

“When my No. 1 customer needed a bullet-proof solution for their laser assist gas supply, I turned to the experts.”

Shane Schmitt • Technical Sales, CWI
S.J. Smith Co.



Four Chart bulk tanks feeding eight Trifecta X15's supply laser assist nitrogen gas to 24 lasers at the John Deere Harvester plant in Moline, IL, USA.

Trifecta® X-Series

After S.J. Smith Co. investigated every gas supply system on the market for John Deere's high-output factory, they ultimately chose Chart's Trifecta X-Series. The gas purity from liquid coupled with the latest technology made Trifecta the clear winner. With Chart's product support and S.J. Smith's service, a world-class solution was created for a world-class company.

- » System uses standard low-pressure bulk tank and ambient vaporizer to deliver high purity gas for extended peak demands
- » System maintains pressure and flow during bulk tank delivery eliminating down time and excessive product losses associated with high-pressure bulk tanks
- » Cylinders switch by pressure instead of level to further reduce product losses and protect against pressure decay
- » Robust computer-controlled design simplifies installation, start-up, and allows plant integration for remote monitoring

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Innovation. Experience. Performance.®

TRIFECTA® X-SERIES

LASER ASSIST GAS SUPPLY SYSTEM

The Trifecta® X-Series is the preferred solution for reliable and continuous laser assist gases for delivery pressures up to 450 psi and flow rates up to 15,000 scfh. Drawing liquid from a standard bulk tank, the Trifecta system boosts the liquid pressure by alternately feeding two liquid cylinders equipped with innovative multi-function pressure building vaporizers. The Trifecta solution has no down-time and minimal losses when compared with other laser assist gas solutions. This convenient solution eliminates high-pressure pumps, compressors, cylinder cradles and surge tanks.



Models X5, X10, X15



Visual Indication for Operation Modes



Integrated Bulk Tank Pressure Sensor



Dual Relief Valve Assembly



Two Main Connections Simplify Installation

PRODUCT HIGHLIGHTS

- System utilizes standard low-pressure bulk tank to lower investment and use existing assets
- No downtime – system maintains pressure and flow when bulk tank is filled and eliminates excessive product losses associated with high-pressure bulk tanks
- Cylinders switch by pressure instead of level to further reduce product loss and protect against pressure decay
- Robust design features streamlined all stainless steel piping with only five control valves and one integrated electronic control system (PLC) for increased durability and reliability
- Computer-controlled design simplifies installation, start-up and continuous operation
- Frame assembly features a protective top cover in a compact footprint with an elevated base for improved ventilation
- Available for Nitrogen, Argon or Oxygen* service
*Maximum delivery pressure of 350 psi for Oxygen service

TRIFECTA® X-SERIES

LASER ASSIST GAS SUPPLY SYSTEM

SIMPLIFIED STAINLESS STEEL PLUMBING WITH PROTECTIVE TOP COVER



System Requirements

- 15 amp, 110 VAC power, dedicated circuit
- Bulk storage tank with 50 psig minimum pressure
- External vaporizer, minimum 550 psig working pressure, sized for maximum flow rate
- Two piping connections to bulk storage tank (liquid withdrawal & low phase instrument line)
- High-flow pressure regulation
- 100 psi nitrogen gas required for actuated valves (X15 model only)

Dimensions

| | | |
|------------|----------|---------|
| Length | 53" | 1347 mm |
| Width | 55" | 1400 mm |
| Height | 96" | 2440 mm |
| Weight X5 | 1700 lbs | 770 kg |
| Weight X10 | 1750 lbs | 795 kg |
| Weight X15 | 1800 lbs | 815 kg |

MODELS

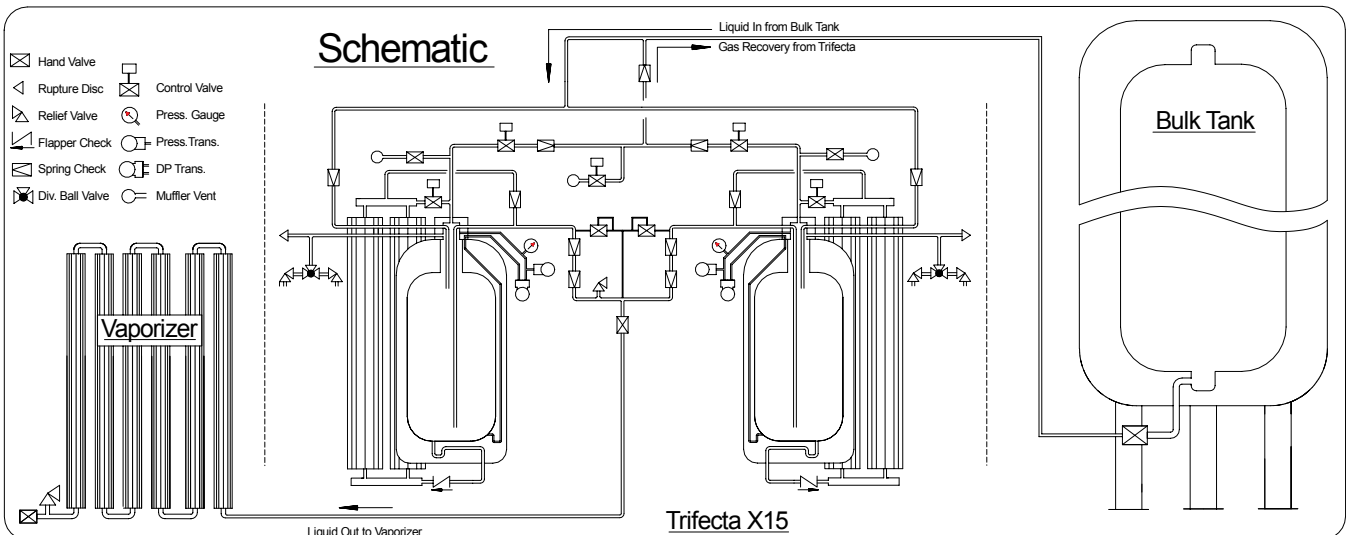
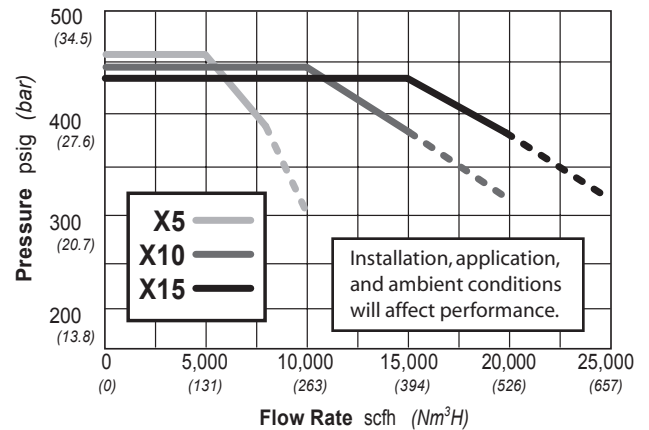
TRIFECTA X5 Up to 5,000 scfh at 450 psig (131 Nm³H at 31 bar)

TRIFECTA X10 Up to 10,000 scfh at 450 psig (263 Nm³H at 31 bar)

NEW MODEL TRIFECTA X15

TRIFECTA X15 Up to 15,000 scfh at 450 psig (394 Nm³H at 31 bar)

- Automated ball valves for *high flow* and improved reliability
- Diagnostics system
- Utilizes HP² Technology



PATENT NUMBERS 5,924,291 - 5,937,655 - 5,121,609 - 5,231,838 - 6,542,848 - 6,782,339 - other patents pending.

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