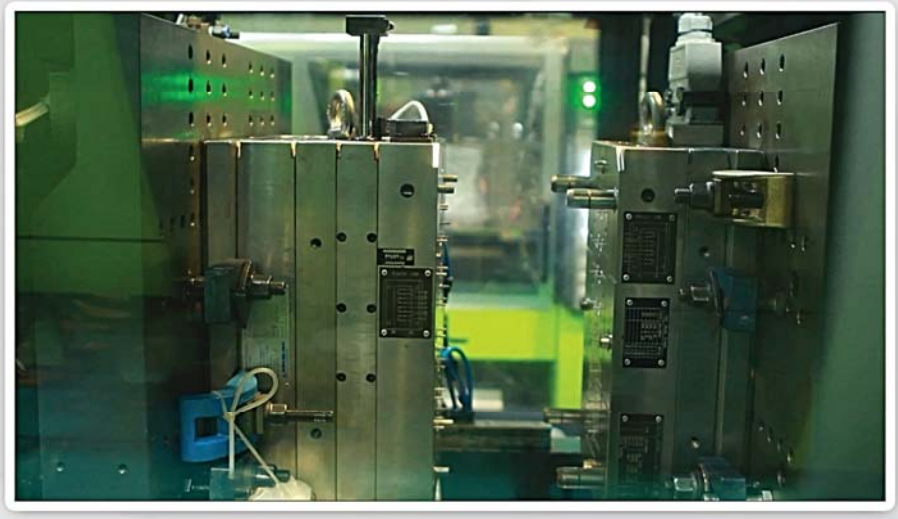
Parameter	Specification / Value
Pump (Hd101)	
Air Bubble Detector	Sensitivity: > 0.01 ml (at flow rate of 10 ml/min)
Syringe Pump	Flow rate: 0.1 to 60.0 ml/h | Accuracy: <0.2 ml/h of displayed value of 5.0 ml/h Applicable syringe: 20, 30, 50 ml disposable syringe Overload alarm pressure: 40 to 140 kPa (adjusted in hardware) Fast feed flow rate: > 0.1 ml/sec Functions: Size detection, plunger detection, end notice detection, motion detection, occlusion detection (0.2cc threshold) Bolus delivery: 0.1 ml - 2.0 ml
Dialysis Fluid Conductivity	3.0 - 20.0 mS/cm (±0.1 mS/cm)
Blood Leak Detector	Sensitivity: >blood cell concentration 0.15%, sensitivity can be decreased: 100%-90%-80%-70%-60%-50%-0% (OFF)
Balancing Accuracy	±0.3% with respect to the total dialysate volume
Dialysis Fluid Flow Range	0 - 700 ml/min (Steps of 100 ml/min)
Ultrafiltration	0 - 4000 ml/h | Accuracy ±1% | Sensitivity: 10 ml/h
Back-up Battery	24 Volt, 2.2 Ah
Design & Manufacturer	Designed and manufactured by DIAMED

Plastic Injection Unit

MAHAN MED MEYMEH Kish produce all plastic parts & components of hemodialysis lines with high technology injection machines in cleanroom ISO 8 space with medical grade raw material and standard QC control.

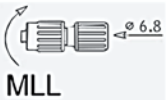
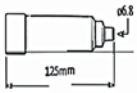
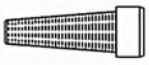
- **Materials:** Medical grade material
- **Environment:** ISO 8 (Class 100,000) cleanroom space
- **Quality Control:** Strict adherence to medical product quality standards
- **Testing:** Comprehensive biocompatibility and safety evaluation
- **Compatibility:** ISO standard connector dimensions





