



Biopharma / Pharma

 **Sharp**
Pharma Machinery



About our company

Sharp is a leading | **Indian** supplier of system design and turnkey plant construction in the field of process evaporation, thermal separation technology and equipment and machinery for the chemical, pharmaceutical, food ingredients, pulp & paper, petrochemical, and related allied industries.

The advantage for our customers is our ability to be your Single Source Partner for all critical project stages - from basic engineering through manufacturing of key components and final assembly and erection of the entire plant - thus assuring successful implementation and economic execution within a tight project schedule.

What this means is that improvements and alterations in scope of supply are accomplished in the shortest time span and with minimal cost impact. The close working relationship of our engineers and production experts with clients means that further refinements remain consistently a matter of course.

draws on its extensive experience and expertise over decades in the design and production of Biotechnical plants.

As a client you will tap into the resources of a dynamic and lean organizational structure comprised of highly skilled technical experts who remain a pleasure to work with and can guarantee efficient realization of your projects. The wealth of experience and in-depth competence of our people in process engineering and successful plant construction are the foundation of a company which never loses sight of the future.

***We get
the best
out for you...***



Range of Products Biopharma

We have customized solutions in the range of biopharma for following focuses:

Fermenter

- Agitatorfermenter
- Bio-Fermenter



Pharma vessels and process equipment

- Stationary vessels:
 - Harvest tanks
 - Pool tanks
 - Buffer tanks
- Mobile vessels:
 - Batch vessels
 - Preparation vessels



Unit production

- Hygienic plants
 - Pre-assembled ready to operate (incl. MCT)
 - FAT
 - Start-up



Hygienic agitators

- Magnetic agitators
- Agitators with double mechanical seal
- Special designs





Fermenter, Pharma vessels & process equipment

An impressive and high-performance range of products!

The increase on the use of micro-organisms to produce various substances has meant that the construction of bio-technical plants is gaining in importance. The increasingly strict demands made of the product quality in line with the GMP guidelines of WTH, FDA and PIC in systems for sterile and perfect production have been a major challenge for GIG Karasek for several decades. A challenge which we are happy to accept.

- ◀ Design / Fabrication according all current regulations and standards like
 - PED (97 / 23 / EC)
 - AD 2000
 - SVTI
 - ASME
 - EN 13445
 - China stamp (SQL)
- ◀ latest documentation system

The decision in favour of GIG Karasek products guarantees you apparatuses and process vessels of a perfect sterile design, with the very best surface qualities and optimum opportunities for cleaning.

We lay the foundations for quality of the very highest standard!

- ◀ CIP / SIP-design / detail-engineering
- ◀ Basic- and Detailengineering
- ◀ Ultramodern welding techniques coupled with the latest in technology
- ◀ Control of incoming materials via spark spectrometer for the clear determination of materials
- ◀ Mechanical processing in in-house workshops
- ◀ Visual welding seam control and documentation by means of VIDEO-ENDOSCOPE
- ◀ Pressure test of apparatuses using deionised water
- ◀ FAT / Riboflavintest with completely equipment and agitator





Fermenter

Volume 3 litres - 160 m³
 Performance of up to 1700 kW
 Including diffusion-proof welded insulating covers

◀ Heating / cooling system:

<i>welded to the outside</i>	<i>in the fermenter</i>
- Jacket	- Tube bundles
- External coils	(vertical calandria)
- Pillow Plates	- Pillow Plates
	- Tube coils
	- Thermo channels

◀ Materials:

Stainless steels (e.g.: 1.4435, 1.4539, etc.)
 Hastelloy
 Incolloy
 Inconel
 Monel
 Titanium grades 1, 2, 7, 11

◀ Surfaces:

From pickled to electro-polished roughness
 less than 0,4 (0,25) μm

max. weight of equipment: 100 to
 max. shell thickness: 50 mm

Pharma vessels / Process equipment

Volume 1 litre - 160 m³ and more
 With and without agitators
 Including diffusion-proof welded insulating covers

◀ Heating / cooling system:

<i>welded to the outside</i>	<i>in the fermenter</i>
- Jacket	- Tube bundles
- External coils	(vertical calandria)
- Pillow Plates	- Pillow Plates
	- Tube coils
	- Thermo channels

◀ Materials:

Stainless steels (e.g.: 1.4435, 1.4539, etc.)
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◀ Accessory:

- Rescue apparatus
- Trolleys
- Agitator control systems (FC)



Unit production / Erection

Hygienic plants

In the field of hygienic plant construction our experience in plant instrumentation and process equipment design, collected in the course of more than 5 decades, is put together on one very persuasive package for our customers. As our service range from the basic engineering stage, to fabrication through to the actual start-up, helps you to reduce your interfaces to a minimum.

Extensive expertise for even more power!

- ◀ Engineering (process design, process & instrumentation technology)
- ◀ 3D plant design
- ◀ In-house fabrication of components with constant quality controls (DQ, IQ, QQ)
- ◀ Erection of process equipment, pipes and instruments
- ◀ Start-up assistance
- ◀ Training of employees
- ◀ ***More safety for your production!***

Further advantages of this solution are short periods of implementation when it comes to improvements and changes. From the start of the project to its successful completion, you have a competent partner at your side. Engineering and production work as a team with the aim of supplying you with the optimum and technically best solution in the shortest possible time and at a fair price.

Partnership is one of the most important maxims of our company philosophy. We live this philosophy in our own company in the relations between the management team and our employees. Moreover, this constitutes our utmost priority when dealing with our customers.



Hygienic agitators

The process design of the agitators focuses on the particular process requirements and the vessel design. The fermenters, vessels and process equipment which we produce is equipped with all the common types of hygienic agitators, in accordance with the customer's requirements and wishes.

Sealless agitators:

Sealless agitators for safe processes!

The sealless agitators are always designed to suit the customers needs and the respective process and thus guarantee adherence to the ever rising demands of hygienic applications.

- ◀ Sealless agitator – synonymous for safe CIP and SIP
- ◀ Agitator elements are produced in a standard design or to suit customer's specific needs
- ◀ Sealless agitator for an agitating volume of 10 to 30,000 litres
- ◀ Sealless agitator for bottom installation with welded flange or plug in flange

Agitator with double mechanical seal:

If it is not possible to use sealless agitators, we can also supply our fermenters, vessels and process equipment with all of the standard agitator types with a double mechanical seal.

These feature agitating technique / agitators which suit the processes in us.

- ◀ Bottom-installed or top-installed
- ◀ Customer-specific agitators
- ◀ CIP / SIP - compatibility
- ◀ FDA - conformity

ATEX certification if needed



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