

Air Separation Units

ZO23 – Trace oxygen measurement with zirconia analyzer

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In Air Separation Unit operations, there is one area where our product engineers and sales teams have often heard some of the strongest opinions being expressed by our ASU customers. That is in the area of trace oxygen analysis in nitrogen.

Measurement made easy

Introduction

Trace oxygen measurement is critical for process control to regulate the quality of the oxygen-poor liquor that flows up from the high-pressure distillation to provide the reflux in the low-pressure distillation column. It is also essential for purity measurement of the final nitrogen product.

- Our solution for trace oxygen analysis application is the ZO23 zirconia oxygen analyzer.

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01 Measuring point on Air Separation Unit

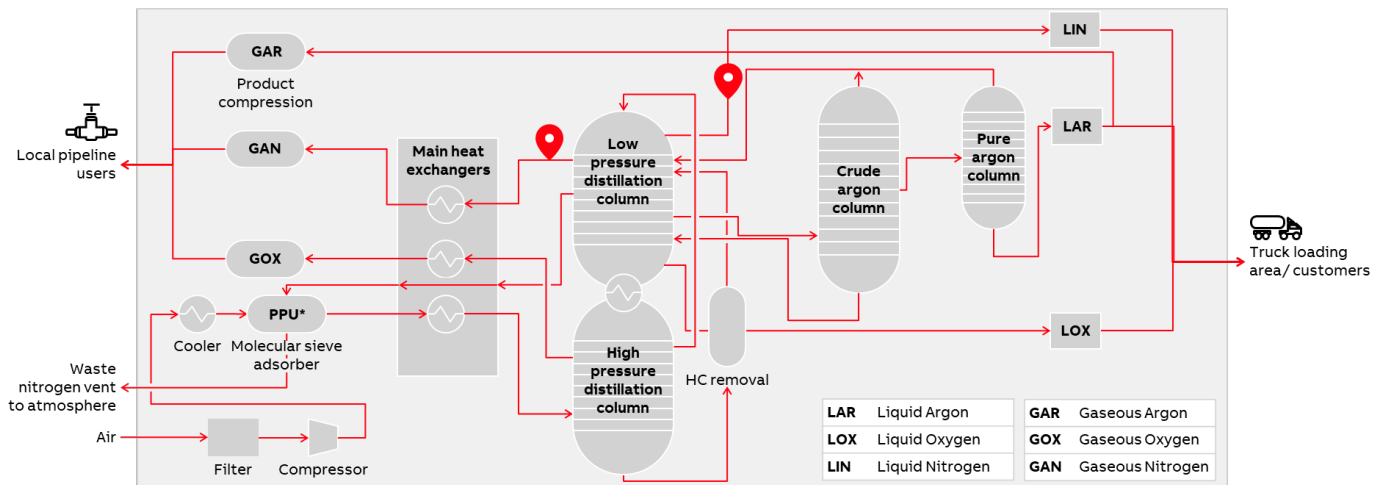
Do all stakeholders always agree about the most effective way to reach a goal? Working in a large organisation such as ABB, our experience is that this is rarely the case. There are often different experiences that lead people to prefer one option amongst a range of solutions. Alternatively, people operating with a short-term focus may prioritise an idea ahead of other stakeholders with a longer-term perspective. We can all agree that our goal is safe and sustainable business, but we reserve the right to differ in our opinions about how to achieve that. This diversity drives the debate that guides us to the optimum solution for our business in any given situation. Respectful and challenging dialogue is also part of the spice that makes every working day at ABB so rewarding and stimulating.

From within the ABB Analytics team, we have observed that our customers experience a similar mix of healthy tensions within their organisations. The dynamics between central instrumentation engineers, a plant construction project execution team, an operations team and the procurement function can be fascinating. For one party the ease of operation, reliability and long-term availability of spare parts for a gas analyzer may be the priorities.

For one party the ease of operation, reliability and long-term availability of spare parts for a gas analyzer may be the priorities. Others may focus more on the innovative aspects and technical specifications of the instrumentation. Some will be looking for speedy delivery at a good price and other stake holders might be focused on the terms and conditions of trade or ease of doing business with a global supplier.

At ABB, we have been working alongside specifiers, end-users and purchasers of gas analyzers for decades and we believe that we have all these bases covered. Our technical expertise, tried and tested product ranges, comprehensive commercial offer and range of service options means that there should be something to suit the needs of all these interests so that they can avoid being conflicting and become complimentary.

01



02 Basic air separation unit

In Air Separation Unit operations, there is one area where our product engineers and sales teams have often heard some of the strongest opinions being expressed by our ASU customers. That is in the area of trace oxygen analysis in nitrogen. The measurement is critical for process control to regulate the quality of the oxygen-poor liquor that flows up from the high-pressure distillation to provide the reflux in the low-pressure distillation column. It is also essential for purity measurement of the final nitrogen product.

For many, the use of a fuel-cell type analyzer has been the default choice for decades. For others, this instrument is the most irritating pain-point in the instrumentation shack due to the need to replace the fuel cell at regular intervals and the slow dynamic response time of the sensor, which often lags actual plant conditions by minutes or even hours. We have noted that any viable alternative is greeted with excitement and enthusiasm.

Our solution for this trace oxygen analysis application is the ZO23 zirconia oxygen analyzer.

Zirconia analyzers have established themselves as the default choice for oxygen measurement in combustion process control applications over many decades. Their robustness to cope with high temperature gases gives them the edge over other instrumentation options. We believe that their time has now come to take a similar dominant position in the field of trace oxygen measurement on ASUs and we are sure that the combination of ABB business processes and the ZO23 product and its industry leading technology will be a winning mix.

