



Rethinking Hemodialysis



Dear Kidney Community,

In recent years, we have faced unprecedented challenges as a collective, but have proven the ability to be resilient, adaptable, and forward thinking in our response. I am grateful for the support of our medical partners who work tirelessly to provide the best possible care for renal patients worldwide and continue to improve treatments and outcomes into the future.

If you are learning about us for the first time, please allow me to introduce NephroCan. We are the first and only Canadian company with an A-Z product offering, committed to improving the quality of life for patients with End Stage Renal Disease (ESRD). As a trusted partner in the field, we provide the complete treatment package of hemodialysis consumable devices and equipment.

I am proud to share that NephroCan has seen ongoing success in geographical expansion, placing products in the hands of more healthcare partners. In tandem, our manufacturing operations have been refined and products adapted toward the changing landscape of dialysis care following the COVID-19 pandemic. Looking ahead, we are using our positive customer feedback to engage in more research papers and clinical studies for the advanced development and distribution of products in the coming years.

NephroCan's guiding principle for every decision is "Rethinking Hemodialysis", rooted in the belief that all hemodialysis patients deserve to have the best quality therapy built around their individual needs. Our team is, therefore, dedicated to bringing product offerings and services that enable equal, accessible, and affordable treatment, irrespective of circumstance or location.

We look forward to sharing this vision with you, and welcome partnerships that bring us closer to our unified goal of improving hemodialysis care globally.



Delaram Hajipour
Chief Executive Officer

PRODUCTS



01 Hemodialysis Machine

NephroCan's innovative hemodialysis machine



02 Disposable Kits

- ✦ Hemodialyzers
- ✦ Sodium Bicarbonate
- ✦ Needles
- ✦ Bloodline



03 Reverse Osmosis Machines

- ✦ Central RO Machine
- ✦ Portable RO Machine



04 Patient Chair

NephroCan's patient chair completes the full treatment package

The A to Z of Hemodialysis

NephroCan's goal is to be a singular resource for full package dialysis treatment. With a patient-focused philosophy, we believe global hemodialysis care should be versatile, equal and accessible. Therefore, our current product range caters to every need; whether a small treatment centre or a large hospital ward.



01

HEMODIALYSIS MACHINE



NephroHDM is a hemodialysis machine for adult kidney replacement therapy. A key focus in the design process was developing versatile attributes, inclusive of a user-friendly interface and experience.

Therefore, the machine is equipped with a single, double, or triple blood pump to accommodate even the most tailored hemodiafiltration procedures. Other key features include:

- ✦ Servo system ensures the perfect blood flow, allowing for a precise anticoagulation injection during treatment
- ✦ Ultrafiltration control parameters are extremely precise, helping provide accurate measurements of the ultrafiltration (UF) rate
- ✦ Blood pressure and physiological monitoring, patient access card database, a 15-inch PCAP touchscreen interface and cloud communication, ensuring treatment process is seamless and personalized



FUNCTION	PARAMETER	SPECIFICATIONS
TREATMENT TYPE		HD Bicarbonate and acetate Single needle and double needle
	Ultrafiltration	<p><i>Net Fluid Removal</i> 100 mL/hr - 2000 mL/hr</p> <p><i>Measurement Type</i> On-line non-invasive flow metric measurement system</p>
Dialysate	<i>Bicarbonate Concentration</i>	2.4 mS/cm - 3.6 mS/cm
	<i>Sodium Concentrate</i>	13.5mS/cm-15.5mS/cm
	<i>Dialysate Temperature</i>	35°C - 39°C
	<i>Dialysate Time</i>	15 min - 10 hr
	<i>Dialysate Flow Rate</i>	300 - 700 mL/min
	<i>Bicarbonate Type</i>	Cartridge Container
	<i>Blood Flow Rate</i>	20 - 700 mL/min
Blood	<i>Blood Pump</i>	Brushless DC motor equipped with single fault safe driving unit
	<i>Blood Sensors</i>	Blood detection for safety during patient connection and disconnection
		Ultrasound air detector in the closest position to clamp with internal self-test and air bubble detector > 40 µl
	Venous chamber ultrasound level detector for air infusion prevention with level adjustment	
Blood Pressure Sensor	<i>Position</i>	3 locations: venous, arterial, and dialyzer entrance
	<i>Range</i>	-350 to 450 mmHg
	<i>Error</i>	< 1 mmHg
Blood Sensor		Blood leakage detection with resolution of 0.35 mL/min
Anticoagulation	<i>Heparin Pump</i>	Configurable in software with different syringe types Step motor driving with accurate linear system
	<i>Syringe Size</i>	20 mL
	<i>Accuracy</i>	5%
	<i>Working Program</i>	Bolus and continuous dosing Programmable profile for dosing stop time
Disinfection		Hot rinse, chemical, hot chemical
Electrical System	<i>CPU and Protection System</i>	Embedded System
	<i>Interface</i>	Size: 15 inch
		Pixels: 1024x768
	Touch screen: PCAP	
Other	<i>Customized Features</i>	<ul style="list-style-type: none"> » Auto shutdown after rinse » Reinfusion and priming » Real blood flow correction » Alarm system recording » Filter and cartridge emptying cycles » On-line real Uf measurement » Patient access card tracking system » Customized menu for troubleshooting » User-friendly » Profiling » Self testing » Kt/V measurement » Patient blood pressure monitoring » Cloud communication

