

Kaira™

Crushing slurry pump for
demanding applications



DEMECA



The Kaira™ slurry pump is the heart of our slurry solutions. **The name of the Kaira™** slurry pump describes its unique ability to tackle even the most difficult slurry. The crushing blades of the pump make the slurry of uniform quality, the crushed slurry is an efficient feed for the biogas plant as such, and no separate crushing is needed. The crushed slurry also flows excellently when recirculating through channels. The pump has intelligent control to meet different needs and reduce disturbances.



Crushing blades



Automatic run/pause cycles with level sensing



Automatic unclogging



Easy to maintain



Demeca Oy
Haapakoskentie 84
FI-86600 Haapavesi

www.demeca.fi
info@demeca.fi
+358 10 340 8000

Kaira™

Benefits

- The crushing blades crushes small stumps, hay and straw and makes the slurry of uniform quality.
- Uniform and flowing slurry is easier to spread on the field and process.
- The smart and easy-to-use design keeps the pump always ready for operation and allows the slurry to move smoothly through channels.
- The control centre protects the pump and automatically ensures that the pump is cleaned regularly. If necessary, it also performs cleaning runs in the event of overload.
- The upper intake draws slurry from above, keeping the crust thin when the intake is close enough to the surface.



Kaira™

Applications

- Mixing, homogenizing and recirculating slurry in barn channels and pumping from the barn to storage tanks.
- For long-distance pumping for pre-treatment and as a feed pump for a separate transfer pump.
- Pumping and crushing of slurry from a biogas plant
- Pumping and crushing of industrial slurry



Kaira™

Features

- Four different length options.
- Standard equipment includes a level measurement control that pumps according to the level in the pit.
- Adjustable mounting height in 50 mm steps.
- Automatic cleaning runs prevent the straws from getting entangled in the shaft.
- The hay blade removes longer grasses.
- Easily replaceable consumables.
- The control cabinet includes a power socket.
- An automatic 3-way valve is available as an option, which can be used to recirculate slurry regularly, for example.

Kaira™

How it works

Kaira™

Kaira is a screw-assisted slurry pump designed for pumping slurry containing solid particles. The pump structure combines a feed auger, crushing blades and a pump housing based on a centrifugal pump, which are used to crush the slurry before being transferred to the pipeline. The pump sucks the slurry from the suction hole above to the pump housing. The feed screw transports the slurry to the crushing blades, which grind the straws, fibrous materials and other solids in the slurry into a homogeneous mass. After this, Kaira pumps the slurry into the pressure pipeline.

Kairakeskus™

The task of the Kaira control centre is to control and monitor the pump and the accessories connected to it. The control is based on frequency converter technology, which allows the pump's running, power and operating sequences to be precisely adjusted according to the requirements of the application. The control centre works on the basis of slurry level measurement and automatically keeps the slurry level stable. After each pumping, the centre performs a cleaning run. The centre automatically optimises the length of the break time between pumping cycles with the help of level measurement. The control centre continuously monitors the motor current, motor load, level, valve operation, possible fault situations and the operation of additional equipment. In the event of an overload, the control starts automatic cleaning. If the blockage cannot be cleared during the set number of cleaning attempts, the system stops the pump and notifies the operator of the fault with a fault light.



Pump model options and accessories

Product	Description	Delivery Contents
LK1000-L	Kaira L Slurry Pump	- Slurry pump
LK1000-M	Kaira M Slurry Pump	
LK1000-S	Kaira S Slurry Pump	
LK1000-XS	Kaira XS Slurry Pump	
SA-2001J	Kairakeskus 15 kW with local control	- Smart Control Center - Cables 3 meters long between the center and the pump, connection with quick connectors. - Level Measurement Sensor
LK1900-0110	Kaira service kit	- Kaira lower-end wear parts kit
LK6000-0100	Kaira hose assembly	- 1.5 meter long hose with Bauer 3" male fittings.
LK9100-0001	Automatic 3-way valve with long-neck flanges	- Automatic valve with weldable PEH flanges
LK9100-0002	Automatic 3-way valve with Bauer	- Automatic valve with one bauer female fitting and two weldable PEH flanges.
LK9100-0006	Manual 3-way valve with long-neck flanges	- Manual valve with weldable PEH flanges
LK9100-0007	Manual 3-way valve with Bauer	- Manual valve with one bauer female connector and two weldable PEH flanges.
LK4000-0100	Pump enclosure 1.3 x 1.1	- Length 1.1 m, width 1.3 m, height 1.2 m
LK4000-0101	Pump enclosure 1.3 x 2.1	- Length 2.1 m, width 1.3 m, height 1.2 m
LK4000-0100	Pump enclosure 1.3 x 2.8	- Length 2.8 m, width 1.3 m, height 1.2 m
A001626	Wangen Xpress 64 4kW	- 4kW screw pump for pressure boosting use.

