

Exhaust Gas purification is ever evolving technology, and for this reason, Bersy is continually improving their range of exhaust gas purification systems in order to offer the most advanced, long lasting and reliable solutions.

After many years of research and development into improving exhaust emissions, Bersy now presents this innovative exhaust gas filtration system.

UGET 3 is a dry particulate filter system capable of reducing by 90% carbon particles emitted from the exhaust of a diesel engine and it operates immediately from engine start-up.

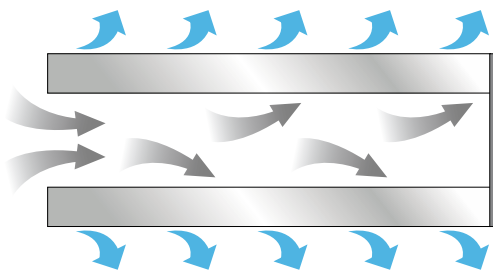
The environmental advantages are obvious, enabling our customers to meet the very stringent regulations laid down by Government Health and Safety executives.

### OPERATING PRINCIPLE

Very fine unburnt carbon particles are responsible for the typical black smoke emitted from a diesel engine exhaust. They are the main cause of many respiratory illnesses and also have a damaging effect on the environment.

These negative effects are compounded when diesel vehicles are used in confined spaces or in close proximity to human beings (i.e. tunnels, mines, quarries or in factories and warehouses).

UGET 3 filter housing is made of stainless steel and encompasses a heat shield for protection against burns.



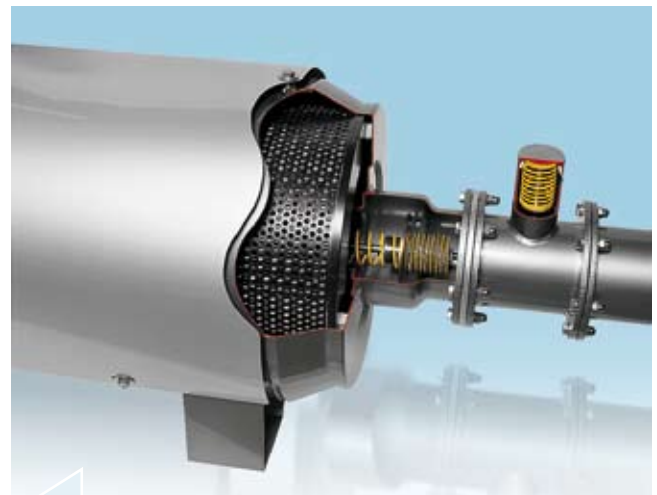
Operating plan

The filter element or cartridge is made of special fibres that are contained in a carbon steel structure and fit inside the filter housing.

The filter cartridge is fire and heat resistant and also resistant to aggressive elements contained in the exhaust gases.

The texture weave of the special fibre retains carbon particles from as small as 0.3 microns.

The filter complete with the housing, which also acts as a muffler or silencer is fitted as part of the exhaust system and the exhaust gases passing through the fibre glass filter material collect the carbon particles and retain them in the



Section of the filter

filter element allowing the remaining exhaust gases to pass through. The filter element has a capacity of 1000 grams before needing to be replaced.

UGET 3 filters are available in varying sizes and are supplied complete with cartridge ready for instant use.

Apart from the standard models shown here, Bersy are able to produce units suitable for even larger engines to suit customers individual needs.

### FITTING INSTRUCTIONS

Maximum operating temperature is 350°C. Bersy recommend that the UGET 3 filter is fitted as far away as possible from the engine to avoid any problems of the filter getting too hot.

It is suggested that the filter housing is anchored to the vehicles frame or body with fixing brackets and connected with a piece of flexible pipe to the exhaust pipe using the counter flanges supplied.

As the filter assembly acts as a silencer as well, there is no need for the muffler on the machine to be used and this should be discarded.

### MAINTENANCE

The filter does not need planned maintenance.

At the end of the filter cartridge life the back plate is removed to extract and replace it with a new one.

