



# PHARMACY

# PACOVSKÉ STROJÍRNY

- **PACOVSKÉ STROJÍRNY** is a traditional and dynamic Czech company with a leading position on the Czech mechanical engineering market and a significant presence on international markets.
- We are a significant player on the Czech market with a significant share in foreign markets and an important supplier of complex technological and processing units designed for pharmaceutical, food, chemical, energy and power industries.
- The company's product portfolio consists a several specialized divisions offering the highly professional processing of high-grade stainless steel materials and copper products.
- The history of production at **PACOVSKÉ STROJÍRNY** dates back to 1876 when a coppersmith and boilermaker workshop was founded in Pacov by the Hradecký family. The workshop was one of the first pillars of mechanical engineering in the region on the border of the Bohemian-Moravian Highlands and South Bohemia.
- In addition to the original production and repair of agricultural equipment and the production of distilleries, the company soon began to also focus on other industries, especially the food industry. In response to this expansion, a new plant was built between 1957 and 1963 at the present address.
- In 1991, **PACOVSKÉ STROJÍRNY**, joint stock company, Pacov, was established. The company's manufacturing program draws upon its long tradition, while undergoing significant innovations reflecting the requirements of both domestic and international markets.
- In May 2013, the company became part of the **SAFICHEM GROUP**, whose members operate in the food, chemical and pharmaceutical industries and in power engineering.
- In January 2024, the company became part of the **CHARVÁT Group**.
- For more details you can see [www.pacovske.cz](http://www.pacovske.cz)

## The company's product portfolio includes a wide range of specialised divisions

Pharmacy



Food industry



Chemistry and Energetics



Breweries and minibreweries



Others:  
Technological process units  
Industrial and small distilleries  
Storage tanks and boilers etc.



## PHARMACEUTICAL VESSELS

- Formulation jacketed vessels
- Stainless steel pressure storage and processing vessels
- Reactors and tube heat exchangers
- Condensers
- Evaporation batch stations
- Extractors and sanitation stations





## PHARMACEUTICAL VESSELS

- Vessels for research, development and industrial production
  - Pressure vessels
  - Non-pressure vessels
- Volume is from 45 liters to 3000 liters
- Material: Stainless steel
- Vessels are with duplicate and insulation
- Internal surface is electrochemical polishing  
Ra 0,5



# PHARMACEUTICAL VESSELS

- Bioreactors for sterile production of life-saving vaccines and medicines
  - laboratory design
  - production design
- Stainless steel pressure vessel
- Volume is from 30 liters to 3000 liters
- Duplicate vessel with insulation
- Inner surface is electrochemical polishing  
Ra 0,4



## DELIVERIES TO PHARMACY

- Delivery of technological units and equipment
- Individual one-purpose and multifunctional apparatuses
- Integrated operation units targeted at:
  - New facilities
  - Reconstructed processing points  
*(substitution of industrial glass with stainless steel)*
  - Modernization of production plants  
*(emphasis on economy and safety)*
- Realization of complete assemblies
- Implementation and commissioning





## FORMULA VESSELS

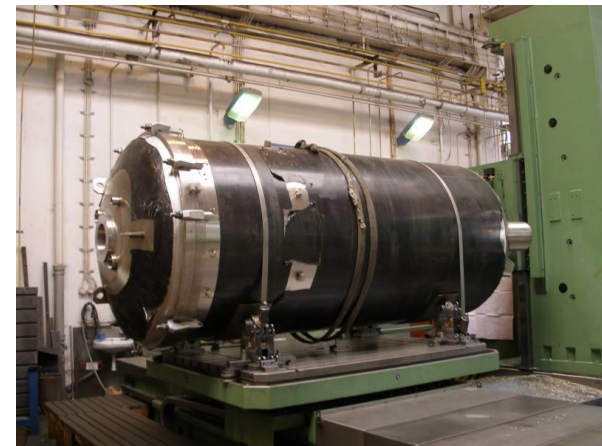
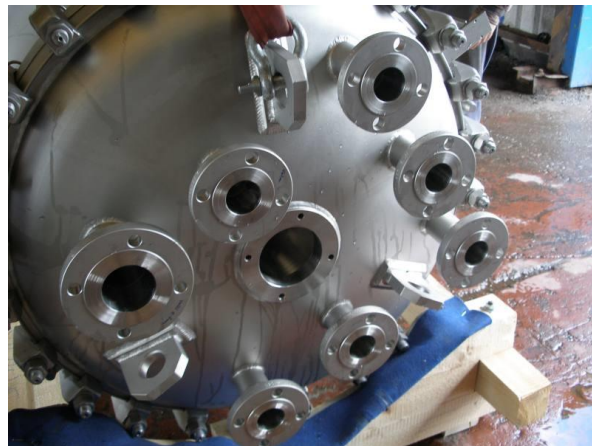
- Formula duplicate kettle
- Working volume 1000 liters with an removable lid
- Overpressure inside 3 bars, in a duplicate 4 bars
- Propeller agitator 50 – 1000 rot./min.
- ATEX environment