02

HEMODIALYSIS DISPOSABLE KITS

HEMODIALYZER FILTER



Offering a wide variety of filters is our commitment at NephroCan. This is why our single-use hemodialyzers come in polysulfone and polyethersulfone, high-flux and low-flux, and a 1.0 - 2.2 m² surface range, to fit every standard machine. Sterilization methods are Gamma Irradiation (R), Ethylene Oxide Gas (EO) and Steam (S).

We are consistently working to further expand our offerings in support of every treatment requirement, while adhering to the highest standards and utmost performance efficiency. With this, NephroCan is proud to accommodate any quantity request, with no minimum baseline.





HEMODIALYZER FILTER

Polysulfone Hemodialyzer Specifications*														
High-Flux Hollow Fiber Hemodialyzer, Sterilized with Gamma Irradiation (R)														
Type	Ultrafiltration Coefficient (mL/mmHg.hr)	KoA (mL/min)	Clearances (mL/min)										Blood Priming Volume (mL)	Surface Area (m ²)
			Urea		Creatinine		Phosphate		Vitamin B ₁₂		Inulin			
			Q _B =200	Q _B =300	Q _B =200	Q _B =300	Q _B =200	Q _B =300	Q _B =200	Q _B =300	Q _B =200	Q _B =300		
NephroPS100R	34.6	930	190	258	173	217	160	199	113	127	78	84	59	1.0
NephroPS130R	46.4	1030	195	264	180	234	174	219	130	146	93	103	69	1.3
NephroPS140R	50.6	1190	196	272	186	247	179	230	139	159	104	113	74	1.4
NephroPS160R	59.4	1570	197	284	193	267	188	249	153	178	117	130	86	1.6
NephroPS180R	63.7	1660	198	286	194	276	192	259	161	190	125	141	105	1.8
NephroPS200R	74.6	1900	199	290	196	283	195	277	168	208	131	152	107	2.0
NephroPS220R	80.9	2160	199	293	198	291	196	288	174	221	135	163	116	2.2

Polysulfone Hemodialyzer Specifications*														
Low-Flux Hollow Fiber Hemodialyzer, Sterilized with Gamma Irradiation (R)														
Type	Ultrafiltration Coefficient (mL/mmHg.hr)	KoA (mL/min)	Clearances (mL/min)										Blood Priming Volume (mL)	Surface Area (m ²)
			Urea		Creatinine		Phosphate		Vitamin B ₁₂		Inulin			
			Q _B =200	Q _B =300	Q _B =200	Q _B =300	Q _B =200	Q _B =300	Q _B =200	Q _B =300	Q _B =200	Q _B =300		
NephroPS10R	7.3	698	187	238	167	201	143	161	79	84	-	-	59	1.0
NephroPS13R	9.5	824	195	250	180	223	153	182	93	100	-	-	69	1.3
NephroPS14R	11.9	977	196	253	184	226	157	188	98	117	-	-	74	1.4
NephroPS16R	13.9	1240	197	274	189	243	164	196	120	135	-	-	86	1.6
NephroPS18R	16.7	1570	198	284	189	265	174	215	139	156	-	-	105	1.8
NephroPS20R	17.8	1610	199	285	191	268	177	220	145	161	-	-	107	2.0
NephroPS22R	19.8	1980	199	291	193	283	182	234	149	176	-	-	110	2.2

