

## Yasna Arman Zendegi Engineering Co. (Mahyaz)



No 11, 5th Alley, Safa Street, Kamalshahr, Karaj, Iran

Phone: 02634727031

FAX: 02634720755



No 11, 5th Alley, Safa Street, Kamalshahr, Karaj, Iran



02634727031



02634710755



info@mahyaz.com



www.mahyaz.com



MAHYAZ ENGINEERING GROUP



## About Us

Yasna Arman Zendegi Engineering Company was established in 2015 to produce and supply equipment for the pharmaceutical, food, cosmetic and health industries, from smaller portable tanks to larger processing vessels, we have the capabilities and engineering, manufacturing, and documentation resources to deliver custom vessels as required. In order to improve product quality and meet the needs of the customers and stakeholders, the CEO of this organization has implemented integrated quality management systems (IMS) based on international standards ISO9001:2015, ISO14000:2015, ISO45001:2018.







## Yasna Arman Zendegi Co. Services

- 1- Designing and manufacturing equipment for the pharmaceutical and biotechnology industries
- 2- production of purified water and clean steam systems (PS, PW, WFI)
- 3- Conceptual and technical design of pharmaceutical plant and implementation of clean room
- 4- production of stainless-steel equipment
- 5- Automation services and instrumentation
- 6- pharmaceutical piping, including sterile pipelines and CIP pipelines
- 7- Carrying out all activities related to validation (OQ, IQ, DQ)





## Our Goals

- Our goal is to provide high quality equipment, excellent service and innovation for the food and drug industry.
- Compliance with the legal and regulatory requirements of the Ministry of Health, in accordance with GMP.
- Increasing production with high quality and developing products with variety according to customer demand in pharmaceutical and non-pharmaceutical industry.
- Increasing the satisfaction of customers and the job satisfaction of employees.
- effective functioning of the quality system using skilled and trained personnel.
- Business development and export strategy to enter global markets.





## Designing and manufacturing equipment for the pharmaceutical and biotechnology industries

With experienced engineers and technicians, Mahyaz designs and manufactures all kinds of equipment according to customer orders and ASME BPE standards, which can be mentioned as follows:



- Design and manufacture of CIP and SIP equipment
- Design and manufacture of chromatography columns
- Design and manufacture of filtration systems
- Design and manufacture of bioreactors and fermenters
- Design and manufacture of heat exchangers and condensers
- Design and manufacture of biological waste inactivation tank (Kill Tank)
- Design and manufacture of clean room equipment for pharmaceutical industries
- Design and manufacture of vessels and machines used in the pharmaceutical industry

The documentation that can be provided will include drawings, quality control inspections, surface roughness reports, and the results of the performed tests.



## Production of process vessels (bioreactor, fermenter and storage tanks)

Process vessels play a vital role in chemical, pharmaceutical and food manufacturing plants. Process products are prepared and stored in these vessels by controlling basic parameters such as temperature, pH, mixing speed, pressure, etc.

Process vessels in Mahyaz are made in accordance with the world's standards and can compete with reputable global brands.



In the design and construction of these vessels according to ASME BPE standards and GMP principles, detail such as CIP and SIP capabilities:

- Product contact parts SS316L
- Surface roughness  $Ra \leq 0.4$
- Passivation and electropolishing of surfaces
- Performing quality control tests along with Providing certificates are fully respected
- Vessels automation system are equipped with PLC control with HMI or PC





## Design flexibility

Mahyaz produces all kinds of bioreactors and fermenters in laboratory and industrial scale. We provide the best solution for the optimal design and construction of a fermenter or bioreactor by using experienced engineers and personnel, which leads to economic production and at the same time with high reliability.





## CIP and SIP systems

One of the most important services of Yasna Arman Zendegi Engineering Company (Mahyaz) is the production of various types of CIP systems according to customer requirements.



### Capability:

- Central or mobile system
  - Compact design
  - Minimum maintenance cost
  - Use of the most accurate tools to observe safety
- PLC controller system
- Automation system that can be synced to the destination equipment
  - High resistance of the system against corrosion
  - Skid-mounted
  - Material structure of SS316L



## **Manufacturing of purified water and clean steam systems (PW, WFI and PS)**

**Mahyaz Group designs and manufactures suitable water systems for pharmaceutical industries in accordance with BP and USP standards. It is possible to design and build water for injection (WFI) and pure steam (PSG) systems in requested capacities according to the available standards.**



## Conceptual and technical design of pharmaceutical plant and implementation of clean room

Clean room is an enclosed space in which airborne particulates, contaminants, and pollutants are kept within strict limits.



