

BP Systems

Product Description/Equipment Specifications

FLEXIBILITY
LATITUDE
ENGINEERING
EXECUTION
EXCELLENCE

*Process Water Systems designed with ultimate **FLEXIBILITY** in mind.*



Photos are for illustrative purposes only

Features at a glance:

- LET (Low Entry Technology)
- TFD (Turbulent Flow Design)
- Quick delivery
- PLC controlled for safe operation
- UL listed
- Seismic Zone 4 compliant (support for exchange tanks/storage tanks not provided)
- Wide range of flow rates available
- Fully validatable systems
- Validation protocols and execution assistance optionally available

General Description:

Flexx™ BP refers to a comprehensive product line of high-purity water purification systems, capable of producing water qualities meeting/exceeding USP Purified, CAP I, ASTM I, 18.2 Megohm-cm resistivity, designed specifically for clients requiring validation level documentation of their water treatment system. Included in the product line are four distinct “ Product Families” to accommodate a variety of Client needs: Exchange Deionization (BPE), Non-recirculating Makeup (BPN), Continuous Recirculating Makeup (BPR), and Hot Water Sanitizable (BPH) (see Process Flow Diagrams at end of data sheet). Each Product Family is fully customizable permitting freedom to select pre-treatment piping, product piping, specific system components, flow rates, etc. allowing optimization of the equipment to the individual application.

With the exception of the Exchange Deionization Product Family which ships as a single skid, all systems are fabricated and shipped as a single equipment package consisting of one, or more, individually skidded sub-systems (e.g.: pre-treatment, reverse osmosis, storage, distribution, etc.)

permitting greater *FLEXIBILITY* of system layout and installation. All system components, process piping, and control components are factory mounted.

Mechanical Description:

Standard structural support for all Product Family skids is constructed of powder-coated, carbon steel; stainless steel skids are *optionally* offered. Skids are configured to provide maximum support for skid mounted components while allowing ample access for servicing, maintenance, and operation.

Pre-treatment piping for all Product Families is offered as Schedule 80 PVC (PVC). Product piping for all Product Families is available as Schedule 80 PVC (PVC), Schedule 80 CPVC (CPV), Beta Polypropylene Socket Fusion (BPS), Beta Polypropylene IR Butt Fusion (BPB), Natural Polypropylene Socket Fusion (NPS), Natural Polypropylene IR Butt Fusion (NPB), PVDF Socket Fusion (PFS), PVDF IR Butt Fusion (PFB), PVDF Bead and Crevice Free (BCF) or 316L Sanitary Steel (SSS). (NOTE: Hot Water Sanitizable system piping is as follows: Pre-treatment to Break Tank—S80 PVC, Break Tank to RO—S80 CPVC, RO through Distribution—Sanitary Stainless Steel.)

Electrical and Operational Description:

The Main Control Panel for all systems includes an integrated Programmable Logic Controller (PLC) to provide for safe operation of the equipment; a water quality readout monitor is also provided. In addition to the PLC, electrical aspects of the systems include motor starter, control transformer, power disconnect, assorted switches, indicators, and fuses. The enclosure is mounted to the skid framework and is NEMA 4 steel construction.

Interconnecting wiring on the Exchange Deionization Product Family is complete from the PLC to all peripheral components. Interconnecting wiring on the Non-recirculating Makeup, Continuous Recirculating Makeup, and Hot Water Sanitizable Product Families is complete on the Distribution sub-system and requires simple control interconnect to be field installed from the Main Control Panel to the remainder of the sub-systems.

Electrical requirements for all systems is a source of 3-phase power, Client provided, connected to the Main Control Panel. Power for instrumentation, PLC, UV lights, and convenience outlets is provided by an on-board control transformer. The control system is a UL listed device, pre-wired, and functionally tested prior to shipment. (NOTE: BP systems do not store data in any electronic fashion; therefore, there are no concerns with equipment being CFR Part 11 compliant. Any data transmitted to a Client’s building management software from a BP system must be provided for as an aspect of the Client’s security program.)

