









#### The Trusted Wastewater Management Experts

Kingspan Klargester are the wastewater management experts with over 60 years of innovation and knowledge. Our mission is to design and manufacture tried and tested wastewater management solutions on a global scale for the leisure, public, hospitality, transport and domestic sectors whilst offering one of the largest and most technologically advanced wastewater ranges available in the Middle East.

Operating in 85 countries worldwide, we offer a global distribution network backed by experienced local sales and technical teams. Our technical support teams provide focused customer service from delivery scheduling to consultancy and installation guidance. We give you the confidence of support over the lifetime of the product and beyond, in your local area.





## EXPERT TECHNICAL SUPPORT

We stand by the quality and performance of Kingspan Klargester wastewater treatment solutions and our support doesn't stop once your tank is installed.

We're on standby 24/7 with guidance on your wastewater project.

Our world class design consultancy is complemented by engineering expertise and advice as well as service throughout your commercial or industrial wastewater project.

We use the latest design technology to produce drawings of extremely high quality. Our project management process is a step-by-step one, to ensure the very best experience and results. It covers everything from system sizing, product selection and system design to calculations, manufacturing, installation and delivery Our advice also spans water management specification, design, product application and integration with building regulations, code compliance and sitework installation practices to meet the most demanding effluent qualities, flow rates and discharge consents.

Contact our technical team today for information on any of our wastewater treatment solutions.

Email klargesterme@kingspan.com

Kingspan Klargester's support doesn't stop once you have purchased the product. Our expert team are here to help you with technical, sales and delivery enquiries. We are dedicated to our customers and pride ourselves on top class customer service. Contact us directly – we are happy to help.



John Tyrer
BUSINESS DEVELOPMENT MANAGER

**E** John.Tyrer@kingspan.com **T** +44 7392 136 913



Tomasz Okrojek
EXPORT SALES SUPPORT

E Tomasz.Okrojek@kingspan.com T +44 1296 633 275



Claire Ounsworth

**E** Claire.Ounsworth@kingspan.com **T** +44 1296 633 107



Jon Evans LOGISTICS MANAGER

**E** Jon.Evans@kingspan.com **T** +44 1296 633 136



Catriona McNally
MARKETING MANAGER

E Catriona.Mcnally@kingspan.com T +44 028 3836 4419

EXPERTISE,
RELIABILITY
& TRUST





IKEA STORE

Jordan

BioFicient Sewage Treatment Plant



MUSCAT AIRPORT

Oman

Fuel/Oil Separators

60 YEARS
OPERATION
AROUND
THE WORLD



AZ-ZOUR
DESALINATION
PLANT

**Kuwait city** 

Fuel/Oil Separators and Package Pumping Stations









#### **BIODISC COMMERCIAL RANGE**

The Kingspan Klargester BioDisc BD-BM sewage treatment range benefits from a wealth of industry experience and knowledge that allowed us to bring to market the first Rotational Biological Contactor treatment system over 40 years ago.

The unique design of the Kingspan Klargester Commercial BioDisc BD-BM range has a proven track record for high-quality performance, superior reliability and low operational costs.

Each system is delivered direct to your site and ready to install, giving you added peace of mind.

The BioDisc commercial range is fully compliant with all European standards including EN 12255 and EN 12566-3.

#### **BIOFICIENT COMMERCIAL RANGE**

The BioFicient range from Kingspan Klargester is designed with efficiency in mind. Its design incorporates flow management in order to both stabilise influent volume variations and to minimise hydraulic impact on the final settlement process. Such control ensures that final effluent remains at a consistently high quality.

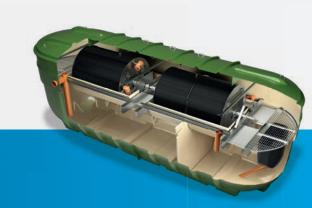
The BioFicient Commercial range is available from 50 to 1000PE in two tank diameter options Ø1.8 & Ø2.6.

Ø1.8 systems supplied as multiple tanks from 75PE to 500PE.

Ø2.6 systems supplied as multiple tanks from 350PE to 1000PE.

The BioFicient commercial range is fully compliant with all European standards including EN 12255 and EN 12566-3.





**BioDisc Commercial** 



**BioFicient Commercial** 

klargesterme@kingspan.com

### BIODISC COMMERCIAL SEWAGE TREATMENT PLANT

The unique design of the Kingspan Klargester Commercial BioDisc BD-BM range has a proven track record for high-quality performance, superior reliability and low operational costs.