Supply and implementation of clean room and antibacterial flooring, supply of all electrical and installation infrastructures, implementation of ventilation systems according to the class of clean room, control and monitoring systems are among the necessary activities. Mahyaz engineering and process team provides the best solutions for optimal use of space and cost reduction in compliance with GMP standards, according to customer needs in various production and operational processes.



## Stainless steel furniture:

Manufacturing of stainless steel furniture and accessories with the highest quality using stainless steel (316 and 304) :

- **Stainless Steel platforms**
- **Clean room trolleys**
- **Changing closets**
- **All kinds of steel shelves**
- **Clean room cabinets**
- **All types of clean room equipment**
- **Changing room benches**
- **Any types of active and passive pass boxes**
- **Stainless steel sink and washing basin**

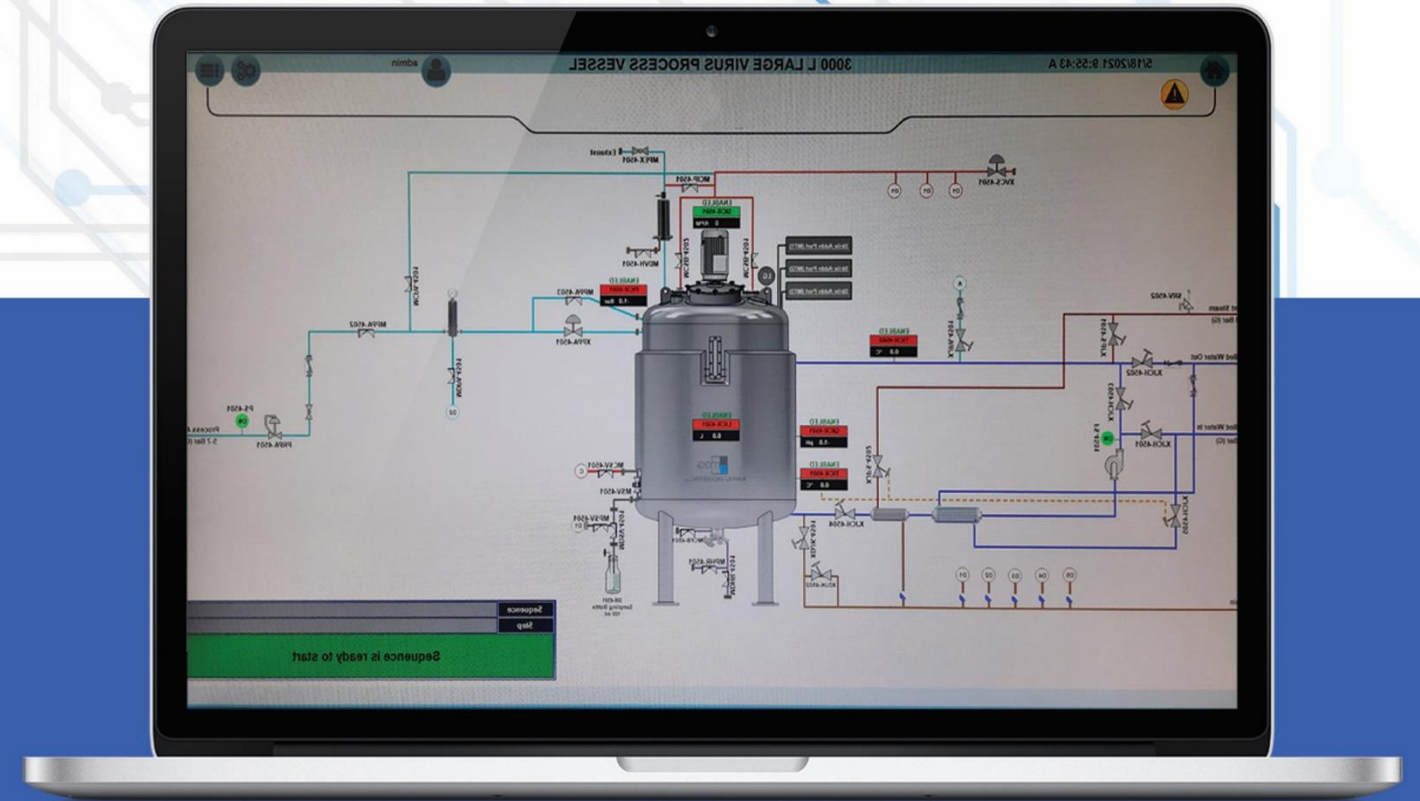




## Automation services

Simplifying complex processes using automation in the very challenging environment of pharmaceutical and biopharmaceutical production is one of the most important services of Mahyaz Engineering Company.

