



AquaPhoenix[®]

S C I E N T I F I C

Corrosion Coupon Rack Operations & Maintenance Manual



**Record Your Model, Serial Number and
Other Information on the back of this document.**

Manufacturing: Bypass & Filter Feeders, Glycol Feed Packages, Separators & Separator Systems, Tanks, Tank Stands, Chemical Batch Mixers, Corrosion Coupon Racks, Packaged Feed Systems and Custom Systems

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***** WARNING – BEFORE YOU GET STARTED *****

- 1) All fasteners & fittings should be inspected and secured before operation as they may be loosened in transit
- 2) Personnel safety practices should apply
- 3) Safety glasses or face shields and gloves should be worn
- 4) Do not service glycol feed package without disconnecting power
- 5) Close isolation valve and release pressure before servicing any components on the system
- 6) All liquids in system should be drained before servicing

1.0 INTRODUCTION Thank you for choosing AquaPhoenix's Corrosion Coupon Rack. This industrial, assembly comes complete and ready to install. In this document we explain the basics for locating, installing and operating this corrosion coupon rack. Contact the factory for further assistance.

2.0 WARRANTY AquaPhoenix's Corrosion Coupon Racks are guaranteed for two years from date of shipment against manufacturing defects in material and workmanship that develop in the service for which they are designed. We will repair or replace a defective part of this system when returned to our factory with freight prepaid; providing that the part is found to be defective upon inspection. We assume no liability for labor and/or other expenses in making repairs or adjustments.

3.0 UNPACKING Upon receipt of order, inspect package thoroughly. In the event damage occurred in transit you must notify the freight company within **3-5 days of receipt of order**. Once system is inspected for damage and received in good condition, store indoors until installing.

3.1 ORDER VERIFICATION In order to verify receipt of correct product, use the following table and model number to identify the contents.

| MODEL | | | | | |
|-------|---|----|-----|---------------------|--|
| PCR- | 2 | 07 | SPV | | |
| | | | | OPTIONS | |
| | | | | HT | High Temperature Coupon Holders (Steel Racks Only) |
| | | | | SVP | PVC Sample Valve |
| | | | | FI10 | Flow Indicator, 10GPM |
| | | | | FCP05 | Flow Control Valve, PVC, 5GPM |
| | | | | FCB05 | Flow Control Valve, Brass, 5GPM |
| | | | | LINE SIZE | |
| | | | | 07 | 3/4 Pipe Size |
| | | | | 10 | 1" Pipe Size |
| | | | | # OF SAMPLES | |
| | | | | 1 - 6 | 1 to 6 Point Coupon Rack |
| | | | | MATERIAL | |
| | | | | PCR | PVC Polyvinylchloride |
| | | | | CPCR | CPVC Chlorinated Polyvinylchloride |
| | | | | CSCR | Carbon Steel |
| | | | | SSCR | Stainless Steel, 316 |

Note: Not all options and sizes available on all systems. Contact factory for complete list.

4.0 LOCATION AND ENVIROMENT Although there are no power requirements, corrosion coupon rack should not be exposed to direct elements. In the case there is no dry location that is convenient to install the corrosion coupon rack, a shelter, awning or shed should be installed to extend product life and validate warranty.

5.0 INSTALLATION Once location is decided on, coupon rack need to be securely mounted to wall studs using mounting brackets supplied. **Be sure that anchoring bolts comply with local building codes.** It is best to run coupon rack on new systems for approximately one week. All new piping systems have residual chemicals, oils, etc. that need to be flushed out before starting sample corrosion testing. After initial flushing, close isolation valves and install corrosion samples. Before opening isolation valves and starting corrosion testing is sure to note sample material and installation date on tags provided.

5.1 CONNECTING TO SYSTEM Corrosion coupon racks should be installed within 10 to 30 feet of system. **Flow should be from bottom to top to eliminate trapped air.** Corrosion coupon rack flow should have similar characteristics as system flow rate (in feet per second). Corrosion rate can be increased due to erosion. Contact factory for help.

5.2a REMOVING CORROSION SAMPLE (Plastic Models PCR & CPCR)

- 1) Relieve pressure before removing the sample holder.
- 2) Loosen sample union by hand. Do not use pipe or strap wrench to secure or loosen union. This may damage union or threads.
- 3) When removing the sample holder, be careful not to lose the union O-ring which is located on the union end connected to the corrosion coupon rack.
- 4) Inspect sealing surface and O-ring for debris or damage.
- 5) Loosen sample screw gently as not to strip nylon screw. Screws do become brittle over time.

