



A-T Controls, Inc.

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www.atcontrols.com

Engineer: CMB No.: DI00006

Date Created: 12/17/2014

Date Modified: 10/14/2019

Ammonia Service

Ammonia is a colorless gas that has a bevy of uses in industry such as a compound used for the production of fertilizers and as a refrigerant. There are a few states and compounds of Ammonia that are common including liquid Ammonia, Anhydrous Ammonia, and Ammonium Hydroxide. Although it has many uses, Ammonia is intrinsically dangerous because it is flammable and can cause severe irritation if the user is exposed. Careful selection of materials of construction is required to sustain a stable Ammonia system.

Vented Ball

Ammonia has a high coefficient of thermal expansion. A pressure vs. temperature graph for Anhydrous Ammonia is shown on the next page. A-T Controls provides a means of relieving this pressure by venting the ball in the upstream direction. This limits the valve to one direction flow and an arrow on the valve shows which direction the valve should be installed. **A vented, upstream ball is required for floating ball valves in liquid Ammonia service.**

Cleaning and Lubrication

The reactivity of Ammonia makes removal of materials that can react with Ammonia such as oils, greases, combustible materials, and others imperative. Compatible greases are required for the construction of the valves. **A-T Controls thoroughly cleans all valve parts and lubricates the O-ring with a compatible lubricant. The valves are vacuum packed with desiccant and marked as cleaned for Ammonia service.**

Standard Material

Please consult A-T Controls for material selection for your application. These parameters are guidelines, and customers are responsible for materials of construction and lubricants being compatible with their Ammonia application:

Auxiliary Stem Seal: Graphite, PTFE

Body: Carbon Steel (acceptable with most anhydrous Ammonia applications), ASTM A351 Grade CF8M

Seats: EPDM, PTFE, 50/50 STFE, RTFE, TFM™-1600 (recommended for cold temperature applications)

Trim: 316 SS (standard), 304 SS

Note: Viton® O-rings should be changed to EPDM

Valve Packages (Others available)

Series 77- Sizes 1/2"-4", Cavity Filled and Non-Cavity Filled, ISO 5211 Mounting Pad, 800/1000 WOG (by size), 316L Body and Stem, Full Port, Sanitary Clamp Ends or Tube OD Ends

Literature Download:

[Literature Download & Web Content](#)

Series FD9- 150#, 300#, 600# Direct Mount Split Body Flanged Ball Valve, Firesafe, 316SST or WCB, multiple sizes available

Literature Downloads:

FD9 150#: [FD9 150#](#)

FD9 300#: [FD9 300#](#)

FD9 600#: [FD9 600#](#)



Manual and Automated Quarter Turn Valves
Complete Valve and Damper Automation





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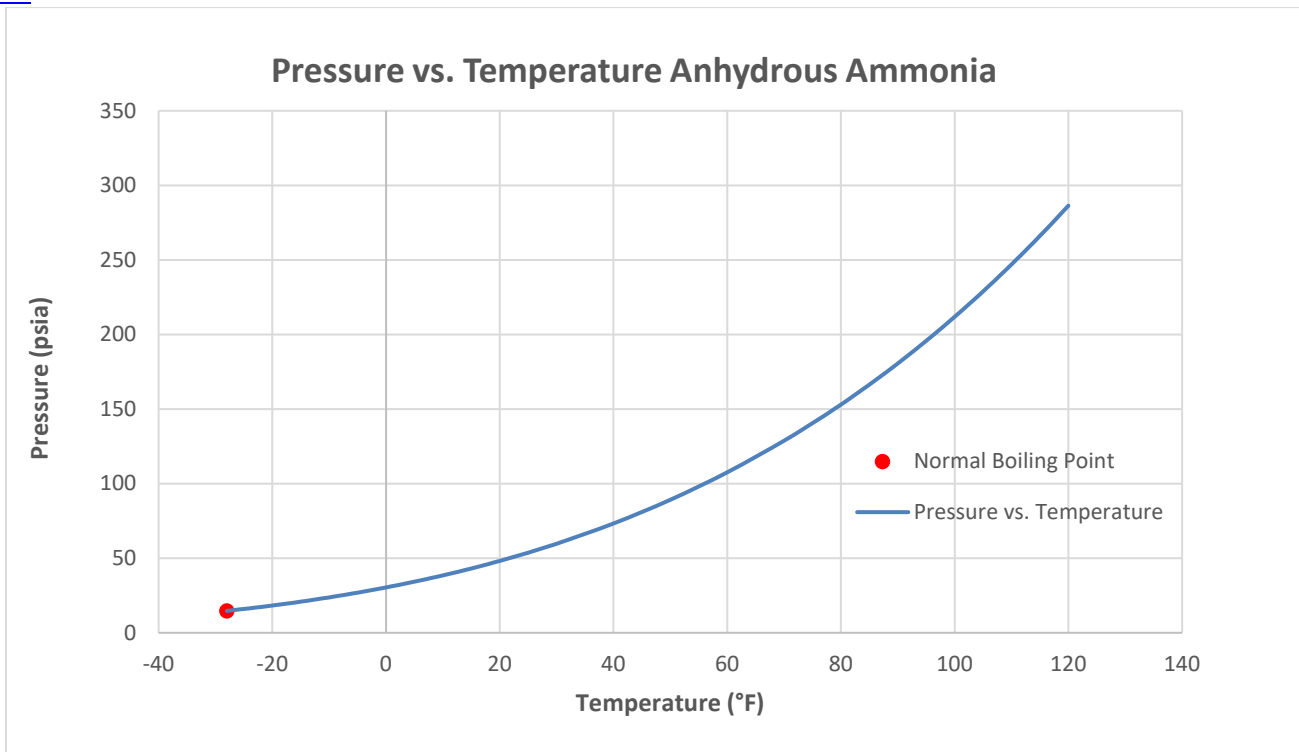
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Series F8R/F88- Sizes 1/4" - 2-1/2", Full Port and Regular Port 1500/2000 WOG (by size), 316 SST or Carbon Steel Body, Threaded, Socket Weld, or Butt Weld
Literature Downloads & Web Content:

[F88](#)
[F83 & F8R](#)

Series AS- Sizes 2" – 24" (2" – 12" in stock), 150# Flange or Wafer Style PFA lined butterfly valve, ISO 5211 Actuator Mounting Pad, -20°F – 355°F temperature rating, 150 psig pressure rating.
Literature Download: [Literature Download & Web Content](#)



Manual and Automated Quarter Turn Valves
Complete Valve and Damper Automation