Complex processes in the automation sector will be solved using 21CFR Part 11 solutions. By using automation technology, it is possible to monitor, record, analyze and control all operations.

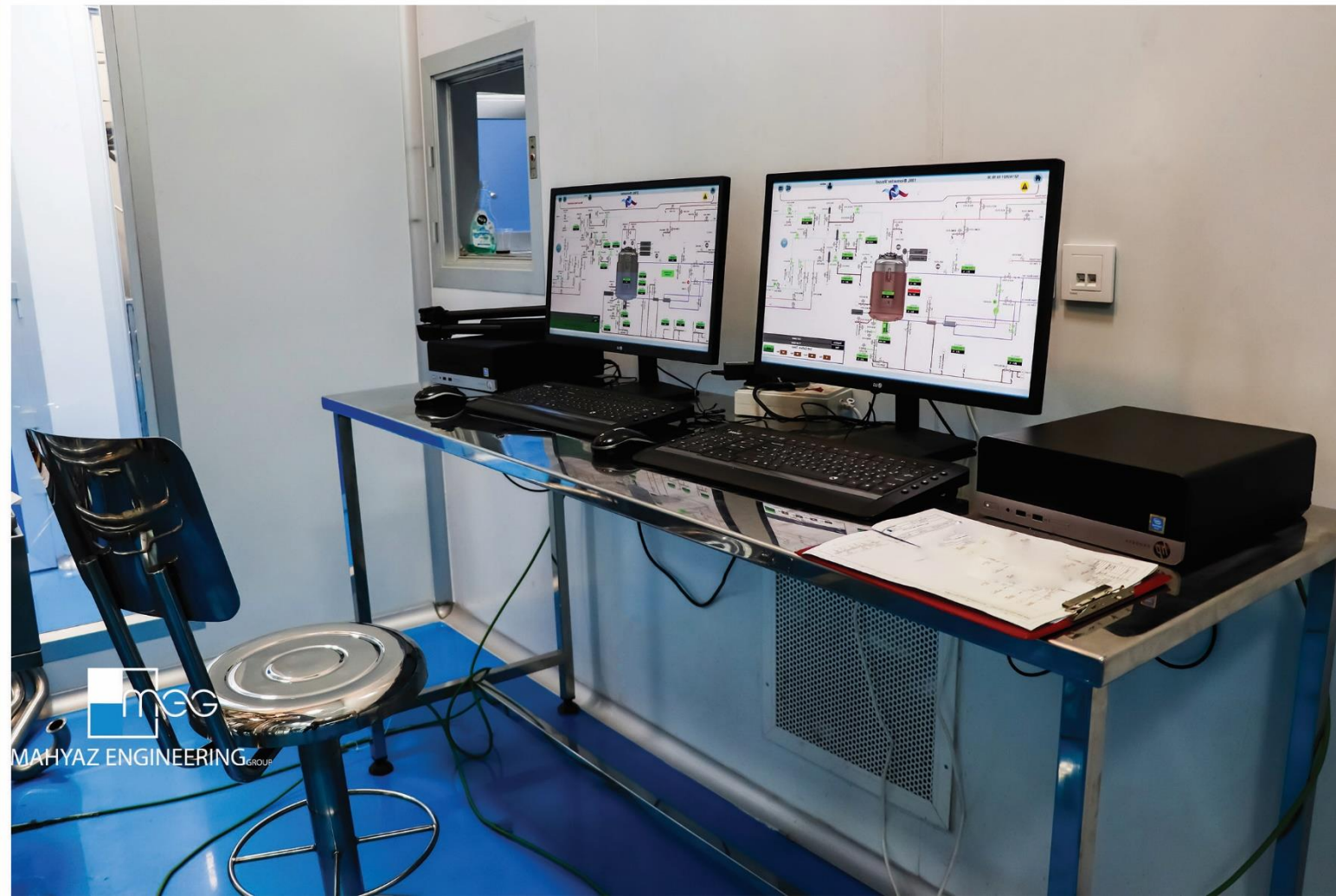




## our services

Mahyaz automation team engineers with good experience in automation systems, offers the following services to its customers:

- Design and development of automation systems for various industries
- Installation, commissioning and automation of pharmaceutical, food, cosmetic and oil industry
- Consulting regarding the design and implementation of automation systems according to customer needs
- Overhauling all electrical cabinet and electronic boards of machines including power, various types of interfaces, network cards, I/O Remote and ...



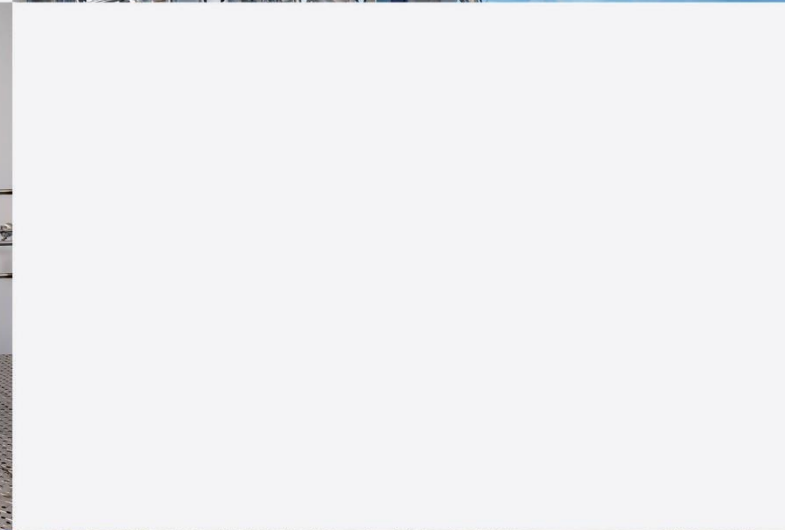


# Piping

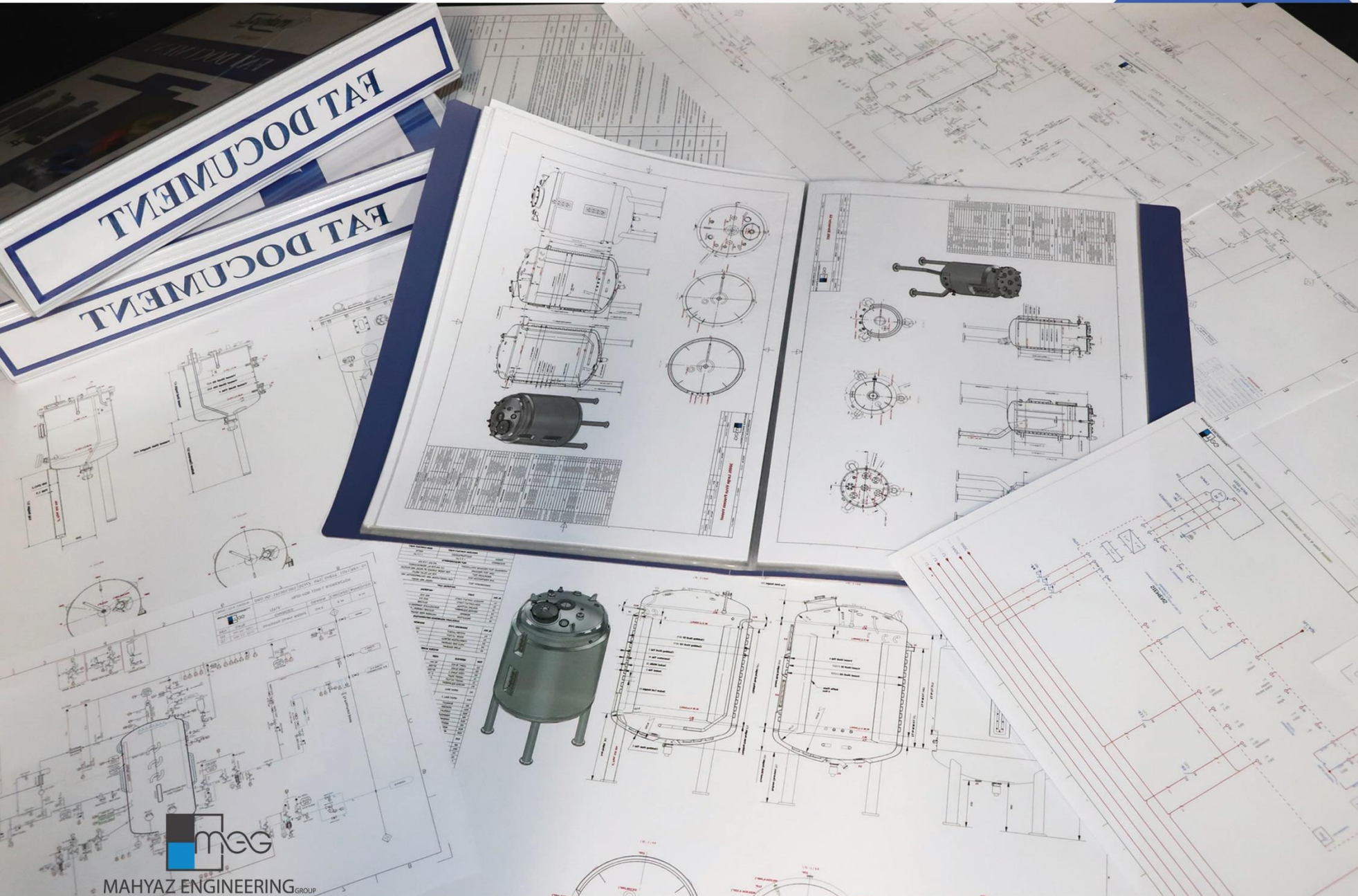
In the pharmaceutical and food industries, piping systems and fluid transfer are divided into two parts:

- 1- Hygienic piping system (Clean Utility)
- 2- Utility piping system (Black Utility)

The fluids used in the production process with direct contact with the product and the raw material are of the hygienic type, and the fluids that are for providing energy and indirect contact with the product or the raw material are the utility type.







## Documentation and validation

**Mahyaz Engineering Company, has years of experience in this field and implementation of projects in the pharmaceutical and other industries. Therefore, consulting and preparation of all documents related to documentation and validation of pharmaceutical machines and devices will be done by Mahyaz engineering team in order to improve the quality of pharmaceutical companies' documentation.**

**Material traceability is established with the purchase and receipt inspection of materials and is systematically maintained throughout the manufacturing and assembly processes.**



## Quality Assurance

The quality assurance system is one of the most important parts of production and it is called the regular monitoring and evaluation of various aspects of a project. Quality assurance documents are as below:

- Design Qualification (DQ)
- Installation Qualification (IQ)
- Operation Qualification (OQ)
- Factory Acceptance Test (FAT)
- Site Acceptance Test (SAT)



# Projects of Mahyaz Engineering Company (Clients)

## Pharmaceutical industry

|   |                            |  |
|---|----------------------------|--|
|    | Aryogen Pharma Company     | 3 No. 2000L Mobile Vessel  |
|    | Aryogen Pharma Company     | 4 No. Bioreactor (25, 100, 500, 2000)L   |
|    | Aryogen Pharma Company     | 4 No. 100L Mobile Vessel   |
|    | Aryogen Pharma Company     | 500L CIP Station, 300L Media Preparation Vessel, Filtration Skid, 1500L Media Preparation Vessel |
|    | Aryogen Pharma Company     | 500L Buffer Storage, 2000L Media Preparation, 1000L Dilution, 2000L Mobile Vessel                |
|    | Abidi                      | PW Subloop distribution (1000L tank, distribution system)  |
|    | Raya Pardis Pharmed Alborz | 1700L/h PWG, 1000L/h WFIG, 5000kg/h PSG  |
|    | Atrazist Aray              | 2000l/h PWG, 1000 l/h WFIG, 700kg/h PSG  |
|    | Fakhra vaccine project     | PW Generator 500Lit , PW Tank 1000L  |
|   | Omid Parsina Damavand      | PW Generator 500Lit , PW Tank 3000Lx2  |
|  | Behnood Pharmed            | PSG (Pure Steam Generator) 350 kg/h  |
|  | Pouyesh Darou              | 3 No. Fermentor (25,100, 500)L   |
|  | Fakhra vaccine project     | 31 process vessels, 20 to 1200 liters with automation  |
|  | Vira Vaccine company       | 46 process vessels, 50 to 4000 liters bioreactors and fermenters with piping and automation      |

















