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BAUER

FOR A GREEN WORLD



SYSTEM 5000

The new world of irrigation



SYSTEM 5000

**Bauer –
The symbol
of perfection**

Since 1930, the Austrian Bauer company has been synonymous with perfection in irrigation systems.

More than 70 years of experience ensure that our irrigation systems meet the varied demands required on all five continents. Innovative developments, the application of leading edge production technologies and our customer-oriented planning and consulting add up to systems that perfectly fulfil all tasks in modern, economically optimized agriculture.

The economical use of water, energy and time as well as the unique flexibility of Bauer systems, make Bauer an internationally renowned irrigation expert. Be it individual farms or large agricultural projects: irrigation systems by Bauer are first choice for those who place the utmost demand on reliable, stable systems and comprehensive service and consulting.

System 5000
Compellingly
simple,
convincingly
economical

System 5000 offers productive advantages in the irrigation of various cultivated areas; and in simple daily operation. The main focus is on an increase of yield and on a decrease of working time.





Optimum utilization of land with inclines up to 15%

With the Bauer System 5000, cultivated areas are fully utilized. System lengths up to 1200 m and can be operated with an incline of up to 15%.

Read more on page 7

Up to four different irrigation precipitation rates in one work cycle

The option of different irrigation precipitation rates for four sectors and the addition of fertilizer automatically, ensure maximum yield and the best possible return of investment from the land.

Read more on pages 4–6

Saves energy and water

The low pressure system is economical on energy and conserves valuable water. Up to 90% of the water is applied to the plants. Thanks to the near-ground irrigation application level and innovative sprinkler nozzle design, evaporation is kept to the absolute minimum.

Read more on pages 8–9

Smooth continuous operation

The unique, precise drive tower control ensures trouble-free and long-term operation, even with long system lengths.

Read more on page 7



The highest stability in all wind and weather conditions

Design, materials and workmanship of all components are of the highest quality. The System 5000 ensures a long service life and low operational downtime even under the most aggressive topographic and climatic conditions.

Read more on pages 10–11



State-of-the-art control technology with PC and mobile phone

All central controls of System 5000 are extremely simple to operate. The system can be controlled and monitored via an optional PC or cell phone.

Read more on page 4



The correct model for every situation

A comprehensive product range and an almost limit-less selection of irrigation accessories provide the best choice without compromise.

All models at a glance on pages 12–14



BDS 3.0 Control Centre

Incoming data:

■ Collector ring with absolute encoder and CAN bus control

Ensures precise information of position data of the pivot system, thereby facilitating precise definition of irrigation limits, sectors, and on and off positions.



■ Meteorological station



■ Pressure switch

For low-pressure shut-down and re-start.

