



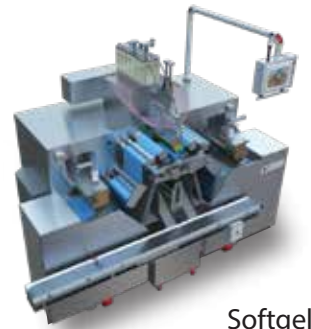
Turnkey Solutions for Pharma & Biotech



PW/WFI/PS

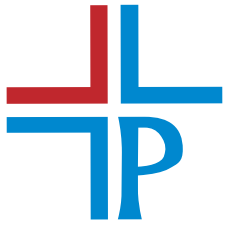


Ultra Clear TWF EDI UV UF TM



Softgel





MODULAR CLEAN ROOM
PARTITION WALL & CEILING
SYSTEM

TURNKEY CLEAN ROOM
TECHNOLOGY-
WORLD-WIDE

QUALIFICATION
AND RE-QUALIFICATION

SYSTEM SOLUTIONS
AND PRODUCTS

INSTALLATION AND
COMMISSIONING

AFTER- SALES SERVICE

Cleanroom Panels



KLIMA modular walls have been installed in clean rooms throughout the world in a range of applications from API manufacturing to Sterile manufacturing units. The system is readily adaptable to meet requirements of most clean room classifications as determined by KLIMA Cleanroom grades used in pharmaceutical applications.

- › KLIMA Produces Powder Coated (PCGI) & Pre- Painted (PPGI) panels
- › 50 mm/60 mm/80 mm/100 mm Panels & Ceiling
- › Panels have good impact resistance
- › Panels surface emits no particles
- › Panels surface has high resistance, which results in beneficial characteristics of slow discharge
- › Panels have an appropriate balance of hardness and flexibility
- › KLIMA cleanroom Panels are inter-connected by inserting connecting profiles within them

Various insulation options available are:

- › Poly Urethane Foam (PUF)
- › Polyisocyanurate (PIR)
- › Mineral Wool / Rock Wool
- › Paper Honeycomb

Cleanroom Equipments

- › Pass Boxes- Dynamic & Static
- › Laminar Air Flow benches
- › Sampling & Dispensing Booths
- › Bio Safety Cabinets
- › Air Showers, Mist Showers
- › Mobile Trolley





Heating Ventilation & Air Conditioning- HVAC



Avant Garde Clean Room & Engg. Solutions Pvt. Ltd.

Customized HVAC system are designed & engineered by experts having immense experience in designing the Pharma & Biotech Plants.

- HVAC (Heating Ventilation & Air Conditioning) with special applications like Low temperature and humidity, ISO class 4-8 with pressure differentials as per cGMP / cGLP
- Plan, Design, Build, Commission and Validate the Complete HVAC system as per regulatory (CGMP) requirements
- Un-paralleled range of innovative and high level of engineering support throughout design, selection, installation and validation
- With our integrated Single Source procurement approach we are able to achieve schedule compliant project completion

BUILDING MANAGEMENT SYSTEM (BMS & EMS)

- As an engineering solutions provider, ACES takes responsibility for design supply, installation, commissioning and maintenance. Offering end-to-end solutions, energy management and comfort throughout the life-cycle of the system
 - Humidity
 - Temperature
 - Pressure
 - Filter check
 - Air flow
 - Design as per - 21 CFR part 11

KEY FEATURES (AHU)

- WIDE AIRFLOW RANGE FROM 600 - 1,00,000 CFM
- SUITABLE FOR MEDIUM & HIGH AIR PRESSURE SYSTEMS
- CUSTOMIZED AHU SIZING
- SINGLE AND DOUBLE TIER ARRANGEMENT
- INTEGRATED SMART AHU
- BEST LEAKAGE CLASS
- AMCA CERTIFIED FANS FOR AIR PERFORMANCE & SOUND
- HIGH RESISTANCE AGAINST CORROSION USING PRE-COATED SHEETS