## PRESSURE VESSELS

- Pressure stainless steel vessels – closed horizontal or vertical vessels of a cylindrical shape with a conical, dished bottom and cover, usually supported with legs furnished with adjustable screws
- Internal overpressure up to 10 Mpa
- Internal surface grinded to Ra 0,4 – 0,8



## AUTOCLAVE

- Delivery and installation of a horizontal autoclave
- The autoclave is for curing composite materials for production in the automobile industry
- The autoclave is cylindrical, horizontal vessel of 1 600 mm diameter and 2 500 mm length with conical bottoms
- The autoclave is installed at the **ČVUT in Prague (Faculty of Mechanics)**
- ČVUT is one of the Czech universities that is involved in the global design competition FORMULA STUDENT (SAE FORMULA)
- Electric heaters
- Programmable Logic Controller (PLC), touchscreen



## REACTORS

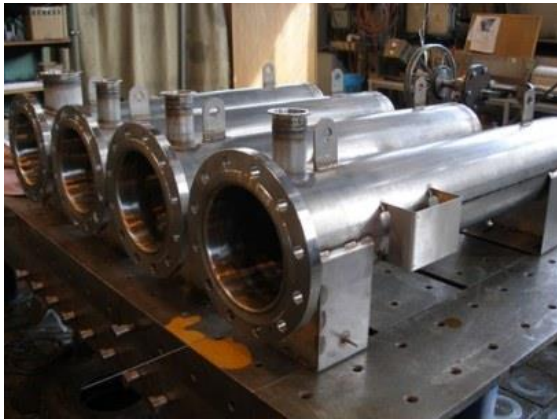
- Reactive square vessels with a removable lid
- To be utilized for special dressing material production
- Inner working overpressure 1 bar and 2 bars





## HEAT EXCHANGERS

- Heat exchangers for methanol cooling with a cooling output of 400 kW
- Internal surface grinded to Ra 0,8
- ATEX environment





## CONDENSERS

- Acetone vapors condenser 1,7 m<sup>2</sup>
- Overpressure in pipes 6 bars
- Internal surface grinded to Ra 0,8
- ATEX environment



## PROCESSING VESSELS

- Horizontal and vertical vessels
- Working overpressure vakuum / 3 bars
- Internal surface grinded to Ra 0,4
- ATEX environment
- Dimensioning as per the pressure vessels directives



## EXTRACTORS

- Extractor of effective substances with a removable lid and integrated reboiler
- ATEX environment
- Internal surface grinded to Ra 0,8





## CIP SANITATION STATIONS

- CIP sanitation station for washing and flushing of process equipment in food and pharmaceutical industries.
- Equipment for the preparation, storage, distribution and use of sanitation agents, allowing the optimisation of their effects and consumption.





## CERTIFICATION

- **PACOVSKÉ STROJÍRNY** are certificated by ISO 9001 by organisation Bureau Veritas Czech Republic
- Pacovské strojírny are owner of the following permissions and certificates for the manufacturing of the pressure vessels:
  - Europe Unit – PED, EN, ISO 3834-2
  - TÜV, AD Merkblatt, HPO
  - EAC
  - ASME Code, U- stamp, NB
  - China – Level D Certificate
  - Special certifications: South Korea, Canada etc.
  - ATEX - explosive environment certification
  - Certification for the manufacture, installation, maintenance and designing of steel structures EN 1090-2 +A1



## CONTACT

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Thank you for your attention.