

NeoCERAM

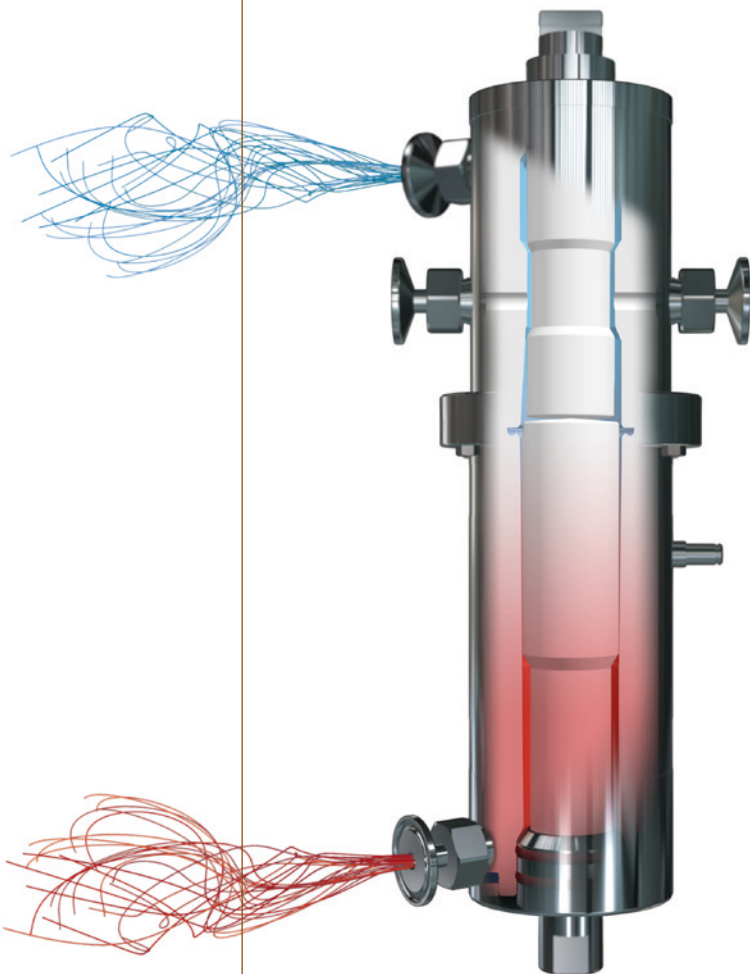


Thermazyl®

- > **Filling hot and cold products ?**
- > **Fast cleaning cycle?**
- > **X-ray detectability?**

Find out what Thermazyl® can do for you.

- Filling at any temperature range
- Tightness at any temperature between -4°C and 130°C
- Shortened CIP and SIP cycles
- Minimal thermal expansion -> no seizing at any temperature
- Less downtime -> more efficiency



Thermazyl® is the solution for fast cleaning and sterilization cycles

Suitable for:

- very rapid temperature variations (from 140°C to 10°C in few seconds)
- operation at high temperature without seizing (with standard mating clearance)

Specifically developed for food applications:

- is **X-Ray detectable** (smallest detectable size as low as 0,8 mm¹)
- complies with the strictest hygienic regulations

⁽¹⁾ References and test reports available upon request.

Thermazyl® is the solution for demanding sterile and ultra clean applications

Our traditional ceramics, Pharmalox® and Pharmazirc®, have been developed with the objective of delivering outstanding material properties for our dosing devices including resistance to sterilization and mechanical stress and superior cleanability.

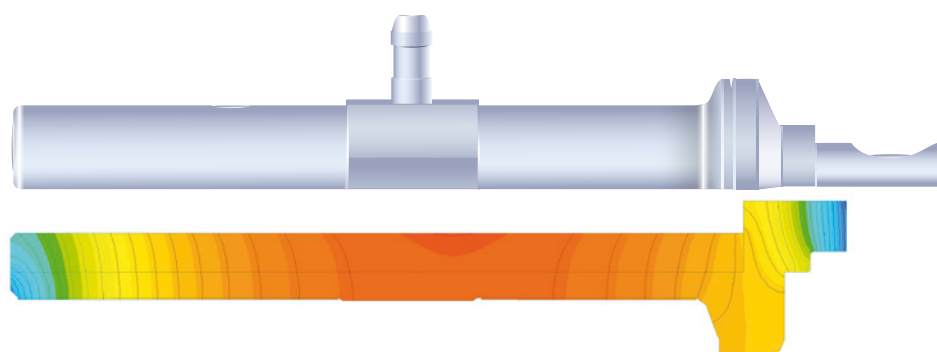
Thermazyl® combines the characteristics of Pharmalox® and Pharmazirc® with a superior resistance to thermal shock (thermal gradients between hot vapor and cold water used for cleaning and sterilization).

Thermazyl® combines high thermal conductivity (to reduce the thermal gradients within the ceramic mass), low Young's modulus, low thermal expansion and high mechanical resistance.

High wear and corrosion resistance, superior surface cleanability, possibility to run our pumps in dry conditions and interchangeable pistons are guaranteed for Thermazyl® based products as well as for our traditional ceramic pumps.

Relevant material properties measured on our standard materials compared with Thermazyl®

Properties	Unit	Pharmalox®	Pharmazirc®	Thermazyl®
Density	ρ [kg/m ³]	3920	6050	4320
Hardness	HV	1800	1300	1700
Th.conductivity	λ [W/Km]	30	2	20
Th.capacity	C [J/KgK]	880	500	725
Th.expansion	$\alpha \cdot 10^{-6}$ [C ⁻¹]	8	10,5	9
Thermal shock resistance (²)	[K]	160-200	120-200	240-260



(¹) measurements done by water quenching of ceramic rods (25x30mm)