



COOLING / HEATING COILS

GENERAL INSTALLATION OPERATION AND MAINTENANCE

COIL TYPES

CHILLED WATER / GLYCOL

HOT WATER / GLYCOL

DIRECT EXPANSION (EVAPORATIVE COOLING)

STEAM DISTRIBUTING

STANDARD STEAM

P.O. Box 409 / 15 East Oklahoma Avenue
Okarche, Oklahoma 73762
Tel: 405-263-7286 Fax: 405-263-4980
Web Site; www.temtrol.com



Type WC - CHILLED WATER / GLYCOL

Type WC - HOT WATER / GLYCOL

Type Z, A - HOT WATER / GLYCOL

- 1) Water coils should be mounted level to insure complete drain ability. The headers should be in the vertical position with the tubes in the horizontal position for a horizontal airflow application.
 - a. Vertical airflow applications are available. The circuit arrangement of the coil must be altered from the standard horizontal airflow coil. This must be specified when the coil is ordered.
- 2) Air seal or tie off to direct the airflow across the finned area should be on the entering airside of the casing.
- 3) Water coils should be installed with counter flow air and water for maximum heat transfer. This means the entering water will enter the coil on the leaving airside of the coil, then traveling through the coil opposite of the airflow.
- 4) Water supply connection at the bottom on the leaving airside. The drain will be located at the bottom of this header (lowest point of circuit for draining).
- 5) Water return connection at the top on the entering airside. The vent will be located at the top of this header (highest point of circuit for venting).
- 6) All field piping must be self-supporting. System piping should be flexible enough to allow for thermal expansion and contraction of the coil.
- 7) Once the coil is installed and piped, pressurize with dry nitrogen or other suitable gas to check for leaks. If the coil itself leaks contact your TEMTROL representative for details. Unauthorized repair to the coil may void the warranty.

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Type DX - DIRECT EXPANSION (EVAPORATIVE COOLING)

- 1) DX coils should be mounted level to insure proper oil return. The headers should be in the vertical position with the tubes in the horizontal position for a horizontal airflow application.
 - a. Vertical airflow applications are available. The circuit arrangement of the coil must be altered from the standard horizontal airflow coil. This must be specified when the coil is ordered.
- 2) Air seal or tie off to direct the airflow across the finned area should be on the entering airside of the casing.
- 3) DX coils should be installed with counter flow air and refrigerant for maximum heat transfer. This means the entering liquid refrigerant will enter the coil on the leaving airside of the coil, then traveling through the coil opposite of the airflow.
- 4) DX coils are supplied with refrigerant distributors on the leaving airside. The Thermal Expansion Valve (TXV) mounts to the distributor. The liquid refrigerant is then supplied to the TXV.
- 5) The refrigerant return (suction line) will be the header on the entering airside.
- 6) If you have a multi circuit coil (more than one distributor and suction). They will be numbered for piping inlet and outlet.
- 7) All field piping must be self-supporting. System piping should be flexible enough to allow for thermal expansion and contraction of the coil.
- 8) Once the coil is installed and piped, pressurize with dry nitrogen or other suitable gas to check for leaks. If the coil itself leaks contact your TEMTROL representative for details. Unauthorized repair to the coil may void the warranty.



Type NS, NO, NOD - STEAM DISTRIBUTING

- 1) Steam distributing coils should always be mounted with tubes pitched toward the return end to insure proper condensate removal. The headers should be in the vertical position with the tubes in the horizontal position for a horizontal airflow application. These coils can be built with the tubes pitched in the casing or not pitched in the casing. Check the casing on the coil for pitched tubes. If the coil has the tubes pitched in the case, mount the coil level.
 - a. Vertical airflow applications are available. The tube pitch and return connection location must be altered from the standard horizontal airflow coil. This must be specified when the coil is ordered.
 - b. Vertical tube applications are available. The tubes are not pitched and steam will be supplied at the top and condensate out the bottom. This must be specified when the coil is ordered.
- 2) Air seal or tie off to direct the airflow across the finned area should be on the entering airside of the casing.
- 3) This type coil can be used for all air temperatures. It has the tube within a tube design to provide the most uniform leaving air temperatures.
- 4) If the air temperature is below freezing maintain a minimum 5-psig steam and do not modulate the steam. Normal usage of this coil is in low-pressure steam systems 5 to 15 psig. **100-psig-steam pressure max.**
- 5) Never operate any steam coil below 2-psig-steam.
- 6) The supply connection is normally in the center of the coil. It is recommended that each supply have it's own supply valve.
- 7) The return connection is always at the bottom of the coil. It is recommended that each return have it's own trap.
- 8) All field piping must be self-supporting. System piping should be flexible enough to allow for thermal expansion and contraction of the coil.
- 9) Once the coil is installed and piped, pressurize with dry nitrogen or other suitable gas to check for leaks. If the coil itself leaks contact your TEMTROL representative for details. Unauthorized repair to the coil may void the warranty.