Injection Molded Components Technical Table

Code	Color	Raw Material	Sterilization	Product Description	Product Drawing
14-004-01-01-12 14-004-01-03-12 14-004-01-04-12	Colorless Red Blue	PVC DEHP FREE	ETO / Y	2-way cover: 1 x 4.1mm - 1 x 6.8mm for drip chambers, O.D. 30mm	
14-004-02-01-12 14-004-02-03-12 14-004-02-04-12	Colorless Red Blue	PVC DEHP FREE	ETO / Y	3-way cover: 2 x 4.1mm - 1 x 6.8mm for drip chambers, O.D. 30mm	
-006-02-01-04	Colorless	PVC DEHP FREE	ETO / Y	PVC pump connector for tube I.D. 6.36mm - O.D. 9.54mm with heparin line O.D. 2.5mm	
14-006-01-01-04	Colorless	PVC DEHP FREE	ETO / Y	PVC pump connector for tube I.D. 6.36mm - O.D. 9.54mm with service line O.D. 4.1mm	
14-013-01-01-04	Colorless	PVC DEHP FREE	ETO / Y	Female luer lock for tube O.D. 2.5mm	
14-013-02-01-04	Colorless	PVC DEHP FREE	ETO / Y	Female luer lock for tube O.D. 4.1mm	
14-013-03-01-05	Colorless	PVC DEHP FREE	ETO / Y	Female luer lock for tube O.D. 4.8mm	
14-013-03-02-06 14-013-03-03-06 14-013-03-04-06	Red Blue White	HDPE	ETO / Y	Closed male luer lock cap	
14-002-01-04-12 14-002-01-03-12	Red Blue	Soft PVC	ETO / Y	Dialyzer connector (semi rigid type)	
14-001-01-02-12	White	PP	ETO / Y	Closed cap for dialyzer connector	
14-022-02-01-12 14-022-03-01-12 14-022-04-01-12	Colorless	Polycarbonate	ETO	Dialyzer Housing (Size 1, 1.3, 1.6)	
14-021-02-03-12 14-021-03-03-12	Red Blue	Polycarbonate	ETO	Dialyzer Flange (Size 1, 1.3, 1.6)	

Code	Color	Raw Material	Sterilization	Product Description	Product Drawing
16-003-01-01-12 to 04-12 16-003-02-01-12 to 04-12	Colorless Blue Red	PVC/HDPE PVC/ABS DEHP FREE	ETO	Self-Ejecting rotating male luer lock for tube O.D. 6.8mm (MLL)	
14-012-01-01-04	Colorless	PP	ETO	Vented cover for rotating male luer lock	
14-009-01-01-06 to 05-06	Red, Blue, White, Green	POM	ETO / Y	On-off mini clamp for tubes O.D. 2.0-2.5, 2.5-3.0, 4.2-4.8mm	
14-009-02-02-04 to 03-04	Red, Blue, White	POM	ETO / Y	On-off big clamp for tubes O.D. 5.5 - 6.8mm	
16-001-01-04-04 / 03-04 / 01-04	Red, Blue, Colorless	R PVC	ETO / Y	Blood T-injection site with protective grip for tube O.D. 6.8mm	
14-003-01-01-04	Colorless	Soft PVC	ETO / Y	Drip chamber, O.D. 22mm, total volume: 47ml	
14-005-03-01-04	Colorless	HD-PE	ETO / Y	Cone-shaped blood filter: surface = 11 cm^2, mesh = 270 µm, Ø 16mm	
14-005-01-01-04	Colorless	HD-PE	ETO / Y	Cone-shaped blood filter: surface = 11 cm^2, mesh = 270 µm, Ø 16.3mm	
14-005-02-01-04	Colorless	HD-PE	ETO / Y	Cone-shaped blood filter: surface = 6 cm^2, mesh = 270 µm, Ø 16.3mm	
16-002-01-01-12 / 02-01-12	Colorless	PVC DEHP FREE / PTFE	ETO / Y	Transducer protector male luer lock & female luer lock (Gore membrane 0.20µm)	
14-015-01-01-04 to 04-04	Colorless, Red, Blue	HD-PE	ETO	Recirculating female luer lock with protective closed cap	



