

Wedeco & UV Disinfection

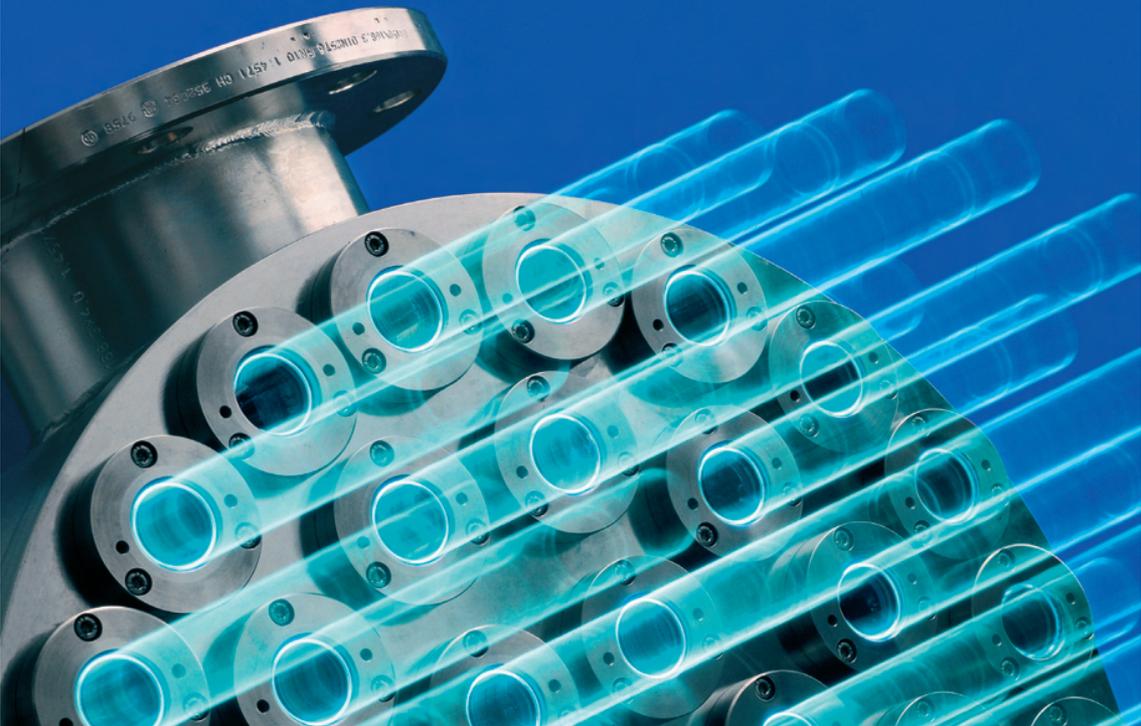
WEDECO

With UV Disinfection and Ozone Oxidation, Wedeco has the advanced technologies needed for the chemical-free, environmentally friendly treatment of drinking water, wastewater and process water. Our high-tech water and wastewater treatment systems ensure that water can be recycled, that drinking water is safe, that water treatment does not put an undue burden on the environment and that we provide the most cost-effective solution for our customers.

Ultraviolet disinfection systems

Wedeco UV technology can be used to disinfect drinking water, wastewater, process water, ultrapure water and swimming pools. It's the chemical-free, environmentally friendly alternative to chlorine disinfection, using rays of UV light to kill dangerous micro-organisms preventing them from multiplying - including bacteria, viruses and yeasts.

Within our UV portfolio we are able to offer both 'Low Pressure' and 'Medium Pressure' lamps.



UV Residential UV Aquada Series

No. of models in range	15
Water Temperature Recommended Range	5 to 25°C
Possible Range	0 to 35°C
Water UV Transmittance (@254nm,1cm)	min 80%
Flow capacity (300j/m ²)	max up to 10.5m³/h

Features

- Enclosed system
- Tested and proven disinfection capacity
- Electro-polished 316L grade stainless steel disinfection chamber
- High output low pressure UV lamp
- Highly efficient electronic ballast power supply
- Glow-cap lamp operation indicator
- Safety lamp connector (no lamp removal without lamp shut-off)

Benefits

- UV enhances overall water safety by destroying dangerous organisms that can pass through other treatment processes
- No residuals or harmful chemical by-products are introduced into the water
- Aquada UV systems are simple to install. UV lamps are easy to replace and only require changing after one full year of use
- Aquada UV systems require less energy than a typical household light bulb

Aquada Series

Overview

Aquada UV systems offer reliable, chemical free disinfection of clear fresh water, to meet drinking water standards.

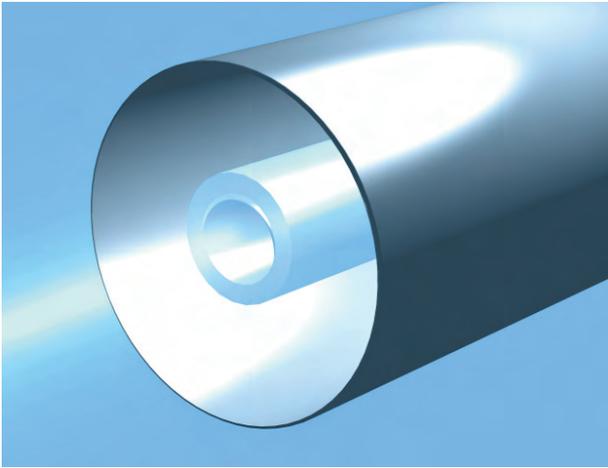
There are three model specifications in the range, each available in five sizes (15 variants), to meet the flow requirements of the home or business where it will be installed.

Every Aquada model is designed to deliver the UV dose recommended by European regulatory and safety agencies.

While other residential water treatment processes such as filters or water softeners will improve the taste and clarity of water, they are not designed to protect against dangerous micro-organisms. UV will instantly and effectively render dangerous organisms harmless.



Aquada Series continued



Aquada UV Model Selection Guide

There are three Aquada model specifications to choose from. Each model is available in five sizes to meet the differing flow requirements of the customer.

