



**MATERIALS of CONSTRUCTION**  
 Models: STX3, STX2A, STX1220A  
 STX3-DEF, STX2A-DEF, STX1220A-DEF

Page Number	203-091
Effective	Dec 2015
Replaces	Mar 2012
Section	203

**NOTE:** Temperature and viscosity ratings given below apply to individual components **only**. For actual maximum temperatures and viscosities for the rated pump, see "**Operating Limits**".

PART NAME	STANDARD MATERIALS	AVAILABLE OPTIONS
Cylinder, Heads	316 Stainless Steel: ASTM A743, CF-8M	
Bearing Covers	Steel: Zinc Plated	
Bearings	Single Ball Bearing, Grease Lubricated to 300°F (149°C)	
<b>Rotor &amp; Shaft</b>		
Rotor	316 Stainless Steel	
Shaft	17-4 PH Stainless Steel	
Relief Valve (R/V)	316 Stainless Steel: ASTM A743, CF-8M	
Relief Valve Cover	316 Stainless Steel: ASTM A743, CF-8M	
Relief Valve Cap	316 Stainless Steel	
Relief Valve Spring	Stainless Steel to 500°F (260°C)	
R/V Spring Ranges	76-110 psi (5.2 – 7.6 bar)	Springs range from 51 – 125 psi (3.5 – 8.6 bar). See Parts Lists.
Bolts	316 Stainless Steel (STX2 and STX1220 - SAE, STX3 - Metric)	
O-Rings / Seal Rings	PTFE to 500°F (260°C)	---
<b>Vanes</b>	<b>Duravane</b> - With 316 Stainless Steel Wear Plate to 240°F (115°C); 20,000 SSU (4,250 cP) Max.	
Push Rods	STX1220 - No push rods STX2 & STX3 - Nitronic "60" <sup>®</sup> Hard Chrome Plated	
<b>Mechanical Seals</b>		
Stationary O-Ring	PTFE to 500°F (260°C)	---
Stationary Seat	316 Stainless Steel: ASTM A743, CF-8M with Silicon Carbide Insert	
Rotating O-Ring / Seal Ring	PTFE Seal Ring to 500°F (260°C)	---
Rotating Seal Face	Carbon to 20,000 SSU (4,250 cP) Max.	
Seal Jacket, Spring	Inconel	
Seal Jacket	304 Stainless Steel	
Gage Ports	STX2, STX1220 - ¼" NPT STX3 - ¼" BSPP (British Standard Pipe Parallel)	
Pipe Flanges		
STX3	3" Butt Weld Stainless Steel	
STX2, STX1220A	2" Butt Weld Stainless Steel	

Centipoise (cP) = centistokes (cSt) at fluid specific gravity of 1.0. <sup>®</sup> Nitronic "60" is a trademark of Armco Steel, Inc.

**OPERATING LIMITS**

Maximum Temperature	240°F (115°C)
Minimum Temperature	-25°F (-31°C)
Maximum Viscosity	STX3, STX3-DEF                      20,000 SSU (4,250 cP) STX2A, STX2A-DEF                  4,600 SSU (990 cP) STX1220A, STX1220A-DEF        100 SSU (22 cP)
Maximum Differential Pressure*	125 psi (8.6 Bar)
Maximum Working Pressure	175 psi (12.1 Bar)
Maximum Torque	STX3, STX3-DEF                      2,275 lb-in (258 Nm) STX2A, STX2A-DEF                  550 lb-in (62 Nm) STX1220A, STX1220A-DEF        495 lb-in (56 Nm)

\* Maximum Relief Valve Setting