Disposal of the used cartridge is straight forward as it is not classed as hazardous waste but it has to be disposed of as special waste.

### FILTER LIFE

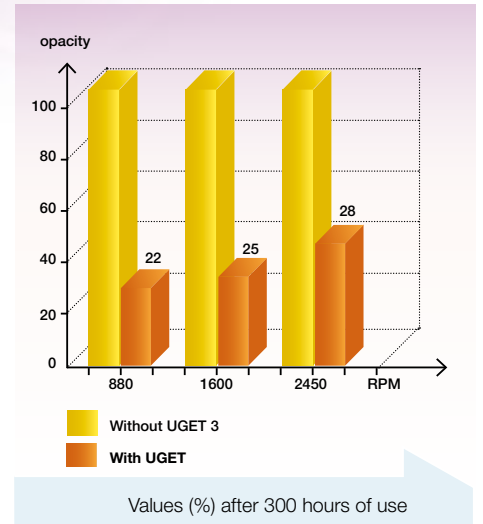
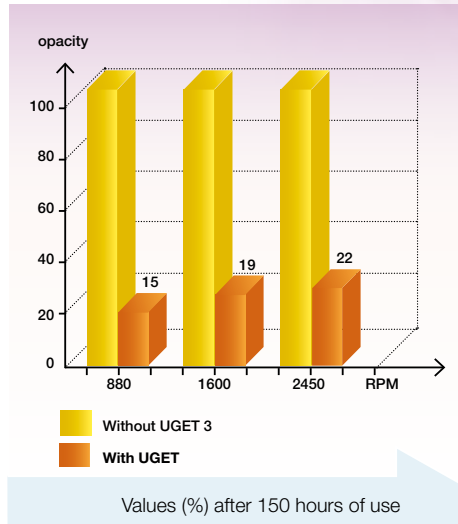
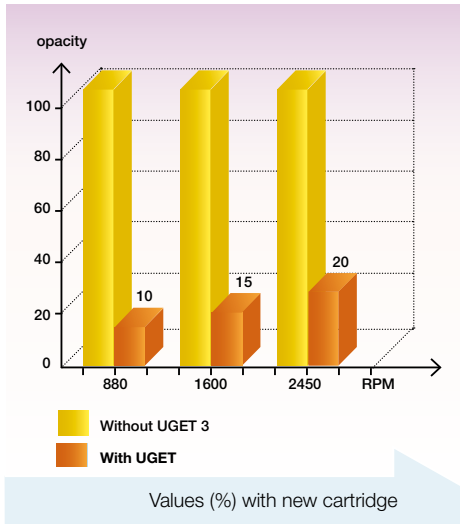
The life of the filter element is approximately 300-350 hours of use, depending on the condition and maintenance of the engine.

## OPACITY TESTS

Opacity Tests have been carried out on an 80 Kw supercharged engine.

Recorded values are expressed in percentage terms and represent the values of five efficiency tests made on the same engine.

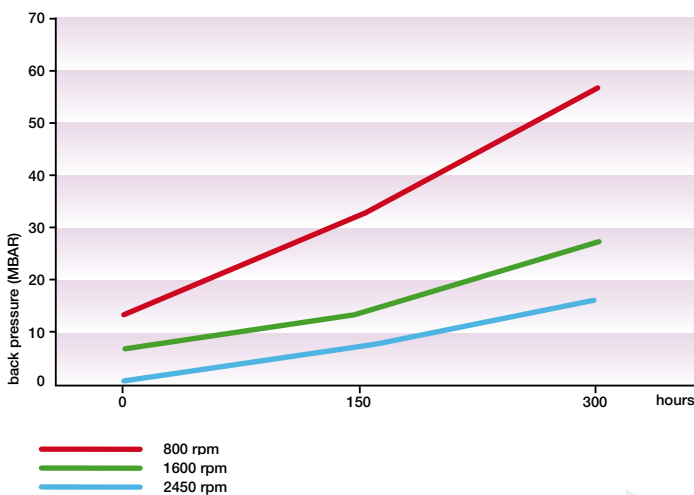
The graphs below show the percentage reduction at three different stages during the life of the filter.



