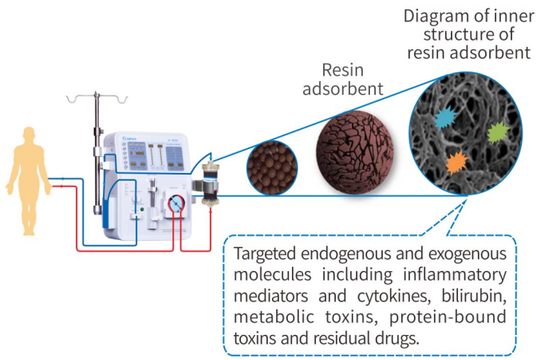
Hemoperfusion, Advanced Technology

Hemoperfusion is a blood purification method based on hemoadsorption technology. Jafron HA hemoperfusion cartridges contain brown beads made from **neutral macro-porous resin**. Under the electron microscopy, it shows the 3D network structure working as the **molecule sieve** aimed at adsorbing endogenous and exogenous molecules including inflammatory mediators and cytokines, bilirubin, metabolic toxins, protein-bound toxins and residual drugs. Hemoperfusion therapies are commonly applied in ESRD, acute poisoning, critical disease, hepatopathy, immune disease, etc.



Jafron HA hemoperfusion cartridges have advantages of

- **High mechanical strength of adsorbents**
- **Large adsorptive surface area**
- **Porosity control technology**
- **Good biocompatibility**[1-2]
  Advanced coating technology & optimized hemodynamics

*Contraindications, Warnings and Precautions refer to Instructions For Use.

Jafron
Stock Abbreviation: JFSW
Stock Code: 300529

JAFRON - Global manufacturer and supplier of adsorption columns

Jafron Headquarters

CE

ISO 9001

EN ISO 13485

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(For Internal Use)

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JAFRON

20 years in blood purification clinical practices
Widely used in more than 80 countries
More than 5 million treatments per year

Jafron Biomedical Co.,Ltd.

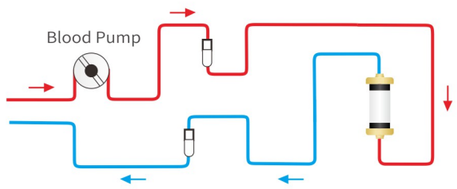
Portfolio

Model	Clinical Benefits	Therapies in Clinical Practice△	Therapy Operation Modality*
HA130 	Adsorb middle and protein-bound uremic toxins (e.g. PTH, leptin, β_2-MG etc.)	**ESRD** • Skin Itching • Renal Osteodystrophy • Cardiovascular Disease • Refractory Hypertension • Microinflammatory state • Malnutrition • Insomnia	(2)
HA230 	Remove overdose drugs and poisons	**Acute Poisoning** • Drug Overdose：Barbitone, Digoxin, etc. • Biotoxin: Snake/Bee Venom，etc. • Pesticides: AOPP, PQ, etc. • Rodenticides • Industrial Poisoning: Zinc Sulphate, etc. • Chemotherapy--Cytostatics	(1)(2)
HA330/HA380 	Remove inflammatory mediators and cytokines	**Critical Disease** • Cardiopulmonary Bypass • Sepsis, Septic Shock • Acute Pancreatitis • Coronavirus Pneumonia • Leptospirosis • Dengue • Severe Burn • MODS • ARDS	(1)(2)(3)
HA330-II 	Broad-spectrum adsorb toxins such as inflammatory mediators, etc.	**Liver Disease** • Hepatic Encephalopathy • Drug-induced Liver Damage (DIDL)	(1) (2) (5)
BS330 	Absorb bilirubin and bile acid	**Liver Disease** • Hyperbilirubinemia • Hyperbileacidemia	(4)(5) Support plasma adsorption only
DPMAS 	Remove bilirubin and bile acid while clearing inflammatory mediators	**Liver Disease** • Liver Transplant • Hepatitis • Liver Failure	(5) Support plasma adsorption only
HA280 	Remove immune substances and inflammatory mediators	**Immune Disease** • Rheumatoid Arthritis • Sensitive Purpura • Psoriasis • Pemphigus • Severe Drug Eruption	(1) (2)
DNA230 	Remove ANA, anti-ds-DNA antibodies, and immunologic complexes	**Immune Disease** • Systemic Lupus Erythematosus (SLE) and its complications	(1) (2) (4)

