

DISPOSABLE MEDICAL SUPPLIES FOR ECO-FRIENDLY KIDNEY DIALYSIS.

1. Blood circuit for artificial kidney(DEHP - free)



- Coverage

ECO HDTUBE 020-JN / NIPRO(NCU12),NIKKSO(DBB-27),TORAY,ASAHI
ECO HDTUBE 020-EU / FMC(4008),GAMBRO(AK)
ECO HDTUBE 020-BB / B.BRAUN(DIALOG)
ECO HDFTUBE 020-BB / B.BRAUN(DIALOG)
ECO HDTUBE 020-BR / NIPRO(NCU 18)
ECO HDFTUBE 020-BR / NIPRO(NCU 18)

- Replenishment line

ECO HDFTUBE 020-BR+
ECO HDFTUBE 020-BB+

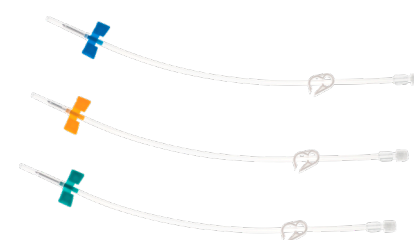
2. Blood filter for artificial kidney(DIALYZER) (DEHP - free, BPA - free)



- Coverage

LOW FLUX / HB1.2L/HB1.4L/HB1.6L/HB1.8L/HB2.0L
HIGH FLUX / HB1.2H/HB1.4H/HB1.6H/HB1.8H/HB2.0H

Non-implantable blood vessel connection device



- Coverage

A.V.F Needle 15G,16G,17G
A.V.F Needle Protect

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Eco-friendly kidney dialysis products

Medical supplies company

Global leading Eco-friendly material company

GREETING

'Pamir' is a market leader in the eco-friendly materials industry, owing to its corporate philosophy of respect for life and naturalism.

We developed Korea's first eco-friendly plasticizer, with ZERO environmental hormones. Our products have made a significant contribution to the global market for eco-friendly materials. Pamir was founded in 2015, that specializes in the development of new cutting-edge materials and environmentally friendly medical devices. Since our inception, we have focused on developing eco-friendly products for infants and toddlers, as well as products that benefit patient health. In 2017, Pamir collaborated with Sungkyunkwan University, to develop an eco-friendly plasticizer with ZERO environmental hormones for the first time in Korea. We distribute eco-friendly plasticizers to both domestic and international customers. Additionally, we manufacture eco-friendly blister films (for pharmaceutical and food use) based on eco-friendly plasticizers and supply them to both pharmaceutical and food companies. We also develop and supply hospitals with disposable medical supplies. Pamir's ultimate goal is to be a global leader for environmentally friendly disposable medical supplies. Eco-friendly medical devices that do not emit environmental hormones, are now the trend in the medical device market. This market has grown rapidly to a size of 500 trillion won (418.4 Billion USD). Medical devices that are directly linked to human life, only eco-friendly ones will survive. Pamir is expanding its business to include not only eco-friendly medical devices, but also baby products, general household goods, and industrial goods. Through continuous R&D, investment, cutting-edge manufacturing facilities, and overseas subsidiaries, we are becoming the world leader in providing eco-friendly plasticizer. We request your undivided attention and heartfelt encouragement for Pamir, which aspires to take a second leap forward.

CEO **Yoon Ju-il**

VISION



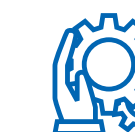
R&D

Research and development of eco-friendly high-tech materials on a continuous basis



Customer

Suggestion of user-friendly purchasing conditions



Produce

Establishment of a manufacturing environment conducive to the production of superior products



Ownership

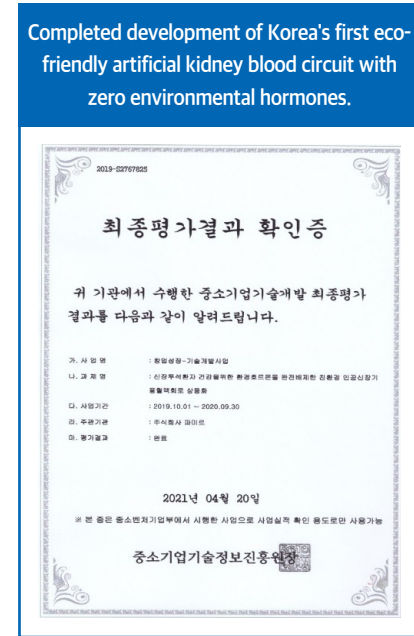
Thorough quality control combined with a sense of product ownership

ECO-FRIENDLY BLOOD CIRCUIT FOR ARTIFICIAL KIDNEY(DEHP - free Blood line)

Product introduction

It has excellent price competitiveness compared to other companies, and the quality is very good thanks to the strict facility management of European TUV and KGMP certification.