CHILLERS

FACTORY FABRICATED/
PRE - INSULATED DUCTS

BAG IN BAG OUT FILTER
ARRANGEMENT (BIBO)

DEHUMIFIERS FOR
LOW RH APPLICATIONS

FACTORY MADE MANIFOLDS

BMS & EMS SYSTEMS



Customized Air Handling Solutions



Specialised in Softgel Technology

RANGE OF SOFTGEL SYSTEMS

ARBES SGX-812T
High Production Softgel
Systems (36700- 109500)
Softgels per hour

ARBES SGX-605
Medium Production Softgel
Systems (16500- 38800)
Softgels per hour

ARBES SGX-806P
Standard Production Softgel
Systems (25000-80600)
Softgels per hour

ARBES SGX-RND
Research & Development
Softgel Systems (8300-19500)
Softgels per hour

ARBES SGX-105 SERVO
Mega Production Softgel
Systems (59500- 275000)
Softgels per hour

ARBES is specialized in Softgel solutions including Softgel systems, Ancillary equipment and also specialized in turnkey projects for Soft Gelatin Encapsulation, Change Parts (dierolls + wedges) for all makes of Encapsulation machines.

ARBES Mega High Production
Softgel Systems



- ▶ Full responsibility for the production of superior quality softgels, in compliance with all prevailing global standards available for small, medium, standard, high & mega production scale; output capacity ranging from 59,500 to 27,5000 softgels per hour.

ARBES SGX-RND Reserch & Development
Softgel Systems



- ▶ Encapsulation lines available for R&D as well as Small Volume Production (SVP) along with suitably sized ancillary equipment; output capacity ranging from 8,300 to 19,500 softgels per hour.



Oral Dry Suspensions/Powder Filling Line

NPM Filling Lines starts from 1500 bottles to 10,000 bottles per hour.

The range of filling starts from 5 gm to 40 gm depending upon selection of different models.



Typical Dry Syrup Filling line consists of Rotary Air Cleaning machine, Rotary Powder Filler, Rotary ROPP cum Screw Capper, Measuring Dosing Cup Placement machine & a Sticker Labeler.

Capacity available from 10000 to 70000 Bottles per Shift.

Oral Liquid Filling Line

NPM Filling Lines starts from 2000 bottles to 16,500 bottles per hour.

The range of filling starts from 10 ml to 450 ml depending upon selection of different models.



Typical High Speed Oral Filling line consists of Linear Rinsing machine, Rotary Piston Filler & ROPP Capper (Monoblock), Measuring Dosing Cup Placement machine & a Sticker Labeler.

Capacity available from 25000 to 120000 Bottles per Shift.

Our Products

Automatic Airjet
Cleaning Machine

Automatic Rotary Powder
Filling Machine

Automatic Multi Head
Screw Capping Machine

Automatic Multi Head ROPP
Cap Sealing Machine

Online Weight Checker

Automatic Measuring/
Dosing Cup Placement &
Pressing Machine

Automatic Self Adhesive
Vertical Labeling Machine

Automatic Volumetric
Liquid Filling Machine

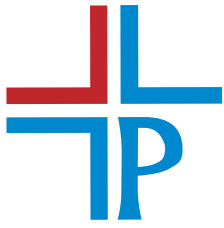
Rotary Piston Filling Cum
Sealing Machine

Automatic Self Adhesive
Vertical Labelling Machine

Automatic Gum
Labelling Machine

Oral Liquid Manufacturing
Plant

Cream & Ointment
Manufacturing Plant



Our Products

Purified Water Generation

Purified Water Storage & Distribution

WFI Generation.

- Vapour Compression Distiller (VCD)
- Multi Column Distiller.

