



***Niagara***



**Basket cleaning systems**



**Pure Technology.**

# Customised cleanliness

Efficient cleaning despite increasing requirements for technical cleanliness of products? Our solutions help users to master this challenge. Each system is individually designed because different customers can have very different requirements.

Our technical support and engineering staff can fall back on their experience from numerous implemented projects. Cleaning trials with the original components at our Technical Centre give users the reassurance of a safe investment for their plant while also determining the exact parameters for cleaning agents, time and temperature.

**BvL** systems provide reliable cleaning for your workpieces and can be integrated seamlessly into the production line. They are easy to operate and comply with the strict guidelines of the automotive industry. In addition, they are designed in line with the Machine Directive 2006/42/EC, C standard EN 12921 and the German Accident Prevention Regulations (UVV).

- solid design and long service life
- simple operation
- easy access for easy maintenance
- quality components, e.g. from Siemens, Festo, KSB
- quality "Made in Germany"



# Niagara

FS | EM | MO | DFS | WE | VE



for small parts in baskets or individual parts on workpiece holders

for parts with recesses or cavities

for light and medium to heavy soiling



**Detail**

**NiagaraFS** with cross movement table



### Brief description

**NiagaraFS** is a spray cleaning system with revolving wheel technology. All processing steps are carried out in a chamber. Rotating the baskets or workpiece holders around the horizontal axis ensures all-round thorough cleaning.

### Basic system

Cleaning system:	spray cleaning with flat spray nozzles
Rotation:	revolving wheel system with fixed nozzle frame
Number of tanks:	1–3
Loading:	front loading through a roller guided holding fixture
Housing:	stainless steel
Tank insulation:	stainless steel
Control and operation:	Siemens Simatic with operating panel
Bath monitoring:	Libelle Fluid Control

Standard sizes	Unit	600	800	1,000
Usable length	mm	600	800	1,000
Usable width	mm	400	600	600
Usable height	mm	300	400	600
Loading capacity	kg	100	100	100
1 tank system: volume	l	700	900	1,100
2 tank system: volume	l	350	450	550
	l	350	450	550

other technical data and on-site services on request

## Practical and versatile.



### Cleaning technology

- holding fixture revolves or swivels around the horizontal axis
- two spray nozzle frames
- nozzles and nozzle frames can be adapted to the workpiece holder
- max. permitted load and permitted dimensions can be adapted, e.g. to 680 / 400 / 300 mm



### Processing steps

The processing steps are carried out in a chamber:

- spray washing: swivelling or revolving holding fixture
- spray rinsing (for two tank system): swivelling or revolving holding fixture
- drying with pneumatic pulse (optional) or circulating air (optional)



### Options and supplements

- drying systems
- handling systems: parts baskets, cross movement table, loading carriage, automatic drive-in and out device, driven roller conveyor
- increased cleaning performance: increased spray pressure
- bath maintenance options
- process reliability: Libelle
- cascade guiding
- floor drip tray, other system components



### Measuring bath contamination

New standard feature! On the occasion of our 25<sup>th</sup> anniversary, **BvL** are equipping all systems with the bath contamination monitoring system **Libelle Fluid Control** as a standard.



compact and space saving

for small parts in baskets or  
individual parts on workpiece  
holders

for parts with recesses or cavities

for light to medium soiling



**Detail**

large maintenance doors for easy access



### Brief description

**NiagaraEM** is a compact flood spray cleaning system with revolving wheel technology. The system features a modern and compact design. All processing steps are carried out in a chamber. Rotating the baskets or workpiece holders around the horizontal axis ensures all-round thorough cleaning.

### Basic system

Cleaning system:	spray cleaning with flat spray nozzles
Rotation:	revolving wheel system with stationary nozzle frame
Number of tanks:	1
Loading:	front loading through a roller guided holding fixture
Housing:	compact stainless steel housing
Tank insulation:	yes
Control and operation:	Siemens Simatic with Siemens touch panel
Bath monitoring:	Libelle Fluid Control

Standard sizes	Unit	480	600
Usable length	mm	480	600
Usable width	mm	320	400
Usable height	mm	200	300
Loading capacity	kg	50	100
1 tank system: volume	l	280	350
other technical data and on-site services on request			

