Increase throughput with energy efficient heating from the TESCOM™ 44-5800 Series regulator

BENEFITS

- Offset Joule-Thomson cooling effect
- Tolerate extreme heat & electrical spikes
- Power efficiency through rapid heat transfer
- Reduce processing costs and downtime

Vaporizing Regulator for Gas Project in Western Australia

For more information about this product, visit our website.

Power Efficient

APPLICATION

A customer came to TESCOM seeking a regulator for their sampling system that would help solve a common problem associated with inaccurate sample readings - getting sample gas to be fully vaporized. Petrochemical analyzer houses require sampling systems to analyze hydrocarbon mixtures from their liquid petroleum line. Using vaporizing regulators, which either use steam or an electrical heating element to heat up the sample, allows the sample to be free of moisture and remain at its optimum gaseous state ideal for sampling and analyzing (see Figure A).

CHALLENGE

Sampling systems require gas to be delivered at a specific temperature because the sample needs to be dry. Furthermore, the gas chromatograph that does the testing, requires samples to be injected at a pressure significantly lower than the source of the sample. Regulating to a lower delivery pressure requires expansion of the gas. This expansion is accompanied by significant drops in temperature creating the Joule-Thomson effect. As the temperature of the gas mixture is reduced, eventually some of the gas components will begin to drop out of the gas phase into the liquid phase. This will give an inaccurate and intermittent reading of the sample, or worse it will damage the chromatograph columns that separate the gas components for analysis.

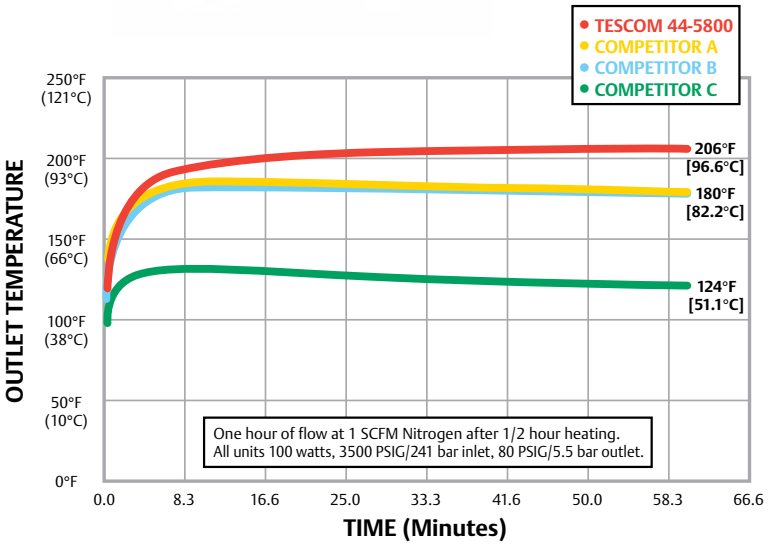

Figure B

SOLUTION

By implementing the TESCOM 44-5800 into the pressure reducing system as a larger part of the

customer's sampling system, the sample is free of moisture preventing downtime or the possibility of expensive replacement costs should the gas chromatograph be damaged. The electrical unit has heating capacity up to 400 Watts, providing the responsiveness needed for today's increased flow demands. This, combined with an innovative heat transfer technology to ensure heating the media and not the environment, makes the 44-5800 highly efficient to operate (see Figure B).

The 44-5800 Series provides a 4-20mA output for remote monitoring and an optional temperature display for localized readouts and easy tuning. Furthermore, the 44-5800 has a T4 rating allowing analysis of gases with lower self-combustion temperatures as well as CSA, ATEX and IECEx certifications for meeting explosion proof requirements globally.

Typical Liquid Petroleum Analyzer Application

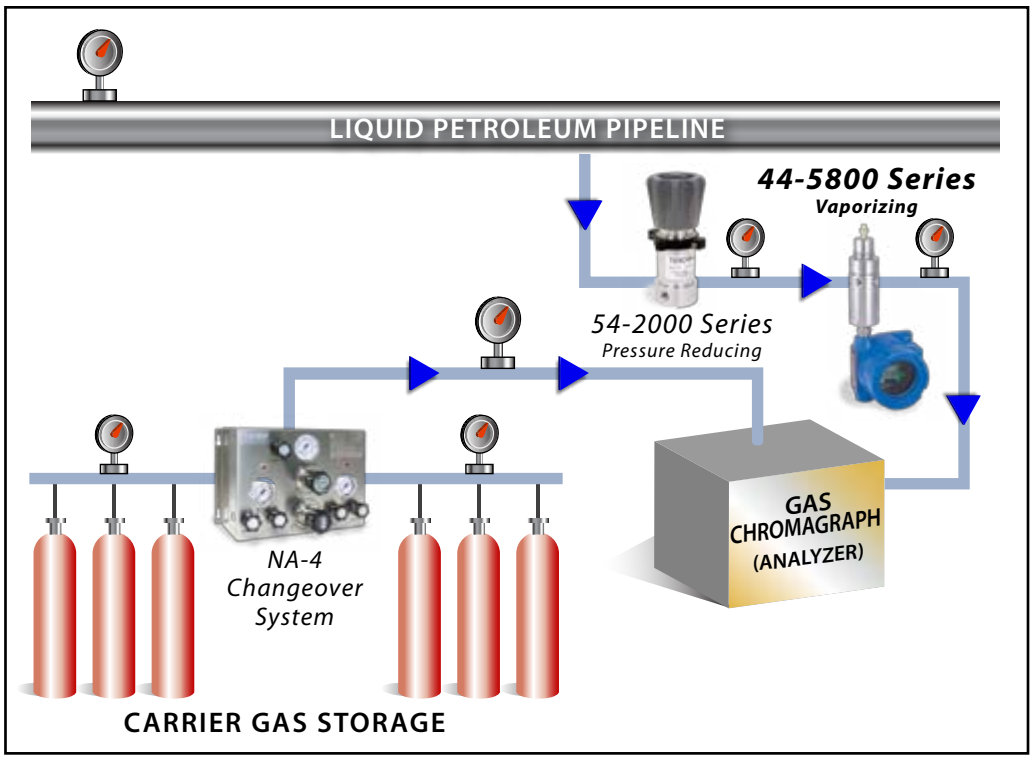

Figure A

For more information about this product, visit our website.

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