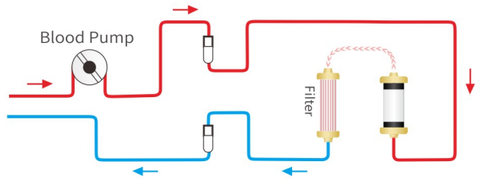
△According to clinical practices, the cartridge has been used in the listed conditions. Detailed information please visit en.jafron.com.
*Please refer to the next page for operation modality demonstration.

Operation Modality

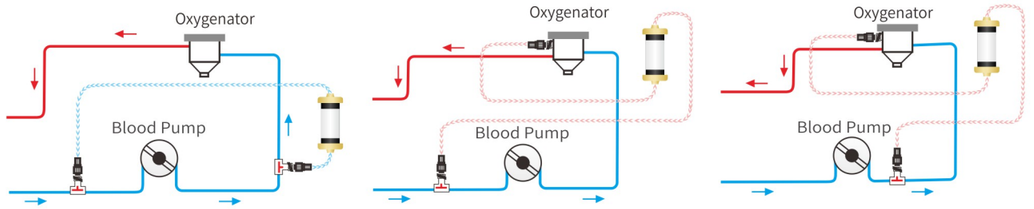
(1) Hemoperfusion (HP)



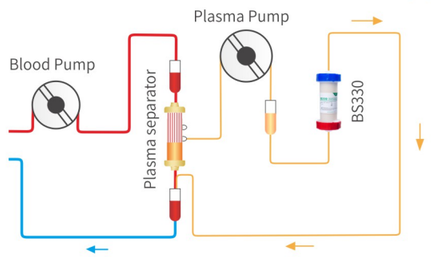
(2) HP+HD/CRRT



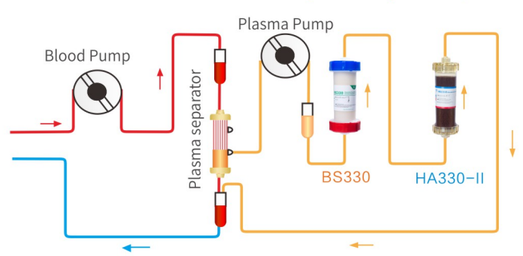
(3) HP+CPB/ECMO



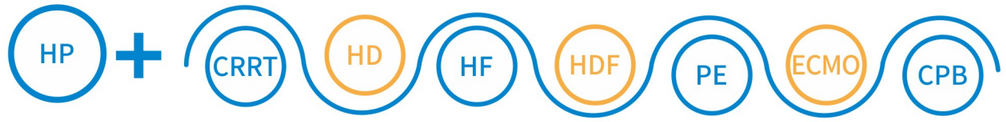
(4) Plasma Adsorption (PA)



(5) Double Plasma Molecular Adsorption System (DPMAS)



Hybrid Therapies



*Hybrid therapies are recommended according to patient's condition.[3]

References
[1] Pomarè Montin, D. et al. Biocompatibility and Cytotoxic Evaluation of New Sorbent Cartridges for Blood Hemoperfusion. Blood Purification 2018; 46, 187–195.
[2] Ankawi, G. et al. A New Series of Sorbent Devices for Multiple Clinical Purposes: Current Evidence and Future Directions. Blood Purification 2019; 47, 94–100.
[3] Ronco. C. et al. Coronavirus epidemic: preparing for extracorporeal organ support in intensive care. published online Feb 21. The Lancet Respiratory Medicine 8, e26 (2020).