■ Pressure sensor

Displays the operating pressure

■ Flow rate measurement

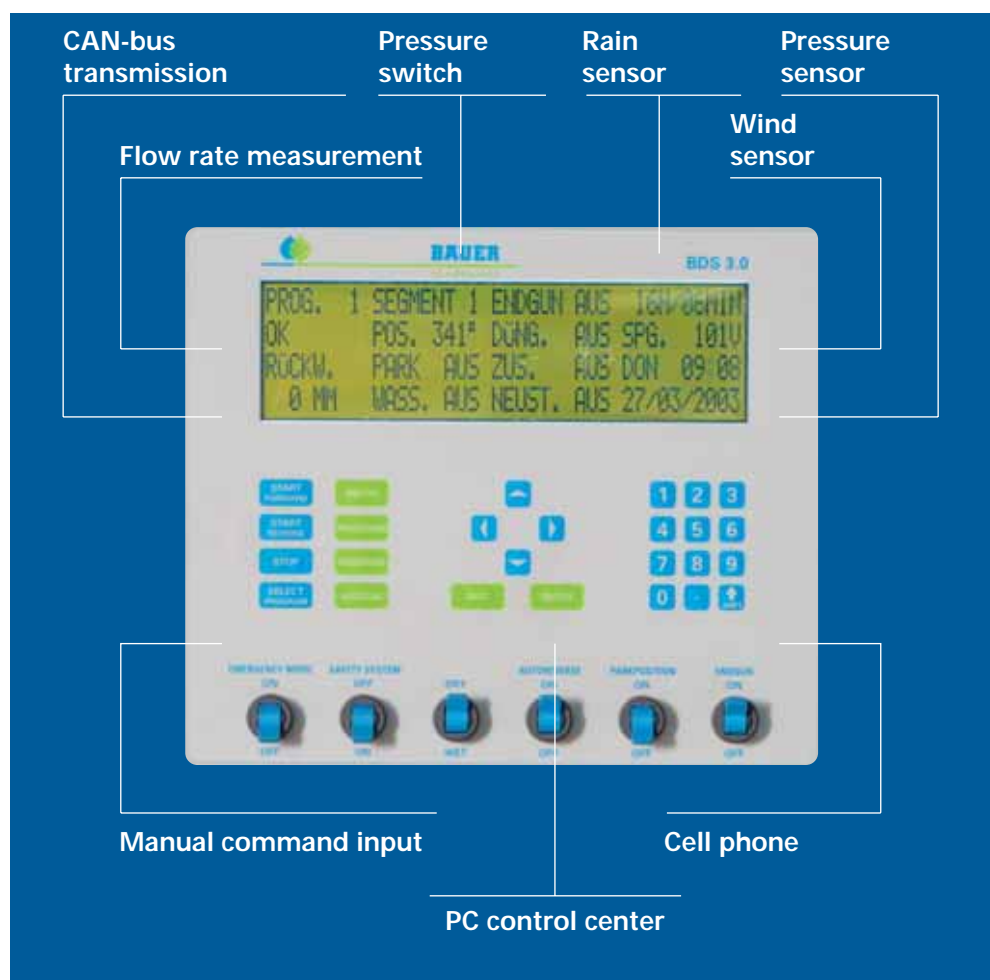
For exact control of irrigation height depending on the flow rate

■ Wind sensor

Display of wind speed; system shut-down when the wind is too strong

■ Rain sensor

System shut-down when it rains



Command input:

■ Manual

By hand via a clearly structured operating board



Optional:

■ Communication

with Centerstar 5000 via GSM modem for controlling and monitoring by means of PC control center or mobile phone





Optimal, time-saving irrigation management

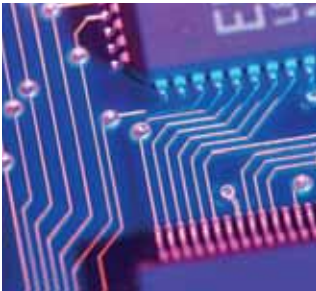
With the digitally programmable BDS 3.0, an innovative control center has been developed that is unique on the market. All functions can be controlled and monitored on site or – independent of the location – from a PC or mobile phone. This high-tech control system facilitates precise, economical control of irrigation at correspondingly little expense of time.

Optional:

■ **CAN-bus control** (patent pending)

By virtue of additional CAN-bus boards, the BDS 3.0 communicates via a two-wire system with the individual drive towers and the periphery. With this control unit, the number of simultaneously starting motors can be programmed. Thus, the peak currents in the pivot are precisely defined and all power supply lines and generators can be kept small and thus economical.

- Automatic alignment of the system
- Optimization of start currents
- Error logging for each drive tower
- Remote diagnosis via PC



Optional:

■ **PC control center**

The IBM-compatible software makes location-independent monitoring and control of up to 32 pivot systems via GSM data transfer possible. With status display of operating condition of the systems and logging.



The **BDS 3.0** control center ensures precise control and continuous monitoring of irrigation with the Centerstar 5000

The main advantages at a glance:

■ **Programming of irrigation segments**

Up to four irrigation segments with varied irrigation applications

■ **10 irrigation programs**

ensure efficient irrigation management with individually programmable irrigation amounts, start times, irrigation interruptions and irrigation cycles

■ **Four easily selectable on/off points**

per cycle for end gun, fertilizer pump and auxiliary output

■ **Restart**

to continue irrigation after interruption caused by pressure loss, voltage loss or overly strong wind

■ **Automatic moving to end/parking position ready for towing or next event**

After the irrigation cycle has been completed, the pivot is automatically moved dry to the pre-programmed end position

■ **Start delay**

Freely selectable monitoring time until water pressure has built up in the system

■ **Start/Reverse retardation**

After a specified quantity of irrigation has been reached, the machine starts automatically (important for starting and auto reverse operation)