Equipment Packages:

Descriptions of a complete equipment package for each Product Family is provided below.	
Exchange Deionization	Single skid containing Pre-treatment and Distribution
Non-recirculating Makeup	Multiple skids including: Pre-treatment, Reverse Osmosis, Storage Tank, Storage Tank Accessory Kit, and Distribution
Continuous Recirculating Makeup	Multiple skids including: Pre-treatment, Reverse Osmosis, <i>Optional</i> XDI/CEDI Makeup, Storage Tank, Storage Tank Accessory Kit, and Distribution
Hot Water Sanitizable	Multiple skids including: Pre-treatment, Reverse Osmosis, <i>Optional</i> XDI/CEDI Makeup, Storage Tank, Storage Tank Accessory Kit, Distribution, and Pre-treatment/Distribution Heat Exchangers

Exchange Deionization (BPE) Component Selection Matrix

Select Select Select Select Select
Select Select Select Select Select Select Select Select
EXAMPLE PART NUMBER
BPE 006 PVC BPS X
EXAMPLE OPTIONS
SZD X X X X X X X

FIELD 1	BP Series Exchange Deionization System	
	Code	Code Description
	BPE	BP Series Exchange Deionization System

FIELD 2	Flow: Enter the code for the desired treated water flow.	
	Code	Code Description
		Loop Supply Flow Rate GPM
	002	4 (10)
	006	6 (22)
	012	12 (45)
	020	20 (75)
030	30 (113)	

FIELD 3	Pretreatment Pipe Material: Enter the code for the desired pretreatment piping material. If another material is required, please contact the Customer Service Department at (813) 888-6300 or email inquiries@psconline.net .	
	Code	Code Description
	PVC	Schedule 80 PVC

FIELD 4	Post-Treatment Pipe Material: Enter the code for the desired piping material.	
	Code	Code Description
	PVC	Schedule 80 PVC
	CPV	Schedule 80 CPVC
	BPS	Beta Polypropylene, Socket Fusion
	BPB	Beta Polypropylene, Butt Fusion
	NPS	Natural Polypropylene, Socket Fusion
	NPB	Natural Polypropylene, Butt Fusion
	PFS	PVDF, Socket Fusion
	PFB	PVDF, Butt Fusion
	BCF	PVDF, Bead and Crevice Free
	SSS	Sanitary Stainless Steel, 316SS

FIELD 5	Options Enter the code for the desired options.	
	Code	Code Description
	CLE	Cooling Exchanger
	TUV	TOC Ultraviolet Unit with Light Traps

FIELD 6	Additional Services: Enter the codes for the desired additional services.	
	Code	Code Description
	FSP	Factory System Passivation
	WHD	Welding Documentation
	SZC	Seismic Zone Wet Stamp
	SZD	Seismic Zone Drawings Only (Calculations by Others)
	BSI	Boroscope Inspection
	FSP	Factory System Passivation
	TOC	Replacement of Standard Thornton M300 Quality Monitor with a Thornton 770MAX having Optional TOC Monitoring Package
	PNV	Replacement of Hard Switches and Lights Mounted on the Main Control Panel Door with a Panel View Device

Non-Recirculating Make-Up (BPN) Component Selection Matrix

Select	Select	Select	Select	Select	Select	Select	Select
Select	Select	Select	Select	Select	Select	Select	Select

EXAMPLE PART NUMBER

BPN	008	PVC	BPS	TFV1000	POL	BUV	FFF
------------	------------	------------	------------	----------------	------------	------------	------------

EXAMPLE OPTIONS

SZD	X	X	X	X	X
------------	----------	----------	----------	----------	----------

FIELD 1	BP Series Non-Recirculating Make-Up System	
	Code	Code Description
	BPN	BP Series Non-Recirculating Make-Up System

FIELD 2	Flow: Enter the code for the desired treated water flow.	
	Code	Code Description
		Loop Supply Flow Rate GPM(LPM)
	002	4 (10)
	008	8 (30)
	016	16 (60)
	030	30 (113)
050	50 (189)	

FIELD 3	Pretreatment Pipe Material: Enter the code for the desired pretreatment piping material. If another material is required, please contact the Customer Service Department at (813) 888-6300 or email inquiries@psconline.net .	
	Code	Code Description
	PVC	Schedule 80 PVC