MAHYAZ ENGINEERING GROUP

|   |                             |   |
|---|-----------------------------|---|
|    | Biosun pharmed company      | Vaccine Project for PPG company   |
|    | Bonda company               | 19 process vessels and fermenters, 10 to 1250 liters  |
|    | Biosun pharmed company      | Piping of PW, WFI, CS lines for STILMAS company (Peptide project)   |
|    | Biosun pharmed company      | Piping of PW, WFI, CS lines for STILMAS company (Biosimilar project)  |
|    | Abidi pharma company        | Piping of HPW, CS lines for STILMAS company   |
|    | Pouyesh Pharma company      | Piping of PSG-BWT and bioreactors and fermenters  |
|    | Aryogen pharma company      | Piping of PW, WFI, CS and laboratory gas lines  |
|    | Samen pharma company        | WFI, CIP and water room piping  |
|    | Sinagen pharma company      | Piping of PW, WFI, CS and laboratory gas lines  |
|   | Daroo pakhsh company        | Orbital welding and vessels electropolish   |
|  | Novagen pharma company      | PW, Air and water room piping   |
|  | Aryatinagen company         | PW, Air and water room piping and pump installation   |
|  | Tolid daroo pharma company  | PW, Air and water room piping (orbital welding) with complete drawing and documentation and pump installation |
|  | Tofigh droo pharma company  | Piping of PW, WFI, CS   |
|  | Neshat daroo pharma company | PW, compressed air and water room piping with documentation   |
|  | Minoo pharma company        | PW, compressed air and water room piping with documentation   |







## Projects of Mahyaz Engineering Company (Clients)




|   |                                   |  |
|---|-----------------------------------|--|
|    | Actoverco company                 | Piping of process line for Biozeen vessels (BIOZEEN project)                                       |
|    | Zistdaroo pharma company          | Sewer piping and PW lines modification   |
|    | Biosun pharmed company            | Compressed air and N2 Piping - drain lines piping  |
|    | Iran hormone company              | PW and water room piping   |
|    | Pars daroo pharma company         | PW and water room piping   |
|    | Alborz daroo pharma company       | PW and water room piping with orbital welding  |
|    | Abooreyhan pharma company         | Clean steam and black steam piping   |
|    | Spadana pharma company            | PW and water room Piping   |
|    | Temad Company                     | Piping of PW, WFI, CS lines  |
|   | Eksir pharma company              | Piping of PW, WFI, CS lines  |
|  | Imen vaccine pharma company       | Compressed air, laboratory gas lines and water room piping<br>Chilled water and clean steam piping |
|  | TakGen pharma company             | PW and clean steam piping  |
|  | Aryan Salamat Sina pharma company | Piping of PW, WFI, CS, CHS, CHR lines with complete documentation                                  |
|  | Padra serum pharma company        | PW, WFI, CS lines and compressed air piping  |



MAHYAZ ENGINEERING<sub>GROUP</sub>

|   |                              |  |
|---|------------------------------|--|
|  | Vira Vaccine pharma company  | PW, WFI, CS lines and compressed air piping (Shaya project)                        |
|  | Behnoodgen pharma company    | PW, WFI, CS lines and compressed air and water room Piping                         |
|  | Roozdaroo pharma company     | PW, WFI, CS lines and compressed air and water room Piping                         |
|  | BooALI research organization | Piping of PW and compressed air line<br>Laboratory gas lines and water room piping |

### Food and dairy industry

|   |                             |  |
|---|-----------------------------|--|
|  | Pegah Milk company (Tehran) | Sterile unit piping and welding                                |
|  | Pegah Milk company (Zanjan) | Ammonia unit piping and welding                                |
|  | Bakhtar Milk Company        | Compressed air, water line and sterile unit piping and welding |

### Chemical industry

|   |                 |                                   |
|---|-----------------|-----------------------------------|
|    | Paksan company  | Ammonia unit piping and welding   |
|  | Razavi Hospital | Compressed air and utility piping |