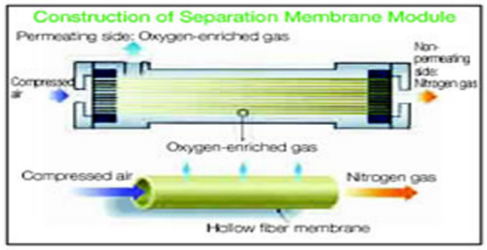
Separation Membranes

Leveraging proprietary technology to improve safety and environmental performance

1. Nitrogen Separation Membranes (UBE N2 Separator)

These modules use a polyimide hollow fiber membrane that provides higher permeability to oxygen than nitrogen to easily obtain a 97.0-99.9% pure nitrogen gas from compressed air, at roughly the same pressure as the supplied air.

•Applications
Oil well injection, marine on-board use, laser cutting, plastic molding, tire filling, analysis instruments, tank and piping purging, lead-free solder, aircraft fuel tank filling, other



2. Performance characteristics of UBE N_2 Separator

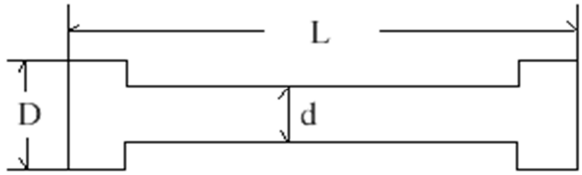
2-1. Types, performance and Dimensions

Model[a)]	N_2gas purity [%] and product flow rate [N m^3/h][b)]					External Dimensions [mm]			Weight [kg]
	99	98	97	96	95	L	D	d	
NM-B01A	0.071	0.1	0.14	0.17	0.19	235	55	50	0.8
NM-B02A	0.15	0.21	0.27	0.33	0.4	360	55	50	1
NM-B05A	0.34	0.49	0.63	0.77	0.92	610	55	50	1.5
NM-B10A	0.66	0.95	1.2	1.5	1.8	1110	55	50	2.5
NM-C05A	0.74	1.1	1.4	1.7	2.1	634	90	70	3
NM-C07F	1.6	2.4	3.1	3.8	4.5	800	109	70	3
NM-C10F	2.4	3.7	4.7	5.8	6.9	1110	110	70	5
NM-410A	3.6	5.2	6.8	8.3	10	1150	165	100	12
NM-510F	12	17	22	27	32	1080	180	130	16
NM-615A	12	17	22	27	32	1572	228	150	32
NM-710F	21	31	41	51	62	1080	244	180	33
NM-815T	21	31	41	51	62	1560	262	216	70
NM-1015[c)]	22	34	45	55	67	1520	249	216	45
Feed air conditions: Pressure 0.7MPaG, Temperature: 25℃									

a) Materials of bodies on NM-815T and NM-1015 are stainless steel equivalent for SUS304.

b) An initial N2 product volume has 1.15-times or more the value of the table.

c) NM-1015 is cartridge type. Value of dimensions and weight are only on the cartridge.



2-2. Recovery rate

N_2gas purity [%] and generated volume [Nm^3/h]				
99	98	97	96	95
26	34	39	43	47

2-3. Required amount of compressed air

(1) Theory to calculate amount of compressed air:
a) for NM-B01A - C10F (refer to Table in para. 2-1 of page 2)
= Product Flow Rate [Nm^3/h] / (Recovery [%] / 100) X $1.15^{(*1)}$ X $1.2^{(*2)}$