Extruder Unit Product

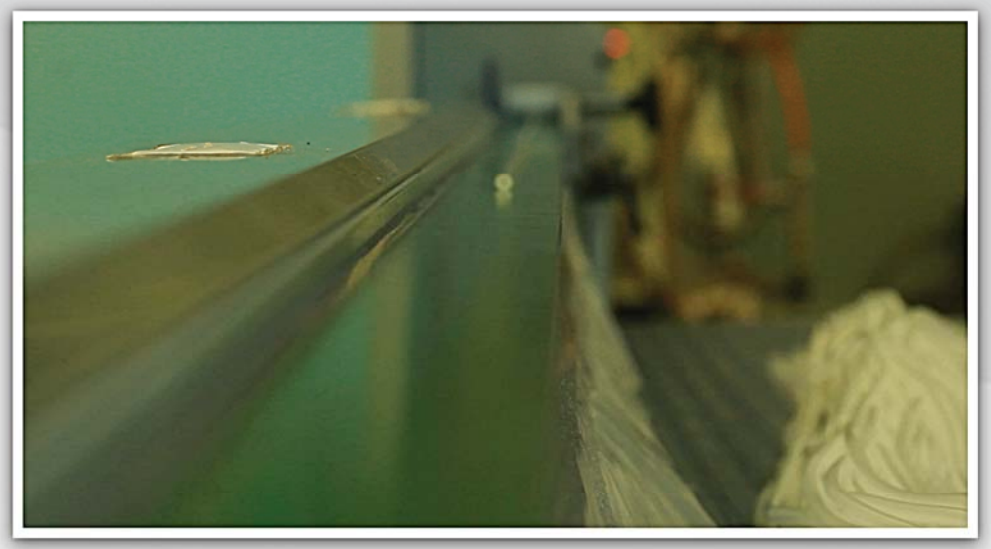
Medical Grade PVC Tubing Dimensions & Specifications

I.D. x O.D. (mm)	Thickness (mm)	Roll Length (m)	Hardness (Shore - A)
1 x 2	0.5	200 - 1000	70 - 77
1 x 2.5	0.75	200 - 1000	70 - 77
1.5 x 3	0.75	200 - 1000	70 - 77
1.5 x 4.1	1.3	400	70 - 77
3 x 4.1	0.75	400	70 - 77
3.5 x 5.5	0.55	400	70 - 77
3.7 x 6.8	1.0	400	70 - 77
4 x 5.5	1.55	400	70 - 77
4.3 x 6.8	0.75	400	70 - 77
4.8 x 6.8	1.25	400	70 - 77
5 x 6.5	1.0	400	70 - 77
4 x 8	2.0	200	70 - 77
4.77 x 7.95	1.59	200	70 - 77
6.36 x 9.54	1.59	200	70 - 77
6.4 x 10	1.8	200	70 - 77
7 x 10	1.5	200	70 - 77
8 x 11	1.5	200	70 - 77
8 x 12	2.0	200	70 - 77
10 x 14	2.0	200	70 - 77