## Small and compact.



### Cleaning technology

- holding fixture revolves or swivels around the horizontal axis
- all-round cleaning through special nozzle frame
- nozzles and nozzle frames can be adapted to the workpiece
- max. permitted load and permitted dimensions can be adapted



### Processing steps

The processing steps are carried out in a chamber:

- washing: spray cleaning, flood cleaning, injection flood cleaning
- drying with compressed-air pulse (optional) or hot air drying (optional)



### Options and supplements

- drying systems
- handling systems: parts baskets, loading carriage, powered roller conveyor
- increased cleaning performance: increased spray pressure
- bath maintenance options
- process reliability: remote diagnosis
- cascade guiding
- floor drip tray
- other system components



### Measuring bath contamination

New standard feature! On the occasion of our 25<sup>th</sup> anniversary, **BvL** are equipping all systems with the bath contamination monitoring system **Libelle Fluid Control** as a standard.



for bulky, heavy workpieces and complex geometric shapes

for use with Euro box pallets (and others)

for large quantities

for light to medium soiling



**Detail**

**NiagaraRH** with parts loading carriage and workpiece fixture





### Brief description

**NiagaraRH** is a spray cleaning system with revolving wheel technology. All processing steps are carried out in a chamber. Rotating the baskets or workpiece holders around the horizontal axis ensures all-round thorough cleaning.

### Basic system

Cleaning system:	spray cleaning with flat spray nozzles
Rotation:	revolving wheel system with fixed nozzle frame
Number of tanks:	1–2
Loading:	front loading through a roller guided holding fixture
Housing:	stainless steel
Tank insulation:	galvanised sheet steel
Control and operation:	Siemens Simatic with operating panel
Bath monitoring:	Libelle Fluid Control

Standard sizes	Unit	950	1,250	1,600	1,950
Usable length	mm	900	1,230	1,400	1,600
Usable width	mm	600	840	1,000	1,200
Usable height	mm	600	970	1,000	1,200
Loading capacity	kg	500	750	1,000	1,000
1 tank system: volume	l	1,000	1,600	2,000	2,000
2 tank system: volume	l	600	1,000	1,400	1,300
	l	400	650	650	700

other technical data and on-site services on request

## Large and efficient.



### Cleaning technology

- holding fixture revolves or swivels around the horizontal axis
- all-round cleaning through special nozzle frame
- a separate nozzle frame for each tank reduces mixing
- nozzles and nozzle frames can be adapted to the workpiece
- max. permitted load and permitted dimensions can be adapted



### Processing steps

The processing steps are carried out in a chamber:

- spray washing
- spray rinsing (for two tank system)
- circulating air drying (optional)



### Options and supplements

- drying systems
- handling systems: cross movement table, automatic drive-in and drive-out device, powered roller conveyor
- increased cleaning performance
- bath maintenance options
- process reliability: Libelle, remote diagnosis
- cascade guiding
- floor drip tray
- other system components



### Measuring bath contamination

New standard feature! On the occasion of our 25<sup>th</sup> anniversary, **BvL** are equipping all systems with the bath contamination monitoring system **Libelle Fluid Control** as a standard.



compact and space saving

for small parts in baskets or individual parts on workpiece holders

for workpieces with complex geometrical shapes

for high requirements to cleanliness



Detail

*Niagara*MO with cross movement table



### Brief description

**NiagaraMO** is a compact two tank, flood spray cleaning system with revolving wheel technology. The system features a modern and compact design. Ultrasound cleaning (optional) achieves a high level of cleanliness. All processing steps are carried out in a chamber. The fully glazed door allows operators to view the washing process. Rotating the baskets or workpiece holders around the horizontal axis ensures all-round thorough cleaning.

### Basic system

Cleaning system:	spray/flood cleaning with flat spray nozzles
Rotation:	revolving wheel system with static nozzle frame
Number of tanks:	2
Loading:	front loading through a roller guided holding fixture
Housing:	compact stainless steel housing
Tank insulation:	yes
Control and operation:	Siemens Simatic with Siemens touch panel
Bath monitoring:	Libelle Fluid Control

Standard sizes	Unit	480	600
Usable length	mm	480	600
Usable width	mm	320	400
Usable height	mm	200	300
Loading capacity	kg	50	100
Volume tank 1	l	370	450
Volume tank 2	l	360	420
other technical data and on-site services on request			