Polysulfone Hemodialyzer Specifications*														
Low-Flux Hollow Fiber Hemodialyzer, Sterilized with Steam (S)														
Type	Ultrafiltration Coefficient (mL/mmHg.hr)	KoA (mL/min)	Clearances (mL/min)										Blood Priming Volume (mL)	Surface Area (m ²)
			Urea		Creatinine		Phosphate		Vitamin B ₁₂		Inulin			
			Q _B =200	Q _B =300	Q _B =200	Q _B =300	Q _B =200	Q _B =300	Q _B =200	Q _B =300	Q _B =200	Q _B =300		
NephroPS10S	6.3	637	181	231	163	198	135	156	73	78	-	-	59	1.0
NephroPS13S	8.2	757	187	244	174	217	144	170	86	96	-	-	69	1.3
NephroPS14S	8.9	812	189	249	177	223	149	175	91	100	-	-	75	1.4
NephroPS16S	10.1	874	191	254	180	229	153	182	98	109	-	-	86	1.6
NephroPS18S	11.3	961	193	260	183	235	158	190	107	120	-	-	105	1.8
NephroPS20S	12.4	1010	194	263	185	239	160	194	111	124	-	-	109	2.0
NephroPS22S	14.7	1210	196	273	187	248	168	208	113	128	-	-	115	2.2



Polyethersulfone Hemodialyzer Specifications*														
High-Flux Hollow Fiber Hemodialyzer, Sterilized with Gamma Irradiation (R)														
Type	Ultrafiltration Coefficient (mL/mmHg.hr)	KoA (mL/min)	Clearances (mL/min)										Blood Priming Volume (mL)	Surface Area (m ²)
			Urea		Creatinine		Phosphate		Vitamin B ₁₂		Inulin			
			Q _B =200	Q _B =300	Q _B =200	Q _B =300	Q _B =200	Q _B =300	Q _B =200	Q _B =300	Q _B =200	Q _B =300		
NephroPES130R	58.3	1140	197	270	192	255	181	236	147	168	107	116	72	1.3
NephroPES160R	67.0	1610	196	285	193	269	189	254	160	186	120	134	89	1.6
NephroPES180R	84.2	1770	198	288	197	279	194	262	165	194	127	144	110	1.8
NephroPES200R	87.5	1980	199	291	197	286	196	279	172	211	132	154	114	2.0

Polyethersulfone Hemodialyzer Specifications*														
Low-Flux Hollow Fiber Hemodialyzer, Sterilized with Gamma Irradiation (R)														
Type	Ultrafiltration Coefficient (mL/mmHg.hr)	KoA (mL/min)	Clearances (mL/min)										Blood Priming Volume (mL)	Surface Area (m ²)
			Urea		Creatinine		Phosphate		Vitamin B ₁₂		Inulin			
			Q _B =200	Q _B =300	Q _B =200	Q _B =300	Q _B =200	Q _B =300	Q _B =200	Q _B =300	Q _B =200	Q _B =300		
NephroPES10R	8.8	556	174	220	158	190	137	157	98	107	-	-	59	1.0
NephroPES13R	10.9	689	185	237	172	212	152	180	117	131	-	-	71	1.3
NephroPES16R	12.7	836	190	251	180	230	161	192	126	141	-	-	90	1.6
NephroPES18R	17.9	1320	197	277	184	258	171	212	134	152	-	-	112	1.8
NephroPES20R	20.7	1530	198	283	190	267	178	228	141	159	-	-	114	2.0

*Specifications and performance data at QB: 200/300 ml/min, QD: 500 ml/min, QF: 0 ml/min, T: 37 °C. Performance data was measured in vitro according to standards BS EN ISO 8637-1:2020 and BS EN ISO 8637-2:2018. the tolerance for clearance numbers are 10.

SODIUM BICARBONATE

The NephroCart and NephroBag are manufactured with dust-proof materials, in compliance with USP/BP and AAMI standard regulations. Both products are available in three different sizes, designed to be compatible with most popular dialysis machines in the market. A volume range ensures the full product is used, with minimal discard, while helping to customize treatments based on each individual centres' requirements.



