

H₂O_{SS} Selection Matrix

Make-Up Deionization Components

Product Description/Equipment Specifications

FLEXIBILITY
LATITUDE
ENGINEERING
EXECUTION
EXCELLENCE

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



General Description:

The primary purpose of Make-Up components is further polish Reverse Osmosis (RO) permeate prior to Storage. Depending on the modules chosen, RO may be further purified by Deionization Ultraviolet Irradiation (bacteria or total organic carbon reduction), and/or filtration. Typically water is also recirculated from Distribution Skid through Make-Up components.

Mechanical Description:

A powder coated carbon steel structural frame supports the major components. These frames are configured to provide maximum support while allowing access for maintenance and operation. If more than one option is selected, they will be mounted on a single frame

The standard piping for the Make-Up components is schedule 80 PVC (other materials available). The typical Make-Up components are built to install from left to right and be positioned lengthwise along a wall (custom configurations available).

Utility Connections:

Utility connections for the Make-Up components are simple; requiring a feed water source, a power source, drain access, and connections to the downstream equipment.

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| Electrical Service (If Applicable): | 115 VAC, 1 phase, 60 Hz |
| Feed Water Source: | Reverse Osmosis Permeate |
| Pretreatment outlet: | Connection to Storage Tank |
| Drain connections: | Direct access to drain |

Factory Procedures:

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| Assembly | Fully assembled at factory. |
| Piping / Wiring | Fully wired and piped at the factory. |
| Testing | Hydrostatic pressure test, Factory functional test (<i>Optional FAT available</i>). |
| Shipping preparation | Crated for domestic shipment (some components may be removed for protection prior to shipment). Global freight preparation available. |

Regulations and Standards:

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| Quality System | Factory procedures. |
| Plastic Joining | PVC solvent welding. |
| Carbon Steel Frame | ASME Compliant. |
| Electrical and Controls | Underwriters Laboratory (UL), National Electrical Code (NEC). |
| NEMA rating | NEMA 4 / 12 |
| Pipe Pitching | Piping on skids is NOT pitched - it is plumb and true. If system pitching is required, please request at time of proposal. |
| Seismic rating | None (<i>Optional Seismic calculations available, must request at time of proposal</i>). |



Make-Up Deionization Component Selection Matrix

Select Select Select Select Select Select Select

Select Select Select Select Select Select

EXAMPLE PART NUMBER

MXDR 030 PVC 5 UVB 2 Q1

EXAMPLE ADDITIONAL SERVICES

SZD X X X X X

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| NOTES: | ¹ Schedule 80 CPVC and Sanitary Stainless Steel are the only available piping options when selecting hot water sanitizable deionization components. |
| | ² All applicable exchange carbon tanks and hoses are supplied by Others |
| | ³ If multiple selections are chosen and components such as pressure gauges, sample valves and manual valves become redundant, the redundant components will be removed. |

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| FIELD 1 | Make-Up Deionization Components: | |
| | Enter the code for the type of Make-Up Deionization Components desired. All deionization selections include the applicable inlet and outlet isolation valves, sample valves, pressure gauges, flow switches and flow meters. | |
| | Code | Code Description |
| | MCDR | Make-Up Continuous Deionization Components |
| | MXDR | Make-Up Exchange Deionization Components |
| MCDH | Make-Up Continuous Deionization Components-Hot Water Sanitizable ¹ | |
| MXDH | Make-Up Exchange Deionization Components-Hot Water Sanitizable ¹ | |

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| FIELD 2 | Flow Rate GPM (LPM): | | | |
| | Enter the code for the desired product flow. | | | |
| | Code | Code Description | | |
| | | CDI Available Flow Rates | | |
| | | <i>Minimum</i> | <i>Nominal</i> | <i>Maximum</i> |
| | 004 | 0.67 (2.54) | 2 (7.6) | 3 (11.4) |
| | 010 | 2.5 (9.5) | 5 (18.9) | 7.5 (28.4) |
| | 024 | 6.25 (23.7) | 12.5 (47.3) | 18.7 (70.8) |
| | 301 | 7.5 (28.4) | 15 (56.7) | 22.5 (85) |
| | 302 | 15 (56.7) | 30 (113.6) | 45 (170.3) |
| | 303 | 22.5 (85) | 45 (170.3) | 67.5 (255.5) |
| | 402 | 25 (94.6) | 50 (189) | 75 (284) |
| | | XDI Available Flow Rates | | |
| | 010 | 1 (3.8) | | |
| | 020 | 1.4 (5.3) | | |
| | 030 | 2.7 (10.2) | | |
| | 050 | 4.4(16.7) | | |
| | 080 | 9.2 (34.8) | | |
| | 150 | 15 (56.8) | | |
| | 260 | 26 (98.4) | | |
| 380 | 38 (143.8) | | | |
| 750 | 75 (283.5) | | | |
| 999 | 100 (378) | | | |

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| FIELD 3 | 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 | |

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| FIELD 4 | DI Resin Filtration: Enter the appropriate code if a resin filter is required. If a resin filter is not required, place an X in this field. Included with the resin filter are inlet and outlet pressure gauges, sample valves and isolation valves. ³ Note: Filter housing selection based on 2GPM per 10" filter cartridge equivalent. FLEXX partner provides filter cartridges--advise Process Systems and Components, Inc. of lower cartridge flow rate rating. | |
| | Code | Code Description |
| | 5 | Resin Filter |

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| FIELD 5 | Ultraviolet Unit: Enter the code for the appropriate ultraviolet unit. If an ultraviolet unit is not required, place an X in this field. Included with the ultraviolet unit are a set of stainless steel light traps and an outlet pressure gauge and sample valve. ³ | |
| | Code | Code Description |
| | UVB | Bacteria Destruct Ultraviolet Unit with Monitoring Package and Light Traps. NOTE: Depending on the chosen flow rate, a monitoring package may not be available for the appropriate ultraviolet unit. Please contact the Process Systems & Components, Inc. Customer Service Department with any questions at (813) 888-6300 or email inquiry@psconline.net. |
| | UVT | TOC Destruct Ultraviolet Unit with Monitoring Package and Light Traps. NOTE: Depending on the chosen flow rate, a monitoring package may not be available for the appropriate ultraviolet unit. Please contact the Process Systems & Components, Inc. Customer Service Department with any questions at (813) 888-6300 or email inquiry@psconline.net. |

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| FIELD 6 | Post Filtration: Enter the appropriate code if a post filter is required. If a post filter is not required, place an X in this field. Included with the post filter are inlet and outlet pressure gauges, sample valves and isolation valves. ³ | |
| | Code | Code Description |
| | 2 | Post Filter |

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| FIELD 7 | Quality Instrumentation: Enter the code for the appropriate instrumentation package for your system. If an instrumentation package is not required, place an X in this field. NOTE: See the Main Control Panel Matrix for corresponding monitors and transmitters for these instruments. | |
| | Code | Code Description |
| | Q1 | Final Resistivity/Conductivity Sensor and Patch Cord |
| | Q2 | Worker/ Polisher Resistivity/Conductivity Sensors and Patch Cords |

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| FIELD 8 | Additional Services: Enter the codes for the desired additional services. | |
| | Code | Code Description |
| | FSP | Factory System Passivation |
| | PGC | Pressure Gauge Calibration |
| | WHD | Welding Documentation |
| | SZC | Seismic Zone Wet Stamp |
| | SZD | Seismic Zone Drawings Only (Calculations by Others) |
| BSI | Boroscope Inspection | |



PROCESS & INSTRUMENTATION DIAGRAM