## Versatile and compact.



### Cleaning technology

- holding fixture revolves or swivels around the horizontal axis
- all-round cleaning through special nozzle frame
- nozzles and nozzle frames can be adapted to the workpiece
- max. permitted load and permitted dimensions can be adapted



### Processing steps

The processing steps are carried out in a chamber:

- washing: spray cleaning, flood cleaning, injection flood cleaning, ultrasound cleaning
- rinsing with demineralised water (optional)
- drying with pneumatic pulse (optional), hot air (optional), circulating air (optional), vacuum (optional) – with infrared support if required



### Options and supplements

- drying systems
- handling systems: loading carriage, cross movement table, automatic drive-in and out device, powered roller conveyor
- increased cleaning performance: increased spray pressure
- bath maintenance options
- process reliability: remote diagnosis
- cascade guiding
- floor drip tray, other system components



### Measuring bath contamination

New standard feature! On the occasion of our 25<sup>th</sup> anniversary, **BvL** are equipping all systems with the bath contamination monitoring system **Libelle Fluid Control** as a standard.



for small parts in baskets or individual parts on workpiece holders

for workpieces with complex geometrical shapes

for very high requirements to cleanliness

for applications with short cycle times



Version: **NiagaraDFS** with synchronised flow-through process for optimising cycle times



### Brief description

**NiagaraDFS** is a flood/spray cleaning system with revolving wheel technology. Ultrasound cleaning (optional) achieves a high level of cleanliness. All processing steps are carried out in a chamber. Rotating the baskets or workpiece holders around the horizontal axis ensures all-round thorough cleaning.

### Basic system

Cleaning system:	spray/flood cleaning with flat spray nozzles
Rotation:	revolving wheel system with stationary nozzle frame
Number of tanks:	1–3
Loading:	front loading through a roller guided holding fixture
Housing:	stainless steel
Tank insulation:	stainless steel
Control and operation:	Siemens Simatic with operating panel
Bath monitoring:	Libelle Fluid Control

Standard sizes	Unit	600	800	1,000	1,200
Usable length	mm	600	800	1,000	1240
Usable width	mm	400	600	600	850
Usable height	mm	300	400	600	1000
Loading capacity	kg	100	150	250	1000
1 tank system: volume	l	1,000	2,000	2,000	3800
2 tank system: volume	l	550	1,100	2,000	3800
	l	550	1,100	2,000	3800

other technical data and on-site services on request

## Thorough and versatile.



### Cleaning technology

- holding fixture revolves or swivels around the horizontal axis
- all-round cleaning through special nozzle frame
- a separate nozzle frame for each tank reduces mixing
- nozzles and nozzle frames can be adapted to the workpiece
- max. permitted load and permitted dimensions can be adapted, e.g. to 880 / 600 / 400



### Processing steps

The processing steps are carried out in a chamber:

- washing: spray cleaning, flood cleaning, injection flood cleaning,
- vacuum flood cleaning, ultrasound cleaning
- spray rinsing (for two tank system)
- drying with compressed-air pulse (optional), hot air drying (optional) or vacuum drying (optional)



### Options and supplements

- drying systems
- handling systems: parts baskets, cross movement table, loading carriage, automatic drive-in and out device, powered roller conveyor
- increased cleaning performance: increased spray pressure
- bath maintenance options
- process reliability: remote diagnosis
- cascade guiding
- floor drip tray, other system components



### Measuring bath contamination

New standard feature! On the occasion of our 25<sup>th</sup> anniversary, **BvL** are equipping all systems with the bath contamination monitoring system **Libelle Fluid Control** as a standard.



for small parts in baskets or individual parts on workpiece holders

for workpieces with complex geometrical shapes

for very high requirements to cleanliness

for applications with short cycle times



**Detail:** *NiagarawE* with loading carriage, cooling tunnel, external vacuum drying and roller conveyor



### Brief description

**NiagaraWE** is a flood/spray cleaning system with revolving wheel technology. The system features a modern and compact design. Ultrasound cleaning (optional) achieves a high level of cleanliness. All processing steps are carried out in a chamber. Rotating the baskets or workpiece holders around the horizontal axis ensures all-round thorough cleaning.