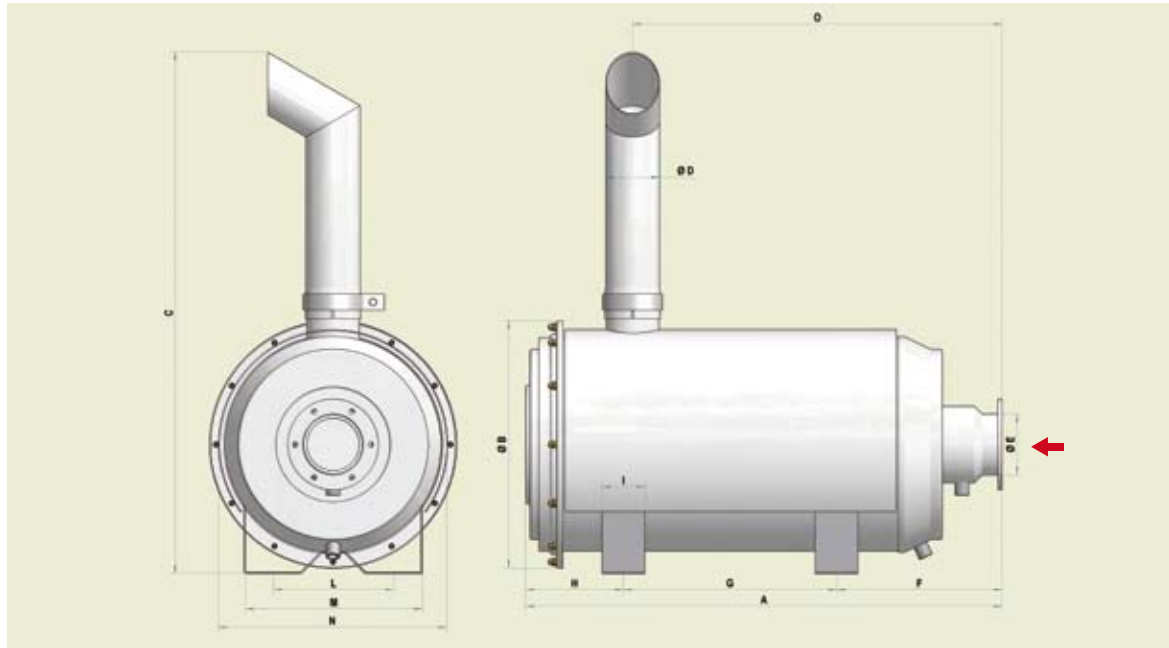
## BACK PRESSURE TESTS

Back Pressure tests have also been carried out to record the restriction caused by the filter at different stages of its life.

The graph shows these based on three different stages in the elements life.



