

## Recommended High Temperature System Components & Suppliers

### Pipe

#### Flanged Installation

##### To 1-1/2" diameter

ASTM A-106 Grade B schedule 40 seamless carbon steel pipe

##### Greater than 2"

ASTM A-53 Grade B schedule 40 seamless carbon steel pipe

#### Threaded Installation

##### To 1" diameter

ASTM A-106 Grade B schedule 80 carbon steel pipe

##### From 1" to 2"

ASTM A-106 Grade B schedule 40 carbon steel pipe

##### Greater than 2"

Threaded installations are not recommended

### Flanges

#### To 4" pipe diameter

ASTM A-181 1/16" raised face 300 lb rating

##### Greater than 4"

ASTM A-181 1/16" raised face 150 lb rating

### Flange Gaskets

#### Flexible graphite

(Grafoil™, Garlock™ or equal).

#### Expanded/filled PTFE below

450°F/232°C (Goretex™, Garlock™ or equal)

### Bolts

ASTM A-193 Grade B7

### Nuts

ASTM A-194 Grade 2H

### Thread Sealant

Deacon 770 P or L or LA-CO Slic-tite Paste

### Valves

#### Control valves

Globe valves provide metal to metal sealing

#### Isolation Valves

Gate valves provide 100% shut off, 0 pressure drop when open

### Pumps

#### Centrifugal

Dean (RA2000/3000 series), MP (HTO series)

### Positive Displacement

Viking Internal Gear Universal Seal

### Pump Seals

Tungsten carbide vs silicon carbide face type mechanical seals are recommended

### O-Rings/Seals

#### To 250°F/121°C

Nitrile rubber

#### To 400°F/204°C:

Fluoroelastomer (Viton™ or equal)

#### Above 400°F/204°C:

Perfluoroelastomer (Chemraz™, Zalak™, Kalrez™ or equal).

### Insulation

Closed cell (Pittsburgh Corning foamed glass) is recommended for all installations.

Mineral fiber, fiber glass or calcium silicate can be installed on straight pipe runs or other locations where the potential for leaks is low. The material should not be used with 2' of a potential leak point. Flanges should not be insulated.

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**Questions? We'd like to hear from you. Call toll-free, 800-222-3611, or fax or e-mail us, or visit our website, [www.paratherm.com](http://www.paratherm.com).**

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