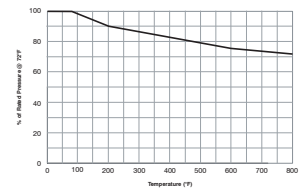


ISO-9001:2000  
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## Technical Information

**MAXIMATOR** has been designing and manufacturing high pressure equipment for more than thirty years and has a worldwide reputation for quality and reliability. Their work is based on a certified quality management system (DIN EN ISO 9001:2000) - the fundamental asset for successfully implementing technical knowledge and experience in the field of complex systems.

### Product features:

- ▶ Maximator's Quality Management System meets all requirements of DIN EN ISO 9001:2000, TÜV Certification to 11-15-2009.
- ▶ All valves, fittings and tubing are designed in accordance with the European Pressure Equipment Directive 97/23/EC.
- ▶ Pressure vs. Temperature chart for 316 cold worked stainless steel.

**High Pressure Technologies** is the West Coast exclusive North American distributor for Maximator products. At HPT our industry experience is unparalleled. Whether General Industrial, Oil & Gas, Water Jet, Chemical or Petrochemical applications, our teams of experienced engineers and highly trained professionals have worked in the high pressure industry for decades and are prepared to support your needs. Our guiding principles are safety, quality, and dependability. Our comprehensive inventory will ensure quick delivery that is unmatched in today's environment.

**Note:** When selecting multiple items, the pressure rating would be that of the lowest rated component.

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# Technical Information

## Pressure vs. Temperature Chart

### Special Designs for Extreme Temperatures

The information in this section is presented as general data for assisting a user in the selection of valves, fittings and tubing for elevated pressure and/or temperature applications in liquid or gas plumbing systems.

To calculate the maximum allowable working pressure at elevated temperatures, multiply the maximum pressure rating of the pressure component at room temperature, by the elevated temperature factor (% of rated Pressure @ 72 °F). This chart represents an average value and is for reference only, other limiting factors may be seal materials and component type configuration.

Maximator's medium, high and ultra-high pressure valves, fittings and tubing are good for most services from light vacuum up to 152,000 psi, depending on the pressure series selected. Coned and threaded type tube fittings, standard on all Maximator valves and fittings, can be used for most liquids and gases including lighter gases such as Hydrogen and Helium.

Compatibility of the valve, fitting and tubing materials with the

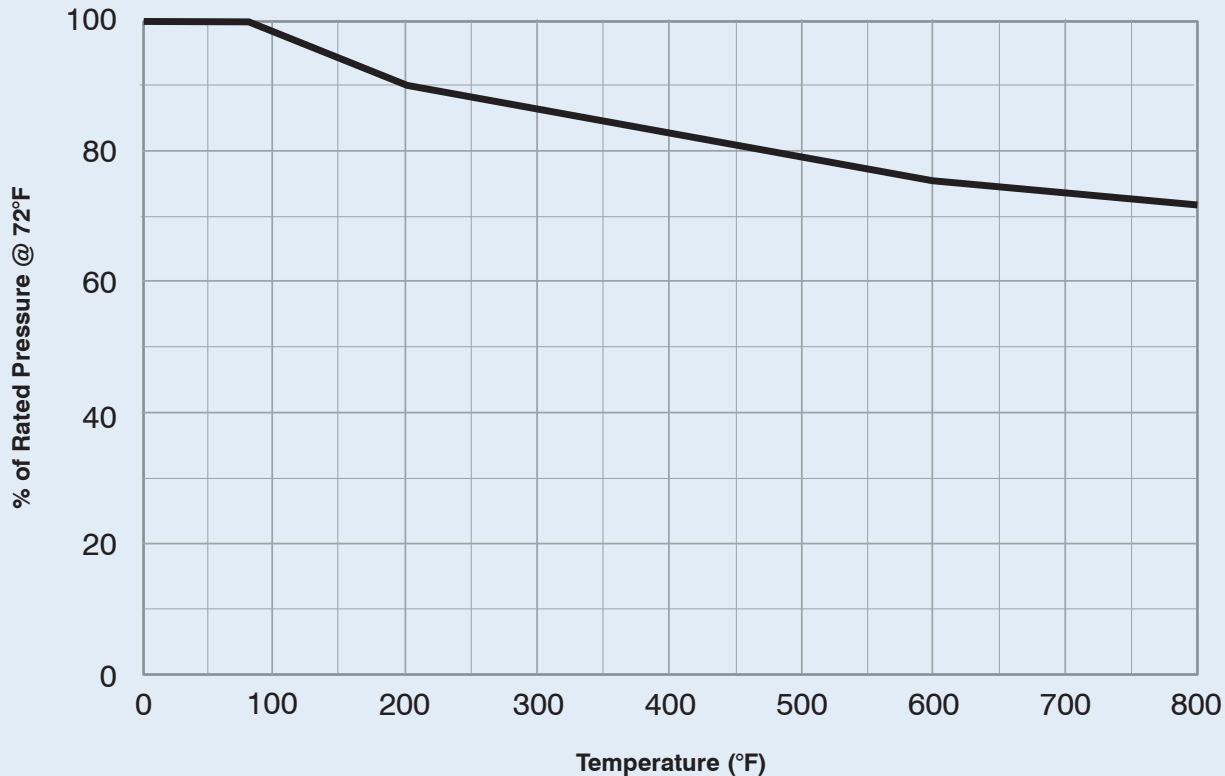
actual process fluid is ultimately the responsibility of the user. HPT can assist in applications but is not an authority on all process fluids.