ECO HDTUBE 020_Blood Line for Hemodialysis



- Coverage

ECO HDTUBE 020-JN / NIPRO(NCU12),NIKKS(DBB-27),TORAY,ASAHI

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ECO HDTUBE 020-BB / B.BRAUN(DIALOG)

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ECO HDTUBE 020-BR / NIPRO(NCU 18)

ECO HDFTUBE 020-BR / NIPRO(NCU 18)

- Replenishment line

ECO HDFTUBE 020-BR+

ECO HDFTUBE 020-BB+

- Economical dialysis consumables
- European TUV certified product
- Additional infusion solution can be used with dual connector
- High compatibility by device

BLOOD FILTER FOR ARTIFICIAL KIDNEY(Dialyzer) (DEHP - free, BPA - free)

- Coverage

LOW FLUX / HB1.2L/HB1.4L/HB1.6L/HB1.8L/HB2.0L

HIGH FLUX / HB1.2H/HB1.4H/HB1.6H/HB1.8H/HB2.0H



Low-Flux Hollow Fiber Dialyzer

	HB1.2L	HB1.4L	HB1.6L	HB1.8L	HB2.0L
UF Coefficient(mL/h · mmHg) (QB=200mL/min;TMP=100mmHg)	12	14	16	18	20
Effective surface area(m ²)	1.2	1.4	1.6	1.8	2
Urea	175	177	189	191	193
Clearance in vitro (QB=200mL/min, QD=500mL/min, QF=10mL/min)					
Creatinine	159	161	179	183	185
Phosphate	150	155	160	165	170
Vitamin B12	95	105	110	115	120
Urea	225	229	243	251	256
Clearance in vitro (QB=300mL/min, QD=500mL/min, QF=10mL/min)					
Creatinine	211	214	220	231	238
Phosphate	200	213	220	230	240
Vitamin B12	100	112	120	130	140

Internal Fibre Diameter	200µm
Membrane Thickness	40µm
Membrane Type	Polyethersulfone
Housing material	Polypropylene
Blood cover	Polypropylene
potting material	Polyurethane
Sterilization Method	Dry gamma
Package	30pcs/carton

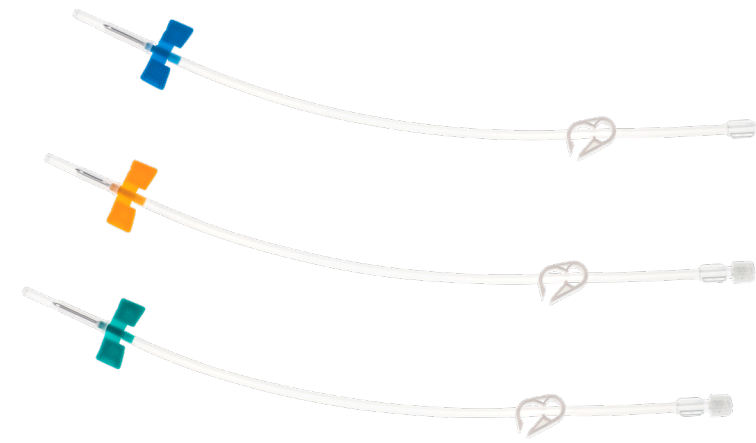
High-Flux Hollow Fiber Dialyzer

	HB1.2H	HB1.4H	HB1.6H	HB1.8H	HB2.0H
UF Coefficient(mL/h · mmHg) (QB=200mL/min;TMP=100mmHg)	48	54	60	65	70
Effective surface area(m ²)	1.2	1.4	1.6	1.8	2
Inulin	0.9X (1±10%)				
Sieving coefficient					
β2 · microglobulin	≥0.6				
Myoglobin	≥0.50				
Albumin	≤0.01				
Urea	191	193	195	197	198
Clearance in vitro (QB=200mL/min, QD=500mL/min, QF=10mL/min)					
Creatinine	181	183	185	190	195
Phosphate	176	178	181	185	190
Vitamin B12	135	145	155	165	175
Urea	255	260	267	275	280
Clearance in vitro (QB=300mL/min, QD=500mL/min, QF=10mL/min)					
Creatinine	230	240	250	260	270
Phosphate	215	225	235	250	262
Vitamin B12	140	157	175	195	208

- Use of polysulfone-based membrane
- Maximized efficiency with waved membrane
- Excellent biocompatibility