■ **Avoidance of excess irrigation – system movement monitoring**

The automatic monitoring of the movement monitoring system prevents excess irrigation caused by spinning wheels or bogging

■ **Automatic alignment of the pivot**

The pivot system can be automatically aligned, which conserves time with towable systems (CAN-bus required)

■ **Recording**

Precise recording of operating hours (wet/dry), water consumption (with flow meter) and error protocol

■ **Emergency operation**

In case of failure of the electronic system, emergency operation can be started to ensure continuation of the basic irrigation functions

Control Centres

for Centerstar:

Universal Universal Pro

The proven and sturdy elements for application under the most extreme conditions.

The easy-to-use control surface and the control elements in sturdy design ensure smooth operation.

All basic functions for **automatic operation** are integrated in all control centers.

A comprehensive range of accessories is available for retrofitting further elements for additional operating functions.



Universal	Universal Pro	
●	●	Circle/sector and auto reverse operation
●		Percentage timer for adjustment of speed (irrigation)
	●	Enter precipitation height in mm
	●	Enter timer and pauses
	●	Enter desired number of circles
●	●	Wet/dry operation mode
	●	Restart after loss of pressure or voltage
●	●	Automatically switched off in case of error
●	●	Contacts for unit shut-down and shut-down valve
	●	Pump start from distance
●	●	Voltmeter / operating hours counter
	●	SMS control (optional)

Electric installations:

■ All electrical installations conform to the strict requirement of ÖVE and VDE.

■ Only standard commercial components of renowned manufacturers are used that are available world-wide.

SMS Control with the Mobile Telephone

The control of the CENTERSTAR by SMS offers optimal operational comfort to the user.

- Start / forward with a precipitation height in mm
- Start / reverse with a precipitation height in mm
- Stop the system
- Requesting info on the operational status
- Malfunction, operating status message



for Centerliner:



Select

Control center with integrated SPC
Linear/pivot and swivel operation
Program selector switch for 10 different application profiles
2 speeds (percentage timer) for linear operation
1 percentage timer for pivot/swivel operation
Wet/dry operation mode
Automatic change-over for nozzle fitting
Operating switch for drive motors of the central unit (for CLX)
Voltmeter
Operating hours counter
Plastic casing IP66



Intelligent control for smooth continuous operation



To ensure safe and continuous irrigation of large surfaces without interruption, precise movement of the entire system is of the essence. The Bauer System 5000 excels with its unique design that ensures directional stability of the system, automatic correction of deviations between the drive towers (as may be caused by uneven terrain) and even water flow along the entire system length. A high degree of uniformity is attained without major expenditure even in heavy soils or steep incline areas.

The control unit – precise and reliable



1. Tower coupling

The sturdy drive tower coupling, free from play, with ball and socket perfectly compensates for extreme slopes. Mounted on the outside of the pipe, it does not restrict the cross-section of the mainline pipe, thereby ensuring optimum water flow without pressure loss. The weather, UV and ozone-resistant hose collar facilitates large angles in case of uneven ground.



2. Alignment control

BAUER is the only manufacturer to offer a control lever that is mounted directly above the swivel point of the flexible joint (BAUER patent). Any torsion in the pipe has no influence on the control; the entire system is kept stress-free. Optimum adjustment of switching brackets with precision bearings of the control cams ensures precise movement transmission. This precise drive tower control system leads to high operating safety and long service life.



3. Precision control

The precision control for extreme precision of linear and centerliner systems and systems with more than 13 drive towers. The angles between the drive towers are transmitted by means of control cables, counter-balancing any torsion in the steel structure.



The spray nozzle range – An Overview:



LDN®

LDN low pressure spray nozzle with high wind resistance. Two integrated deflector plates produce the ideal drop size even when the nozzle diameter is large. Gentle irrigation at low intensity.



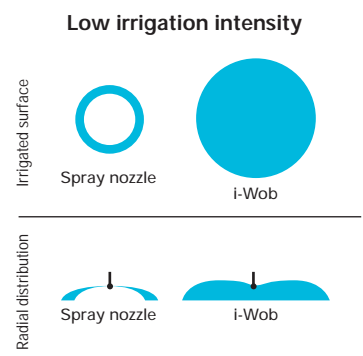
D 3000®

Low pressure spray nozzle in compact design for irrigation near to the plant. Nozzles with colour code – easy to exchange.



i-Wob®

Spray nozzle with rotating deflector plate. Wide ejection and excellent distribution. Low impact irrigation that is easy on the ground.