Some special applications such as Oxygen service require special cleaning and that option is available from HPT Technologies.

Below is a reference chart showing the effects of pressure versus temperature of cold worked 316 stainless steel material. When operating temperatures are above 800 °F, a phenomenon called intergranular corrosion can occur. This condition can permanently change the material properties of the cold worked stainless material. Once the material has seen this elevated temperature, the material is considered to be permanently altered and a lower allowable pressure applies.

Other factors such as creep resistance, packing design and materials, corrosion resistance, cyclic conditions, and other process variables may affect the use of components at elevated temperatures. Consult factory when operating above 800 °F.

**Pressure vs. Temperature Chart  
for cold worked 316 SS**



**Note:** The above pressure temperature chart is for 316 cold worked materials, this chart does not account for the temperature rating of packing or o-ring material which could be the limiting factor. Contact factory for other material limitations.

### 316SS Pressure Components Temperature Table; Valves, Fittings and Tubings

Component Type	Component Catalog Number	Media Temperature		Remarks
		min.	max.***	
Medium Pressure, High Pressure and Ultra High Pressure series Tubing and Fittings	<b>TU, N, F, X, T, L BF, A, AVA, C, G, M, P, TC, UF</b>	-423 °F	1200 °F	
Pipe Fittings	<b>F, X, T, L, BF, P, M</b>	-330 °F	520 °F	Recommendations: 1 °F to 400 °F depending on the application (also see pipe thread sealant data for temperature limitations).
Pipe Valves	<b>15V ....</b>	-60 °F	450 °F	
	<b>15V.... - B</b>	-100 °F	300 °F	
Medium Pressure Valves, High Pressure Valves	<b>21V.... - 65V....</b>	-60 °F	450 °F	
	<b>21V....- B -65V...- B</b>	-100 °F	300 °F	
	<b>21V....- TG -65V....- TG</b>	-60 °F	600 °F	
	<b>21V....- GY 65V....- GY</b>	-60 °F	800 °F	
	<b>21V....- HT -65V....- HT</b>	-60 °F	1200 °F	
	<b>21V....- LT -65V....- LT</b>	-423 °F	450 °F	
Ball Valves	<b>..B....</b>	-4 °F	300 °F	
Check Valves	<b>...OC.. (Standard: Viton Material)</b>	-4 °F	390 °F	Depending on O-Ring material
	<b>....BC..</b>	-330 °F	660 °F	
Safety Head Assemblies	<b>....SH..</b>	-423 °F	660 °F	
Filters	<b>....DF..</b>	-423 °F	660 °F	
	<b>....CF..</b>	-423 °F	660 °F	
Rupture Discs	<b>RD - ...</b>	72 °F		Operating above or below 72 °F will affect disc burst pressure.
Air Valve Actuators Only	<b>....YM..../...YH....</b>	-20 °F	200 °F	
Ball Valve Actuators Only	<b>DA/SA</b>	-4 °F	203 °F	
	<b>EL/EH</b>	0 °F	160 °F	

\*\*\* Important: When operating above ambient temperatures (68 °F) with 316SS cold worked material pressure components, the maximum allowable working pressure must be derated per the "Pressure vs. Temperature Chart" located in this section on page 2.

for the management system  
according to ISO 9001 :2008

The proof of the conforming application with the regulation was  
furnished and in accordance with certification procedure it is certified  
for the company

## MAXIMATOR GmbH

Lange StraBe 6  
99734 Nordhausen  
Germany

### Scope

Design, manufacturing and sale of high pressure technics,  
hydraulics, pneumatics and test technology

Cer1lf1cate Registration No' TIC 15 100 4011

Valid until 2016-11-15  
Valid from: 2013-01-04

AUdil Report No.: 333020WJ MO

InUal certification 1994

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Jonn, 2013-01-04

