

BIOGAS



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Stationary feed mixers
for Biogas plants

Trioliet. Invents for you.

 **TRIOLIET**
FEEDING TECHNOLOGY

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Regenerative Energy.

Currently mankind is using up fossils fuel stocks at an increased rate. The constantly rising prices of fuel and energy is the logical consequence. This makes alternative energy sources viable. Reliable biogas installations, extensively tried and tested in practice, can be used to produce electricity, thermal energy, and fertiliser from Biomass. A biogas installation is the clean and logical road to generate and provide sustainable energy from agricultural resources.

Trioliet loading systems for biogas digester.

Trioliet vertical mixers are excellently suitable for feeding biogas plants. All Trioliet stationary mixers have a highly stable auger supported by the integrated frame. Consequently, all forces extended on the mixing auger are directly taken up by the frame. This design relieves the mixing chamber bottom and the gearbox. The compact and closed planetary drive ensures a constant and controlled rotating movement of the cutting mixing auger. The auger runs in a maintenance-free conical roller bearing at the top and a sinter slide bearing at the bottom. The optimum auger shape ensures quick and homogenous mixing at a low power requirement. Just above the bottom, at the lower end of the mixing chamber wall where the pressure on the wall is highest, a special Trioliet wearing ensures stability and a long service life.



(A) Feeding into standing digesters.

(B) Feeding into semi-sub soil digesters.

(C) Feeding into sub soil digesters.

Patented Trioliet horizontal flow system.

The Trioliet stationary mixers with two or three vertical mixing augers are equipped with special triangular inserts between the mixing augers for interaction between the front and rear mixing chamber sections, resulting in the feed not only being mixed in the usual vertical direction, but also in the lengthwise direction of the wagon. The triangles are not placed directly opposite each other, but a little offset.



Discharge augers

Various auger systems are available to transport the biomass out of the mixer into the digester, depending on the construction of the digester.

Stationary feed mixers.

The same technology used in the Biogas feeding plants mixers is used for stationary mixers. Stationary mixers offer the possibility to use the more economical feed boxes with less horse power to distribute the feed. The mixers run at a reduced constant Rpm as opposed to mobile mixers, and full clean out can be arranged through a gearbox or by way of a variable drive. All mixers are built on a subframe and supports can be ordered to put the machine at the desired height. Accessories like discharge and elevating conveyors, pump and valve kits to open doors are available to create a turnkey solution.

Longer service life for stationary mixers.

Trioliet has developed two types of solutions for corrosion protection, among others, for feeding systems for biogas installations.



Triocot lining.

With the Triocot lining, the body of the mixer is covered on the inside with thermoplastic material. The layer thickness on the bottom and wear ridge is 12 mm, 8 mm on the walls and 10 mm on the inserts. This thermoplastic lining offers an incredibly high resistance, both against wear and tear and against corrosion. The corrosion-resistant properties are many times better than those of stainless steel. The lining can be applied in the field (afterwards) and a 4-year guarantee is provided.

Model Solomix 1	1000	1200	1400	1800
Capacity m ³ /cu. ft.	10/360	12/430	14/500	18/650
Length (excl. motor) m./inch	3,32/166"	3,43/166"	3,70/170"	3,70/170"
Length (incl. motor) m./inch	4,22/131"	4,22/135"	4,33/146"	4,33/146"
Width m./inch	2,29/90"	2,29/90"	2,44/96"	2,44/96"
Height* m./inch	2,45-2,75/97"-109"	2,65-2,95/105"-117"	2,70-3,00/107"-119"	3,29-3,59/130"-141"
Net weight kg./Lbs.	3.500/7,720	3.900/8,600	4.000/8,820	4.300/9,480
Number of knives mounted per auger	5	5	9	9
Diameter of auger Ø m./inch	Ø 2,20/87"	Ø 2,20/87"	Ø 2,44/96"	Ø 2,44/96"
Required electric installation	Soft starter or phase converter			
Required electric capacity kW.	15	18,5	22	30

Model Solomix 2	1200	1600	2000	2400	3000	3200	4000
Capacity m ³ /cu. ft.	12/430	16/570	20/710	24/860	30/1,070	32/1,150	40/1,650
Length (excl. motor) m./inch	4,21/206"	4,60/220"	5,20/247"	5,72/260"	5,72/260"	6,56/291"	6,56/291"
Length (incl. motor) m./inch	5,24/166"	5,59/181"	6,28/205"	--	--	--	--
Width m./inch	2,15/85"	2,29/90"	2,44/96"	2,44/96"	2,44/96"	2,80/110"	2,80/110"
Height* m./inch	2,55-2,85/100"-112"	2,85-3,15/112"-124"	2,85-3,15/112"-124"	2,75-3,05/108"-120"	3,36-3,65/132"-144"	2,75-3,05/108"-120"	3,36-3,65/132"-144"
Net weight kg./Lbs.	3.400/7,500	4.300/9,480	5.400/11,900	6.400/14,110	7.600/16,750	9.400/20,720	10.000/22,050
Number of knives mounted per auger	6	5	5	6	9	9	9
Diameter of auger Ø m./inch	Ø 1,50/59"	Ø 1,70/67"	Ø 1,96/77"	Ø 2,20/87"	Ø 2,44/96"	Ø 2,66/105"	Ø 2,66/105"
Required electric installation	Soft starter or phase converter						
Required electric capacity kW.	15	22	30	2x15	2x18,5	2x30	2x30

Model Solomix 3	4600	6000	8000
Capacity m ³ /cu. ft.	46/1,650	60/2,140	80/2,860
Length m./inch	8,63/340"	8,63/340"	8,63/340"
Width (tub) m./inch	2,97/117"	2,97/117"	2,97/117"
Width (incl. motor) m./inch	3,93/155"	3,93/155"	3,93/155"
Height* m./inch	2,88-3,18/113"-125"	3,48-3,78/137"-149"	4,34-4,64/171"-183"
Net weight kg./Lbs.	11.700/25,790	12.900/28,380	13.900/30,640
Number of knives mounted per auger	9	9	9
Diameter of auger Ø m./inch	Ø 2,44/96"	Ø 2,44/96"	Ø 2,44/96"
Required electric installation	Soft starter or phase converter		
Required electric capacity kW.	3x30	3x37	3x37

* Supports are adjustable in height over 300mm/118"

Model Solomix 2	700
Capacity m ³ /cu. ft.	7/250
Length (excl. EnergyJet/ cover injection system) m./inch	3,75/147"
Width (excl. EnergyJet/cover injection system) m./inch	1,93/76"
Height m./inch	2,15/85"
Max. load kg./Lbs.	2.500/5,500
Number of knives mounted per auger	4
Diameter of auger m./inch	Ø 1,50/59"
Material walls, wear ring and floor stainless steel	V2A
Material auger : stainless steel	V2A
Electromotor kW. *	5,5 + 7,5

* Capacity electromotor based on maximum load



info@trioliet.com

Trioliet BV
Kleibultweg 59
NL-7575 BW Oldenzaal

T +31 541-57 21 21
F +31 541-57 21 25

info@trioliet.com
www.trioliet.com

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