### Basic system

Cleaning system:	spray/flood cleaning with flat spray nozzles
Rotation:	rotating wheel system with fixed nozzle frame
Number of tanks:	1–3
Loading:	front loading through a roller guided holding fixture
Housing:	compact housing
Tank insulation:	yes
Control and operation:	Siemens Simatic with operating panel
Bath monitoring:	Libelle Fluid Control

Standard sizes	Unit	600	800	1,000
Usable length	mm	600	800	1000
Usable width	mm	400	600	600
Usable height	mm	300	400	600
Loading capacity	kg	100	150	250
1 tank system: volume	l	550	1,100	2,000
2 tank system: volume	l	550	1,350	2,000
	l	550	1,200	2,000

other technical data and on-site services on request

## Thorough and compact.



### Cleaning technology

- holding fixture revolves or swivels around the horizontal axis
- all-round cleaning through special nozzle frame
- nozzles and nozzle frames can be adapted to the workpiece
- max. permitted load and permitted dimensions can be adapted, e.g. to 880 / 600 / 400



### Processing steps

The processing steps are carried out in a chamber:

- washing: spray cleaning, flood cleaning, injection flood cleaning, vacuum flood cleaning, ultrasound cleaning
- spray rinsing (for two tank system)
- drying with compressed-air pulse (optional), circulating air (optional) or vacuum drying (optional)



### Options and supplements

- drying systems
- handling systems: parts baskets, cross movement table, automatic drive-in and drive-out device, powered roller conveyor
- increased cleaning performance: increased spray pressure
- bath maintenance options
- process reliability: remote diagnosis
- cascade guiding
- floor drip tray, other system components



### Measuring bath contamination

New standard feature! On the occasion of our 25<sup>th</sup> anniversary, **BvL** are equipping all systems with the bath contamination monitoring system **Libelle Fluid Control** as a standard.



for large weights in baskets or  
on hardening grates

spray/flood system for gentle  
cleaning

high cleaning performance



**Detail**

Pumps and filter technology





### Brief description

**NiagaraVE** is a large volume, two tank system with spray and flood function. Cleaning is carried out by a special nozzle system while the parts basket is stationary. Flood cleaning minimises damage to the cleaned parts.

### Basic system

Cleaning system:	spray/flood cleaning with flat spray nozzles
Rotation:	none
Number of tanks:	2–3
Drying:	circulating air drying
Loading:	front loading
Housing:	stainless steel
Tank insulation:	stainless steel
Control and operation:	Siemens Simatic with operating panel
Bath monitoring:	Libelle Fluid Control

Standard sizes	Unit	1,200
Usable length	mm	1,200
Usable width	mm	900
Usable height	mm	1,000
Loading capacity	kg	1,000
2 tank system: volume	l	3,000
	l	3,000
other technical data and on-site services on request		

## Large and powerful.



### Cleaning technology

- spray/flood cleaning of stationary parts with flat spray nozzles
- vacuum flooding possible
- closely spaced spray nozzle frame with many rows
- nozzles and nozzle frames can be adapted to the workpiece
- max. permitted load and permitted dimensions can be adapted



### Processing steps

The processing steps are carried out in a chamber:

- washing: spray cleaning, flood cleaning, injection flood cleaning, vacuum flood cleaning (optional)
- rinsing I, rinsing II (optional)
- drying with circulating air or vacuum (optional)



### Options and supplements

- drying systems
- handling systems: e.g. with customer charging carriage, automatic drive-in and drive-out device, integration into automation
- increased cleaning performance: increased spray pressure
- bath maintenance options
- process reliability: remote diagnosis
- floor drip tray
- other system components



### Measuring bath contamination

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# BvL cleaning plants – as individual as your requirements!



We design what you need: as powerful as necessary, as efficient as possible. The extensive selection of available features ranges from simple filter technology and powerful vacuum dryers to fully automated transport units with identification system for workpiece detection. This allows all **BvL** systems to provide customised solutions.

Your requirements are our targets. We use our competence and longstanding experience to determine the ideal combination of technology, cleaning agents, time and temperature for your cleaning process. Our modular systems allows us to benefit from reliable technology while individually customising the system.