WFI Storage & Distribution

Pure Steam Generation and Distribution

Purified Water (Generation, Storage & Distribution)

- Pre-Treatment plays very important role in efficient and safe operation of the purified water generation system
- The pre-treatment units are modular and are designed according to the raw water characteristics
- Media filtration is an important first step to achieve clean water for RO feed
- Softener is necessary to remove hardness and ensure that the RO Membranes are not scaled during the operation
- We use uniform particles size IX resin which gives highest regeneration efficiency and lowest outlet



WFI (Generation, Storage & Distribution)

- Vapor Compression technology for production of Water for injection offers lower operation cost, reduced maintenance, smaller foot print and no requirement of cooling water
- VCD are available from 250 to 12000 lph with an option of Aluminum Alloy and SS 316 L Compressor
- Multi-Column Distillers contain multiple columns in which evaporation and condensation occurs to produce WFI
- Multi-Column Distillers are available from 50 to 15000 lph capacity with three to eight column configuration



Pure Steam (Generation and Distribution)

- Double tube sheet heat exchanger is used to evaporate the feed water and pure steam thus produced is super saturated and free of moisture using specially designed separator
- The pure steam distribution is designed such that the least quantity of condensate enters the equipment to be sterilized

The typical components of the clean steam network are:

- Double tube sheet heat exchanger
- Piping & Fittings
- Insulation
- Point of Use Valves
- Steam Traps
- Instruments
- Control Panel



Manufacturing Vessels and Process Equipments

- Fully automatic, operate through IPC and comply with the 21 CER Part 11 and GAAMP 5 requirements
- Volume: 5 to 30,000 liters nominal capacity
- Material: stainless steel 316 L
- Surface finish: $0.4 \mu\text{m Ra}$ Electropolished (SF4 as per ASME BPE) Internally
- Pressure: Full vacuum upto 10 bar(g)
- Temperature: -20°C to 200°C
- Cleaning options: CIP/ SIP
- Design: Single, double and triple wall design, heatable, insulated



CIP/SIP Systems

Our Products

Process Vessels

Autoclearable Pressure Vessels

Manufacturing Vessels

Fermenters & Bioreactors

CIP/SIP Systems

Media, Buffer & Harvest Tanks

WFI Cooler



Models:

Purex Economy

Model : STEC 05
100-1200 LPH
(0.5 to 5 GPM)

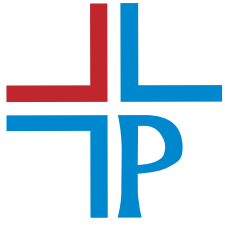
Purex Advanced

Model : STAC 05
100-1200 LPH
(0.5 to 5 GPM)
Model : STAC 15
1300-3500 LPH
(5.5 to 15 GPM)

Purex Custom

Model : STCC
100-6000 LPH
(0.5 to 25 GPM)

- The POU Cooler is designed to dispense instant temperature controlled WFI
- Dispense flow rates of 100 LPH (0.5 GPM) to 6000 LPH (25 GPM) at any range of temperature
- Works as a subloop and complies with ASME BPE guidelines of maintaining velocity of 1.2 m/s ensure that there is no microbial growth in the system
- Compliance to CFR 21, Part 11 guidelines



Our Products

Protegra CS RO/ EDI

Ultra Clear TWF EDI
UV UF TM

Labostar PRO TWF UV

Ultra Clear RO/EDI

Ionpure EDI Unit

Ultra Clear TWF EDI Touch Panel

- › Type II water flow rate is 20 LPH
- › Ultra pure water flow rate is minimum 2.0 LPM
- › Resistivity 18.2 MΩ/cm
- › TOC level is in between (1- 3) ppb
- › Water quality meets ASTM Type 1, CLSI and ISO 3696 Type 1
- › Ultrapure Water System with Electronic Dispenser
- › 7" Multi-color glass display for fast and easy operation



