



**PRODUCT
CATALOGUE
DIALYSIS**

Company profile

With rich experiences in medical device quality system assessment, R&D, risk management, production process, sterilization, quality control, Esse3 is a professional and reliable supplier of hemodialysis products and medical produces.

Esse3 is specialized in below items:

Hemodialysis machines
RO water treatment system
Dialysis Chairs
Dialyzer reprocessing machines
Dialysate stirring machines
Dialysis consumables
Medical products
Etc.

Esse3 has reliable supply channels and close strategic patnerships. We are committed to supply reliable, safe, effective medical devices to reduce clinical application risk and customer complain. We can provide customers with one-stop service and support in optimizing the supply chain management to save purchase costs, improve purchase efficiency and create benefits for customers.



Hemodialysis blood line



AV fistula needle



Dialyzer



ESFL-HD1008A

Hemodialysis Machine

Features

- ▶ CE Certificate
- ▶ Compatible with most HD disposables
- ▶ 15 inch LCD touch screen
- ▶ Reliability
- ▶ UF control system with close j c`i a Ybalancing chamber
- ▶ Personalized dialysis



◆ Operation

- 15 inch LCD touch screen
- Automatic disinfection system
- Convenient drainage system for waste liquid inside dialyzer and blood tubing.
- Timer function to remind the operators for next step.
- Pause function

◆ Safety

- Close double balancing chamber to ensure accurate UF.
- Concentrate pump speed self-adjust deviation.
- Uninterrupted and unchangeable disinfection mode ensure the safety of disinfection.
- Citric acid with hot disinfection and unique hydraulic construction can get remove the protein effectively without usage of chlorox so as to prevent the operators from being hurt.

◆ Comfort

- Personalized dialysis
UF profiling
Sodium profiling
- Unique hydraulic design can protect the bicarbonate, making patients feel more comfortable during dialysis treatment.

◆ Economy

- Standby function: Save time for the patients and save A and B liquid cost.
- KT/V

◆ Configuration

Ultrapure dialysate system

- Ultra-pure filter to prevent bacteria and endotoxin.
- Automatic self-test
- Working time record
- Change prompt

Blood pressure monitoring

- Automatic and non-invasive.
- Pressure testing record.
- Testing time and alarming setting.
- Record and Check

◆ Technical parameter

- Weight: 66KG
- Power supply: AC220V±10%, 50Hz
- Input power: 1500W
- Water inlet pressure: 0.15MPa~0.6MPa
- Water supply temperature: 5~32°C

◆ Dialysate

- Dialysate temperature: Preset range 33~40°C Resolution: 0.1°C
- Dialysate flow : 100~800ml/min (Adjustable)
- Dialysate formula: Various proportions
- UF: 0~4000ml/h

◆ Extracorporeal circulation

- Venous pressure: -180mmHg~+600mmHg
- Arterial pressure: -380mmHg~+400mmHg
- TMP pressure: -180mmHg~+600mmHg
- Blood pump and assistant pump
flow: 20ml/min~400ml/min (φ6mm)
20ml/min~600ml/min (φ8mm)
- Blood leak detection: Photoelectricity
- Air detection: Double protection

◆ Heparin

- Syringe size: 10,20,30,50ml
- Flow range: : 0ml/h~10ml/h
- Bolus: 1.0~20.0ml

◆ Disinfection

- Disinfection program
Citric acid + peracetic acid at Normal temperature flow 300~800ml/min (adjustable)
Citric acid+hot disinfection at 85°C , flow 300~800ml/min (adjustable)
- Automatic disinfection mode from Monday to Sunday ensures the safety and reliability of the disinfection.

ESFL-HD2008A

Hemodialysis Machine

Clinical Application

Hemodialysis, High efficiency dialysis, ISO dialysis and Hemoperfusion etc.