#### **APPLICATIONS**

The BioDisc BD-BM range is suitable for a range of applications including:

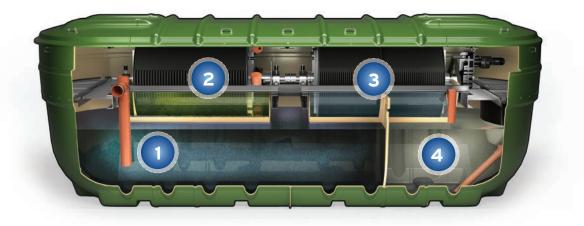
- ) Leisure.
- Public.
- Hospitality.
- ) Transport.
- ) Offices.

#### PERFORMANCE AND COMPLIANCE

- ▶ Compliant with EN-12255 and EN 12566-3.
- Designed for applications selected in compliance with British Water Code of Practice Flows and Loads.

#### **PRODUCT BENEFITS**

- Unique RBC technology.
- Tried and tested technology offers robust and efficient wastewater treatment.
- **)** Low running costs.
- Noise free.
- Fully removable lid for easy desludging.
- Fully packaged system, delivered direct on site.
- 100% compliance with industry requirements across commercial sectors- including national and international regulations such as BS EN12255 and EN 12566-3 (up to 50 PE).
- Bespoke technical support offered from our in-house technical teams.



- Primary Settlement Tank
- 3 Second Stage Biological Treatment
- 2 First Stage Biological Treatment
- Final Settlement Tank







## TECHNICAL SPECIFICATIONS

Unit Size	BE	BF	BG	ВН	ВЈ	BK	BL	ВМ
Daily BOD Load (KG)	2.1	3	4.5	4.2	6	7.5	9	13.5
Daily Flow DWF (m3)	5.3	7.5	11.3	10.5	15	18.8	22.2	33.75
Width (mm)	2450	2450	5235	7755	7755	7755	7755	2605
Inlet Invert depth (mm)	600/1100	600/1100	600/1100	600/1000	600/1000	600/1000	600/1000	600/1000
Depth Below Inlet Invert (mm)	1825	1820	1820	1790	1790	1790	1790	1790
Outlet Invert Depth (mm)	685	700	700	750/1150	750/1150	750/1150	750/1150	750/1150
Overall Height (mm)	2825	2825	2825	2830/3230	2830/3230	750/1150	750/1150	2838/3288
Height to Rim of Cover (mm)	2485	2485	2485	2490/2890	2490/2890	2490/2890	2490/2890	2561
Empty Weight (kg)	1200	1315	1660	3000/3020	3100/3120	3200/3220	3300/3320	3500/3610
Standard Power Supply	1 phase	1 phase	1 phase	3 phase	3 phase	3 phase	3 phase	3 phase
Optional Power Supply	3 phase	3 phase	3 phase	1 phase	1 phase	1 phase	1 phase	1 phase
Motor Rating - 1phase/3phase (watts)	75/60	120	180	250	250	370	370	370
Full Load Current 1 Phase (amps)	1.1	1.26	1.7	1.95	1.95	2.35	2.35	2.8
Full Load Current 3 Phase (amps)	0.35	0.42	0.63	0.88	0.88	1.35	1.35	1.5
Sludge Return Pump Rating (watts)	-	-	250	480	480	480	480	550



For specialist advice on our range of fully compliant sewage treatment plants, please contact our Kingspan Klargester technical team on klargesterme@kingspan.com



## BIOFICIENT COMMERCIAL SEWAGE TREATMENT PLANT

BioFicient commercial sewage treatment plant is designed with efficiency in mind. It offers reliable performance using tried and tested technology to ensure consistently high effluent quality.

#### **APPLICATIONS**

The BioFicient commercial range is suitable for use across the following applications:

- Residential.
- Leisure.
- Public sector.
- Hospitality.
- Transport.
- ) Offices.
- Campsites.

#### PERFORMANCE AND COMPLIANCE

Compliant with EN-12255 and EN 12566-3. Designed for applications selected in compliance with British Water Code of Practice Flows and Loads.

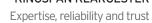
2.6 diameter BioFicient is also available as an alternative model. Contact us at klargesterme@kingspan.com for more details.