TWINmax end gun

Tailored for pivot and linear systems. High functionality even at low operating pressure. Nozzle diameters from 10–24 mm for a wide range of applications.



Optimum growth for any plant ensured by one single system

Depending on crop type, climatic conditions and growth phase, every plant has varying irrigation and fertilizer requirements. The wide range of nozzles makes precise control of water and fertilizer amounts possible. Thus, the Bauer System 5000 ensures high yield and economical utilization of cultivated land.



S 3000®

Spinner – gentle irrigation at lower pressure with wind fighting abilities.



R 3000®

ROTATOR with rotating deflector plate for wide range sprinkling and low irrigation intensities in windy conditions and difficult poorly drained soils.



T 3000®

Trashbuster – the perfect nozzle for spraying effluent or treated water efficiently.

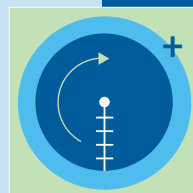


Pressure reducing valve

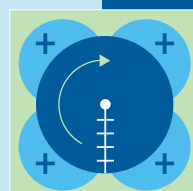
For precise water distribution on the pivot. Independent of swaying nozzles and height differences of the terrain, even flow through the nozzles is ensured.

End gun for better optimisation of land use

End gun mounted on the overhang ensures maximum water supply even on exposed areas. The end guns can be equipped with a booster pump to ensure a reliable water pressure. When used for circle irrigation, end guns deliver the water even to the most outside edges, thereby increasing the yield. An economic solution for minimal additional expense.



with end gun



sectored irrigation limits

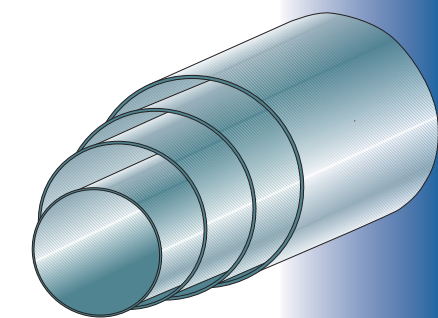




Factors of stability

Pivot tower

- Sturdy structure on four legs with broad support
- Pivot tower angle 108 x 108; C-profile for increased structural strength
- Broad support plates with large support surface area??
- Horizontal braces for increased machine stability
- Entire pivot tower is hot dip galvanized
- Double lip seal for no leakage



Spans – Trussing

- 4 tube diameters for wide application range (50–500 m³/h)???
- Optimum adjustment for lowest operating cost
- Just one tube length (5.85 m) for easy assembly and transportation
- Truss rods, diam. 20 mm, with high tensile strength and large safety reserves
- Just one truss rod design for all machine and model dimensions and span lengths
- Even arc shape of the trussing ensures high degree of stability
- The 90° arrangement of the bracing angle provides for even load distribution even on the most demanding terrain
- Crossed drive tower braces for high stability on uneven terrain



Drive towers – wheel base

- Drive tower bracing angle 100 x 75 for high torsion resistance
- Large-dimension wheel base
- 2 drive tower heights for optimum adjustment to different crops
- Wheel base brackets with bracing
- Highly stable stand thanks to extremely wide wheel base
- Permissible slope: up to 15 %



The highest stability for smooth continuous operation

BAUER attaches great importance with regard to the highest quality in design and choice of all components for the Bauer Systems 5000, to ensure that the system meets the consistent demands over many years. Statics and design of the entire system are such that the system's functionality is guaranteed even under the most demanding conditions, i.e. heavy soil, heavily intersected terrain and extreme weather conditions. At the same time, simple handling from set-up to repair and maintenance is another criterion for which BAUER is internationally appreciated.