Features

- ▶ Bicarbonate cartridge
- ▶ Air detection by ultrasonic and optical methods
- ▶ Profiles: UF, Na+
- ▶ Kt/V Monitor
- ▶ HCO₃-adjustable
- ▶ Dialysate linearly adjustable
- ▶ Built-in battery
- ▶ UF test port
- ▶ Water way designed to prevent cross infection
- ▶ Pyrogen filter (optional)
- ▶ Network connection (Optional)



ESFL-HD2008A



Technical information

Specification (length× width ×height)	370mm×340mm ×1420mm
Weight	about 90kg
Power supply voltage	AC220V±10% Frequency: 50HZ ~ 60 HZ Power: 1700W
Blood pump	Flow: 10 ~ 460 ml/min (Φ 6.4mm) Flow: 20 ~ 620 ml/min (Φ 8mm)
Functional pump	Flow: 10 ~ 460 ml/min (Φ 6.4mm) Flow: 20 ~ 620 ml/min (Φ 8mm)
Heparin pump	Flow: 0.1ml/h-10ml/h(±5%) Precision: 0.1ml/h Injector size: 10ml/20ml/30ml
Arterial pressure	-300mmHg-.400mmHg (±10mmHg)
Venous pressure	-200mmHg-.500mmHg(±10mmHg)
Dialysate flow	300ml/min ~ 800ml/min linearly adjustable (±10%)
Dialysate Temperature controlled to range of	35.0°C~39.0°C
Precision of dialysate temperature control	0.1°C
Conductivity	12.3mS/cm~15.8mS/cm (±0.1 mS/cm)
UF flow	0 ~ 4000ml/h
ISO UF flow	0 ~ 4000ml/h(±30ml/h)
TMP	-100mmHg ~ +600mmHg (±20mmHg)
Blood leakage monitor	over 1ml blood per liter dialysate (flow:500ml/min)
Blood level monitor	ultrasonic sensor
Air bubble monitor	Work by Infrared mechanism for detection and it can detect single air bubble with size of 200 ul when the blood flow is 200ml/min
Inflow pressure	0.12MPa ~ 0.6MPa 0MPa ~ 0.6MPa (Optional)
RO water inflow temperature	5°C ~ 30°C
Disinfection	Rinse/disinfection chemical disinfection (citric acid, peracetic acid)
Hot rinse	≥80°C
Back-up battery	keep machine running for 15-30 minutes in case of power failure

ESFL-4000

Hemodialysis Machine

ESFL-4000 Series Hemodialysis Equipment (HDF-online)

Functions

- ESFL-4000** Hemodialysis Equipment is applied to HD, HF-online, HDF-online, IUF, HP, plasma adsorption etc. can produce substitution fluid on-line.
- ESFL-4000A** Hemodialysis Equipment is applied to HD, IUF, Sequential Dialysis, HP etc.
- ESFL-4000B** Hemodialysis Equipment is applied to HD, HF-bibag, HDF-bibag, IUF, HP, plasma adsorption etc. Substitution fluid weighing device enables accurate control of fluid balance.

Indications: Acute and chronic renal failure, uremia, severe pancreatitis, multi organ failure, intoxication etc.



Technical Data

Dimensions (L x W x H)	1450x550x460	UF control	UF rate: 0~6000ml/h
Net Weight	Aprox. 60Kg		Accuracy: ± 30ml/h or ± 1%
Power Supply	AC 220V, -20% ~ +10%, 50~60Hz	Substitution Fluid Flow	0~39L/h(HDF-online)
Water Supply	Pressure range :0~8.0bar		0~6 L/h(HDF-bibag)
	Temperature range:0~35° C	Heparin injection	0~10 ml/H, Accuracy ± 0.1ml/H
Water flow: ≥0.3L/min	Bolus: 0~10 ml/time		
VP	-700~+800mmhg, Accuracy ± 5mmhg	Air Detector	Syringe size: 20ml, 30ml, 50ml
AP	-700~+800mmhg, Accuracy ± 5mmhg		Detecting ≥ 0.02ML/single bubble
TMP	-700~+800mmhg, Accuracy ± 5mmhg		Detect the bubbles
Blood Flow	0~700ml/Min	Blood leak monitor	Detecting blood leak ≥0.35mL/min (HCT 32%)
Dialysate Flow	0~300~500~800~1000ml/Min (adjustable)	Clean Disinfection	Decalcification: Rinse, citric acid or glacial acetic acid.
Dialysate Temperature	30~41° C, Accuracy ± 0.5° C		Thermal Disinfection: Hot water or citric acid(>93 °C)
Dialysate Conductivity	0~25 ms/cm, Accuracy ± 0.1ms/cm		Chemical Disinfection: Sodium hypochlorite or peracetic acid