#### PRODUCT BENEFITS

- Adaptable to specific consent requirements including 'Total Nitrogen'.
- Low head loss.
- Minimal footprint area and visual impact.
- Variable invert options (0.5 2.0 M).
- May be installed in trafficked areas (subject to loading).
- Compliant with EN-12255 and EN 12566-3.
- Designed and sized in accordance with British Water Code of Practice Flows and Loads but can be sized to suit local site conditions.
- **)** Low maintenance.
- Alarm protected.



www.kingspanklargester.com/me







#### **TECHNICAL SPECIFICATIONS**

Bioficient	34	38	42	47	55	67	80
Connected Population (PE) *	75	100	125	150	200	250	300
Maximum flow per day (m3)	11.25	15	18.75	22.5	30	37.5	45
Maximum BOD5ATU per day (kg)	4.5	6	7.5	9	12	15	18
Maximum NH4-N per day (kg)	0.6	0.8	1	1.2	1.6	2	2.4
Tank Length A (mm)	6000	9000	9000	9000	9000	9000	9000
Operating Volume (m3)	12.1	18.2	18.2	18.2	18.2	18.2	18.2
Tank Length B (mm)	7600	7000	8200	9000	9000	7400	9000
Operating Volume (m3)	14.8	14.5	18.2	18.2	18.2	15	18.2
Tank Length C (mm)	NA	NA	NA	NA	6700	9000	9000
Operating Volume (m3)	NA	NA	NA	NA	14.5	19.1	19.1
Tank Diameter (mm)	1800	1800	1800	1800	1800	1800	1800
Standard Inlet/Outlet Dia (mm)	160	160	160	160	160	160	160
Retention time (hrs)	57	52	47	39	41	33	30



For specialist advice on our range of fully compliant sewage treatment plants, please contact our Kingspan Klargester technical team on klargesterme@kingspan.com







## WHEN IS A SEPARATOR NEEDED?

#### **Full Retention Separators**

Full retention separators are used in high risk spillage areas such as fuel distribution depots, vehicle workshops and scrap yards.

#### **Bypass Separators**

Bypass separators are used when it is considered an acceptable risk to not provide full treatment for very high flows, i.e. where the risk of a large spillage and heavy rainfall occurring at the same time is small.

#### **Forecourt Separators**

Forecourt separators are used to intercept hydrocarbon pollutants such as petroleum and oil to prevent their entry to the drainage system.

Typical applications include petrol filling station forecourts and car breaker yards.

## SEPARATOR STANDARDS AND TYPES

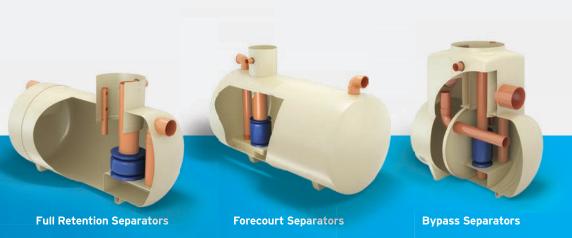
Kingspan Klargester have adopted European standard EN 858-1 and EN 858-2 for the design and use of prefabricated oil separators. New prefabricated separators should comply with the standard.

#### SEPARATOR CLASSES

Kingspan Klargester Class 1 fuel and oil separators are tested to exceed all European standards.

#### **CLASS 1 FUEL AND OIL SEPARATORS**

Designed to achieve a concentration of less than 5mg/l of oil under standard test conditions.



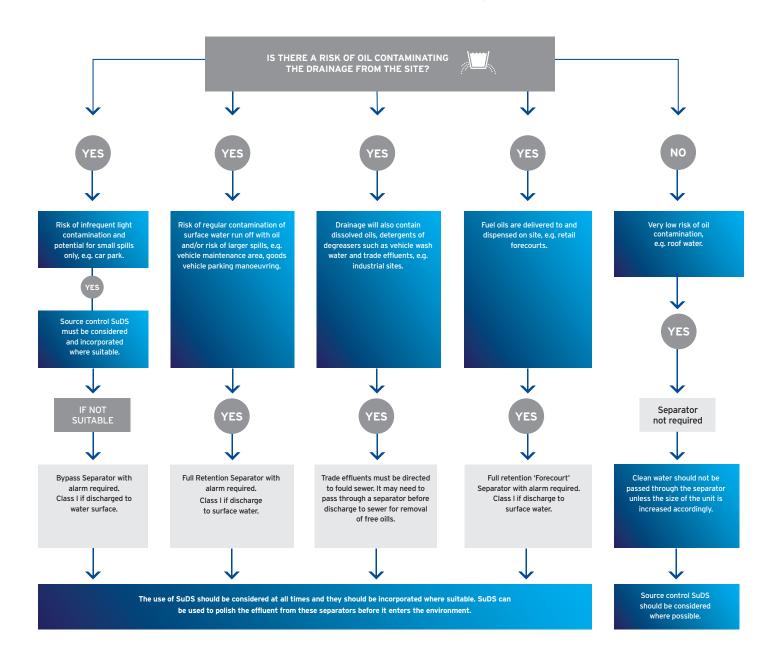
klargesterme@kingspan.com



# CHOOSING THE RIGHT SEPARATOR

Kingspan Klargester has a specialist team who provide expert technical assistance in selecting the appropriate separator for your application.

The chart below gives guidance to aid selection of the appropriate type of fuel/oil separator for use in surface water drainage systems which discharge into rivers and soakaways.





### **FULL RETENTION SEPARATORS**

#### **NSF RANGE**

Full retention separators are used in high risk spillage areas such as fuel distribution depots, vehicle workshops and scrap yards.

#### PERFORMANCE AND COMPLIANCE

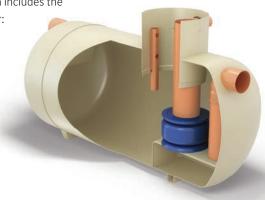
- Kingspan Klargester were one of the first UK manufacturers to have the required range certified to EN 858-1 in the UK.
- The NSF number denotes the flow at which the separator operates.

Approved by The British Standards Institute (BSI) in relation to flow and process performance, meeting effluent quality requirements of EN 858-1.

Each full retention separator design includes the necessary volume requirements for:

- Oil separation capacity
- Oil storage volume
- Silt storage capacity
- Coalescer (Class I units only)
- Automatic closure device

\*Our full retention separators treat the whole of the specified flow.



#### **TECHNICAL SPECIFICATIONS**

Separator Model	Flow (I/s)	Drainage Area (m2) PPG-3	Stoi Capacit	rage :y (Ltrs)	Length (mm)	Diameter (mm)	Manhole Cover Dimensions	Base Inlet Invert	Base to Outlet Invert	Min Inlet Invert	Standard Pipework Diameter	
Model		(0.018)	Silt	Oil	(111111)	(11111)	(mm)	(mm)	(mm)	(mm)	(mm)	
POLYETHYLENE CHAMBER CONSTRUCTION												
NSFP003	3	170	300	30	1700	1350	600	1410	1335	550	160	
NSFP006	6	335	600	60	1700	1350	600	1410	1335	550	160	
GRP CHAMBER	CONST	RUCTION										
NSFA010	10	555	1000	100	2610	1225	600	1050	1000	500	200	
NSFA015	15	835	1500	150	3910	1225	600	1050	1000	1000	200	
NSFA020	20	1115	2000	200	3200	2010	600	1810	1760	1000	315	
NSFA030	30	1670	3000	300	3915	2010	600	1810	1760	1000	315	
NSFA040	40	2225	4000	400	4640	2010	600	1810	1760	1000	315	
NSFA050	50	2780	5000	500	5425	2010	600	1810	1760	1000	315	
NSFA065	65	3160	6500	650	6850	2010	600	1810	1760	1000	315	
NSFA080	80	4445	8000	800	5744	2820	600	2500	2450	1000	315	
NSFA100	100	5560	10000	1000	6200	2820	600	2500	2450	1000	400	
NSFA125	125	6945	12500	1250	7365	2820	600	2500	2450	1000	450	
NSFA150	150	8335	15000	1500	8675	2820	600	2500	2450	1000	525	
NSFA175	175	9725	17500	1750	9975	2820	600	2500	2450	1000	525	
NSFA200	200	11110	20000	2000	11,280	2820	600	2500	2450	1000	600	

<sup>\*</sup>Some units have more than one access shaft – diameter of largest shown.

#### **BYPASS SEPARATORS**

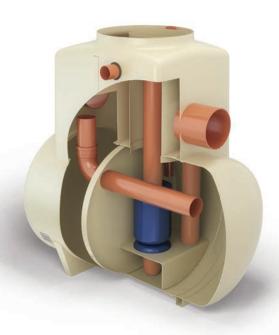
#### **NSB RANGE**

Bypass separators are used when it is considered an acceptable risk to not provide full treatment for very high flows, i.e. where the risk of a large spillage and heavy rainfall occurring at the same time is small:

- Surface carparks.
- Roadways.
- Lightly contaminated commercial areas.