Features	ALTIMA	PROXIMA	MAXIMA
Tested and proven disinfection capacity	•	•	•
Electro-polished stainless steel disinfection chamber	•	•	•
High output low pressure UV lamp	•	•	•
High efficient electronic ballast power supply	•	•	•
Glow-cap lamp operation indicator	•	•	•
Safety lamp connector (no lamp removal without lamp shut-off)	•	•	•
Micro-computer control		•	•
Audible alarm plus visual alarm display (lamp failure and end of lamp life)		•	•
Lamp change reminder with 365 days counter		•	•
Alarm and computer reset button		•	•
Digital display / lamp life readout		•	•
Power connection for optional automatic solenoid safety shut-off valve		•	•
Selective UV sensor			•
Digital UV intensity display, low-medium-high			•

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UV Residential UV Aquada Series

Main Applications

- Drinking water for private homes, schools, farms, hotels, hospitals etc
- Air conditioning systems
- Aquaculture (fresh water fish farming)

Technical Description

- Single centred low pressure high intensity UV lamp inside a protective quartz sleeve
- Electro-polished UV disinfection chamber with BSP male threaded connections
- Easily removable UV lamp and quartz sleeve assembly from one end of the chamber
- Glow-cap lamp operation indicator
- Three model specifications available, each in five different sizes
- Optional count back 'days remaining' counter and UV-monitoring system
- All units conform with CE standards

Optional Accessories

- 2/2 way solenoid valve (Maxima and Proxima only) for automatic stop of water supply in case of failure
- Volt free contacts for Maxima and Proxima
- Replacement Spektrotherm® UV lamps

UV Industrial UV A Series

No. of models in range	3
Water Temperature Recommended Range	5 to 35°C
Possible Range	0 to 60°C
Water UV Transmittance (@254nm, 1cm)	min 80%
Flow capacity (250J/m ²)	max up to 26.0 m ³ /h
Flow capacity (400 J/m ² – certified)	max up to 12.5 m ³ /h

Features

- Enclosed system
- Temperature stable Spektrotherm® UV lamp
- New SEC monitoring electronics with calibrated UV sensor
- Easy to operate front panel
- Option of vertical or horizontal installation to suit existing water pipes

Benefits

- Reliable disinfection with low power consumption
- Long lamp life
- Easy maintenance
- Simple operation
- Easy cleaning
- Minimal loss of pressure
- Low operating costs

Optional Accessories

- Stainless steel cleaning valves
- Sampling valve (for A10 and A15)
- Replacement Spektrotherm® UV lamps

Technical Description

- Single centred low pressure high intensity Wedeco Spektrotherm® UV lamp
- UV lamp and quartz sleeve assembly, easily removable from one end of the chamber
- Calibrated UV intensity monitoring system

A Series

Overview

The Type A Series UV systems destroy bacteria, viruses, yeasts, parasites and cryptosporidium efficiently and without using chemicals. These systems are especially suitable for small and medium sized applications.

At the heart of the A series is the high performance Spektrotherm® UV lamp. Its UV-C is efficient and provides outstanding temperature stability. This means that the UV output remains virtually constant, irrespective of whether the surrounding water is hot or cold. In addition, the A series systems have only one Spektrotherm® UV lamp, whereas conventional UV systems need several lamps. This, coupled with the long life of the Spektrotherm® UV lamp, means very low operating costs.

The UV disinfection chamber is made of electropolished high grade stainless steel. The lamp is fitted centrally, with flow baffles which guarantee uniform exposure to the UV radiation, ensuring the best disinfection results.

A Spectrum Emission Controller (SEC) handles all monitoring and control functions of the UV system. The appropriate remote monitoring outputs are provided. An easy to operate front panel with a large display provides continuous information about all operating conditions.



A Series

Spektron Emission Controller

Main Applications

- Private and municipal drinking water supplies
- Prevention of growth of Legionella in warm water systems
- Process water for industrial uses
- Food and Beverage industry
- Aquaculture (fresh water fish farming)
- Air conditioning systems

A Series Model Selection Guide

There are three Type A Series models to choose from.

Please see the table below for details.

	Model		
	A 4	A 10	A 15
Max flow rate* (m ³ /h)	6.6	12.3	16.1
Pipe connection	1½	DN50	DN80
Power input (W)	105	170	230
Dimensions reactor W x H x D (mm)	210 x 570 x 160	300 x 895 x 160	320 x 1090 x 174
Dimensions reactor W x H x D (mm)	280 x 300 x 180	280 x 300 x 180	280 x 300 x 180

* UV dose = 400 J/m² at the end of lamp lifetime; estimated UV transmittance = 98 % per 1cm.

All specifications are subject to change without notice.

Glossary of terms

Flow Baffles - device fitted inside UV chamber to optimise flow patterns.

UV Industrial UV A/B-PE Series

A/B-PE Series

Overview

The Wedeco A/B series in high density polyethylene (HDPE) is most suitable for the disinfection of sea water and other corrosive media. The chamber is non-corrosive and temperature stable. The high intensity Spektrotherm® UV lamps guarantee a maximum disinfection level and efficiency in cold and warm water applications.

These UV systems can be mounted horizontally or vertically into existing pipe lines and are equipped with a separate electrical cabinet.

Technical Description

- High density Polyethylene HDPE chamber with Wedeco Spektrotherm® UV lamps, arranged parallel to the water flow
- UV lamp and quartz sleeve assembly removable from one end of the chamber
- Calibrated UV monitoring system



A/B-PE Series Model Selection Guide

There are six models in the A/B-PE series to choose from. Please see the table below for details.

Type	Max Flow Rate* (m ³ /h)	Flange connection	Power consumption (kW)	Dimensions W x H x D (mm)
A 10 - PE	10.4	DN65	0.12	895 x 300 x 170
B 32 - PE	32.0	DN100	0.38	950 x 315 x 265
B 60 - PE	67.5	DN150	0.57	1270 x 330 x 253
B 120 - PE	134.4	DN200	0.95	1280 x 420 x 307
B 160 - PE	219.5	DN200	1.33	1290 x 415 x 339
B 300 - PE	393.0	DN300	2.84	1600 x 445 x 391

* UV dose = 400 J/m²; UV transmission = 98% at end of lamp lifetime.
All specifications are subject to change without notice.