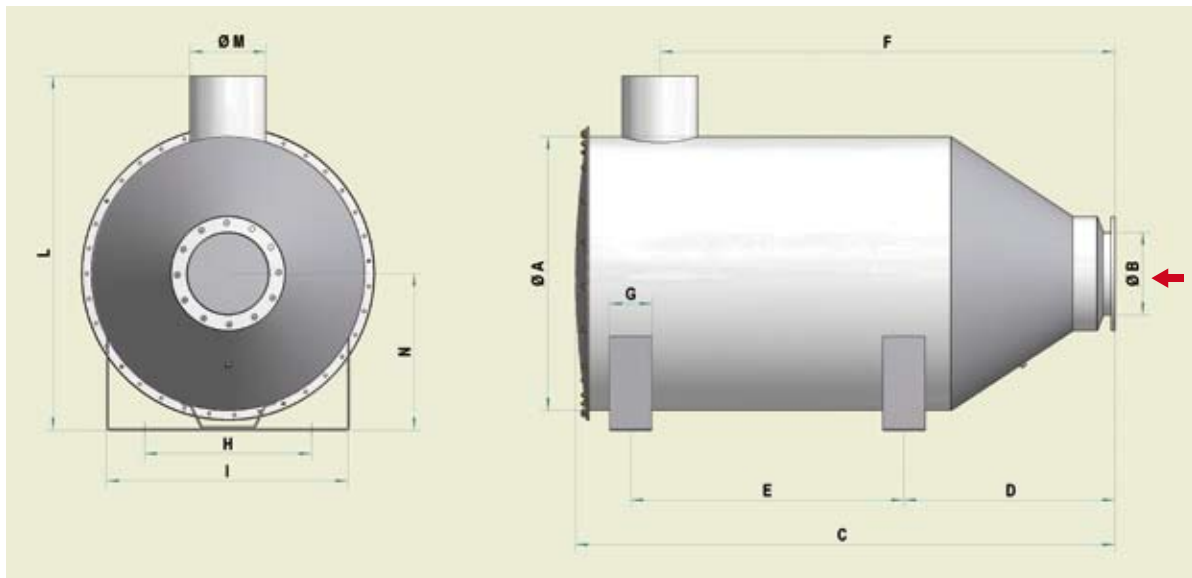
UGET 3 application



CODE	MOD.	POWER	A	ØB	C	ØD	ØE	F	G	H	I	L	M	N	O
210040	D 40	up to KW 29 (HP 40)	635	234	707	60	80	185	360	90	40	120	175	250	365
210080	D 80	up to KW 59 (HP 80)	649	296	650	80	80	242	283	124	60	160	200	264	527
210125	D 125	up to KW 88 (HP 120)	645	366	960	80	80	218	300	126	60	220	260	338	473
210200	D 200	up to KW 147 (HP 200)	901	464	972	100	114	271	483	147	80	255	335	430	694

all dimensions in mm

For naturally aspirated engines use the Kw table provided. For turbo charged engines multiply the table by **1,3** and then read the table to size the filter correctly. Supplied with counter-flange, gasket, bolts and nuts.



CODE	MOD.	POWER	ØA	ØB	C	D	E	F	G	H	I	L	ØM	N
210300	D 300	up to KW 221 (HP 300)	560	139	940	440	400	810	100	400	500	710	139	330
210360	D 360	up to KW 264 (HP 360)	650	139	940	440	400	810	100	490	590	830	139	375
210600	D 600	up to KW 441 (HP 600)	900	168	1290	540	650	1120	100	700	830	1080	168	500
210800	D 800	up to KW 588 (HP 800)	950	219	1290	540	650	1120	100	750	880	1130	219	525
211000	D 1000	up to KW 735 (HP 1000)	1200	219	1390	640	650	1220	110	950	905	1440	219	650
211200	D 1200	up to KW 882 (HP 1200)	1250	273	1390	685	560	1220	120	745	905	1480	273	675
211400	D 1400	up to KW 1030 (HP 1400)	1250	273	1390	685	560	1220	120	745	905	1480	273	675

all dimensions in mm

For naturally aspirated engines use the Kw table provided. For turbo charged engines multiply the table by **1,3** and then read the table to size the filter correctly. Supplied with counter-flange, gasket, bolts and nuts.

