



# BIOPHARMACEUTICAL HIGH PURITY CLEANING



With almost 60 years of experience, Astro Pak understands that corrosion, bio-burden, rouge and other surface contaminants pose a significant threat to drug production and quality control. To address these concerns, we developed proprietary chemical cleaning processes and custom designed chemical circulating pump-skids to meet FDA compliance standards required for biopharmaceutical manufacturers. Our pre-operational cleaning processes remove surface contaminants from metal manufacturing, fabrication and installation. Our maintenance cleaning processes remove rouge, product / by-product residue and biocontamination to ensure clean, passivated and sanitized contact surfaces and product purity. Whether we deploy our expert technical crews to your plant or process parts at one of our 11 shop locations, Astro Pak can meet your stringent cleaning requirements and provide cGMP documentation with each job we perform.

## CAPABILITIES

- ▶ PRE-OPERATIONAL PASSIVATION
- ▶ DEROUGING & PASSIVATION
- ▶ SANITIZATION & BIOFILM REMOVAL
- ▶ MECHANICAL POLISHING
- ▶ ELECTROPOLISHING
- ▶ ELECTROCHEMICAL CLEANING
- ▶ MEDIA BLASTING

## SYSTEMS & EQUIPMENT

- ▶ MULTIPLE EFFECT & VAPOR COMPRESSION STILLs
- ▶ CLEAN / PURE STEAM GENERATORS & SYSTEMS
- ▶ PURIFIED WATER SYSTEMS (RO, DI, USP, WFI)
- ▶ PROCESS EQUIPMENT & DISTRIBUTION SYSTEMS
- ▶ CIP SKIDS & DISTRIBUTION SYSTEMS
- ▶ AUTOCLAVES & LYOPHILIZERS
- ▶ FERMENTORS & BIOREACTORS



HIGHLY TRAINED  
PERSONNEL



ADVANCED CHEMISTRY &  
PROCESS TECHNOLOGY



RAPID  
RESPONSE



STATE OF THE ART  
FACILITIES & EQUIPMENT



SUPERIOR  
DOCUMENTATION