No. of models in range **6**

Water Temperature Recommended Range **5 to 35°C**

Possible Range **5 to 40°C**

Water UV Transmittance (@254nm, 1 cm) **min 80%**

Flow capacity (400J/m²) **max 400m³/h**

Features

- Enclosed system
- High quality HDPE chamber
- Spektrotherm® high intensity low pressure UV lamps with excellent temperature stability
- UV monitoring and control by a highly selective, calibrated UV sensor

Benefits

- Excellent disinfection capacity at low energy consumption
- Spektrotherm® UV lamps offer long lamp life
- Simple operation
- Easy maintenance

Optional Accessories

- Separate distribution box for distances UV chamber/electrical cabinet 5-30m to enable electrical control cabinet to be mounted further away from the UV chamber if required
- Electrical cabinet material: stainless steel 304 (B-PE only)
- Replacement Spektrotherm® UV lamps

Main Applications

Disinfection of sea water and other corrosive media to meet relevant biological standards

- Sea water
- Corrosive media
- Aquaculture (fish farming)
- Thermal springs
- Swimming pools

UV

Industrial UV

SA Series

No. of models in range **4**

Water Temperature
Recommended Range **5 to 25°C**
for SA 2

Possible Range **0 to 35°C**
for SA 2

Water Temperature
Recommended Range **5 to 35°C**
for SA 4 - SA 15

Possible Range **0 to 60°C**
for SA 4 - SA 15

Water UV Transmittance (@254nm, 1cm) **min 80%**

Flow capacity (250J/m²) **max 26m³/h**

Features

- Enclosed system
- Compact design
- UV monitoring and control by a highly selective, calibrated UV sensor

Benefits

- Excellent and reliable disinfection capacity with low energy consumption
- Simple operation
- Easy maintenance
- Easy integration into existing water pipelines

Optional Accessories

- Cleaning valves (only for SA4, 10 and 15)
- Solenoid valve (only for SA2 and 4)
- Replacement Spekthrotherm® UV lamps

SA Series

Overview

The Wedeco SA series systems ensure micro-biologically pure water for passenger ships and ferries, container ships, research ships, military ships and fishing factory ships.

Technical Description

- Electropolished stainless steel chamber with a single centred Wedeco Spekthrotherm® UV lamp

Main Applications

Disinfection of clear fresh water to meet relevant biological standards

- Drinking water supply on vessels
- Off-shore applications (fresh water)



SA Series Model Selection Guide

There are four models in the SA series range.

Please see the table below for details.

Type	Max flow rate* (m ³ /h)	Flange connection	Power consumption (W)	Reactor dimensions W x H x D (mm)
SA 2	4.0	¾"	70	130 x 750 x 140
SA 4	7.6	1½"	115	210 x 570 x 160
SA 10	13.8	DN65	140	300 x 900 x 160
SA 15	21.7	DN80	230	320 x 1090 x 174

* The flow rate depends on the quality of water (UV transmission). WEDECO-Series B is suitable for higher flow rates. All specifications are subject to change without notice. In this case: 300 J/m² at the end of lamp life; Transmission = 98% T1 cm

Spektron Series

Overview

The Spektron series UV systems can be used in a variety of applications, from domestic water supply to industrial uses, to large water plants.

The robust construction makes them suitable for use in water with high humic contents or in environments with increased requirements in terms of electromagnetic compatibility (EMC) protection.

The chamber construction ensures simple installation within virtually any space limitation.

Technical Description

- Cylindrical stainless steel chamber with Crossmix® flow optimiser (removable)
- Multiple Spekthrotherm® UV lamps arranged parallel to the water flow
- Calibrated UV intensity monitoring system
- Electronic UV lamp supervision system with error memory and external interfaces
- Monitoring of chamber temperature and external flow rate signal
- CE and EMC approved



Glossary of terms

Humic - made up of the organic constituent of soil, usually formed by the decomposition of plants or leaves by soil bacteria.

EMC - Electromagnetic Compatibility.

Crossmix flow optimiser - Patented device to optimise hydraulic flow, making for extremely low head-loss.

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UV Industrial and Municipal UV Spektron Series

No. of models in range	11
Water Temperature Recommended Range	5 to 45°C
Possible Range	0 to 70°C
Water UV Transmittance (@254nm, 1cm)	min 80%
Flow capacity (400J/m ² - certified)	max 922m ³ /h

Features

- Enclosed system
- Wedeco Spekthrotherm® low pressure UV lamps
- High performance memory and analysis system
- Unique Crossmix® module ensuring maximum and correct distribution of all water flow throughout the entire disinfection chamber

Benefits

- Safe disinfection
- No harmful by products
- Exceptionally low operating costs
- Very long lamp life
- On-going self monitoring of UV intensity, chamber temperatures and water flow
- Extremely low loss of pressure
- Variable installation positions for easy integration into existing pipeline positions
- Excellent electromagnetic compatibility (EMC) protection, which exceeds industry and household standards

UV Industrial UV Spektron Series

Main Applications

Disinfection of clear fresh water to meet relevant biological standards.

- Private and municipal drinking water supplies
- Food and Beverage industry
- Process water for industrial use
- Aquaculture (fresh water fish farming)
- Swimming pools

Optional Accessories

- Cleaning valve (Spektron 3 and 6)
- Optional 5m chamber cable (standard is 10m)
- 1/4" sample valve
- Replacement Spektrotherm® UV lamps

Spektron Series continued



Spektron Series Model Selection Guide

Type	Max flow rate* (m ³ /h)	Connections (Thread or Flange)	Power consumption (kW)	Dimensions W x H x D (mm)
Spektron 3	2.9	1 1/2"	0.055	350 x 370 x 240
Spektron 6	6.6	2"	0.09	350 x 370 x 240
Spektron 15	20.2	DN65	0.25	350 x 370 x 240
Spektron 25	37.3	DN80	0.38	350 x 370 x 240
Spektron 25S	36.8	DN80	0.3	611 x 370 x 240
Spektron 70	140.3	DN125	0.8	611 x 370 x 240
Spektron 100	164.3	DN150	1.0	611 x 370 x 240
Spektron 150	287.7	DN200	1.5	600 x 600 x 350
Spektron 250	435.2	DN250	2.2	600 x 600 x 350
Spektron 400	665.2	DN300	2.95	600 x 600 x 350
Spektron 600	898.3	DN350	4.35	600 x 600 x 350

BX Series

Overview

The chambers of the BX series systems are equipped with low pressure, high intensity UV lamps which are arranged parallel to the water flow inside the reaction chamber. From model BX80 onwards, the most powerful Spekthrotherm® UV lamps are used.

A special baffle plate design creates turbulence which allows the system to achieve high disinfection levels.