Ultra Clear TWF EDI
UV UF TM

Labostar PRO TWF UV

- › Type III water flow rate is (13 LPH)
- › Ultrapure water flow rate is (1.2 LPM)
- › Ultrapure water meets conductivity of 0.055 μS/cm
- › Resistivity 18.2 MΩ - cm and TOC (1 -10) ppb
- › Water quality meets ASTM Type I, CLSI and ISO 3696 Type I
- › A positively charged 0.2 μm sterile filter at the dispenser removes bacteria and endotoxins
- › No need of an expensive ultra-filter



Labostar PRO TWF UV

Protegra CS RO/ EDI

- › This System generates water with flow rate (120-750)LPH are designed to serve the need for high volumes of purified water
- › It produces water with Conductivities of < 0.1 μS/cm in single-phase and < 0.07 μS/cm in dual-phase systems where TOC content is < 30 ppb
- › Widely used for laboratory washing machines, autoclaves, environmental chambers, feed for ultrapure water systems



Protegra CS RO/ EDI

Ionpure EDI Unit

- › EDI Unit generates water with flow rate 440-5100 LPH
- › It has electrodes which are in direct contact with the resin and generate an electrical field that is harmful for the bacteria
- › No chemicals, low power consumption



Ionpure EDI Unit

Godrej interio

LABORATORY



Cutting-edge labs for **cutting-edge** research.

The fusion series uses prime quality CRCA steel for a strong understructure that can bear the load of heavy laboratory equipment. Its superior powder-coated finished makes it resistant to corrosion, which is common phenomenon in laboratories.

Stylishly functional amazingly **flexible**.

COVALENT offers you: Flexibility to fit into demands. Aesthetics for Interiors. Modularity of Workspace. Utility for Multitasking. Adaptability to Needs. Adjustability for Personalisation. Sturdiness that lasts. Contemporary Classy Looks. Ergonomics at Work. Space Saving Design. The ingredients are all there. Create your formula for Success from it.



Upgrade to a **user friendly lab**

Upgrade to an advanced and durable solution:

MS based system, with pure epoxy coating coupled with the phosphating process provides very high chemical resistance.

ZERO-CORROSION Storage Cabinets

- Full PP construction
- No exposed metal parts inside
- Louvers in the doors for inlet air
- Provision for exhaust
- Passes with outstanding results for all 49 chemicals listed in SEFA



World's **most advanced** fume hoods

- LED Lights
- User Presence Sensor for Autosash
- Touch-enabled Control Panel for MasterFume Hood
- Electrical Power Points & Electric Wire Hatch
- Multiple Utility Service Valves
- Application-specific Worktops

Widely Used in:

- QC Lab
- R&D Lab
- Wet Chemistry Lab
- Microbiology Lab
- Pharmaceuticals Lab
- Biotechnology Lab

Lab Furniture

- Flexibility and Adjustability
- Hygiene and Safety
- Maximised Storage Utility
- Fire Resistant System
- Sefa Compliant
- Optimised Footprint
- Stainless Steel and Non-Corrosive Hinges
- Safe for Use Across a Wide Range of Laboratory Setups
- CRCA Mild Steel with Powder Coating
- Generous TOE Space
- Ease of Maintenance



OUR PRODUCTS

2mm to 5mm SLE

3mm to 5mm PU

2mm to 5mm Anti Slip

3mm to 5mm Anti Static

0.5mm to 1mm Floor coating

75mm to 100mm Coving

Wall Epoxy paint



Pristine

Self Leveling Epoxy Based Flooring

Features :

Easy to clean
Wear resistant
Chemical resistant

Application Area :

Moderate traffic
Pharmaceutical Facility
Hospitals
Nuclear Plants

Electrostatic Dissipative Flooring (Anti-Static)

Features :

Hard-wearing, Seamless, Anti-static
Electrical resistance in the range
 $5 \times 10^4 - 10^8$ ohms.

