

SMALL N₂ PRODUCTION SYSTEMS

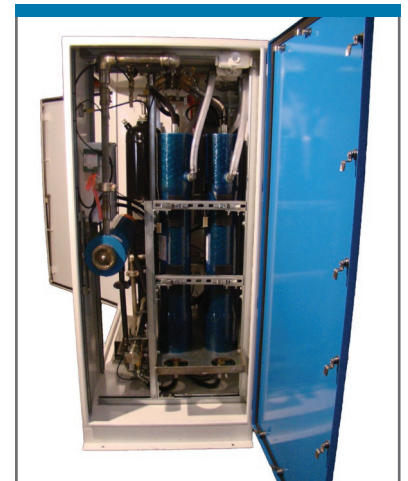
PERFORMANCE

- Air Liquide small N₂ membrane is a fully integrated system that provides a continuous supply of nitrogen (N₂) as demand changes
- It is a reliable, low-cost N₂ supply solution when cryogenic purity is not required
- Small integrated N₂ standard system offers plug and play installation with full purity assurance
- Most generally recommended for offshore operations and maritime installations



TECHNICAL FEATURES

- Purity range 95% to 99.9%
- Flow rates 10 Nm³ / hr to 400 Nm³ / hr
- Maximum operating temperature 55°C
- Moisture Content < 10 ppm (< 1 ppm optional)
- Oil Content < 0.003 ppm (not measurable)
- Particulates < 0.01 micron
- Power:
 - 60 HZ: 440 / 460v, 3 phase
 - 50 HZ: 380 / 415v, 3 phase



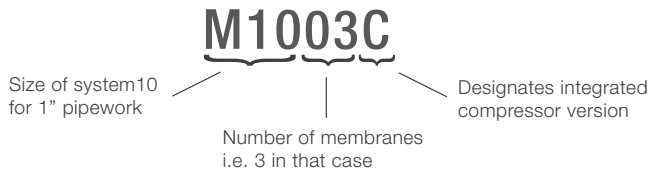
STANDARDS

- Pressure: ASME BPVC VIII Div1
- Electrical IEC or NEC
- ISO 9002 certified process
- Hazardous (ATEX 2 / Class I Div 2) upon request
- Systems available with / without Air compressor – Air / N₂ receiver upon customer request



TYPICAL SCOPE OF SUPPLY

SMALL N₂ PRODUCTION SYSTEMS



EXAMPLE OF OUR SYSTEM PERFORMANCES for 10 barg outlet

For Compressor Discharge Pressure = 12 barg / 175 PSIG - 45°C
N₂ Product Pressure = 10 barg / 145 PSIG

	99.9%		99.5%		99%		98%		97%		96%		95%	
	Nm ³ / h	scfm	Nm ³ / h	scfm	Nm ³ / h	scfm	Nm ³ / h	scfm	Nm ³ / h	scfm	Nm ³ / h	scfm	Nm ³ / h	scfm
M751	7, 3	4, 5	13, 7	8, 5	18, 8	11, 7	27, 2	16, 9	34, 6	21, 5	42, 0	26, 1	49, 7	30, 9
M752	14, 6	9, 1	24, 4	17, 0	37, 5	23, 3	54, 5	33, 9	69, 2	43, 0	84, 0	52, 2	99, 4	61, 8
M1003	21, 9	13, 6	41	25, 5	56, 3	35, 0	81, 7	50, 8	103, 8	64, 6	125, 9	78, 3	149, 2	92, 8
M1004	29, 2	18, 2	54, 7	34, 0	75	46, 6	109	67, 8	138, 3	86, 0	167, 9	104, 4	198, 9	123, 7
M1005	36, 5	22, 7	68, 4	42, 5	93, 8	58, 3	136, 2	84, 7	167, 1	103, 9	198, 1	123, 2	231, 8	144, 2
M1206	43, 7	27, 2	82, 1	51, 1	112, 6	70, 0	163, 4	101, 6	207, 5	129, 0	251, 9	156, 7	298, 3	185, 5
M1207	51	31, 7	95, 8	59, 6	131, 3	81, 7	190, 7	118, 6	242, 1	150, 6	293, 8	182, 7	348, 0	216, 4
M1208	58, 3	36, 3	109, 4	68, 0	150, 1	93, 3	217, 9	135, 5	276, 7	172, 1	335, 8	208, 8	397, 8	247, 4
M1209	65, 6	40, 8	123, 1	76, 6	168, 9	105, 0	245, 1	152, 4	311, 3	193, 6	377, 8	235, 0	/	/
M1210	72, 9	45, 3	136, 8	85, 1	187, 6	116, 7	272, 4	169, 4	345, 9	215, 1	/	/	/	/
M1211	80, 2	49, 9	150, 5	93, 6	206, 4	128, 4	299, 6	186, 3	/	/	/	/	/	/
M1212	87, 5	54, 4	164, 2	102, 1	225, 1	140, 0	/	/	/	/	/	/	/	/
M1213	94, 8	59, 0	177, 8	110, 6	/	/	/	/	/	/	/	/	/	/

AIR PRE-TREATMENT SYSTEM

System of precoalescing, coalescing, particle filters and carbon tower sized to remove oil mist and vapor as well as solid particulates from compressor feed air or customer plant air.

PROCESS AIR HEATERS

Precise temperature control is ensured by the use of a process thermocouple at the inlet of the membrane modules.

MOISTURE MANAGEMENT

To ensure no subsequent moisture condensation occurs in the carbon tower, piping, or membrane bundles, a small electric pre-heater is installed at the carbon tower inlet.

FLOW CONTROLLER

The advanced active purity control is standard on NPU which is controlled through a PLC. In this method, the self-operating part of the control valve automatically adjusts its position to account for changes in downstream pressure.

O₂ ANALYZER

The NPU utilizes an oxygen analyzer with relay alarm contacts and a 4-20 mA analog output.

PRODUCT / VENT VALVES

These on / off valves provide ultimate protection against off-spec product. Operated by the PLC, they are controlled by the O₂ analyzer alarm contacts.

PROCESS CONTROL PLC

ENCLOSURE

Rated for Indoor or Outdoor service (IP55).