These UV systems can be mounted horizontally or vertically into existing pipelines and are equipped with a separate electrical cabinet.

Two optional extra components are dose pacing and an automatic wiping system:

Dose pacing is available as a result of the latest developments with the Spekthrotherm® UV lamp technology, meaning lamps now have variable UV-C output. Not only do the lamps have an enhanced UV-C output, they also allow a continuous variable output from 50-100%. This 'dose pacing' optimises energy consumption and extends lamp life, when applied to the system.

The optional automatic wiping system works by keeping each lamp sleeve clean by several wiper rings, whilst also cleaning the UV sensor window using brushes. By adopting this system, customers will benefit from no downtime to clean the system, lower operational costs and a stable system performance by maintaining maximum UV intensity.



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UV Industrial and Municipal UV BX Series

No. of models in range	13
Water Temperature Recommended Range (BX 20 and 30)	5 to 25°C
Possible Range	0 to 35°C
Water Temperature Recommended Range (BX 50-3200)	5 to 35°C
Possible Range	0 to 60°C
Water UV Transmittance (@254nm, 1cm)	min 80%
Flow capacity (250J/m ²)	max 2120m ³ /h

Features

- Enclosed system
- Spekthrotherm® low pressure/high intensity UV lamps
- Highly selective, calibrated UV sensor provides UV monitoring and control
- Optional automatic quartz sleeve wiping system available

Benefits

- Excellent and reliable disinfection capacity with low energy consumption
- High UV-C output of the lamps allows for a smaller number of lamps relative to the overall flow capacity
- Spekthrotherm® low pressure/high intensity UV lamps provide excellent temperature stability
- Long lamp life expectancy
- Simple operation
- Easy maintenance

UV Industrial UV BX Series

Optional Accessories

- Stainless steel 304 cabinet enclosure
- Chamber vessel in 'Z' design (not BX 1000)
- Sample valve
- Automatic wiping system (not BX 1000)
- Dose pacing (BX50 – BX3200)
- Cable lengths 7m or 10m (BX20 and BX30)
- Cable lengths 15m or 25m (BX50 – BX3200)
- Replacement Spektrotherm® UV lamps

BX Series continued

Technical Description

- Stainless steel chamber with multiple Spektrotherm® UV lamps arranged parallel to the water flow
- Cylindrical chamber with baffles (can be disassembled)
- Easily removable high efficiency, low pressure UV lamps
- Calibrated UV intensity monitoring system
- Electronic UV lamp supervision system
- Optional automatic wiping system (not BX 1000)
- Dose pacing, including variable lamp power

Main Applications

- Private and municipal drinking water supplies
- Food and Beverage industry
- Process water for industrial use
- Swimming pools

BX Series Model Selection Guide

There are 13 models in the BX series.
Please see the table below for details

Type	Max flow rate* (m³/h)	Flange connection	Power consumption (kW)	Reactor dimensions W x H x D (mm)
BX 20	27	DN 80	0.23	260 x 930 x 330
BX 30	41	DN 80	0.34	275 x 930 x 348
BX 50	57	DN 100	0.47	365 x 1,000 x 443
BX 80	112	DN 150	0.8	275 x 1,530 x 368
BX 100	167	DN 150	0.8	365 x 1,535 x 458
BX 200	298	DN 200	1.5	365 x 1,535 x 458
BX 280	435	DN 250	1.5	470 x 1,535 x 565
BX 400	530	DN 250	2.2	470 x 1,535 x 565
BX 650	850	DN 300	3.0	600 x 1,540 x 700
BX 900	1,037	DN 350	3.7	700 x 1,540 x 800
BX 1200	1,039	DN 350	4.5	770 x 2,400 x 825
BX 1800	1,357	DN 400	6.7	730 x 2,400 x 925
BX 3200	2,120	DN 500	11.6	1,060 x 2,400 x 1,380

* UV dose = 400 J/m² at the end of lamp lifetime; estimated UV transmittance = 98% per 1 cm. Spektrotherm® UV lamps in model BX 50. Spektrotherm® HP lamps in models from BX 80 and larger.

All specifications are subject to change without notice.

E/ME Series

Overview

Suitable for applications where high water quality is required (typically pharmaceutical) with the unique design minimising headloss by ensuring no dead-legs or any possible bug traps.

Technical Description

- Axial quartz glass chamber with externally arranged Spekthrotherm® low pressure high intensity UV lamps and reflectors, parallel to the water flow
- 'Positive radiation geometry'
- Special reflectors to focus the UV light inside the quartz chamber
- Compact system with integrated electrical equipment in a stainless steel housing (E Series)
- Electrical equipment in a separate cabinet (ME Series)
- In-line assembly
- Calibrated UV monitoring system

Main Applications

- Process water and fully deionised water for industrial uses
- Ultrapure water
- Residual ozone destruction



Glossary of terms

Positive radiation geometry - UV lamps installed in optimum positions to achieve maximum disinfection.

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UV Industrial UV E/ME Series

No. of models in range	9
Water temperature recommended range (E Series)	5 to 25°C
Possible range (E Series)	0 to 35°C
Water temperature recommended range (ME Series)	5 to 35°C
Possible range (ME Series)	0 to 60°C
Water UV transmittance (@254nm, 1cm)	min 55%
Flow capacity (250J/m ²) (E Series)	max 20m ³ /h
Flow capacity (250J/m ²) (ME Series)	max 100m ³ /h

Features

- Enclosed system
- Spekthrotherm® high intensity low pressure UV lamps
- UV monitoring and control provided by highly selective, calibrated UV sensor
- Quartz chamber
- Flexible material specifications

Benefits

- Excellent and reliable disinfection capacity with low energy consumption
- High UV-C output of the lamps allows for a small number of lamps relative to the overall flow capacity
- Excellent temperature stability
- Long lamp life expectancy
- Very low headloss
- Simple operation
- Easy maintenance

Optional Accessories

The E/ME series can be supplied with a tri-clamp sanitary fitting instead of flanged connections, together with certification of the material and lamps. This then becomes the E/ME Pharma series, suitable for use in the pharmaceutical industry.

UV Municipal

K Series

The K Series are bespoke systems engineered to suit a wide variety of parameters.

