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INOVA

BioMethan Membrane Technology
Biogas Upgrading with a Pressure Driven Process



Upgrading Capacity	Nm ³ /h RBG	250	500	700	1,000
Technical Data					
Container		Container	Double container	Double container	Double container
Length container	mm	12,000	12,000	12,000	12,000
Width container	mm	3,000	6,000	6,000	6,000
Height container	mm	3,000	3,000	3,000	3,000
Area outdoor installation	m ²	43.2 (7.2 x 6)	75 (7.5 x 10)	75 (7.5 x 10)	75 (7.5 x 10)
Weight	kg	approx. 18,900	Cont. 1: 21,400 Cont. 2: 15,100	Cont. 1: 22,200 Cont. 2: 14,300	Cont. 1: 22,200 Cont. 2: 14,300
Connection RBG	DN	150	150	200	200
Connection BM	DN	100	150	150	150
Performance Data					
Voltage	V	400	400	400	400
Frequency	Hz	50	50	50	50
Membrane	Type	EVONIK Sepuran	EVONIK Sepuran	EVONIK Sepuran	EVONIK Sepuran
Process	Stages	3	3	3	3
Module numbers	Pieces	26	52	72	104
Processable RBG		B/W/S	B/W/S	B/W/S	B/W/S
BM quality	Vol % CH ₄	up to 99	up to 99	up to 99	up to 99
Dew point BM ¹⁾	°C	≤ -50	≤ -50	≤ -50	≤ -50
Power demand membrane technology ²⁾	kWh/Nm ³ RBG	0.20	0.20	0.20	0.20
Power demand periphery ³⁾	kWh/Nm ³ RBG	0.09	0.09	0.09	0.09
Heat demand	kWh/Nm ³ RBG	0	0	0	0
Heat extraction ⁴⁾	kW	0	0	0	0
Water demand	m ³	none	none	none	none
Condensate ⁵⁾	g/Nm ³	1.5	3	4.2	6
Resulting water demand	m ³	none	none	none	none
Designed for temperatures	°C	-20 bis +32	-20 bis +32	-20 bis +32	-20 bis +32
Emissions					
Methane loss	%	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5
Sound pressure level in 10 m distance ⁶⁾	dB(A)	75	75	75	75
Equipment					
Control system		Siemens S7	Siemens S7	Siemens S7	Siemens S7
Visualization		WinCC	WinCC	WinCC	WinCC
Remote control		yes	yes	yes	yes
Gas measurement		RBG/BM	RBG/BM	RBG/BM	RBG/BM
Gas analysis		RBG/BM	RBG/BM	RBG/BM	RBG/BM

Abbreviations

RBG = Raw biogas B = Biogas
 BM = Biomethane W = Waste gas
 S = Sewage gas

¹⁾ with downstream adsorption dryer reduction on dew point up to 40 mg/Nm³ possible

²⁾ at 16 barg operation pressure

³⁾ at inlet pressure RBG min. 200 mbar and dew point RBG max. 7 °C

⁴⁾ own demand container operation is covered

⁵⁾ resulting condensate in g/Nm³ raw biogas per hour

⁶⁾ optional reduction possible