FIELD 4	Post-Treatment Pipe Material: Enter the code for the desired piping material.	
	Code	Code Description
	PVC	Schedule 80 PVC
	CPV	Schedule 80 CPVC
	BPS	Beta Polypropylene, Socket Fusion
	BPB	Beta Polypropylene, Butt Fusion
	NPS	Natural Polypropylene, Socket Fusion
	NPB	Natural Polypropylene, Butt Fusion
	PFS	PVDF, Socket Fusion
	PFB	PVDF, Butt Fusion
	BCF	PVDF, Bead and Crevice Free
SSS	Sanitary Stainless Steel, 316SS	

FIELD 5	Storage Tank and Vent: Enter the code for the desired Storage Tank Size and Vent type.	
	Code	Code Description
	TVF0100	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 100 (378), with Standard Vent Filter
	TVF0200	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 200 (757), with Standard Vent Filter
	TVF0350	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 350 (1324), with Standard Vent Filter
	TVF0500	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 500 (1892), with Standard Vent Filter
	TVF0750	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 750 (2839), with Standard Vent Filter
	TVF1000	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 1000 (3785), with Standard Vent Filter
	TVF2000	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 2000 (7570), with Standard Vent Filter
	TVV0100	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 100 (378), with Optional Conservation Vent
	TVV0200	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 200 (757), with Optional Conservation Vent
	TVV0350	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 350 (1324), with Optional Conservation Vent
	TVV0500	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 500 (1892), with Optional Conservation Vent
	TVV0750	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 750 (2839), with Optional Conservation Vent
	TVV1000	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 1000 (3785), with Optional Conservation Vent
TVV2000	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 2000 (7570), with Optional Conservation Vent	

FIELD 6	Options Enter the code for the desired options.	
	Code	Code Description
	POL	Polish Deionization
	BUV	Bacteria Destruct Ultraviolet Unit
	FFF	Final Filter

FIELD 7	Additional Services: Enter the codes for the desired additional services.	
	Code	Code Description
	FSP	Factory System Passivation
	WHD	Welding Documentation
	SZC	Seismic Zone Wet Stamp
	SZD	Seismic Zone Drawings Only (Calculations by Others)
	BSI	Boroscope Inspection
	FSP	Factory System Passivation
	TOC	Replacement of Standard Thornton M300 Quality Monitor with a Thornton 770MAX having Optional TOC Monitoring Package
	PNV	Replacement of Hard Switches and Lights Mounted on the Main Control Panel Door with a Panel View Device

Continuous Recirculating Make-Up (BPR) Component Selection Matrix

Select	Select	Select	Select	Select	Select	Select	Select	Select
Select	Select	Select	Select	Select	Select	Select	Select	Select

EXAMPLE PART NUMBER

BPR	008	PVC	BPS	XDI	TFV1000	POL	BUV	FFF
------------	------------	------------	------------	------------	----------------	------------	------------	------------

EXAMPLE OPTIONS

SZD	X	X	X	X	X
------------	----------	----------	----------	----------	----------

FIELD 1	BP Series Continuous Recirculating Make-Up System	
	Code	Code Description
	BPR	BP Series Continuous Recirculating Make-Up System

FIELD 2	Flow: Enter the code for the desired treated water flow.	
	Code	Code Description
		Loop Supply Flow Rate GPM(LPM)
	002	4 (10)
	008	8 (30)
	016	16 (60)
	030	30 (113)
050	50 (189)	

FIELD 3	Pretreatment Pipe Material: Enter the code for the desired pretreatment piping material. If another material is required, please contact the Customer Service Department at (813) 888-6300 or email inquiries@psconline.net .	
	Code	Code Description
	PVC	Schedule 80 PVC

FIELD 4	Post-Treatment Pipe Material: Enter the code for the desired piping material.	
	Code	Code Description
	PVC	Schedule 80 PVC
	CPV	Schedule 80 CPVC
	BPS	Beta Polypropylene, Socket Fusion
	BPB	Beta Polypropylene, Butt Fusion
	NPS	Natural Polypropylene, Socket Fusion
	NPB	Natural Polypropylene, Butt Fusion
	PFS	PVDF, Socket Fusion
	PFB	PVDF, Butt Fusion
	BCF	PVDF, Bead and Crevice Free
	SSS	Sanitary Stainless Steel, 316SS

FIELD 5	Optional Make-Up Polish: Enter the code for the desired Make-Up Polish Components. If Make-Up Polish is not required, place an X in this field.	
	Code	Code Description
	CEDI	Continuous Electro-Deionization
	XDI	Exchange Deionization