NON-IMPLANTABLE BLOOD VESSEL CONNECTION DEVICE(AVF Needle)

A.V.F. Needle 15G, 16G, 17G



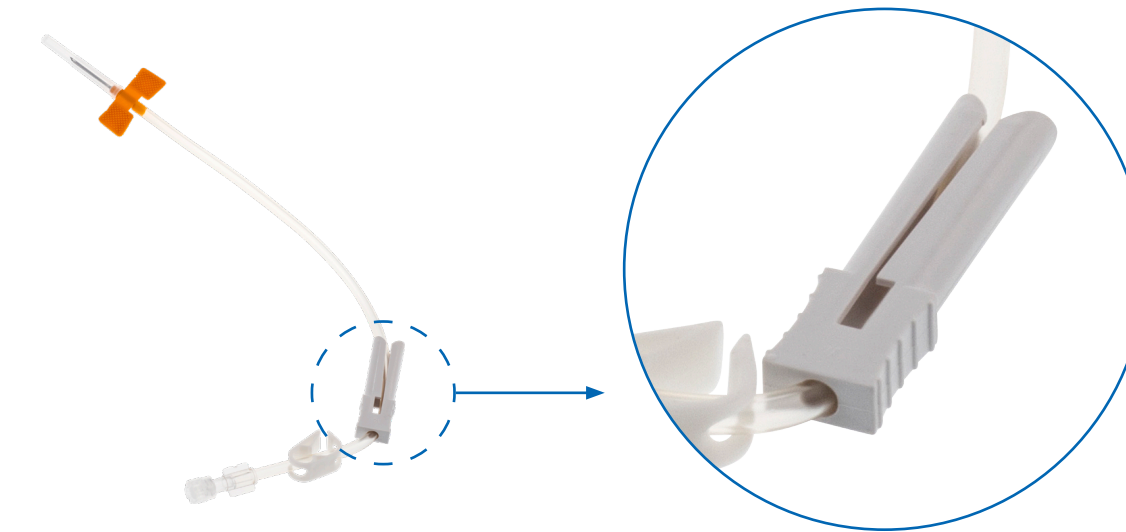
- Coverage

A.V.F Needle 15G,16G,17G

A.V.F Needle Protect

- 15G - Blue(B)
- 16G - Green(G)
- 17G - Yellow(Y)

A.V.F. Needle Protect



A safety cap (Protect) is installed to prevent needlestick injuries / infection that may occur during the re-cap process.

Safety cap patent application (10-2016-0139377) / Design right application (30-2017-0014186)

Manufacturing Plant



Automated Production Plant



CERTIFICATION STATUS

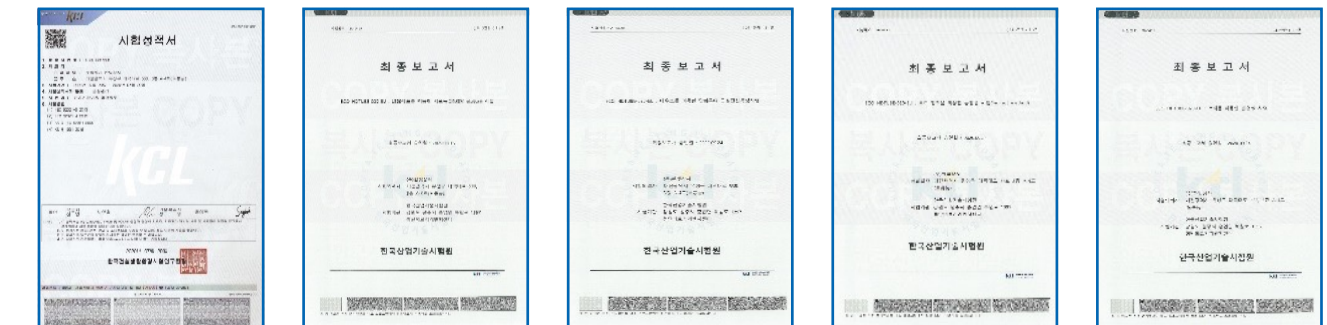
Patent



Certification



Biological stability test



4 major heavy metals, 6 types of phthalate test

cytotoxicity test

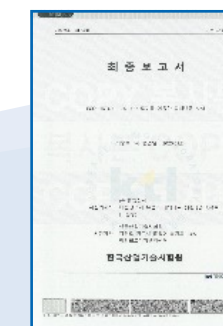
acute systemic toxicity test

hemolytic test

pyrogenicity test



skin sensitization test



intradermal reaction test