Gear motors

- High-torque motor with thermal overload protection
- Enclosed moisture-proof motor
- High-efficiency spur gear
- Shaft seal with specific dirt-repellent profile
- Types: 50:1 / 0.54 kW; 40:1 / 0.54 kW; 30:1 / 1.1 kW



standard

Gear boxes

for standard systems:

- Worm gear for high torques, 50:1 gear ratio
- Large-sized tapered roller bearings
- Integrated expansion chamber
- Shaft seal with specific dirt-repellent profile



towable

for towable systems:

- Decoupling of worm for free-travel (towing)
- Simple to change from pivot to towing mode

Drive shaft and tires

- Large-sized couplings for prolonged service life
- Drive shaft, 25 x 25, hot galvanized
- Shaft guards made of UV-resistant material
- Comprehensive range of tires/tire dimensions for adjustment to difficult soils types and cultivation methods
- Available dimensions: 11.2-24; 14.9-24; 16.9-24 and 12.4-38
- NEW tires with galvanized rims



Centerliner:

CLS

CLE

CLX



CLS	CLE	CLX	
●			4-wheel central unit: 2 rigid hose connections in the front + at the back
	●	●	4-wheel central unit: flexible hose connection for automatic reverse mode without having to re-couple the hose
		●	Rotation of central unit for L-shaped irrigation areas
●			Manual rotation of the centre towers
	●	●	Automatic turning of the towers
●	●	●	Towable system option
●	●	●	Climbing ability up to 10%
●	●	●	Max. no. of spans: 7???
	●	●	Max. system capacity: 200 m³/h
●			Max. system capacity: 270 m³/h
●			STANDARD control cabinet for manual turning
	●	●	SELECT control cabinet
	●	●	2 speeds (percentage timer) for linear mode and 1 percentage timer for pivot mode
	●	●	Automatic nozzle change between LINEAR and PIVOT mode
	●	●	Pivot operation
●	●	●	Standard drive towers
●	●	●	Towable drive towers
●	●	●	Drive motors 0.55 kW and 1.1 kW
●	●	●	Tires 14.9-24; 16.9-24 and 12.4-38
●	●	●	End gun with ON/OFF control
●	●	●	Booster pump for end gun
●	●	●	Furrow control
●	●	●	Cable guidance
●	●		Optional: NEW system with ditch feed option

Centerliner CLS



Centerliner CLE





CENTERLINER 5000 – the all-rounder

The economic solution for all cultivated areas and crops. Optimum utilization of area thanks to intelligent control system and high flexibility even on intersected diverse terrain.

The Centerliner 5000 excels with high irrigation quality at low energy expense.

Centerliner CLX Multistar



Central unit can be rotated for L-shaped irrigation areas



Cable guidance

Two guide wheels track their way along a stretched cable.



Furrow guidance

The central unit follows a “master” furrow on two skids. Economic solution, in particular for systems with turning operation.



Buried guidance wire

Sensors track the induction field of a buried cable and thus indicate the direction of travel (only available for LINESTAR).



