Therapeutic Plasma Exchange (TPE) with multiFiltratePRO
Therapeutic plasma exchange (TPE) is a well-established extracorporeal blood purification technique. As described by Reeves et al., “the therapeutic effects of TPE could include the removal of pathological substances from the blood, such as monoclonal paraproteins and autoantibodies, as well as the replacement of deficient plasma components when plasma is used as a replacement fluid.” In contrast to separation via centrifugation, multiFiltratePRO separates the plasma from the blood cells via membrane plasma separation (MPS).

**Indications for TPE cover selected diagnoses from different specialities:**
- Neurology
- Hematology
- Rheumatology
- Nephrology

**Process of TPE:**
1. Blood is taken from the patient
2. Blood is passed through the plasma filter and plasma is separated into the filtrate bag
3. Substitution fluid adjusted to the patient’s needs (e.g., albumin, Fresh Frozen Plasma)
4. Two serial heater bags allow the warming of the substitution fluid
5. Blood is returned to the patient
Easy set-up
Touchscreen-based interface guides the nurse through the entire setup, rinsing and priming.

Integrated automated plasma volume calculation
The patient’s plasma volume and the respective plasma exchange volume can be calculated by the plasma calculator of the multiFiltratePRO according to Sprenger et al.²

Substitution fluid holder
Placed on the upper scale tray, the substitution fluid holder allows for easy bottle and bag handling at eye-level.

Key information on the screen
Pressure display, exchanged volume and target plasma volume, treatment time, flow rates and pressure history.

Two integrated substitution fluid heater bags
Two integrated substitution fluid heater bags gently warm the substitution solution to curtail the cooling of the patient.

Automated ramp-up of plasma separation
The multiFiltratePRO features a plasma to blood ratio ramp-up procedure to provide for a smooth start of the plasma separation and stable filtration conditions³ while saving the user time, see figure 1.

Figure 1: Plasma to blood ratio ramp-up

Phase 1
Blood circulation
The patient’s blood circulates automatically to allow the formation of a thin protein layer on the membrane of the plasma filter.

Phase 2
Plasma to blood ratio ramp-up
When starting the plasma separation, the adjustment of the desired plasma to blood ratio follows a ramp-up procedure.

Phase 3
Desired plasma to blood ratio is reached
# multiFiltratePRO – TPE Treatment Kits

<table>
<thead>
<tr>
<th>multiFiltratePRO Kit TPE P1dry</th>
<th>Article no. F00006441</th>
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<td><strong>Designation</strong></td>
<td><strong>Description</strong></td>
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<tr>
<td>plasmaFlux® P1dry</td>
<td>Plasmafilter delivered dry, steam-sterilised, 0.3 m² surface area, Fresenius Polysulfone® membrane, blood volume 35 mL</td>
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<tr>
<td>multiFiltratePRO TPE Cassette</td>
<td>Pre-assembled with arterial, venous, filtrate and substitute system, blood volume 116 mL</td>
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<tr>
<td>Filtrate collection bag</td>
<td>10 L, with Luer-Lock and draining cock</td>
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## References


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