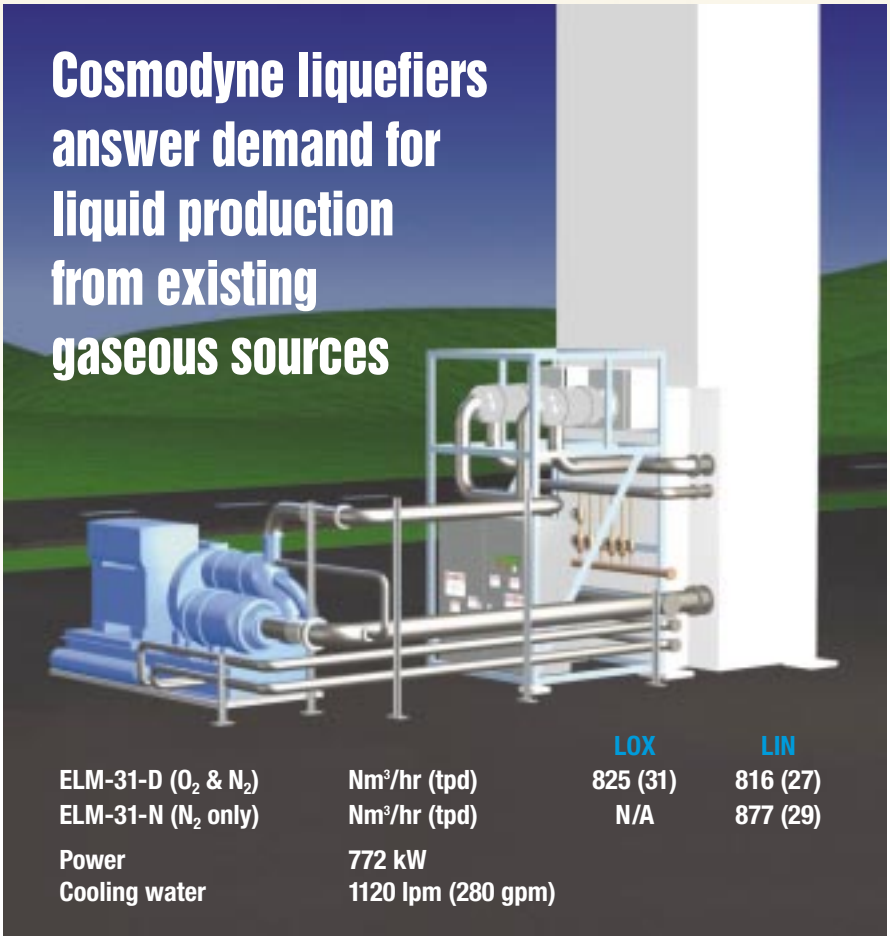


# ELM Series

Cosmodyne has introduced the ELM Series oxygen and nitrogen liquefiers in response to customer demand for making liquid from existing gaseous sources. The units also can be used to liquefy the nitrogen gas available on Cosmodyne's ASPEN Series liquid plants. Both the ELM and ASPEN designs share many of the same components, which simplifies spare part replacement and operator training.

The ELM uses an efficient nitrogen recycle process to liquefy either nitrogen or oxygen. Due to its pre-fabricated, modular design, the unit ships in standard ISO containers. This minimizes the total installed cost.

Several standard capacities are offered, including 30, 80 and 120 tpd. Other sizes also are available.

*For more information, contact George Pappagelis at Cosmodyne, +1.310.320.5650 or info@cosmodyne.com.*

# Cosmodyne GFED Series plants offer portability and low installation cost

The GFED Series air separation plants were designed in response to a growing need for maximum portability and minimum on-site installation expense. Since their inception, the number of different applications for which the GFEDs are used has grown and even includes medical oxygen applications. These containerized units are available in 4 tpd and 6 tpd models, producing liquid oxygen and nitrogen. Since the plants are air-cooled, only electricity is required for operation.

Each plant is shipped in two ISO-style containers. The cold box and weather-tight air compressor package are packed in one container with the balance of the plant—purification system, lube oil system, and electrical controls—permanently installed in the primary plant container. The latter also houses the operator's control station.

**GFED Series Performance Specifications**

*20°C (68°F); 50% RH; 1 atm.*

| | | GFED-1 | | GFED-3 | |
|---|---|---|---|---|---|
| | | *maximum $LO_2$* | *maximum $LN_2$* | *maximum $LO_2$* | *maximum $LN_2$* |
| ***Production*** | | | | | |
| Liquid oxygen | Nm³/hr (tpd) | 105 (4) | 0 | 157 (6) | 0 |
| Liquid nitrogen | Nm³/hr (tpd) | 0 | 120 (4) | 0 | 180 (6) |
| Total liquid production | Nm³/hr (tpd) | 105 (4) | 120 (4) | 157 (6) | 180 (6) |
| ***Purity*** | | | | | |
| Liquid oxygen | % $O_2$ | 99.6 | – | 99.6 | – |
| Liquid nitrogen | ppm $O_2$ | – | 99.5 | – | 99.5 |
| ***Power*** | kW | 372 | | 420 | |

Once on site, installation can be accomplished in one day and production can begin within the next. Each GFED plant is factory tested to ensure minimum downtime on-site.

*For more information about the GFED Series containerized air separation plants, contact George Pappagelis at Cosmodyne, +1.310.320.5650 or info@cosmodyne.com.*