ESFL-6000

Hemodialysis Machine

+ Technical Data

Dimensions and Weight

- Dimensions (mm) : 1460x490x715
- Weight: 85kg

Work Condition and Connector

- Power Supply : AC 100 ~ 240V, 47 ~ 63Hz
- Water Temperature : 5 ~ 35°C
- Water Pressure : 0 ~ 8.0bar
- Connector : Ethernet, RS232/RS485, USB

Blood and Substitution

- Blood Flow: 0 ~ 700mL/min, Accuracy: ± 10 mL/min
- Substitution Flow: 0 ~ 650mL/min, Accuracy: ± 10 mL/min
- Substitution flow Range: 0 ~ 39L/h (HDF-online)
0 ~ 6L/h (HDF-bibag)

Dialysate

- Dialysate Flow : 0, 100mL/min ~ 1000mL/min , $\pm 5\%$
- Dialysate Temperature : 33°C ~ 40°C, Accuracy: $\pm 0.5^\circ\text{C}$
- Dialysate Conductivity : 12.0mS/cm ~ 18.0mS/cm
Accuracy : ± 0.1 mS/cm

Monitor System

- VP: -700mmHg ~ +800mmHg, Accuracy : ± 5 mmHg
- AP: -700mmHg ~ +800mmHg, Accuracy : ± 5 mmHg
- TMP: -700mmHg ~ +800mmHg, Accuracy : ± 5 mmHg
- Blood Leakage Monitor: detecting blood leak ≥ 0.35 mL/min (HCT 32%)
- Air Detector: detecting ≥ 0.02 ml bubbles or ≥ 0.0003 ml continuous tiny bubbles
- Blood detect: Optical Test

Clean and Disinfection

- Decalcification: Rinse, Citrate Sodium or Glacial Acetic Acid
- Thermal Disinfection: Hot Water or Citrate Sodium ($\geq 93^\circ\text{C}$)
- Chemical Disinfection: Sodium Hypochlorite or Peracetic Acid

Dehydration Control

- Dehydration Speed : 0 ~ 6000mL/h, Accuracy : ± 30 mL/h
- Dehydration Range : 0 ~ 99L

Heparin Pump

- Heparin Pump Flow: 0 ~ 10mL/h
- Syringe Size : 10mL, 20mL, 30mL, 50mL
- Rapid Injection Rate: 10 ~ 1800mL/h

Non-invasive Sphygmomanometer

- Blood Pressure: 0mmHg ~ 300mmHg
- Resolution : 1mmHg
- To ensure measurement accuracy of blood pressure(adult) : 40mmHg ~ 245mmHg
- Adult Pulse Monitoring : 30bpm ~ 220bpm
- Monitoring Error : ± 3 bpm or reading $\pm 2\%$