5.2b REMOVING CORROSION SAMPLE (Steel Models CSCR & SSCR)

- 1) Relieve pressure before removing sample holder.
- 2) Loosen/unscrew sample holder with adjustable or wrench that can open 1.3".
- 3) Sample holder is manufactured from PVDF plastic and comes standard with ¾" NPT threads. Threads will need to be Teflon taped when reinserting to system.
- 4) Loosen sample screw gently as not to strip the polycarbonate screw. Screws do become brittle over time.

6.0 PRESSURE AND TEMPERATURE LIMITATIONS: Plastic Corrosion Coupon Racks maximum operating perimeters are 100PSI @ 85F. Steel Corrosion Coupon Racks maximum operating perimeters are 120PSI @ 150F (Optional "HT" coupon holders rate steel racks at 150PSI/200F). Some optional fittings may change limitations, contact factory for assistance.

| MATERIAL | MAXIMUM SHORT TERM TEMPERATURE | MAXIMUM OPERATING TEMPERATURE | MAXIMUM OPERATING PRESSURE |
|--------------------------------------|--------------------------------|-------------------------------|----------------------------|
| Polyethylene (PE) | 160°F/69°C | 85°F/36°C | N/A |
| Polyvinylchloride (PVC) | 140°F/60°C | 85°F/36°C | 100PSI/6.9BAR |
| Chlorinated Polyvinylchloride (CPVC) | 180°F/77°C | 120°F/49°C | 100PSI/6.9BAR |
| Polypropylene (PP) | 180°F/77°C | 100°F/49°C | 100PSI/6.9BAR |
| Carbon Steel (CS) | 200°F/93°C | 200°F/93°C | 150PSI/10.3BAR |
| Cast Iron (CI) | 200°F/93°C | 200°F/93°C | 150PSI/10.3BAR |
| Brass (BR) | 200°F/93°C | 200°F/93°C | 150PSI/10.3BAR |
| Stainless Steel (SS) | 200°F/93°C | 200°F/93°C | 150PSI/10.3BAR |

Note: Minimum Fluid Temperature is 50°F/10°C.

7.0 ROUTINE MAINTENANCE Routine maintenance in this section is referred to as checking once a month until a maintenance schedule can be determined. **All fasteners should be check for proper operations.** Maintenance and care will depend upon the usage and environment in which the coupon rack is subject to. Once the corrosion sample has been installed, periodically check for leaks and or tampering is all that is needed. Please contact your Water Doctor or chemical supplier for Coupon Test duration and or inspection.

8.0 PARTS LISTING In the following diagrams, the systems are shown with tables itemizing parts that may be replaced in the field. If further breakdown is needed, call us for assistance.

| PART | PVC | CPVC | CS | SS |
|------------------------------------|---------------------------------------|------------|------------|------------|
| Coupon Holder, 3/4" | PCH07 | CPCH07 | CSCH07 | SSCH07 |
| Coupon Holder, 1" | PCH10 | CPCH10 | CSCH10 | SSCH10 |
| Isolation Valve, 3/4" | 0130050 | 0130051 | 0130052 | 0130053 |
| Isolation Valve, 1" | 0130055 | | 0130056 | |
| Poly Mounting Backboard and Awning | PBMS24 (1-3 point racks, 24" version) | | | |
| | PBMS36 (4-6 point racks, 36" version) | | | |
| Nylon Set Screw | CPSS-NYLON | CPSS-NYLON | | |
| Polycarbonate Set Screw | | | CPSS-POLYC | CPSS-POLYC |
| Sample ID Tag | | | CPTAG | |

9.0 TESTING AND EVALUATION Once duration for testing has expired (determined by others) isolate coupon rack and remove samples. Included with your corrosion sample order was a evaluation test report. This report and brief test duration is all that is needed for a proper evaluation. If you no longer have the initial paperwork, please contact your source and request a copy. These coupon sample should be sent directly to:

Pacific Sensor Inc.

11303 Slater Ave.

Fountain Valley, CA 92708

Phone 714-435-0424 Fax 714-435-1344

Metal Samples Inc.

P.O. Box 8

Munford, AL 36268

Phone 256-358-4202 Fax 256-358-4515

<http://www.pacificsensor.com/>

<http://www.alspi.com/>

10.0 TROUBLE SHOOTING

| PROBLEM | POSSIBLE CAUSE / ACTION |
|---|---|
| Leaking at coupon holder: | Plastic coupon racks are sealed by a O-ring. The O-ring has fallen out, debris is on the surface or the O-ring cut or scored. Inspect and replace as needed. |
| | Steel coupon racks are sealed by NPT pipe threads and Teflon tape. Remove, clean up, inspect and re-tape. Replace when needed. |
| Coupons have abnormal wear on edges: | This is a common problem with high flow rates. The sample are eroding. Monitor and control flow rates with flow control valves or installing a globe or gate valve. |

If you are having problems, contact the factory for assistance.

11.0 NOTES

12.0 PRODUCT LABEL

Model:

Serial Number:
