



SM Range - a wide range of silencers adapted for all applications :

Large range of standard exhaust silencers available from stock (15, 25, 30, 40 and 50 dB(A) noise reduction or even more

- Adaptability - many configurations available to suit your design requirements & noise suppression needs
- Technical Expertise - Acoustic, Thermal and Aerodynamic
- Proven Products developed and extensively - tested in- house by IAC Boët Stopson to give optimum Performance / environment solutions

Engine silencers

In Technical Collaboration With



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ABOUT DCS

Decimin Control Systems provides noise and acoustic control products, structures and test facilities. The company designs, manufactures and installs acoustic solutions for industrial applications and the power sector in particular, world-wide.

KEY FEATURES

- Space saving, cost saving solutions - A conventional arrangement of reactive and absorptive silencers can be replaced by a single combination DCS silencer ;
- All products fully factory-tested ;
- Specific ranges for CHP and container applications ;
- Circular or rectangular design ;
- Radial, axial and twin intakes ;
- Stand alone and integrated spark arrestors ;
- All types of materials ;
- All types of accessories available on request ;



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APPLICATION

Our SM silencers are designed to reduce the exhaust noise of internal combustion engines of all types (petrol, diesel or gas).

DESCRIPTION

Our silencers are entirely welded in carbon steel with internal and external protection provided by a high temperature black prime paint. Heat emission is reduced by internal insulation in all our silencers ensuring low surface temperatures. The nominal diameter of the inlet and exhaust (DN) and also the noise reduction rating (15, 25, 30, 40) determines the name of the silencers. E.g. SM 30P DN50.



ACOUSTICS

The acoustic definition of our SM silencers has been optimised by our Research and Development department. Our silencers are based on two noise-reducing principles :

- Absorption – SM15P and SM25P
- Reactive and wave phase shift plus absorption for SM30P and SM40P

EXPANSION

The silencers form a fixed point. For operation at high temperatures, an expansion system is required to absorb all relative movements.

SELECTION CRITERIA

- Select silencer type (E.g. SM15P; SM25P etc.) based on the acoustic performance requirement
- Select nominal diameter of silencer from corresponding chart based on :

a) For an exhaust gas temperature of 450° C use actual exhaust flow rate Q_{v1} (m³/hr.)

b) For any other exhaust gas temperature (t°C) use corrected exhaust flow Q_{v1} (m³ /hr.) where

$$Q_{v1} = \frac{26,32.Q_v}{\sqrt{t + 273}}$$

c) For an assumed specific exhaust mass flow of 6.9kg/k will use actual engine power P (kW)

SOUND INSULATION

For high attenuation or low residual levels, we would recommend sound insulation of the silencer casing and also the flanges and the pipes upstream of the silencer in order to eliminate radiation of unsilenced noise.

VIBRATION ISOLATION

Where high attenuation or low residual levels are required it is advisable to use a flexible connection from the engine to isolate vibration. Similarly, anti-vibration mountings may be provided between the silencer and its support structure.



INSTALLATION

The gas flow direction must be observed. It is marked by an arrow on the body of the device. Our silencers can be placed horizontally or vertically depending on the space available and the position of the pipes. We can advise you on the most suitable inline position for the silencer. Full installation, operation and maintenance instructions are provided in our datasheet TE BO 185. All our silencers > 50 kgs are equipped with hoisting eyes welded into the casing of the apparatus to facilitate handling.

DOCUMENTATION AND TESTING

This type of equipment is not a pressure vessel and is therefore not subject to specific tests or controls. A dimensional check report and visual inspection will be carried out in our workshops. For special application we can provide you with welding record, certificate of materials, assembly plan, various notes and calculations; identification and packing list, acceptance report by an official body, etc. A general arrangement drawing of the whole product is provided on request.

OPTIONAL ACCESSORIES

- Special exterior protection (metal spraying...)
- Other material (Stainless steel, corten steel...)
- Integrated spark arrestors or catalysers
- Flanges, mating flanges, gaskets, bolts.
- Supports

For any special equipment, please contact us.

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SM SPECIAL PROJECTS

Decimin Control Systems offer adaptable products that takes into account specific requirements.

Their acoustic expertise and competencies in project management enable them to propose optimistic solutions.



- Rectangular silencers ;
- Catalytic silencers ;
- Stainless steel ;
- Spark arrestors ;
- Design for :
 - Marine ;
 - Rail ;
 - Test bench ;
 - etc...
- Performance guarantee from 40,45,50 dB(A) and more.



ACCESSORIES

OUTLETS



• Rain cap



• Bend



• Mitred

CONNECTIONS



• Plain (male)



• Plain (female)



• Flanged

VERTICAL SUPPORT OPTIONS



• Type V



• Type VP

HORIZONTAL SUPPORT OPTIONS



• Type H



• Type HC

SPARK ARRESTOR



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