## PERFORMANCE AND COMPLIANCE

- Fully compliant and tested to EN 858-1.
- Bypass separators are tested by British standards institute (BSI). Certified flow and process performance assessing affluent qualities to the requirements of EN 858-1.
- The unit is designed to treat the 'first flush' 10% of peak flow. The calculated drainage areas served by each separator are indicated according to the formula given by PPG3 NSB = 0.0018A(m2).
- Class I separators are designed to achieve a concentration of less than 5mg per litre.



#### **TECHNICAL SPECIFICATIONS**

Separator	Flow	Peak Flow	Drainage Area (M2)	Storage Capacity (Ltrs)			Diameter			Base to Outlet	Standard Fall	Min Inlet	Standard Pipework	
Model		Rate (l/s)	Based on UK rainwater flow	Silt	Oil			Diameter (mm)	Invert (mm)	Invert (mm)	Across (mm)	Invert (mm)	Diameter (mm)**	
POLYETHYLE	POLYETHYLENE CHAMBER CONSTRUCTION													
NSBP003	3	30	1670	300	45	1700	1350	600	1420	1320	100	500	160	
NSBP004	4.5	45	2500	450	60	1700	1350	600	1420	1320	100	500	160	
NSBP006	6	60	3335	600	90	1700	1350	600	1420	1320	100	500	160	
GRP CHAMBER CONSTRUCTION														
NSBE010	10	100	5560	1000	150	2069	1220	750	1450	1350	100	700	315	
NSBE015	15	150	8335	1500	225	2947	1220	750	1450	1350	100	700	315	
NSBE020	20	200	11111	2000	300	3893	1220	750	1450	1350	100	700	375	
NSBE025	25	250	13890	2500	375	3575	1420	750	1680	1580	100	700	375	
NSBE030	30	300	16670	3000	450	4265	1420	750	1680	1580	100	700	450	
NSBE040	40	400	22222	4000	600	3230	1920	600	2185	2035	150	1000	500	
NSBE050	50	500	27778	5000	750	3960	1920	600	2185	2035	150	1000	600	
NSBE075	75	750	41667	7500	1125	5841	1920	600	2235	2035	200	950	675	
NSBE100	100	1000	55556	10000	1500	7661	1920	600	2235	2035	200	950	750	
NSBE125	125	1250	69444	12500	1875	9548	1920	600	2235	2035	200	950	750	

<sup>\*</sup> Some units have more than one access shaft - diameter of largest shown.

\*\* Larger pipework available on request.



#### FORECOURT SEPARATORS

Forecourt separators are used to intercept hydrocarbon pollutants such as petroleum and oil to prevent their entry to the drainage system. Typical applications include petrol filling station forecourts and car breaker yards.

#### PERFORMANCE AND COMPLIANCE

- Operation ensures that the flow cannot exit the unit without first passing through the coalescer assembly.
- In normal operation, the forecourt separator has sufficient capacity to provide storage for separated pollutants within the main chamber, but is also able to contain up to 7,600 litres of pollutant arising from the spillage of a fuel delivery tanker compartment on the petrol forecourt.
- The separator has been designed with an automatic closure device to ensure that oil cannot exit the separator in the event of a major spillage, subsequently the separator should be emptied immediately.

#### **INSTALLATION**

- The unit should be installed on a suitable concrete base slab and surrounded with concrete or pea gravel backfill.
- If the separator is to be installed within a trafficked area, then a suitable cover slab must be designed to ensure that loads are not transmitted to the unit.
- The separator should be installed and vented in accordance with Health and Safety Guidance Note HS(G)41 for filling stations.
- Subject to Local Authority requirements.



#### **TECHNICAL SPECIFICATIONS**

Separator Class	Backfill Type	Total Capacity (Ltrs)	Drainage Area (m2)	Peak Flow Rate (I/s)	Length (mm)	Diameter (mm)	Access Shaft Diameter (mm)	Base Inlet Invert (mm)	Base to Outlet Invert (mm)	Standard Fall Across (mm)	Min Inlet Invert (mm)	Standard Pipework Diameter (mm)	Empty Weight (kg)
T	Concrete	10000	720	15	3915	2020	600	2180	2130	50	600	160	620

## FUEL & OIL SEPARATOR ALARMS

British European Standard EN 858-1 and Environment Agency Pollution Prevention Guideline PPG3 requires that all separators are to be fitted with an oil level alarm system and that it should be installed and calibrated by a suitably qualified technician so that it will respond to an alarm condition when the separator requires emptying.



- **)** Easily fitted to existing tanks.
- Excellent operational range.
- ) Visual and audible alarm.
- Additional telemetry option.