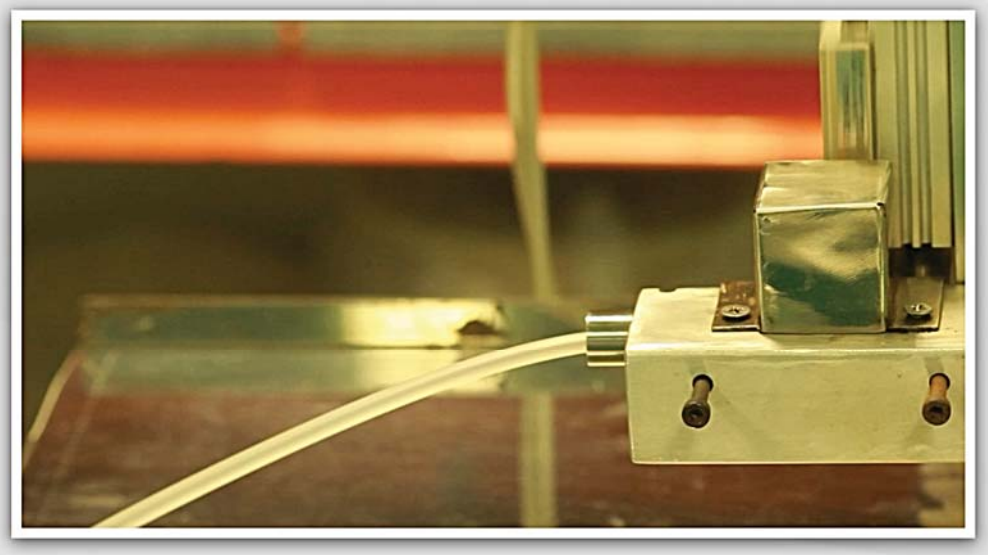


Extruder Unit Product

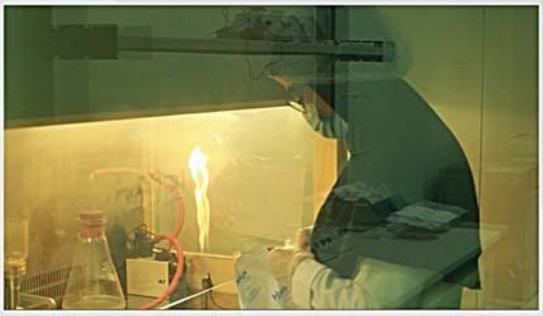
EXTRUDER UNIT: Automated medical tubing extrusion lines running inside ISO 8 cleanroom facilities, operated by trained technical staff to ensure precise wall thickness, internal diameter tolerances, and surface smoothness.







Chemical / Physical / Microbiology Laboratory



At MAHAN MED Laboratory, we are passionate about innovating HEMODIALYSIS
and try to find ways to make hemodialysis easier for patient and Critical Care in
HEMODIALYSIS testing. Our extensive range of products and services offer healthcare providers new ways to improve quality, efficiency and patient care.

Laboratory Quality Control Tests



- **Bioburden Assay:** Assessment of initial microbial contamination levels prior to sterilization.
- **LAL Test:** Endotoxin testing to ensure pyrogen-free blood contact devices.
- **Sterility Test:** Full sterility verification according to pharmacopeial standards.
- **Filter Performance Test:** Flow resistance, pressure drop, and membrane integrity evaluation.
- **Clearance Test:** Urea, Creatinine, Phosphate, and B12 solute clearance rate verification.
- **P Test:** Pressure resistance and leak testing.

Packing & Sterilization Unit



Mahan Med Meymeh Kish factory has automated packaging machinery for
prepackaging and carton box packaging. All production is packaged in the
cleanroom under ISO 8-D standard.

Mahan Med Meymeh Kish factory has an in-house ETO sterilizing unit with two large chambers. Products are sterilized with ETO inside the factory or transferred to specialized partner facilities for Beta or Gamma ray sterilization.

- **Equipment**: Safe and reliable ETO sterilization equipment.
- **Control:** All standard testing strictly controlled.

A Dedicated Manufacturer of Hemodialysis Consumables

Omid Darman Apadana is a member of the **3M Kish Holding,** an integrated group focused on the development and manufacture of products and consumables for hemodialysis. Located in **Alavijeh Industrial Zone, Isfahan, Iran**, Omid Darman Apadana is primarily dedicated to the production of **sodium bicarbonate products for hemodialysis**, including bicarbonate cartridges and bags.



Our Focus

- Sodium bicarbonate cartridges
- Sodium bicarbonate bags
- Hemodialysis blood tubing sets
- Other selected hemodialysis consumables

Through controlled manufacturing processes and quality-focused production, Omid Darman Apadana aims to provide reliable consumables for modern dialysis treatment.





Part of a Larger Hemodialysis Ecosystem

OMID DARMAN APADANA

As part of 3M Kish Holding,

Omid Darman Apadana operates alongside companies involved in the manufacturing, development and distribution of hemodialysis products.

This integrated structure enables the group to support the dialysis sector across multiple stages—from manufacturing and product development to supply and distribution.