Features

- Enclosed system
- Spektrotherm® UV lamps
- Optional automatic variable dose control
- Continuous output regulation of the Spektrotherm® UV lamp
- Fully automatic PLC control and visualisation, with bus or SCADA connection

Benefits

- Low operating and lifetime costs
- Low power consumption
- Low investment costs
- Minimal pressure loss
- Spektrotherm® UV lamps
- No harmful by products
- No danger from chemicals
- No accumulation of dangerous micro-organisms
- Cost effective
- Simple lamp installation and operation
- Long lamp life
- Automatic variable dose control
- Constant UV dose irrespective of changes in water quality or flow
- Maximum disinfection reliability
- Optimisation of energy costs
- Easy operation and monitoring

Optional Accessories

- Fully automatic dose control
- Replacement Spektrotherm® UV lamps

K Series

Overview

The K series UV systems are designed to be installed in large drinking water systems.

UV disinfection is provided by the Spektrotherm® UV lamps which offer reliable inactivation of bacteria, viruses and parasites (eg cryptosporidia and giardia).

The K type systems have been intensively tested to ensure the highest level of reliability.

The system can be optionally equipped with a fully automatic dose control, which enables the output to be exactly adjusted to the water quality and flow. The output of the lamps is continuously controlled and rows of lamps can be switched on or off as necessary e.g. during periods of low consumption.

Main Applications

- Municipal drinking water supplies



Technical Description

- Stainless steel chamber with multiple Spektrotherm® UV lamps, positioned perpendicular to the water flow

LBX Series

Overview

The LBX systems can be equipped with a fully automatic dose control. This dose pacing is available as a result of the latest developments with the Spektrotherm®

UV lamp technology, meaning lamps now have variable UV-C output.

Not only do the lamps have an enhanced UV-C output, they also allow a continuous variable output from 50-100%. Dose pacing optimises energy consumption and extends lamp life, when applied to the system.

The optional automatic quartz sleeve wiping system works by keeping each lamp sleeve clean by several wiper rings, whilst also cleaning the UV sensor window using brushes. By adopting this system, customers will benefit from no downtime to clean the system, lower operational costs and a stable system performance by maintaining maximum UV intensity.

Technical Information

- Stainless steel chamber with multiple Spektrotherm® UV lamps, arranged concentrically and parallel to the water flow
- Cylindrical stainless steel chamber with integrated baffle plates
- Easily removable, high efficiency low pressure UV lamps
- Calibrated UV intensity monitoring system
- Electronic UV lamp supervision system
- Optional automatic wiping system
- Optional dose pacing



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UV

Industrial/Municipal

LBX Series

No of models in Range 12

Water Temperature
Recommended Range (LBX 3-50) 5 to 25°C

Possible Range 0 to 35°C

Recommended Range (LBX 90-1000) 5 to 35°C

Possible Range 0 to 60°C

Water UV Transmittance (@254nm, 1cm) min 35%

Flow Capacity (250 J/m²) max 1,335 m³/h

Features

- Enclosed system
- Spektrotherm® UV lamps
- Fully automatic PLC control and visualisation via SCADA connection and telemetry

Benefits

- Constant UV dose irrespective of changes in water quality or flow
- Continuous output regulation of the lamps (for models larger than LBX 90)
- Maximum disinfection reliability
- Optimisation of energy costs
- Longer lamp life
- Easy operation and monitoring

UV Industrial/Municipal

LBX Series

Optional Accessories

- Stainless steel 304 cabinet enclosure
- Chamber vessel in 'Z' design
- Sample valve
- Dose pacing
- Automatic wiping system
- Cable length 7m or 10m (LBX 3-50)
- Cable length 15m or 25m (LBX 90-1000)
- Replacement Spektrotherm® UV lamps

LBX Series continued

Main Applications

Disinfection of effluents with low or highly variable UV transmittance

- Biologically treated wastewater
- Industrial process water at water treatment plants
- Specific drinking water qualities
- Sugar syrup
- Ballast water

Other suitable applications are

- Irrigation of fields, parks, golf courses etc
- Waste water disinfection on ships

LBX Series Model Selection Guide

There are 12 models in the LBX series. Please see the table below for details.

Type	Flow Rate approx* (m ³ /h)	Flange connection	Power consumption (kW/kVA)	Reactor dimensions W x H x D (mm)
LBX 3	3	1 1/2	0.10/0.10	935 x 135 x 100
LBX 10	12	DN 50	0.34/0.36	930 x 280 x 200
LBX 20	25	DN 80	0.60/0.63	930 x 323 x 245
LBX 33	34	DN 80	0.76/0.80	930 x 348 x 275
LBX 50	52	DN 100	1.10/1.16	930 x 398 x 315
LBX 90	87	DN 150	1.50/1.58	1,530 x 388 x 275
LBX 120	134	DN 150	2.30/2.42	1,530 x 428 x 315
LBX 200	230	DN 200	3.70/3.89	1,535 x 510 x 400
LBX 400	370	DN 250	5.90/6.21	1,535 x 585 x 470
LBX 550	580	DN 300	8.80/9.26	1,540 x 720 x 600
LBX 750	780	DN 400	11.60/12.21	2,400 x 825 x 700
LBX 1000	1,000	DN 400	14.50/15.26	2,400 x 895 x 770

* 400 J/m²; UV transmittance = 70% per 1cm at the end of the lamp lifetime. Spektrotherm® HP lamp in models larger than the LBX 90.

All specifications are subject to change without notice.

TAK 55 Series

Overview

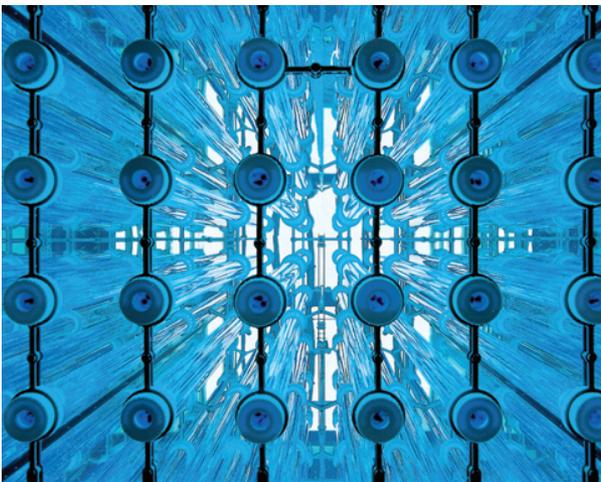
The TAK 55 series systems provide the ultimate solution for wastewater disinfection.

It was specifically engineered for the disinfection of municipal wastewater. Several design configurations are available to meet regulatory requirements and to cope with varying degrees of water quality. Installed in final effluent channels, the modular design of the TAK allows for practically unlimited flow capacities.

The TAK series boasts an automatic wiping system, to ensure the equipment consistently performs well. It prevents organic and inorganic deposits from accumulating on the lamp protective quartz sleeves, allowing the UV light to actually reach the water.

Additionally, TAK can provide true dose pacing as a result of the reliable and automatically cleaned intensity sensors.

System monitoring can be managed locally or remotely depending on application/project requirements.



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UV Municipal UV TAK 55 Series

Modular system

Module sizes available	8
Maximum modules wide	12
Water temperature recommended range	5 to 30°C
Water UV transmittance (@254nm, 1cm)	min 40%
Flow capacity unlimited, several	1000m ³ /h

Features

- Open channel system
- Compact modular components
- Bespoke design to meet customer requirements
- 'Smart' ballast operation
- Chemical free wiping system
- Spektrotherm® UV lamps
- 'Smart' automatic lamp restart on ignition failure
- Dose pacing control
- Integrated PLC system

Benefits

- Safe, environmentally friendly UV disinfection
- Chemical free, producing no harmful by-products
- Drastically reduced design/construction costs
- Easy installation/lower installation costs
- Increased disinfection effectiveness
- Low operation and maintenance costs
- Fully automatic operation
- No need for 'post-treatment'
- Very low pressure losses
- Infinite adjustment of UV lamp output
- No overdosing or underdosing concerns

UV Municipal UV TAK 55 Series

Main Applications

- Disinfection in open channels

Technical Description

- UV modules with Spektrotherm® UV lamps positioned parallel to the water flow, designed for installation in concrete channel systems

TAK Series Model Selection Guide

TAK 55 is a modular system, appropriate for municipal applications. Queries should be referred to Wedeco for further information.

Optional Accessories

- Prefabricated stainless steel channels to house the UV lamp modules
- Replacement Spektrotherm® UV lamps

TAK 55 Series continued



UV

Industrial UV

TE/TA Series

TE/TA Series

Overview

An industrial application, UV disinfection system comprising a UV lamp module with low pressure, high intensity Spekthrotherm® UV lamps.

Main Applications

Immersion lamps to prevent bacteria growth in water tanks, for the headroom disinfection of storage tanks and the disinfection of surfaces. Operates in warm and cold water, and also in the air.

- Food processing industry
- Pharmaceutical industry
- Cosmetic industry
- Electronic industry
- Aquaculture (fish farming)



Technical Description

- UV immersion lamp module with low pressure high intensity UV lamps
- Different module lengths available, each with radial radiation geometry
- Easily replaceable UV lamp and separate electrical cabinet
- Stainless steel protection cage, prepared for flange connection

TE/TA Series Model Selection Guide

There are three models in the TE/TA series range. Please see the table below for details.

Type	Connection	Power consumption (kW/kVA)	Installation length (mm)
1-TE450	DN 50	0.08/0.45	470
1-TE900	DN 50	0.15/0.45	920

* The flow rate depends on the quality of water (UV transmission). WEDECO-Series B is suitable for higher flow rates. All specifications are subject to change without notice. In this case: 300 J/m² at the end of lamp life; Transmission = 98% T1cm

Glossary of terms

Radial radiation geometry - UV is emitted from the lamp in radial fashion

No. of models in range **3**

Water temperature Recommended range **5 to 35°C**

Water temperature Possible range **0 to 60°C**

Features

- Enclosed system
- Spekthrotherm® UV lamps
- Small installation footprint
- Protective stainless steel frame

Benefits

- Excellent and reliable disinfection capacity
- Low energy consumption
- High UV-C output
- Excellent temperature stability
- Longer lamp life
- Simple operation
- Easy maintenance

Optional Accessories

- Replacement Spekthrotherm® UV lamps

UV Municipal UV TAK 55 Series

Main Applications

- Industrial
- Municipal

Features & Benefits

- Patented OptiCone™ technology provides even flow distribution
- Field bus technology significantly reduces installation time
- High - performance, medium pressure UV lamps
- Consistently high level of disinfection, right into the corners
- Easy maintenance with all fittings easy to access and are arranged along one side of the unit
- Square design reduces pressure loss - no dead zones in the flow

System

- Max. flow capacity 4,100 m³/h (26 MGD)
- Standards CE, UL
- Certificates & Validations US EPA (UVDGM)

Wedeco Quadron

Overview

The WEDECO Quadron™ system is the ideal solution whenever the space available for installing a UV disinfection system is at a premium. With a reactor length of just 1,200 millimetres (47.24") and a maximum flow rate of 4,100 m³/h (26 MGD), this UV system offers tremendous flexibility and capability for water treatment plants large and small.

The unique shape, in conjunction with the patented OptiCone™ flow diverter at the inlet, guarantees excellent flow conditions at every installation situation. Even with a close coupled 90 degree bend, the OptiCone™ still ensures even flow distribution without turbulence or cavitations.

Fitted with variable power medium pressure UV lamps, the Quadron™ system is designed for high performance in order to ensure successful disinfection and is ready for every eventuality. The chemical-free cleaning system and one sensor-per lamp monitoring system ensure that correct UV dose is always applied.

Thanks to its compact dimensions, high UV performance and optimized flow conditions, the WEDECO Quadron system is the ideal alternative to chlorination systems or outdated UV systems.



Ecoray UV Lamps

Overview

ECORAY is WEDECO's latest generation of high-performance low pressure UV lamps and the associated electronic ballast cards: more efficient, longer-lasting, more stable and more sustainable than any previous WEDECO UV technology.

WEDECO ECORAY UV lamps and ballast cards are the new centrepiece of many WEDECO UV systems and are the perfect replacement parts for many installations throughout the world with excellent operability and a promise of quality.



Benefits:

Greener

From our choice of materials to production to the operation of the lamps, we have engineered every aspect to be the most environmentally sensible WEDECO UV lamp ever produced.

- Ecoray UV lamps contain up to 80% less mercury*
- Production and logistics meet the highest environmental standards, certified according to DIN EN ISO 14001
- Up to 500 kg CO2 savings for each UV lamp* 1,2

How you benefit: a sustainable solution to our environment

More Efficient

UV lamps are operated in dimmed mode for the greater part of their entire service life, which means far less than 100% power consumption.

We have optimized the Ecoray UV lamps and ballast cards in accordance with this typical mode of operation.

- Lower power consumption with the same UVC output*
- Higher UVC output in dimmed mode*
- Longer, more flexible operation possible in dimmed mode

How you benefit: up to 20% energy savings on average

UV

UV Lamps

Wedeco Ecoray

Features

- Innovative gas-amalgam mix
- New long life coating
- Up to 80% less mercury*
- Improved physical robustness
- Plug & play for existing installations
- 100% quality control: the UV performance of each Ecoray lamp is tested after production and certified according to DIN EN ISO 9001
- The Ecoray ballast's operating frequency is fine-tuned to the specific requirements of the Ecoray UV lamp's characteristics.

* Comparison of Ecoray ELR30 with SLR32143 4p HP (Spektrotherm). Variations are possible in the case of other successor articles.

1 Measured on the basis of the entire energy consumption of the guaranteed lamp lifetime.

Based on average emission figures for electricity generation in the USA. Source: www.carbonfund.org

2 Depending on the lamp type, ballast used and the operational mode of the UV system.

Ozone

WEDECO

Overview

Ozone is suitable in almost all situations where water contains pollutants. Unlike chemical-based technology (including chlorination), it removes unwanted substances without creating any harmful by-products or significant residues. It also operates with reduced energy consumption, lower operating costs, and low oxygen consumption.

We're able to offer a comprehensive combination of standardised ozone generators and engineered solutions, providing treatment solutions for drinking water, process water, cooling water, industrial and municipal wastewater and water from bleaching processes and other industrial applications.



GSA/GSO

Overview

Wedeco ozone systems are manufactured in four basic configurations to provide optimal solutions for all applications.

The GSA/GSO approach is to apply the same reliable and efficient ozone technology as used in large plants, to both small and medium demand applications. GSA/GSO ozone generators are compact units, fully assembled and ready to produce ozone economically from air or oxygen. They offer the highest ozone concentration yields at lowest energy demands.

Ozone production levels can be adjusted over a wide range to suit all application requirements. Critical system parameters are monitored and displayed to ensure safe and reliable operation. The result is maximum ozone production, minimum operating costs, and an unmatched reliability.

The OCS System is a compact, modular ozone generation and application package designed for smaller processes. The skid package can be supplied with a contact/reaction vessel included or supplied separately for larger capacity vessels.



WEDECO

Ozone Ozone Generators

GSA/GSO

Key Facts

- Ozone Production: 2-400g/h
- Matches the reliability of Effizon® dielectric technology
- Reduced energy consumption per unit of ozone production
- Reduced oxygen demand due to high ozone production concentrations

Features

- Effizon® dielectric tube technology
- Compact design reduces overall footprint

Benefits

- Reduced energy consumption per unit of ozone production
- Reduced oxygen demand due to high production concentrations
- Low installation and maintenance requirements
- Low investment and operating costs
- Reliable and safe operation
- Built for permanent operation
- Disinfection by oxidation of bacteria, parasites and deactivation of viruses
- Removal of colour, taste and odour
- No hazardous by-products

Ozone Ozone Generators

GSA/GSO

Typical system would incorporate

- Ozone Generator
- PSA oxygen generators (for oxygen feedgas versions)
- Introduction system with booster pump and injector
- Ambient air monitoring
- Electric controls with signal exchange
- Stainless steel frame with internal piping and wiring

Optional Accessories

- Ozone concentration monitoring
- Residual ozone in water monitoring
- Reaction/degassing tanks in different sizes
- Residual ozone destruction in off gas
- Stainless steel cabinets, piping and injector
- Replacement Spektrotherm® UV lamps

GSA/GSO continued



Main Applications

Wedeco ozone generators are ideally suited for all types of processes for the municipal and industrial customer

- Food and Beverage
 - Bottling industry (raw water treatment, rinsing, filling)
 - Product washing for shelf life extension
- Process water loops
 - Demineralised water loops, cosmetic / pharmaceutical industry
 - Wash water recycling
- Small drinking water plants
 - Small villages in remote areas
 - Companies with own water supply
- Aquaculture (fish farming)
- Swimming pools
- Cooling water
- Laboratory systems

OCS Series Ozone systems are designed for small and medium applications in the municipal and industrial marketplace.

Glossary of terms

Off gas - excess ozone, following the contact stage.

Reaction - time required for the ozone to oxidise contaminants.

Spektrotherm - high performance Wedeco UV lamp.

OCS - complete, small, ozone generation and application package.

PSA - pressure swing absorption.

SMA/SMO

Overview

Wedeco Effizon® HP technology in the SMA/SMO ozone generators provides the most efficient and reliable ozone production element in today's market. These generators can be used wherever compact design, a high performance profile and outstanding reliability are needed.

The options and the instrumentation, input and reaction systems, together with the residual ozone destruction, enable the SMA/SMO systems to be specifically tailored to customer's needs.

As a result of the robust design, there is no need for routine cleaning or regular replacement of the electrodes required by conventional systems.

All Wedeco products meet the requirements for ozone generation systems used in water treatment in accordance with European Standard CEN EN 1278.



Components

SMA/SMO ozone systems include the following components as standard:

- Ozone generator cell including the Effizon® HP electrodes and connectors
- Power supply unit including medium frequency convertor and high voltage transformer
- PLC-system for internal control and monitoring of the ozone systems
- Local operator interface panel HMI
- Ambient ozone health and safety monitor
- Dewpoint sensor for generators using PSA or air as the feedgas
- Air conditioning systems for electrical cabinets
- Enclosure protection class, IP 54
- Control and monitoring instrumentation
- Complete system, fully assembled, piped and cabled on a skid
- CE-certificate

WEDECO

Ozone Ozone Generators

SMA/SMO

Features

- 'Plug and Play' systems (completely mounted and instrumented)
- Fast installation and start-up time
- Certified factory test with full ozone capacity prior to shipment

Benefits

- Reduced power consumption
- High efficiency at guaranteed ozone production
- Drastically reduced oxygen and air consumption through high ozone concentrations
- Low space requirement
- Reliable – Standard 2 year warranty on equipment
- 10 years replacement warranty on Effizon® HP electrodes
- Easy operation
- Low investment and operating costs
- Robust design for operation under rough ambient conditions
- Low maintenance

