

OPERATING PRINCIPLES

During hemodialysis, blood is removed from the body, purified through a dialyzer and returned to the body.

The dialyzer has two main parts separated by a semipermeable membrane: one part is for blood, and the second part is for dialysis solution (dialysate). Blood and dialysate never mix and always remain isolated from each other. Red blood cells, proteins and other necessary components remain in the blood because they

are too large to pass through the membrane. Smaller waste products, such as urea, sodium and potassium, as well as excess fluid, pass through the membrane.

During dialysis, many substances are removed. Normally, the kidneys are responsible for removing and regulating the content of these chemicals, but now this work is done by the hemodialysis device.

IMPORTANCE TODAY

- ⊕ The increase in the number of cases of chronic and acute kidney failure makes it important to have domestic equipment for hemodialysis
- ⊕ Increase in the volume of high-tech specialized medical care within the framework of compulsory medical insurance
- ⊕ Today in Russia there is no production of critical equipment and disposables for hemodialysis procedures
- ⊕ The use of existing Russian expertise in the development of a hemodialysis device since 1993



The latest medical technology for blood purification in cases of kidney failure – blood dialysis

DEVICE

HEMODIALYSIS

JSC «Rosatom RDS»

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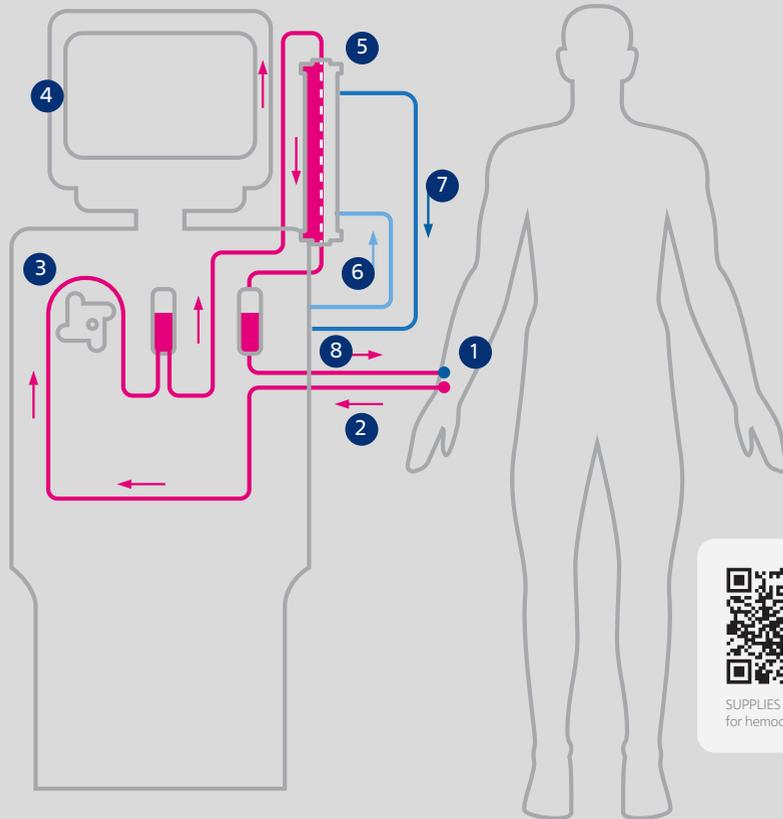
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BLOOD DIALYSIS METHOD LAYOUT



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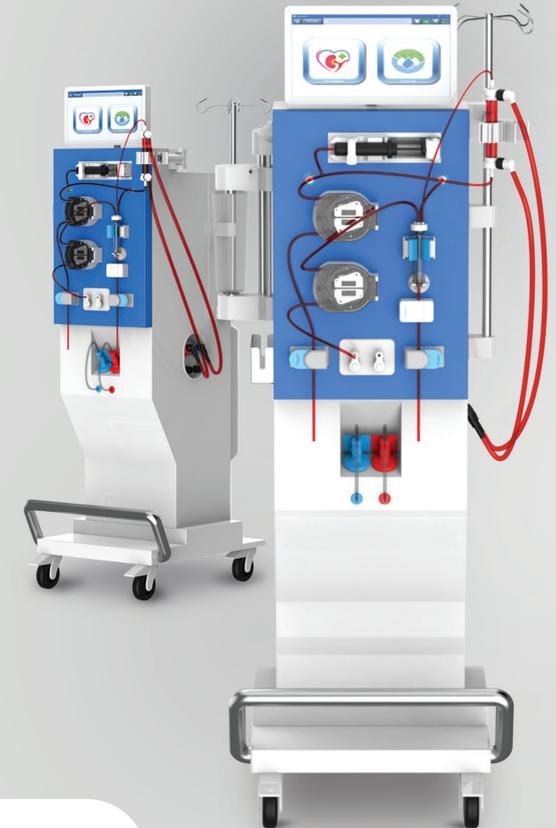
SUPPLIES
for hemodialysis

+

- | | |
|-------------------------------------|--|
| ① Vascular access | ⑤ Dialyzer |
| ② Blood enters the purifying device | ⑥ Fresh dialysis solution |
| ③ Blood pump | ⑦ Used dialysate |
| ④ Dialysis device | ⑧ Blood returns to the body after purification |

A UNIQUE PRODUCT

- ⊕ The use of laser measurement of the ultrafiltration rate makes it possible to significantly increase the speed and accuracy of measurement, unlike in its analogues
- ⊕ Implementation of basic technologies and key technical solutions on a new totally Russian-made component base
- ⊕ Application of digital design



DEVICE SPECIFICATIONS

- | | |
|---|------------------------------------|
| ⊕ Laser measurement of ultrafiltration rate | ⊕ Hemofiltration |
| ⊕ Automatic blood pressure and pulse measurement mode | ⊕ Isolated ultrafiltration |
| ⊕ Bicarbonate and acetate hemodialysis | ⊕ Na profiling and ultrafiltration |
| | ⊕ KT/V |