

Gas Phase Reactor**Product Coding**
PXXXXXXXXX**Introduction**

Gas phase reactor is a vertical pressure vessel designed to carry out catalytic or non-catalytic reactions in which the reacting components are predominantly in the gaseous phase. These reactors are widely used in petrochemical, fertilizer, polymer, and specialty chemical plants where high conversion, precise temperature control, and stable operating conditions are essential.

In modern gas phase reactors, the bottom tray (fluidization grid) plays a vital role in ensuring uniform gas distribution, stable bed operation, and efficient polymerization performance. At Euroslot Pars, we combine deep process understanding with advanced fabrication technologies to deliver grids that meet the demanding thermal, mechanical, and flow requirements of large scale industrial reactors.

Features

- **Project grade materials:** Grid trays manufactured in AISI 304/304L stainless steel as standard (material selection per customer requisition: 316L, duplex, LTCS+cladding, and other alloys available on request).
- **Robust structural design:** Reinforced rings and supports (LTCS in many project designs) sized to withstand vertical downward loads relevant to $P=0.75$ bar and upward loads relevant to $P=0.5$ bar.
- **Precision slot geometry:** Multiple slot patterns (e.g., N°315/N°210/N°126) and slot dimensions carefully controlled for optimal gas distribution and particle handling.
- **Surface finish for polymer service:** Internal stainless parts to reduce adhesion, ease cleaning, and improve product quality and all surfaces are delivered free of burrs.

- **Fit and finish:** Internal welds ground flush with rounded corners; all internal protrusions removed to prevent hotspots for polymer build-up.
- **Shop pre-assembly:** Trays are preassembled in the workshop for final fit verification and to speed site installation. All loose internals are removable to facilitate handling and maintenance.
- **Access and maintainability:** Designed to integrate with standard manways (example: 609 mm I.D. manway) and plug manholes sized and rated to reactor pressure.



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Gas Phase Reactor

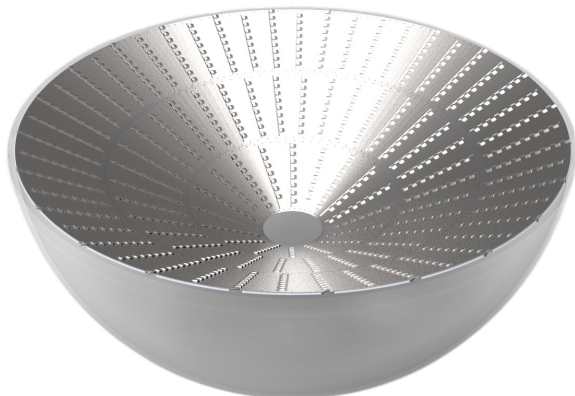
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Manufacturing & Quality Assurance

- Shop fabrication and pre-assembly with dimensional control and fit-up checks prior to dispatch.
- Electropolishing of all stainless internal surfaces to the specified roughness and visual verification.
- NDT and documentation: Radiography (as required), inspection reports, material test certificates, and dimensional check sheets included in the delivery package. Third party inspection or customer witnessing is available on request.

Applications

- Polymer, and specialty chemical synthesis
- Reforming, oxidation, and hydrogenation processes
- Gas phase catalytic cracking and upgrading services
- Environmental and tail-gas treatment systems



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