Application Area :

Electronics manufacturing industry
Clean Rooms, Solvent handling process areas
Pharmaceutical Facility
Hospital operation theaters

Polyurethane (PU) Based Flooring

Features :

High Chemical Resistance
High thermal resistance
Anti microbial
Application Area:
Food & Beverage production
Confectionery production
Meat & Fish processing plants
Dairy & Milk products industry



Decorative Epoxy Screed with Multi Color Granules:

Features :-

Wear & slip resistant.
Available in various color combination.

Application Area :-

Industrial floors
Wet areas
Food courts

Anti Slip Epoxy Flooring

Features :

Wear & slip resistant
Available in various color combination

Application Area :

Pharmaceutical Facility
Industrial floors
Wet areas
Food courts

HVAC Validation Services: One Stop Solutions

Cleanroom Validation

- Air Velocity & ACPH Test
- HEPA Filter Integrity Test using (PAO)
- Particle Count Test
- Recovery Test
- Pressure Balancing Test
- Air Flow Pattern Test
- Noise Level Measurement
- Light Intensity Measurement
- Temperature / Relative Humidity Monitoring
(We have over 200 data loggers for temperature & humidity mapping)

Target Industries

- Pharmaceutical & Biotech Facilities
- Cleanroom Facilities-Other Industries
- Pathology Laboratories
- Research and Production Facilities
- Operation Theatres



Particle Counters



Capture Hood



Aerosol Photometer



Replacement Air Filters

HEPA MP GELSEAL (Features & Benefits):

- MP Gelseal Filter utilizes micro glass fiber paper media. Optional PTFE media available.
- Standard extruded aluminum (anodized) frame.
- Each filter is scan tested individually as per EN 1822, ensuring a leak proof performance. Test results are affixed by label to each filter.
- Room side access test port for aerosol upstream measurement, during in-situ HEPA testing.



HEPA MP GELSEAL

ULTRA-PAC FILTER (Features & Benefits):

- Excelair Ultra Pac Bag Filters uses high dense melt blown media with high dust holding capacity.
- High-Loft, Multi Layered Media is non-shedding, water resistant and improves performance.
- Ultrasonically-welded pocket arrangement that guarantees optimum media utilization and eliminates crowding or leakage.
- Robust metal header frame ensures quick and easy mounting



ULTRA-PAC FILTER

Validation Guidelines

- ISO 14644, Part 1
- EU GMP/EC GMP
- FS 209E
- WHO 2002
- USFDA
- MHRA

Fine Filters

- ASHRAE Cell Filter
- C-Cell Synthetic
- Pac Filter
- V-Cell FG & others

HEPA Filters

- HEPA SC Filter
- HEPA HV Filter
- HEPA MP Filter
- HEPA HC HT & others

Pre Filters

- Aluminum Filter
- Disposable CDPHC Filter
- Disposable CDPSC Filter
- Metallic Filter
- Poly Pac Filter & others

Carbon Filters

- CARB Filter
- CCPM Filter
- CCRV_Carbon Filter
- CCRV-LV Carbon Filter & others

About us



PHARMACON LIMITED functions as a comprehensive provider of Pharmaceutical Turnkey Solutions, collaborating with the Pharmaceutical industry in Bangladesh. Established in 2009, the company has been actively engaged in serving the Pharma and Biotech sectors.

Drawing upon a profound understanding of the pharmaceutical domain, PHARMACON LIMITED caters to each client's needs, offering cost-effective and innovative solutions for the development of fully engineered systems. The company, equipped with a specialized team, is committed to delivering solutions from concept to commissioning.

The company's dedicated teams for Marketing, Service, Validation, and Projects consist of Pharmacists and Engineers. The Marketing team features Technical Specialists for each product, ensuring clients receive optimal support and understanding. The Project team, specializing in HVAC, Electrical, and Piping, comprises 150 personnel, including engineers and technicians. This skilled team is responsible for providing installation, validation, and after-sales services. Most of the engineers are trained abroad by our foreign partners.

Our Clients



ACI Limited



ACI HealthCare Ltd.



ACME

