

GP 03-06-03	Utility Connections to Piping and Equipment	July 2001
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Utility Connections to Piping and Equipment

GP 03-06-03

Scope

[I] This Global Practice (GP) covers the design of steam, industrial water, air, or inert gas connections to piping and equipment.

[I] Cooling water connections to process coolers and condensers, instrument air connections and all connections for chemicals, hydrogen, natural gas and potable water are not within the scope of this Global Practice.

[I] An asterisk (*) indicates that additional information is required. If a job is contracted, this additional information is furnished in the Job Specification.

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1. Definitions

[I] Service categories for utility connections are:

Continuous Service	Used all the time during normal process operations
Frequent Service	Used more than twice a month but not continuously
Infrequent Service	Used less than twice a month
Emergency Service	Used only as required for emergencies

2. Materials

[S] Materials between the utilities specification break and the process line or equipment shall be suitable for the more corrosive condition of the process or utility service for the maximum metal temperature of the connective piping.

3. Design

3.1. Unlined Piping or Equipment

[S] For unlined piping or equipment, the rating of the block valves, check valve and the connective piping from the process line or equipment through the utilities specification break shall be suitable for the more severe line classification of either service.

3.2. Thermally Lined Piping or Equipment

[S] For internal thermally lined piping or equipment, the rating of the block valves, check valve, and connective piping shall be suitable for the maximum calculated or demonstrated metal temperature of the connective piping, and the more severe design pressure of either service. The maximum metal temperature shall be determined taking into account both the case of maximum utility flow and no utility flow.

3.3. Permanently Piped Connections

[O], [R] For continuous, frequent or emergency service, utility connections shall be permanently piped per Figure 1, except for those services listed in Section 3.4.

3.3.1. Connections to Internal Equipment

[S] Utility inlet connections to internal equipment (for example, coils or tube bundles) inside piping or equipment shall be permanently piped as illustrated in Figure 1. The utility system upstream from the process line or equipment through the first block valve and check valve shall be suitable for a minimum design pressure equal to not less than $\frac{3}{4}$ of the process line or equipment design pressure.

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