Main Applications

- Wedeco ozone generators are ideally suited for disinfection and oxidation of all types of processes for the municipal and industrial customer.
- SMA/SMO Series Ozone systems are specifically designed for medium applications in the municipal and industrial marketplace.
- Potable water supplies
- Industrial / Municipal waste water treatment
- Odour Treatment systems
- Ozonolysis / Synthesis
- Bleaching
- Recycling processes
- Food and Beverage industry
- Cooling water
- Fish farming

Ozone Ozone Generators

SMA/SMO

Key Facts

- Ozone production: 400g-15kg/h
- Ozone concentrations up to 14%wt
- Integrated design providing complete packaged ozone generation plant

Additional services

- Feed Gas supply
Oxygen (LOX)
PSA (pressure swing absorption)
Dry air, comprising air compressor, desiccant dryer, filtration etc
- Ozone mixing and contacting
Side stream injection systems
Fine bubble diffusers
Closed reactors
Degassing tanks
- Electronic process control
Power distribution MCC panel
Overall process control Panel
- Ozone destruction in off gas
Catalytic Ozone destructors
Thermal Ozone destructors
Blowers Demisters
- Cooling water supply
Air/water cooled chiller units
Heat exchangers

SMA/SMO continued



Optional Accessories

The following options are available and can be incorporated during manufacture:

- Network communications
Profibus, Modbus, SCADA etc
- Instrumentation and control
Ozone concentration / Doserate control
Ozone residual in water monitoring
Redox monitoring
Alarm monitoring and indication

All necessary instrumentation is included to provide the required level of control.

Glossary of terms

PLC system - programmable logic controller system.

PSA - pressure swing absorption.

Ozonolysis - application of ozone for treatment purposes.

Synthesis - use of ozone to chemically adapt a substance.

Profibus - Field bus network for instruments, devices and signal integration

Modbus - PLC Communication protocol

SCADA - Supervisory Control and Data Acquisition

Redox Monitoring - to monitor the oxidising potential of a liquid

LOX - Liquid Oxygen

SMA/SMO 900

Overview

The SMO/SMA 900 series sets new standards among the world wide range of ozone generators. The newly employed 12-pulse rectifier technology and the virtually maintenance free Effizone® HP electrodes combine a cost effective and reliable system for ozone production of more than 20kg/h.

Main Applications

Wedeco ozone generators are ideally suited for disinfection and oxidation of all types of processes for the municipal and industrial customer

SMA/SMO series ozone systems are specifically designed for medium sized applications in the municipal and industrial market place

- Portable water supplies
- Industrial/municipal wastewater treatment
- Odour treatment systems
- Ozonolysis/synthesis
- Bleaching
- Recycling process
- Food and beverage industry
- Fish farming

Performance Data SMO 900 S (Excerpt)* Feedgas Lox

Ozone production kg / h	Ozone concentration wt%	Cooling water temp. °C (ΔT5K)	Convert Power kw
21.5	7	15	156
17.3	10	15	158

*Preliminary performance data



WEDECO

Ozone Ozone Generators

SMA/SMO 900

Features

- Generating more than 20kg ozone per hour
- Compact and cost effective standard system with the high performance of our larger PDO/PDA series
- Savings potential due to minor footprint and quick supply
- Pre-assembled on a frame so the system comes ready for selection
- 12 pulse technology mains PSU
- The included patent-registered Effizon® HP electrodes are the most efficient and most reliable ozone electrodes on the market

Benefits

- Virtually maintenance free
- Cost effective
- Reliable
- High standard and quality
- 10 year warranty
- Compact
- High production capacity

Ozone Ozone Generators

PDA/PDO

No. of models in range **18**

Ozone productions **11 to 250kg/h**

Custom designed to satisfy customer requirements

Features

- Exclusive use of the patented Effizon® HP electrode/dielectric technology
- High performance variable frequency power supply technology (PSU)
- Linear output ozone control as well as wide turndown range (up to 100-1)
- Integrated PLC control systems

Benefits

- Unmatched reliability – 2 year warranty on equipment with 10 year warranty on dielectric tubes
- Production flexibility
- Cost efficient
- Compact package minimises space requirements and associated facility construction costs
- PDA/PDO ozone generators are the only large scale ozone generators available that are factory pre-assembled and tested prior to delivery

Main Applications

Wedeco ozone generators are ideally suited for disinfection and oxidation of all types of processes for the municipal and industrial customer.

PDA/PDO Series ozone systems are designed for large applications in the municipal and industrial marketplace.

- Drinking water treatment
- Chemical oxidation and synthesis
- Pollution control
- Pulp and paper bleaching

PDA/PDO

Overview

The high capacity PDA/PDO ozone generators offer unmatched reliability, production flexibility and efficiency, all in a compact package that minimises space requirements and associated facility construction costs.

PDA for air fed systems with capacities higher than 8.3kg/h

PDO for oxygen fed systems with capacities higher than 15.6kg/h

These large scale ozone generators are designed specifically for each customer, then produced and factory tested prior to delivery. Factory testing provides customer assurance that they will receive a functioning and efficient system.



PDA/PDO Model Selection Guide

There are 18 models available in this range.

Please see the table below for details.

	Ozone Production [kg/h]				
	Air Feed		Oxygen Feed		
	30g/m³	50g/m³	7%wt	10%wt	12%wt
PDA/PDO 1000	14	11	26	21	18
PDA/PDO 1500	16	12	30	24	20
PDA/PDO 2000	19	14	35	28	24
PDA/PDO 2500	21	16	38	32	27
PDA/PDO 3000	24	18	44	36	30
PDA/PDO 3500	26	20	49	40	34
PDA/PDO 4000	29	23	55	45	38
PDA/PDO 4500	36	28	67	55	46
PDA/PDO 5000	43	33	80	65	55
PDA/PDO 5500	51	39	94	77	65
PDA/PDO 6000	59	45	110	89	76
PDA/PDO 6500	68	52	126	102	87
PDA/PDO 7000	78	60	144	118	100
PDA/PDO 7500	88	68	163	133	113
PDA/PDO 8000	99	76	183	149	126
PDA/PDO 8500	108	83	200	164	138
PDA/PDO 9000	122	93	225	184	155
PDA/PDO 9500	134	103	247	202	171