

# PHARM Series

## USP Purified Water Generation Systems

### Description and Use

GE Water & Process Technologies' line of pharmaceutical grade water systems, the GE PHARM Series, offers a pre-engineered platform of reliable equipment for consistent purified water generation.

### Standard Features

- Water quality exceeds USP requirements for conductivity and TOC
- Initial filtration, softening and de-chlorination of the feed water supply.
- Clean-In-Place tank and recirculation pump for ease of cleaning and sanitizing with no piping changes.
- RO-EDI components on one skid with stainless sanitary contacts for the product water.
- State of the art PLC controls with flexible adaptation into the plant
- Secured, and Full graphical touch screen Human Machine Interface
- Validation assistance package with every package
- Minimized water and energy waste during non-use periods.
- Industry's most vertically integrated design using GE's own membranes, pumps, EDI's, pre-treatment, filters, chemicals, etc.
- Full operations and maintenance manuals, witnessed factory acceptance tests, and wet test results
- UL, CSA Certification
- Manufactured in ISO 9001:2000 facility
- Full Factory Acceptance Test (FAT) competed on each system before shipment.



### Also Available

- Online TOC analyzers from GE Analytical Instruments
- UV sanitization and TOC reduction units
- Storage and distribution equipment and design
- Ozone systems including generation, injection and safety ancillaries
- Hot water sanitization available on all systems
- Validation services: Documentation and implementation

### Support And Service

- Packaged consumables and maintenance services agreements to levelize cost of operation
- Finance options through GE Capital
- Emergency Services: GE operates the largest fleet of mobile water equipment in the world.



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**Table 1: PHARM Model Specifications**

Model	PHARM-SSP	PHARM-MSP	PHARM-LSP	PHARM-XSP (See Note 2)
<b>General Information</b>				
Flow Rates gpm (lpm)	Up to 6 (23)	Up to 20 (76)	Up to 40 (151)	40 (151) or more
Membrane Size, inch (cm)	4 (10)	8 (20)	8 (20)	8 (20)
Number of E-Cell* Stacks	1	1	2	3 or more
<b>Dimensions</b>				
RO/EDI Skid LxWxH, inch (cm)	112x36x78 (284x91x198)	134x46x80 (340x117x203)	154x46x80 (391x117x203)	166x46x80 (422x117x203)
RO Inlet Pipe Size, inch (cm)	¾ (1.9)	1.5 (3.8)	1.5 (3.8)	2 (5.1)
Product Pipe Size, inch (cm)	¾ (1.9)	1 (2.5)	1.5 (3.8)	1.5 (3.8)
RO Drain Size, inch (cm)	¾ (1.9)	1 (2.5)	1 (2.5)	1 (2.5)
<b>Electrical</b>				
RO Motor HP	5	10	25	30 or more
Total System Amp Draw, maximum	12.1	18.5	43	53.5 or more
<b>Utilities</b>				
Power Frequency	60 Hz	60 Hz	60 Hz	60 Hz
Air Pressure	90 psi	90 psi	90 psi	90 psi
Water Inlet Pressure	30 psi	30 psi	30 psi	30 psi

## Notes

1. All information provided is for typical systems, and subject to final design considerations.
2. Pharm-XSP dimensions are dependent on the product flow rates required.

## Standard Options

1. Hot Water Sanitizable – RO/EDI Skids may be designed for 180F sanitization cycles
2. 50 Hz for European requirements
3. Skid mounted pretreatment for simplified installation