	Nephro Cart	Nephro Bag
Type	SODIUM BICARBONATE CART	SODIUM BICARBONATE BAG
Description	Sodium bicarbonate cartridges are designed ready to conduct on-line preparation of liquid bicarbonate solution for the safest and most effective hemodialysis treatment. External caps provide additional protection for hygienic disposal post-treatment	Sodium bicarbonate bags are designed ready to conduct on-line preparation of liquid bicarbonate solution for one hemodialysis treatment, using significantly less storage space than sodium bicarbonate cartridges
Available Sizes	550g, 650g, 750g	550g, 650g, 750g
Other	<ul style="list-style-type: none"> » Sodium bicarbonate powder in a polypropylene cartridge for on-line production of liquid bicarbonate solution » Dust proof packaging » Open ports help eliminate perforation, reducing the risk of machine damage by unsolved powder 	<ul style="list-style-type: none"> » Polyamide, polyethylene, hermetically sealed package ready for on-line preparation of liquid bicarbonate solution » Dust proof packaging » Angular design prevents loss of powder during use

NEEDLE

Nepbro Needle

With quality and safety a top priority, our NepbroNeedles are designed with patient comfort in mind. Precise, gentle, and secure, our needles provide vascular access while reducing risk of infection or contamination.

Key attributes include butterfly wings, allowing for exact and stable placement, as well as a back eye for easy needle insertion and no coagulation.



Features:

- ✦ Three gauge sizes: 15, 16 and 17
- ✦ Three pack types: arterial, venous, or arterial and venous
- ✦ Two tubing lengths: 15cm ("short") or 30cm ("long")



BLOODLINE

Nepbro Line

With a range of models suited for all machines, our NepbroLine was created with three essential objectives in mind: clinical performance, versatility for patient treatments, and ease of use for medical professionals.

NepbroLine is designed in compliance with the BS EN ISO 8637-2 requirements.

Features:

- ✦ Advanced leak testing technology for zero contamination
- ✦ Compatibility with hemodialysis machines that use heparin clamps
- ✦ Designed with medical-grade, raw materials and includes a geometric venous chamber
- ✦ Coloured clamps for clear identification
- ✦ Transducer protector

Product Family Name	Description	Product Code (REF)	Pump Segment Dimension (mm)			Blood Priming Volume (mL)	
			O.D.	I.D.	Length	Arterial	Venous
NepbroLine U	Universal model, without drain bag, ETO sterilized, DEHP contain	4212205	9.8	6.5	380	82	62
	Universal model, without drain bag, ETO sterilized, DEHP free	4212220				91	70
	Universal model, without drain bag, Gamma sterilized, DEHP free	4212223				91	70
NepbroLine U+B	Universal model, with spike and drain bag, ETO sterilized, DEHP contain	4212305	9.8	6.5	380	82	62
	Universal model, with spike and drain bag, ETO sterilized, DEHP free	4212320				91	70
	Universal model, with spike and drain bag, Gamma sterilized, DEHP free	4212323				91	70
NepbroLine B	B-Braun model, without drain bag, ETO sterilized, DEHP contain	4212408	12.0	8.0	380	92	72
NepbroLine B+B	B-Braun model, with drain bag ETO sterilized, DEHP contain	4212405	12.0	8.0	380	92	72
	B-Braun model, with drain bag, ETO sterilized, DEHP free	4212420	9.8	4.5	340	90	80
	B-Braun model, with drain bag Gamma sterilized, DEHP free	4212423				90	80
NepbroLine G	Gambro model, Without drain bag, ETO sterilized, DEHP contain	4212508	12.0	8.0	380	90	62
NepbroLine G+B	Gambro model, with drain bag, ETO sterilized, DEHP contain	4212505				89	71
	Gambro model, with drain bag, ETO sterilized, DEHP free	4212520				89	71
	Gambro model, with drain bag, Gamma sterilized, DEHP free	4212523	89	71			
NepbroLine F	Fresenius model, without drain bag, ETO sterilized, DEHP contain	4212708	9.8	6.5	380	82	76
NepbroLine F+B	Fresenius model, with drain bag, ETO sterilized, DEHP contain	4212705				82	76
	Fresenius model, with drain bag, ETO sterilized, DEHP free	4212720				88	67
	Fresenius model, with drain bag, Gamma sterilized, DEHP free	4212723	88	67			
NepbroLine N	Nippro model, with spike and without drain bag, ETO sterilized, DEHP free	4213320	12.0	8.0	263	69	69
	Nippro model, with spike and without drain bag, Gamma sterilized, DEHP free	4213323				69	69
NepbroLine K+B	Nikkiso model, with drain bag, ETO sterilized, DEHP free	4213420	12.0	8.0	270	138	240
	Nikkiso model, with drain bag, Gamma sterilized, DEHP free	4213423				138	240

03

REVERSE OSMOSIS MACHINE

NephroCan's commitment is to provide the full treatment package suited to patients' needs and requirements, regardless of facility or geolocation. With this, our specialized engineers have designed two Reverse Osmosis (RO) machines - NephroCRO and NephroPRO - for outpatient clinics, medical centres, and hospital wards.