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Type SS – STANDARD STEAM SAME END CONNECTIONS

- 1) Same end connection Standard Steam coils should always be mounted level to insure that no condensate is trapped causing water hammer. The headers should be in the vertical position with the tubes in the horizontal position for a horizontal airflow application.
 - a. Vertical airflow applications are available. The coil is the same as the horizontal airflow and must be mounted level.
 - b. Vertical tube applications are not available.
- 2) Air seal or tie off to direct the airflow across the finned area should be on the entering airside of the casing.
- 3) Normally used on indoor return air systems with temperatures above freezing.
- 4) Normal usage of this coil is in low-pressure steam systems 5 to 15 psig.
50-psig-steam pressure max.
- 5) This coil is not designed for use with a modulating steam valve to fluctuate capacities.
- 6) Never operate any steam coil below 2-psig-steam.
- 7) The supply connection is normally in the center of the coil. It is recommended that each supply have it's own supply valve.
- 8) The return connection is always at the bottom of the coil. It is recommended that each return have it's own trap.
- 9) All field piping must be self-supporting. System piping should be flexible enough to allow for thermal expansion and contraction of the coil.
- 10) Once the coil is installed and piped, pressurize with dry nitrogen or other suitable gas to check for leaks. If the coil itself leaks contact your TEMTROL representative for details. Unauthorized repair to the coil may void the warranty.



Type SS – STANDARD STEAM OPPOSITE END CONNECTIONS

- 1) Opposite end connection Standard Steam coils should always be mounted with tubes pitched toward the return end to insure proper condensate removal. The headers should be in the vertical position with the tubes in the horizontal position for a horizontal airflow application. These coils can be built with the tubes pitched in the casing or not pitched in the casing. Check the casing on the coil for pitched tubes. If the coil has the tubes pitched in the case, mount the coil level.
 - a. Vertical airflow applications are available. The tube pitch and return connection location must be altered from the standard horizontal airflow coil. This must be specified when the coil is ordered.
 - b. Vertical tube applications are available. The tubes are not pitched and steam will be supplied at the top and condensate out the bottom.
- 2) Air seal or tie off to direct the airflow across the finned area should be on the entering airside of the casing.
- 3) Normally used on indoor return air systems with temperatures above freezing.
- 4) Normal usage of this coil is in low-pressure steam systems 5 to 15 psig.
100-psig-steam pressure max.
- 5) This coil is not designed for use with a modulating steam valve to fluctuate capacities.
- 6) Never operate any steam coil below 2-psig-steam.
- 7) The supply connection is normally in the center of the coil. It is recommended that each supply have it's own supply valve.
- 8) The return connection is always at the bottom of the coil. It is recommended that each return have it's own trap.
- 9) All field piping must be self-supporting. System piping should be flexible enough to allow for thermal expansion and contraction of the coil.
- 10) Once the coil is installed and piped, pressurize with dry nitrogen or other suitable gas to check for leaks. If the coil itself leaks contact your TEMTROL representative for details. Unauthorized repair to the coil may void the warranty.

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MAINTENANCE

If the coil is to deliver its full capacity, both its internal and its external surfaces must be clean. The tubes generally stay clean in pressurized water systems. Should large amounts of scale form when untreated water is used as coolant, chemical or mechanical cleaning of the internal surfaces at frequent intervals is necessary. Water coils should be completely drained if freezing conditions are possible. When coils use evaporating refrigerants, oil accumulation is possible, and occasional checking and oil drainage is desirable.

While outer tube surfaces can be cleaned in a number of ways, they are often washed with low-pressure water and mild detergent. The surfaces can also be brushed and cleaned with a vacuum cleaner. In cases of marked neglect – especially in restaurants, where grease and dirt have accumulated – it is sometimes necessary to remove the coils and wash off the accumulation with steam, compressed air and water, or hot water. The best practice, however is to inspect and service the filters frequently.

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