ESFL-6000



Consumables

Polyethersulfone (PES) Dialyzer

High Flux Dialyzer



Model & Specification	HIF10	HIF12	HIF14	HIF16	HIF18	HIF20	
Membrane Material	Medical-grade polyether sulfone (PES)						
Housing & Blood caps Material	Medical-grade Polycarbonate (PC)						
Porting sealants Material	Bi-component polyurethane sealants (PU)						
Inner diameter of membrane (µm)	200						
Wall thickness of membrane (µm)	40						
Max. operation pressure (kPa/mmHg)	66.5/500						
Max. flow rate (mL/min)	Max. Q _d =500mL/min, Max. Q _f =500~800mL/min						
Effective membrane area (m ²)	1.0	1.2	1.4	1.6	1.8	2.0	
UFR (mL/h*mmHg)	40	45	50	55	60	65	
Blood compartment Volume (mL)	70	78	85	98	110	125	
Clearance rate	Test condition	Q _d =200mL/min					
	Urea	189	192	194	196	197	198
	Creatinine	181	185	188	191	194	196
	Phosphate	176	180	184	188	192	195
	Vitamin B ₁₂	105	124	137	150	162	175
	Inulin	65	78	94	107	120	130
	Test condition	Q _d =300mL/min					
	Urea	248	255	262	270	276	280
	Creatinine	225	235	243	250	256	262
	Phosphate	224	230	236	242	248	254
	Vitamin B ₁₂	128	142	156	170	183	196
	Inulin	90	98	110	120	128	134
	Test condition	Q _d =400mL/min					
	Urea	-	297	306	315	324	330
	Creatinine	-	274	282	290	297	304
	Phosphate	-	260	270	280	290	298
	Vitamin B ₁₂	-	154	170	185	198	212
	Inulin	-	110	118	128	136	142
Sieving coefficient	Test condition	Q _d =300mL/min, Q _f =65mL/min					
	Albumin(%)	≤1					
	Inulin(%)	90±10					
	Myoglobin(%)	55±10					
β ₂ -microglobulin(%)	70±10						
Sterilization	γ-rays						

Note: Vitro performance parameter condition for UFR: Q_d=200 mL/min, TMP=100 mmHg, T=37°C, test by anticoagulation bovine plasma, total protein content 60±5 g/L

Vitro performance parameter condition for clearance rate: Q_d=500 mL/min, Q_f=10 mL/min, T=37°C, test by simulated body fluid (EN 1263) BDF

Low Flux Dialyzer



Model & Specification	LoF10	LoF12	LoF14	LoF16	LoF18	LoF20	
Membrane Material	Medical-grade polyether sulfone (PES)						
Housing & Blood caps Material	Medical-grade Polycarbonate (PC)						
Porting sealants Material	Bi-component polyurethane sealants (PU)						
Inner diameter of membrane (µm)	200						
Wall thickness of membrane (µm)	40						
Max. operation pressure (kPa/mmHg)	66.5/500						
Max. flow rate (mL/min)	Max. Q _d =500mL/min, Max. Q _f =500mL/min						
Effective membrane area (m ²)	1.0	1.2	1.4	1.6	1.8	2.0	
UFR (mL/h*mmHg)	15	18	22	25	28	30	
Blood compartment Volume (mL)	70	78	85	98	110	125	
Clearance rate	Test condition	Q _d =200mL/min					
	Urea	186	188	190	192	194	196
	Creatinine	175	178	181	184	187	190
	Phosphate	165	170	175	180	185	189
	Vitamin B ₁₂	88	100	110	118	126	133
	Test condition	Q _d =300mL/min					
	Urea	238	245	252	260	267	275
	Creatinine	206	220	233	245	257	270
	Phosphate	192	203	214	225	235	245
	Vitamin B ₁₂	92	104	120	136	150	165
	Test condition	Q _d =400mL/min					
	Urea	-	268	279	290	300	312
	Creatinine	-	248	261	275	288	300
	Phosphate	-	230	244	257	270	283
	Vitamin B ₁₂	-	110	125	142	158	173
	Sterilization	γ-rays					

Note: Vitro performance parameter condition for UFR: Q_d=200 mL/min, TMP=100 mmHg, T=37°C, test by anticoagulation bovine plasma, total protein content 60±5 g/L

Vitro performance parameter condition for clearance rate: Q_d=500 mL/min, Q_f=10 mL/min, T=37°C, test by simulated body fluid (EN 1263) BDF

FOCUS ON HEMODIALYSIS TECHNOLOGY



Dialysis Powder

Dry Acid Concentrates

Bicarbonate Cartridge

Suitable for Fresenius, B.Braun, Gambro, Nipro, Nikkiso, JMS, Toray, etc. machines.

Consumables

All tubes are made from medical grade, and all components are manufactured in original.