FIELD 6	Storage Tank and Vent: Enter the code for the desired Storage Tank Size and Vent type.	
	Code	Code Description
	TVF0100	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 100 (378), with Standard Vent Filter
	TVF0200	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 200 (757), with Standard Vent Filter
	TVF0350	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 350 (1324), with Standard Vent Filter
	TVF0500	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 500 (1892), with Standard Vent Filter
	TVF0750	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 750 (2839), with Standard Vent Filter
	TVF1000	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 1000 (3785), with Standard Vent Filter
	TVF2000	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 2000 (7570), with Standard Vent Filter
	TVV0100	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 100 (378), with Optional Conservation Vent
	TVV0200	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 200 (757), with Optional Conservation Vent
	TVV0350	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 350 (1324), with Optional Conservation Vent
	TVV0500	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 500 (1892), with Optional Conservation Vent
	TVV0750	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 750 (2839), with Optional Conservation Vent
	TVV1000	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 1000 (3785), with Optional Conservation Vent
	TVV2000	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 2000 (7570), with Optional Conservation Vent

FIELD 7	Options Enter the code for the desired options.	
	Code	Code Description
	POL	Polish Deionization
	BUV	Bacteria Destruct Ultraviolet Unit
	FFF	Final Filter

FIELD 8	Additional Services:	
	Enter the codes for the desired additional services.	
	Code	Code Description
	FSP	Factory System Passivation
	WHD	Welding Documentation
	SZC	Seismic Zone Wet Stamp
	SZD	Seismic Zone Drawings Only (Calculations by Others)
	BSI	Boroscope Inspection
	FSP	Factory System Passivation
	TOC	Replacement of Standard Thornton M300 Quality Monitor with a Thornton 770MAX having Optional TOC Monitoring Package
PNV	Replacement of Hard Switches and Lights Mounted on the Main Control Panel Door with a Panel View Device	

Hot Water Sanitizable (BPH) Component Selection Matrix

Select	Select	Select	Select	Select	Select	Select	Select	Select
--------	--------	--------	--------	--------	--------	--------	--------	--------

Select	Select	Select	Select	Select	Select	Select	Select
--------	--------	--------	--------	--------	--------	--------	--------

EXAMPLE PART NUMBER

BPH	008	PVC	SSS	TFV1000	POL	BUV	FFF
------------	------------	------------	------------	----------------	------------	------------	------------

EXAMPLE OPTIONS

SZD	X	X	X	X	X
------------	----------	----------	----------	----------	----------

FIELD 1	BP Series Hot Water Sanitizable System	
	Code	Code Description
	BPH	BP Series Hot Water Sanitizable System

FIELD 2	Flow: Enter the code for the desired treated water flow.	
	Code	Code Description
		Loop Supply Flow Rate GPM(LPM)
	002	4 (10)
	008	8 (30)
	016	16 (60)
	030	30 (113)
	050	50 (189)

FIELD 3	Pretreatment Pipe Material: Enter the code for the desired pretreatment piping material. If another material is required, please contact the Customer Service Department at (813) 888-6300 or email inquiries@psconline.net .	
	Code	Code Description
	PVC	Schedule 80 PVC

FIELD 4	Post-Treatment Pipe Material: Enter the code for the desired piping material.	
	Code	Code Description
	CPV	Schedule 80 CPVC
	SSS	Sanitary Stainless Steel, 316SS

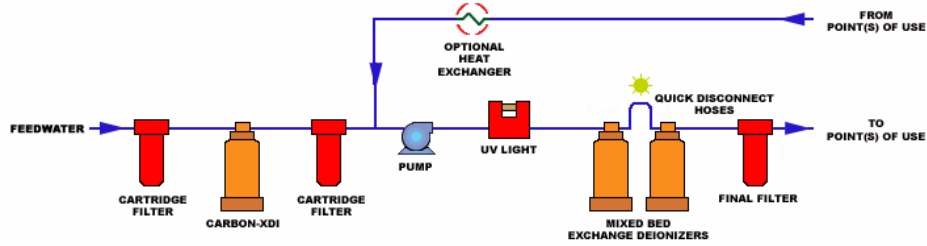
FIELD 5	Optional Make-Up Polish: Enter the code for the desired Make-Up Polish Components. If Make-Up Polish is not required, place an X in this field.	
	Code	Code Description
	CEDI	Continuous Electro-Deionization
	XDI	Exchange Deionization