Both machines use proven and reliable RO technology to provide purified water for use during hemodialysis treatments.



Features:

- ✦ Machine parts designed with high quality stainless steel
- ✦ User-friendly, touchscreen LCD control panel for clear display of operational functions
- ✦ Remote configuration and monitoring for optimal performance
- ✦ Parameter and alarm storage using flash USB memory for tracking and troubleshooting
- ✦ Compliant with all safety test requirements, including electrical and electromagnetic standards



PARAMETERS	Nephro CRO	Nephro PRO
Type	CENTRAL RO MACHINE	PORTABLE RO MACHINE
Description	With a sleek and transportable design, this modular RO machine is capable of increasing purified water capacity onsite	With a stylish, compact design, NephroPRO is mobile and suitable for small centres or hospital use within coronary care units (CCU) or intensive care units (ICU)
Stainless Steel	Ability to serve up to 32 dialysis machines simultaneously. 400 L/hr to 2000 L/hr	Ability to serve 2 dialysis machines simultaneously. 100 L/hr
Material	316L Grade	316L Grade
Raw Water Connection Size	3/4"	3/8"
Electrical Phase / Frequency	Three-Phase / 50 Hz	Single-Phase / 50 Hz
Working Voltage	380 Volts AC	220 Volts AC
Capacity	Accommodates up to 32 dialysis machines	Accommodates up to two dialysis machines
Inlet Temperature	Max 45°C	Max 45°C
Max Inlet Conductivity	5000 µ/cm	5000 µ/cm
Permeate Pressure	Max 5 bar	Max 5 bar
Raw Water Pressure	Min 1 bar	Min 1 bar
Electrical Protections	Compliant with electrical safety standards, and includes FI switch, grounding system, bimetal switch, and phase controllers	Compliant with electrical safety standards, and includes FI switch, grounding system, and bimetal switch
Recovery Rate	70-80%	70-80%
Connection Port	Remote control-LAN and USB drive for data recording	Remote control-LAN and USB drive for data recording
Interface	Multi-language, with ability to create operator access levels	Multi-language, with ability to create operator access levels
Body Material	ABS	ABS
Other	<ul style="list-style-type: none"> » Continuous monitoring of critical parameters based on risk assessment, including conductivity, temperature and pressure » Programmable logic controllers, functional conductivity and temperature measurement sensors, pressure transmitters, solenoids, and high quality pump » Ability to monitor, plan and control each purifying process through a user-friendly touchscreen » Designed with an automatic and programmable rinsing system » Online operating system which feeds water into dialysis water loop suitable for centres » Pipeline made with high quality pipeline, 316L passivated stainless steel » Chemical disinfection and auto rinsing program » Double pass available for ultrapure water 	<ul style="list-style-type: none"> » Equipped with functional pre-treatment system for global use, regardless of location or water quality » Continuous monitoring of critical parameters based on risk assessment, including conductivity, temperature, and pressure » Equipped with PLC, control board, functional conductivity and temperature measurement sensors, pressure transmitters, solenoids, and a high quality pump » Automatic cleaning mode for chemical and heat disinfection » Hot disinfection system included

04

DIALYSIS PATIENT CHAIR

Nephro Chair

Designed for optimal patient comfort during treatment, NephroChair is fully customizable, including colour palette, branding options and additional add-ons, such as reading light and foot pedal.

Other properties include a memory foam mattress, 90°C washable polyurethane (PU) cover, and various adjustable features.



PU Cover Colour Options



**Based on quantity and availability.*

Features:

- ✦ Mobile, using five low-voltage motors to achieve maximum patient comfort
- ✦ Fully adjustable (back rest, seat rest, leg rest, foot rest, and height), including one-button Trendelenburg and comfort positions
- ✦ Equipped with emergency settings that function in all chair positions
- ✦ Compliant with all safety test requirements, including electromedical standards
- ✦ ABS thermoplastic frame cover providing rigidity and impact (heat resistance)
- ✦ Memory foam mattress, covered in 90°C washable PU cover
- ✦ Lightweight and compact with rounded corners for safety
- ✦ Hand control unit and central lockable casters
- ✦ Equipped with patient weighing scale
- ✦ Highly customizable to fit any design requirements for centres globally