**Detail**  
lifting/lowering station



**Detail**  
external vacuum dryer



**Detail**  
flood cleaning



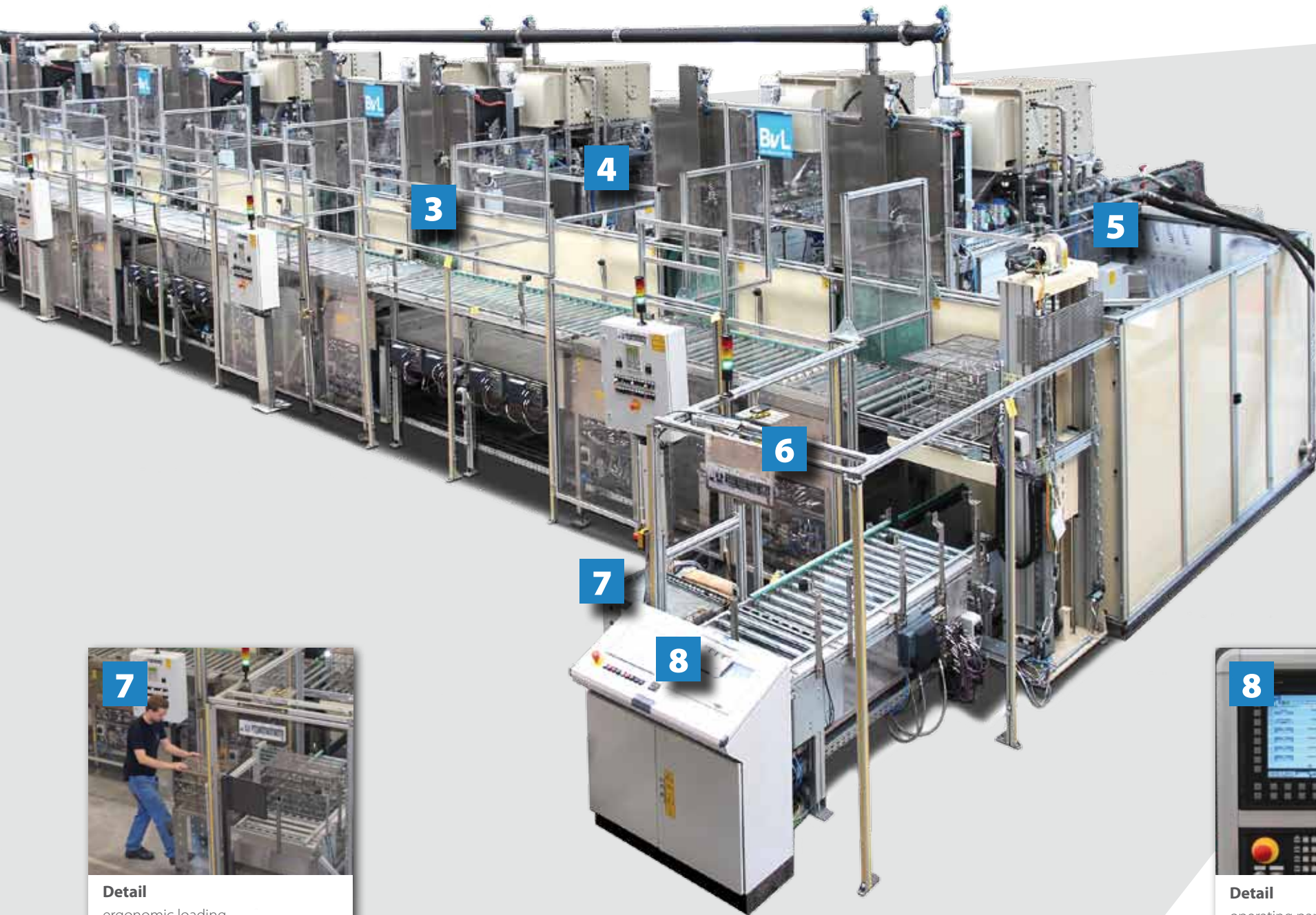
**Detail**  
Libelle for bath monitoring



**Detail**  
energy saving insulation package



**Detail**  
barcode query + storing of  
washing program



**7**  
Detail  
ergonomic loading



**8**  
Detail  
operating panel



**BvL Oberflächentechnik GmbH**

Grenzstr. 16  
48488 Emsbüren  
Germany  
Phone: +49 (0) 5903 951-60  
Fax: +49 (0) 5903 951-90  
Email: [info@bvl-group.de](mailto:info@bvl-group.de)  
Internet: [www.bvl-group.de](http://www.bvl-group.de)

**Pure Technology.**