

CRYOGENIC AIR SEPARATION

CUSTOMER PROCESS BROCHURE

- Complete single supplier solution for cryogenic air separation units (ASU)
- Quality, safety and control measurements for multiple gases, NMHC and impurities
- Widest available analyzer range ensures exact match for application over “next best option” approach of competitors

Servomex is the world expert in gas analysis – and the leading provider of reliable, accurate and stable gas measurement solutions to the Industrial Gas market.

And nowhere else does effective gas analysis make a bigger difference than on cryogenic air separation plants. Quality gas analysis improves process control, increases safety and optimizes product quality – and no-one makes a bigger difference than

Servomex. Servomex gas analyzers make continuous and reliable analysis throughout every point of the process: alongside product quality measurements for the gases produced, safety and control measurements are required to monitor levels of carbon dioxide, nitrous oxide, total hydrocarbons, water vapor and trace impurities.

Servomex's comprehensive range of analyzers means we offer the Industrial Gas sector the broadest choice of

technologies to achieve the widest measurement ranges. Our extensive range of sensing technologies, which includes Paramagnetic, Zirconia, TDL, FID and Coulometric sensors, covers the full range of ASU applications that control processes, guarantee product purity and ensure plant safety.

The world's Industrial Gas producers agree – our analyzers are used and specified by all leading ASU plant operators.



AIR SEPARATION PROCESS APPLICATION MAP

KEY:
APPLICATION
TYPES:

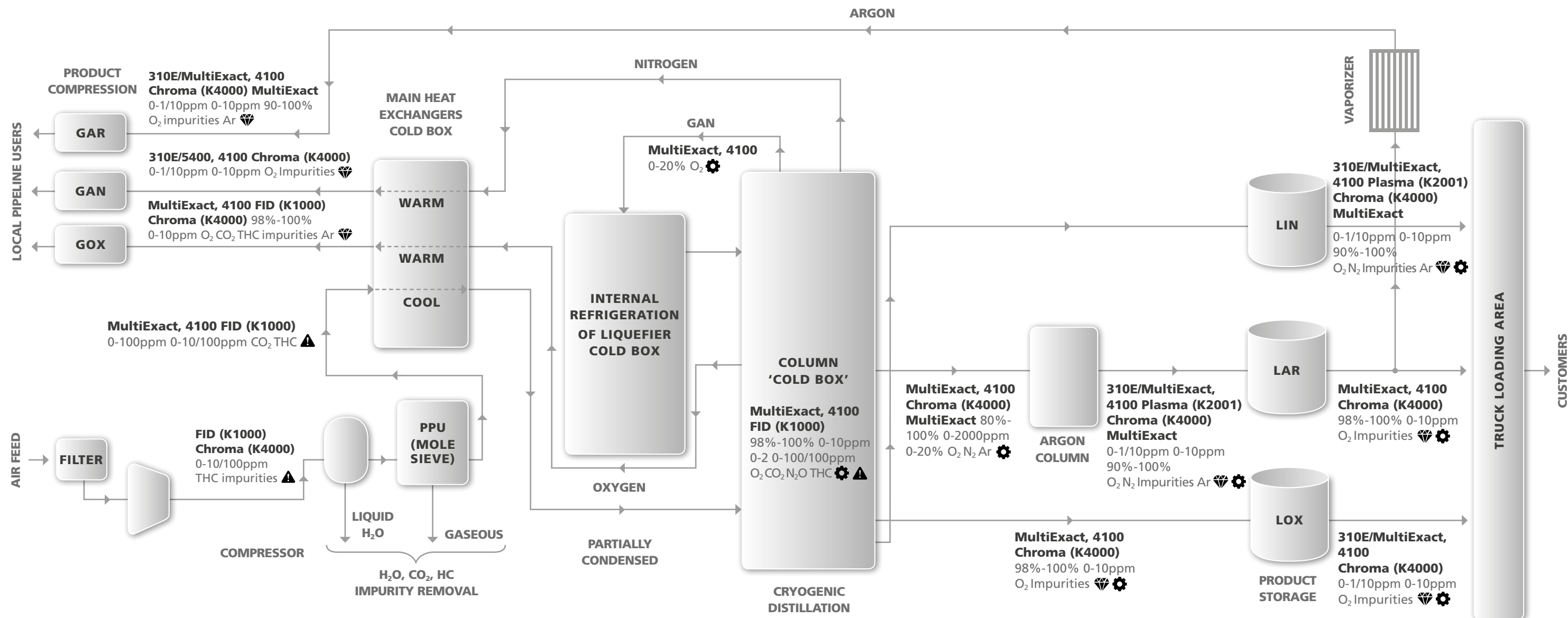
PROCESS CONTROL

QUALITY

SAFETY

EMISSIONS

COMBUSTION



QUALITY APPLICATIONS

Maintenance of product purity is essential between the separation process and product transportation by pipeline or vehicle. Servomex offers a complete range of highly accurate trace measurements for O₂, CO₂, THC and impurities, ensuring quality is maintained to the highest possible standards.

Applications include:

- O₂ and impurities in liquid N₂ pre/post storage
- O₂ and impurities in liquid O₂ pre/post storage
- O₂, CO₂, THC and impurities in liquid Ar pre/post storage
- O₂, CO₂, THC and impurities gaseous O₂
- O₂ and impurities in gaseous N₂
- O₂ and impurities in gaseous Ar

CONTROL APPLICATIONS

Strict control of the ASU production is crucial to ensure a consistent process with optimum yields. Servomex's industry-leading range of sensing technologies means not only we offer a versatile range of analysis solutions for oxygen, nitrogen and argon, but recommend specific analyzers for each control point in the process for optimum performance.

Applications include:

- O₂ analysis in low pressure column (liquid phase)
- O₂ analysis in distillation column process stream
- O₂ analysis in feed to low pressure column
- O₂, N₂ and Ar monitoring in crude Ar column feed
- O₂, N₂ and Ar monitoring to pure Ar column
- O₂ and impurities in liquid N₂ pre/post storage
- O₂ and impurities in liquid O₂ pre/post storage
- O₂, N₂ and Ar in liquid Ar pre/post storage

SAFETY APPLICATIONS

Cryogenic air separation is a complex process which requires careful monitoring – low levels of CO₂, NO and total hydrocarbons (THC) present safety risks which must be monitored at all times. Servomex's FID, Chroma and MultiExact analyzers offer highly sensitive analysis of gases, hydrocarbons and impurities to protect your ASU process at all times.

Applications include:

- Monitoring THC and impurities in process air before molecular sieve
- NO and THC monitoring in low pressure column (liquid phase)
- Monitor CO₂ and THC in feed to high pressure column

ASU ANALYSIS SOLUTIONS

MultiExact

SERVOPRO



**DIGITAL
MULTIGAS
ANALYZER
OPTIMISED
FOR ASU
REQUIREMENTS**

DF-300 Series

DF RANGE



**HIGH
SENSITIVITY
DIGITAL TRACE
O₂ ANALYZER
RANGE**

Chroma

SERVOPRO



**VERSATILE
TRACE GAS
ANALYZER**

Plasma

SERVOPRO



**FOR
CONTINUOUS
MONITORING
OF NITROGEN
IN ARGON AND
HELIUM**

FID

DF RANGE



**TRACE
HYDROCARBON
ANALYZER**



**SERVOMEX
ANALYZERS**
HIGH-PERFORMANCE GAS ANALYSIS

CPIG1 Rev. 0 08/14



ANALYZERS



SERVICE



SYSTEMS



EXPERT

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A MEASUREABLE ADVANTAGE