OMID DARMAN APADANA

Supporting safer, more efficient and accessible hemodialysis through local manufacturing.







OMID DARMAN APADANA

Sodium Bicarbonate Cartridge for Hemodialysis

DiaCart is a dry sodium bicarbonate cartridge designed for use in **bicarbonate hemodialysis and hemodiafiltration systems.**

The cartridge contains sodium bicarbonate in dry form. During dialysis treatment, the dialysis machine uses the cartridge to prepare the bicarbonate component of the dialysis fluid.

This approach eliminates the need to handle and store large volumes of ready-made bicarbonate concentrate and provides a practical method for **on-line preparation of bicarbonate dialysis fluid.**





Key Advantages

Dry bicarbonate formulation

Sodium bicarbonate is supplied in a dry, ready-to-use cartridge format.

Convenient handling

The cartridge format simplifies storage, transportation and installation compared with bulk liquid bicarbonate concentrate.

Controlled preparation

The dialysis machine prepares the bicarbonate component during treatment according to its operating system.

Hygienic design

A closed cartridge system can help reduce direct handling of bicarbonate material during preparation.

Multiple filling capacities

Different cartridge filling weights can be provided according to treatment requirements and compatible dialysis-machine specifications.

Product Specification

Diacart 550 gr	Diacart 650 gr
Parameter	**Specification**
Product	**DiaCart**
Product type	**Sodium bicarbonate cartridge**
Application	**Bicarbonate hemodialysis / HDF**
Active material	**Sodium bicarbonate ($NaHCO_3$)**
Form	**Dry powder**







Sodium Bicarbonate Bag for Hemodialysis

DiaBag is the bag-format solution of the DiaMed product family for the supply of **sodium bicarbonate used in bicarbonate hemodialysis.**

Designed for dialysis-center use, DiaBag provides an alternative format to cartridge-based bicarbonate systems, allowing dialysis facilities to select the appropriate bicarbonate delivery method according to their dialysis-machine configuration and operational requirements.

Designed for Practical Dialysis Operations

Ready-to-use format

The bicarbonate is supplied in a dedicated bag format for connection to compatible dialysis systems.

Convenient storage and handling

The bag format is designed to simplify transportation, storage and preparation within the dialysis environment.

Efficient bicarbonate supply

Provides sodium bicarbonate for the preparation of bicarbonate-containing dialysis fluid.

Integration with compatible dialysis systems

The product is intended for use with dialysis machines equipped for the corresponding bicarbonate-bag connection system.

Product Specification

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Diabag S 650 gr	Diabag B 650 gr	Diabag S 550 gr	Diabag B 550 gr
Parameter		**Specification**	
Product		**DiaBag**	
Product type		**Sodium bicarbonate bag**	
Application		**Bicarbonate hemodialysis**	
Active material		**Sodium bicarbonate ($NaHCO_3$)**	



3M Kish Group

OMID DARMAN APADANA

DIAMED

Tehran Office

Unit 501, Alborz Building, Next to Bank Mellat,

Shahid Sattari Expressway, Before Ferdows-e Shargh, Tehran, Iran

Tel: +98 21 4404 5578 | +98 21 4405 1134 | +98 21 4401 8545

Fax: +98 21 4401 6494

Isfahan Office

Opposite Bank Tejarat, Before Chaharbagh-e Pain,

Imam Hossein Square, Isfahan, Iran

Tel/Fax: +98 31 3221 8354 (Ext. 5) Postal Code: 8136634613

Kish Factory

No. 9, Pajouhesh Street,Kish Industrial Estate zone 3, Kish Island, Iran

Tel: +98 76 4449 1044 Tel: +98 76 4449 1024

Isfahan Factory

Sanat 5 Street, End of Kargar Boulevard,

Alavijeh Industrial Estate, Alavijeh, Mehrdasht District,

Najafabad County, Isfahan Province, Iran

www.mahanmed-mfg.com **info@mahanmed-mfg.com**