

## Pharmaceutical Industry

As a specialist for custom-made solutions, CHETRA offers **customer-specific solutions** as well as a series of proven, high-grade **standard mechanical seals** for the pharmaceutical industry.

Further mechanical seal designs, cartridge as well as "non-cartridge", are available.

Mechanical seal, style / Series:	Typical applications:	Technical Data (physical parameters):
<b>Single mechanical seals "non-cartridge"</b>		
900 S	Single-acting mech. seal for sterile applications in centrifugal pumps and eccentric screw pumps	p <sub>max</sub> : 28 bar t <sub>max</sub> : 200° C v <sub>max</sub> : 15 m/s
900 S-aseptic	(EHEDG); in special design for mills.	
<b>Single and double mechanical seals cartridge</b>		
201 S	Mechanical seal for agitators, single-acting with fluid quench, in sterile design; in biotechnology/fermenter; mech. seal with and without integrated bearing.	p: vacuum up to 20 bar t <sub>max</sub> : 200° C v <sub>max</sub> : 25 m/s
509	Standardized mech. seal for agitators/mixers in dia 70-120 mm; esp. suitable for retro-fittings from packings to mech. seals; compensation of axial and radial end-play/shaft runout (± 3 mm).	p: vacuum up to 30 bar t: -25° C up to +205° C v <sub>max</sub> : 25 m/s
521	Double-acting sterile design, adapted to the aggregate, for agitators, dryers, mixers – with integrated bearing; operation with higher barrier pressure. Special design for low-speed equipment and poor lubricating barrier fluid media (DM 202.11805.3).	p: vacuum up to 12 bar t <sub>max</sub> : 200° C v <sub>max</sub> : 15 m/s Low-speed equipm.: 5 – 30 min <sup>-1</sup>
541 S (841 S)	Stationary coaxial double mech. seal (CIP-/SIP) with specifically designed barrier fluid system – for combined installations: mills / homogenizers, for vacuum process installations, vacuum ventilation installations for the production of pastes, ointments, injection solutions, emulsions etc.	p: vacuum up to 35 bar t <sub>max</sub> : 200° C v <sub>max</sub> : 30 m/s
541 S/L	Double-acting mech. seal for agitators in aseptic processes (designed for CIP-/SIP); surface finish Ra = 0.4 µm. Mech. seal with integrated bearing; seal verified acc. to EHEDG (Cert. no. 89/240804).	p: vacuum up to 20 bar t <sub>max</sub> : 220° C v <sub>max</sub> : 15 m/s
577	Double-acting and multiple (4-6) mech. seal (CIP-SIP-GMP) for rotating filters: with stroke bellows for filter dryers and suction filters; mech. seal with integrated bearing(s): for applications e.g. aniline, powder-/tablets-preproducts, granulates etc.	p: vacuum up to 20 bar t <sub>max</sub> : 250° C v <sub>max</sub> : 15 m/s Stroke length: acc. to application
577 G	- in gas-lubricated design -	
597	Standard double mech. seal, fitting dimensions acc. to DIN 28136/28138 for enamelled vessels / autoclaves; Operation: mech. seal with or without integrated bearing; pressureless quench.	p: vacuum up to 10 bar t <sub>max</sub> : 220° C v <sub>max</sub> : 20 m/s
600 L 600 LL	Single cartridge mech. seal for enamelled vessels; connections according to DIN 28138 with integrated bearing.	p: vacuum up to 10 bar t <sub>max</sub> : 220° C v <sub>max</sub> : 20 m/s
877 X-aseptic	Double-acting cartridge mech. seal for aseptic modular installations: dispersers, homogenizers, agitators, mills.	p: vacuum up to 20 bar t <sub>max</sub> : 220° C v <sub>max</sub> : 20 m/s

All mechanical seals are available in compliance with **ATEX**. Dimensions: Dia: 15 mm to 450 mm, sizes in inches possible.

### Safety instructions for application areas and technical data:

The statements in this leaflet are based on the current state-of-the-art technology, including extensive testing and practical experience. Please note: The physical parameters (technical data) given here will interact with each other and cannot be fully utilized all at the same time. The listed temperature ranges are, among others, dependent on the type of secondary seal used, the accessories for the seal and the other technical parameters. Due to the variety of uses and the individual technical arrangements, only general pointers, which may not be applicable in every case, can be given for a successful application. No responsibilities can be accepted for statements made in this leaflet and therefore it is recommended to always undertake tests prior to application.

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