1. Pump Tube: with high elasticity and medical grade PVC, the shape of tube remains the same after continuous pressing of 10 hours.
2. Drip Chamber: several sizes of drip chamber available.
3. Dialysis Connector: Extra large designed dialyzer connector is easy to operate.
4. Clamp: clamp is made of hard plastic and designed larger and thicker to guarantee sufficient stop.
5. Infusion Set: It is convenient to install and uninstall, which ensure precision infusion and safe priming.
6. Drainage Bag: closed priming to meet the requirements of quality control, single way drainage bag and double way drainage bag available.
7. Customized Designed: Different sizes of pump tube and chamber to meet the requirements of customers.
8. IV set, drainage bag, transducer protectors and other accessories can be added according to the needs of clinical use.

Bloodline



Hemodialysis Catheter Kits

Disposable hemodialysis catheter kit for short term;
Double lumen;
Straight and curved catheter are both available.



Arterial-Venous Fistula Needles

15G, 16G, 17G;
Soft tube with anti-kinking properties;
Fixed and rotating wing available for easy operation.



RO Water Treatment System

Structual composition

- Mainly composed by pre-treatment(5umPP filter+carbon activated filter),Reverse Osmosis and class II precision processing,disinfection device and control,monitor device,and so on
- Pre-treatment:get rid of turbidity,organism and residual chlorine in water
- Reverse Osmosis and class II precison processing:get rid of ion,bacteria and endotoxin in water
- Disinfection device:kill bacteria in organism filter instrument and tubes
- Control,monitor device:real-time display equipment operating parameter,automatic alarm and self-sterilizer

Applied range

- Applied to prepare hemodialysis treatment water

Specifications and models

Model	250L/H	500L/H	750L/H	1000L/H	1500L/H	1500L/H+
Supply the quantity of HD machine	5 units	10 units	15 units	20 units	30 units	30 units above



Dialysis Chairs

Electric Medical Chair

Features

- ▶ Humanized design
- ▶ Saving space
- ▶ Dust-proof & easy to disinfect
- ▶ High quality materials
- ▶ Adjustable back rest, seat, leg rest and height
- ▶ Multiple positions



Seat width	600mm	Back adjust	-12° to 75°
Total length	1880mm	Leg adjust	-80° to 12°
Width including arms	880mm	Height adjust	560mm to 820mm
Max. load	240kg	Trendelenburg	-12°



Manual Dialysis Chair



Technical Data	
Model	PY-YS
Overall length	1880 mm
Width	600 mm
Seat Height	530 mm
Pillow	L390 × W220 × H100 cm
Backrest adjustment	0° ~ 75°
Legrest Adjustment	-80° ~ 0°
Caster	4 xφ100mm with separate brakes
Cushion	PU leather
Frame	Q235 steel
Weight of Chair	80 KG
Load Capacity	200 KG
Standard Accessories	Table or tray, I.V.pole
Color Optional	Green ■ , Blue ■ , Brown ■ , Champagne gold ■

Dialysate Stirring Machine

- ▶ Medical grade polyethylene
- ▶ Automatic system
- ▶ UV disinfection
- ▶ Smooth internal surface without dead angle



ESFL-DR01 Dialyzer Reprocessing Machine

Features

- ▶ CE Certificate
- ▶ Profession, safety, stability and advanced patented technology
- ▶ Stable performance
- ▶ Reprocess two dialyzers-High efficiency
- ▶ Compatible with all brands of disinfectant-Saving 90% of the cost
- ▶ Automatic disinfectant dilution-Accuracy and safety
- ▶ Patented anti-cross infection cap-Prevent cross infection among patients
- ▶ Double printing design-A. Built-in printer B. External adhesive sticker (optional)
- ▶ Record function-Date, Case no., Time etc.
- ▶ Data storage is more than 160G. The dialysis patients' relevant data can be stored more than 50 years (optional)
- ▶ Using patented polymer PP anti cross infection joints to prevent infection during reuse.





ESSE3 srl, Via Garibaldi 30
14022 Castelnuovo D.B. (AT)
Tel +39 011 99 27 706
Fax +39 011 99 27 506
e-mail esse3@chierinet.it
web: www.esse3.dreamgest.com