Centerstar 5000



Fixed anchored central tower

Towable tower - skid tow

- four wheel cart

Full circle operation

Sector operation

Sector stop parking position

End stop with auto-reverse mode

System shut-down

Shut-down valve / pump shut-down

Low-pressure shut down

Operation monitoring

Stationary towers

Towable towers

Towable from overhang side

High span design

Drive motors 0.55 kW and 1.1 kW

Tires 11.2-24; 14.9-24; 16.9-24 and 12.4-38

Overhang

Sand trap

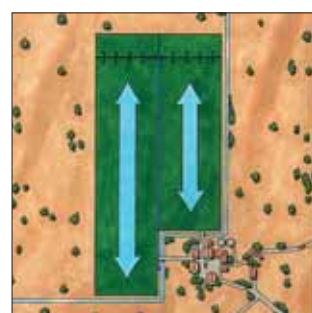
End gun with sector control

End gun with booster pump

Fertilizer injection



Linestar 5000



2-wheel central unit with hose feed

2-wheel central unit with hose feed,
towable

4-wheel central unit with hose feed / central /
end feed

4-wheel central unit with ditch feed

Second system feed for end tower

Stationary drive towers

Towable drive towers

Steering equipment for towing from overhang side

Precise control with cables

Drive motors 0.55 kW and 1.1 kW

Tires 14.9-24; 16.9-24 and 12.4-38

Overhang

Sand trap

End gun

Automatic on/off control for end gun

End gun with booster pump

Automatic interval control for end gun

Safety shut-down

Stop ramp for safety shut-down

Furrow guidance

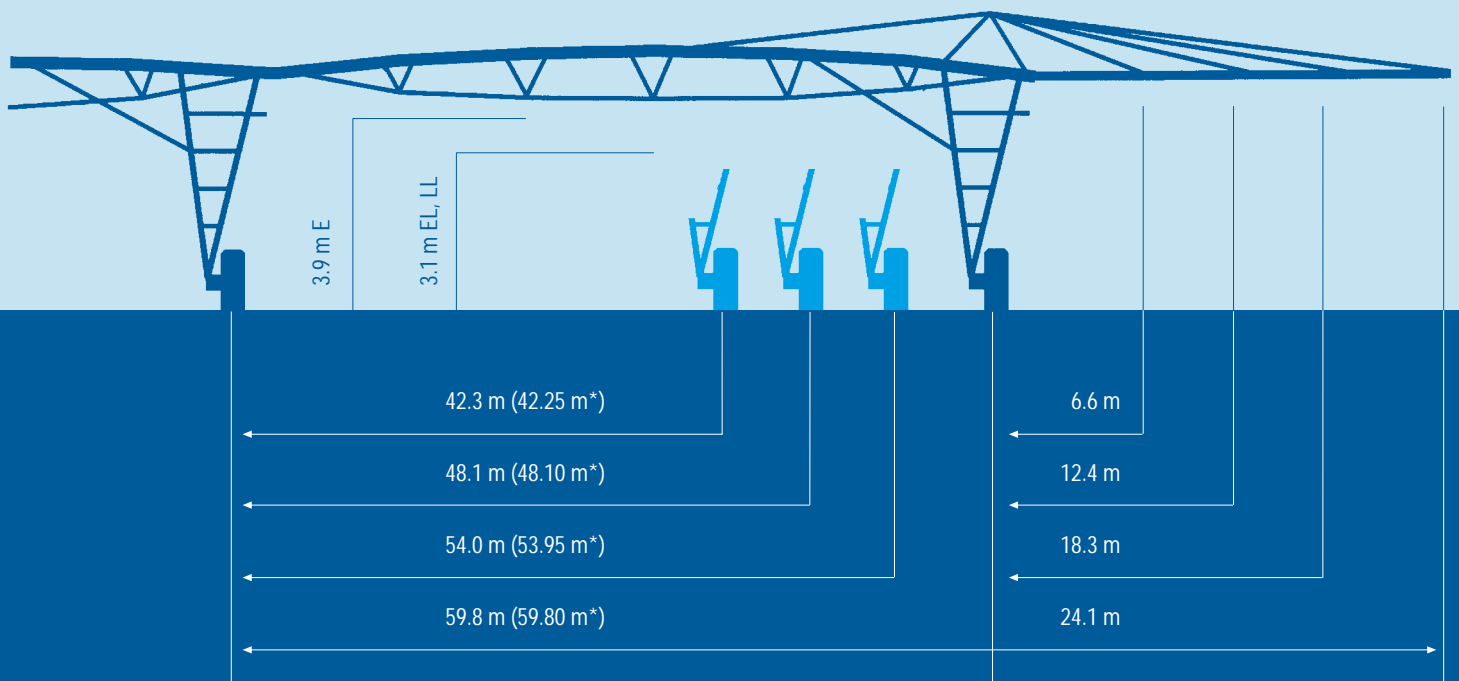
Cable guidance

Buried wire guidance





Technical data



* = actual span length

CENTERSTAR 5000		133 EL	168 EL	168 E	203 EL	203 E	219 EL	219 E
CENTERLINER 5000		-	168 LL	-	-	-	-	-
LINESTAR 5000		-	168 LL	-	203 LL	-	-	-
Pipe diameter	m	133 mm/5 1/4"	168 mm/6 5/8"		203 mm/8"		219 mm/8 5/8"	
Span length	m	59.8 - 54.0 - 48.1 - 42.3			54.0 - 48.1 - 42.3		48.1 - 42.3	
Overhang	m	23.4 - 17.6 - 11.7 - 5.9						
Headroom	m	3.1		3.9	3.1	3.9	3.1	3.9
Wheel base	m	4.3		5.2	4.3	5.2	4.3	5.2



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