Our expert Kingspan Klargester team can provide advice on the correct type of alarm for your separator system. We can also advise on local installers who will provide professional installation of your alarm to ensure optimal system performance.

Contact us today for more information on klargesterme@kingspan.com or visit our website at www.kingspanklargester.com/me



www.kingspanklargester.com/me



#### **GREASE SEPARATORS**

Kingspan Klargester grease separators are an effective and hygienic method of separating fat and grease from wastewater flow. Grease separators are designed for restaurants, hotels, public houses, canteens, etc.

Grease separators allow fats and grease to naturally separate out from water, allowing their removal prior to the wastewater reaching the drainage system. The separator should be installed close to the source of contamination before any foul waste can enter the drainage flow and to suit the expected liquid temperature.

## TECHNICAL SPECIFICATIONS

#### **FEATURES**

- Greatly reduces drain blockages, for maximum operational efficiency.
- Helps improve performance of septic tanks and field drains and achieve best results.
- Prevents contamination of small sewage treatment plants, reducing risk of breakdown.
- Designed in accordance with BS EN 1825-1.
- Protects mains drainage system from grease blockages.



Kingspan Klarges

## PUMPING STATIONS

Kingspan Klargester offer complete wastewater and surface water pumping solutions. From basements to caravans, extensions to courtyards. If your commercial or domestic property isn't connected to the sewer, or if it's below the sewer line, our pump systems will take care of all your water, sewage and effluent.

Contact the expert Kingspan Klargester team who will provide technical assistance in selecting

the appropriate pumping station for your application. Email klargesterme@kingspan.com

or visit kingspanklargester.com/me

## FULLY INTEGRATED

Kingspan Klargester offer trusted, fully integrated pumping stations solutions for a range of on and offmains, commercial and domestic applications.



www.kingspanklargester.com/me



Our range of pumping solutions are made with the highest-quality materials and fittings and all are manufactured under the quality procedures of BS ISO 9001:2000 and HS ISO 18001. And, importantly, they comply with Building Regulations Document H1 Foul Drainage and British Standards BS EN752, including options for 24-hour waste storage.

Kingspan Klargester offer expert advice at every stage of your project. Our in-house technical team offers free advice on design, installation and commissioning of your pumping system.

#### APPLICATIONS FOR DOMESTIC PUMPING STATIONS RANGE:

- Domestic properties.
- Small commercial offices.
- Remote classrooms.
- Roof and surface water.

#### APPLICATIONS FOR COMMERCIAL **PUMPING STATIONS RANGE:**

- Housing developments.
- Large commercial developments.
- Industrial developments.
- Caravan/camping sites.
- ) Schools.
- Hotels and restaurants.
- Nursing homes.
- Surface water run-off.
- Attenuated water.







# OTHER WASTEWATER TREATMENT SOLUTIONS FROM KINGSPAN KLARGESTER

Kingspan Klargester offer a full range of commercial, domestic and industrial wastewater treatment solutions. To find out more information on any of our products featured, email klargesterme@kingspan.com or visit our website at kingspanklargester.com/me



DOMESTIC SEWAGE TREATMENT PLANTS

SEPTIC TANKS



WASHDOWN & SILT SEPARATORS



**PUMPING STATIONS** 







RAINWATER HARVESTING







#### UK

College Road North, Aston Clinton, Aylesbury, Buckinghamshire, HP22 5EW T: +44 (0) 1296 633000

F: +44 (0) 1296 633001

E: klargester@kingspan.com W: www.kingspanklargester.com

#### Ireland

Kingspan Klargester
Unit 1a, Derryboy Road
Carnbane Business Park
Newry, BT35 6QH
T: +44 (0) 28 3026 6799
E: klargesterinfo@kingspan.com
W: www.kingspanklargester.com/ie

#### Germany

Siemensstr. 12a, D-63263
Neu-Isenburg, Deutschland
T: +49 (0) 6102 3686700
E: klargesterde@kingspan.com
W: www.kingspanklargester.com/de

#### **Poland**

Kingspan Environmental Sp. z o.o.

וו. Topolowa 5

62-090 Rokietnica

Polska

T: +48 61 660 94 71

E: klargesterpl@kingspan.com

W: www.kingspanklargester.com/pl

#### Norway

Kingspan Miljø AS Skiveien 42, 1410 Kolbotn,

Norwa

Г: +47 22 02 19 20

E: klargesterno@kingspan.com

W: www.kingspanklargester.com/no