FIELD 6	Storage Tank and Vent: Enter the code for the desired Storage Tank Size and Vent type.	
	Code	Code Description
	TVV0100	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 100 (378), with Optional Conservation Vent
	TVV0200	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 200 (757), with Optional Conservation Vent
	TVV0350	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 350 (1324), with Optional Conservation Vent
	TVV0500	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 500 (1892), with Optional Conservation Vent
	TVV0750	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 750 (2839), with Optional Conservation Vent
	TVV1000	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 1000 (3785), with Optional Conservation Vent
	TVV2000	Conical-Bottom, Polyethylene Tank with Steel Epoxy Coated Stand, 2000 (7570), with Optional Conservation Vent

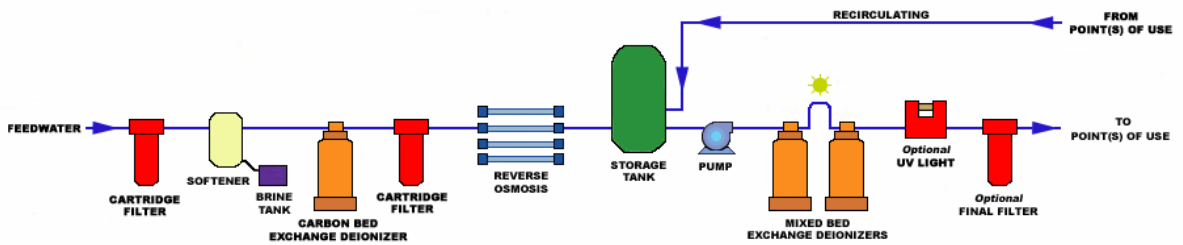
FIELD 7	Options Enter the code for the desired options.	
	Code	Code Description
	POL	Polish Deionization
	BUV	Bacteria Destruct Ultraviolet Unit
	FFF	Final Filter

FIELD 8	Additional Services: Enter the codes for the desired additional services.	
	Code	Code Description
	FSP	Factory System Passivation
	WHD	Welding Documentation
	SZC	Seismic Zone Wet Stamp
	SZD	Seismic Zone Drawings Only (Calculations by Others)
	BSI	Boroscope Inspection
	FSP	Factory System Passivation
	TOC	Replacement of Standard Thornton M300 Quality Monitor with a Thornton 770MAX having Optional TOC Monitoring Package
	PNV	Replacement of Hard Switches and Lights Mounted on the Main Control Panel Door with a Panel View Device

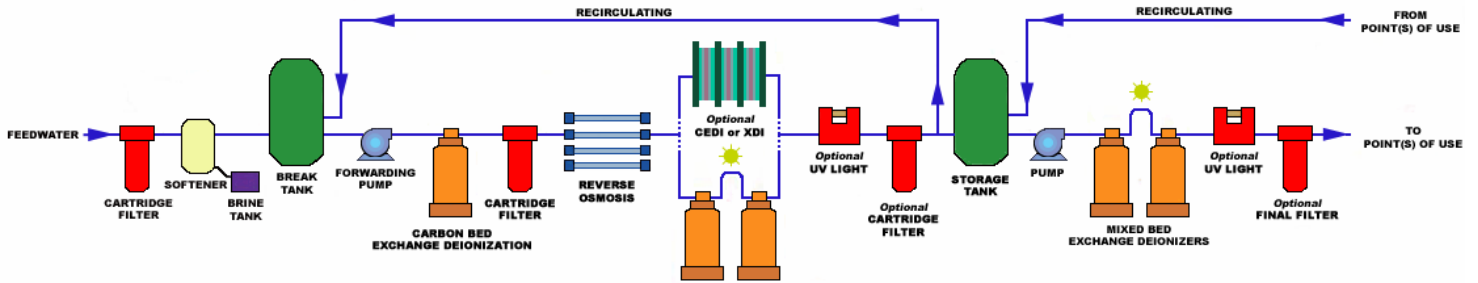
Exchange Deionization (BPX) Process Flow Diagram



Non-recirculating Makeup (BPN) Process Flow Diagram



Continuous Recirculating Makeup (BPR) Process Flow Diagram



Hot Water Sanitizable (BPH) Process Flow Diagram

