

Small Module Membrane

OVERVIEW

Air Liquide Advanced Separations (ALaS) offers two small module configurations: **4241** and **4121**. These units are predominantly incorporated into laboratory generators, food and beverage systems, nitrox applications, and military equipment. The models are operationally similar but differ with respect to geometry and associated N₂ output. By manufacturing the modules in a skiving process, ALaS capitalizes on the available efficiencies and module longevity associated with this method. For small-flow applications, the **4241** and **4121** provide users an effective and reliable solution within an efficient, lightweight design.

OPERATING CHARACTERISTICS

MAXIMUM OPERATING TEMPERATURE	60°C (140°F)
MAXIMUM OPERATING PRESSURE	15.2 barg (220 psig)
MAXIMUM FEED AIR OIL CONTENT	< 5 µg/Nm ³
NITROGEN MOISTURE CONTENT	< -70°C (-95°F) Dew Point

PERFORMANCE DATA

Temp 40°C	Purity (%)						
	95	96	97	98	99	99.5	99.9
	4241 Nitrogen Flow (Nm³/hr) / Feed air Flow (Nm³/hr)						
5	5.8/12.2	4.9/11.3	4/10.3	3.2/9.4	2.2/8.1	1.6/7.4	0.9/6.5
7	8.2/16.6	6.9/15.3	5.7/13.9	4.5/12.6	3.1/10.8	2.2/9.8	1.2/8.5
9	10.6/21.1	9/19.3	7.4/17.6	5.8/15.8	4/13.5	2.9/12.2	1.5/10.5
11	13.1/25.7	11.1/23.4	9.1/21.3	7.1/19.1	4.9/16.3	3.6/14.6	1.9/12.5
13	15.7/30.3	13.2/27.6	10.8/25	8.5/22.4	5.8/19	4.2/17	2.2/14.5
15	18.2/34.9	15.3/31.8	12.6/28.7	9.9/25.7	6.8/21.8	4.9/19.4	2.6/16.5
	4121 Nitrogen Flow (Nm³/hr) / Feed air Flow (Nm³/hr)						
5	1.3/2.7	1.1/2.5	0.9/2.2	0.7/2	0.5/1.7	0.3/1.5	0.1/1.3
7	1.8/3.7	1.5/3.3	1.2/3	0.9/2.7	0.6/2.2	0.4/2	0.2/1.7
9	2.4/4.6	2/4.2	1.6/3.8	1.2/3.3	0.8/2.8	0.6/2.5	0.2/2.1
11	2.9/5.6	2.5/5.1	2/4.5	1.5/4	1/3.3	0.7/2.9	0.3/2.4
13	3.5/6.6	2.9/6	2.4/5.3	1.8/4.7	1.2/3.9	0.8/3.4	0.3/2.8
15	4.1/7.6	3.4/6.9	2.7/6.1	2.1/5.4	1.4/4.5	0.9/3.9	0.4/3.2

All values are based on mid aged condition (10,000 to 15,000 operating hours)

4241 MODULE



DIAMETER
2.5 inches

TOTAL LENGTH
39 inches

WEIGHT
2.7 kg (6 lbs)

VESSEL MATERIAL
Aluminum 6061-T6

4121 MODULE



DIAMETER
1.5 inches

TOTAL LENGTH
24 inches

WEIGHT
1.1 kg (2.5 lbs)

VESSEL MATERIAL
Aluminum 6061-T6

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