UGET 3



UGET 3 standard model



UGET 3

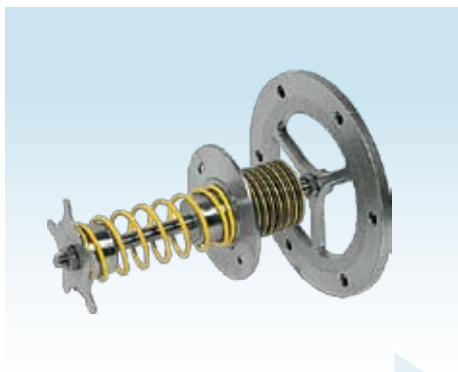
UGET 3 standard model

**SAFETY PROTECTION SYSTEM**

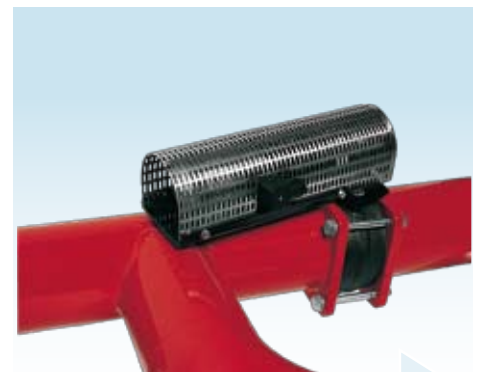
To ensure correct and improved functioning of the system there are safety devices available.



Backpressure valve



Over-temperature valve



By-pass valve

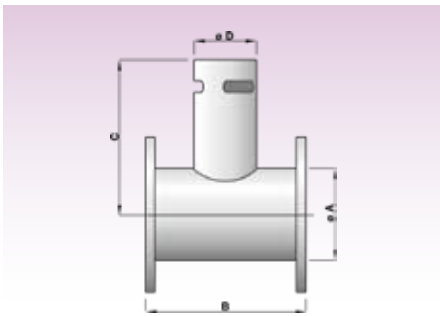
## BACKPRESSURE VALVE

The Backpressure valve has been introduced in order to protect the filter and the engine from excessive backpressure.

This valve starts to function if and when there is a sudden increase in pressure in the exhaust system, or when the filter reaches its maximum capacity.

The exhaust gases go out through the valve. This situation allows the operator to rectify the problem without causing damage to the engine and/or filter.

This valve is recommended on all UGET 3 filters.



CODE	MODEL	ØA	B	C	ØD
2100100080	valve for UGET D 40-80-125	60	96	125	54
2100100200	valve for UGET D 200	80	138	135	54

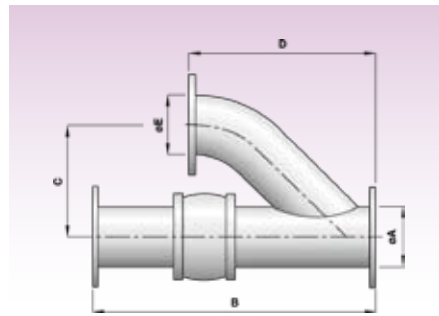
all dimensions in mm

## BY-PASS VALVE

The By-Pass Valve is available to by-pass the filter if and when there is no need to purify the exhaust gases.

Three different models are available:

- Manual version operated by a lever;
- Semiautomatic version controlled by a 12-volt electromagnet and operated by a button;
- Automatic version controlled by a 12-volt electromagnet and operated with photoelectric cells.



CODE	MODEL	ØA	B	C	D	ØE
2100200040	valve Ø 60	60	292	120	193	60
2100200080	valve Ø 89	89	376	150	247	89
2100200200	valve Ø 114	114	438	190	308	114

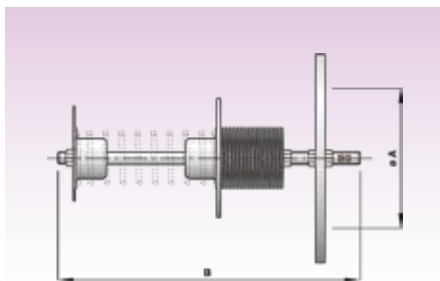
all dimensions in mm

## OVER-TEMPERATURE VALVE

The Over-temperature valve is available to protect the filter from excessive temperatures.

This valve starts to function when there is a sudden increase in the exhaust gas temperature. It prevents the passage of excessively high temperature gases through the filter thereby preventing damage to the filter itself.

Please note: The Over-temperature Valve must be fitted together with the Backpressure Valve.



CODE	MODEL	ØA	B
2100200040	valve for UGET D 40	80	245
2100200080	valve for UGET D 80-125	80	245
2100200200	valve for UGET D 200	114	245

all dimensions in mm



Application on a forklift truck