Kaira™

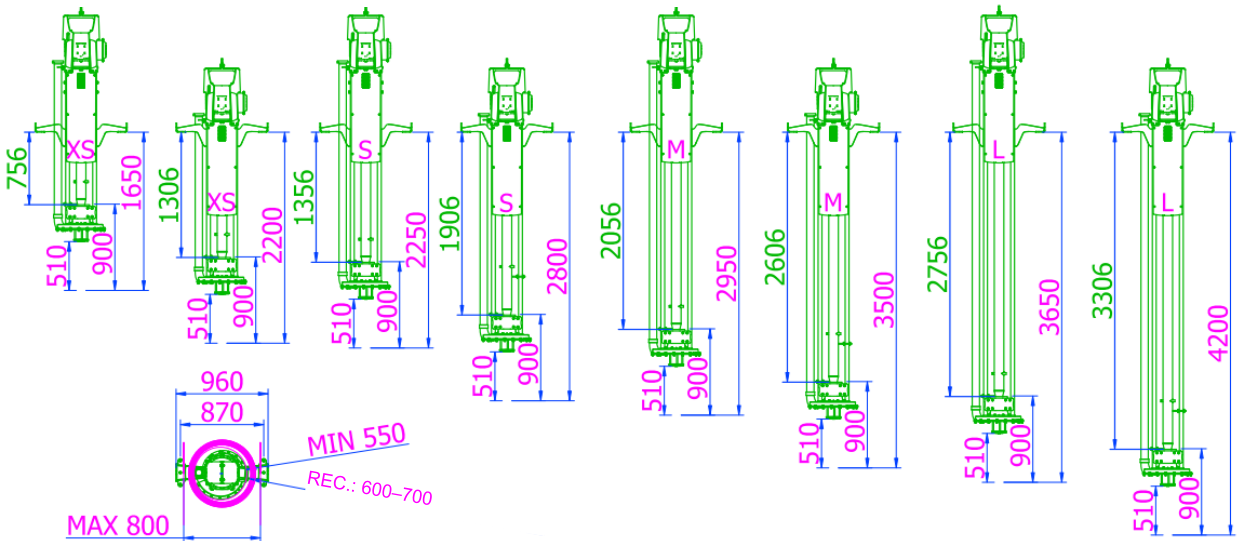
Specifications

Power supply	3-phase 32 A / 400 V
Motor power	11 kW
Pump Pressure Pipe Connection	Bauer 3"
Frame material	Hot-dip galvanized steel
Impeller material	Wear-resistant steel
Material of blade parts	Wear-resistant steel
Maximum pressure output with water	2.4 bar
Maximum flow rate with water	90 m ³ /h

Model-specific information

	Kaira XS	Kaira S	Kaira M	Kaira L
Total length	2.46 m	3.06 m	3.76 m	4.46 m
Mass	260 kg	290 kg	320 kg	340kg
Mounting point spacing	870 mm			
Pit opening diameter	min 550 – max 800 mm (recommended 600-700 mm)			
Recommended pit depth	1.65-2.20 m	2.25-2.9 m	2.95-3.5 m	3.55-4.5 m
Sediment clearance below pump	min 0.3 m (recommended +0.5 m, free slurry space to ensure lubrication)			

Kaira dimensions at minimum and maximum intake heights. Adjustment in 5 cm steps.
NOTE: Keep at least 10 cm of slurry above the intake.
Pit depths include the recommended sediment clearance. Install deeper if possible.
A sediment clearance of less than 300 mm is not recommended.



Request a quote for the Kaira™ slurry pump!



Johannes Linna

Project Salesperson

Biogas | Bedding | Manure management

firstname.lastname@demeca.fi

Tel. +358 44 750 5146



Pekka Vinkki

Commercial Director

Dealer collaboration

firstname.lastname@demeca.fi

Tel. +358 50 553 2437



SALES & CUSTOMER SERVICE

Phone +358 10 340 8000

MAINTENANCE & SPARES

Phone +358 10 340 8020



DEMECA