

# *Instruction Manual*

## XDS5/10 and XDS35i Silencer Kit

Description	Item Number
XDS5/10 Silencer Kit	A505-97-000
XDS35i Silencer Kit	A505-97-001



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## Associated publications

Publication title	Publication number
Vacuum pump and vacuum system safety	P400-40-000

# 1 Introduction

## 1.1 Scope and definitions

This manual provides installation, operation and maintenance instructions for the Edwards XDS Silencer. You must use the XDS silencer as described in this manual.

Read this manual before you install and operate your XDS silencer. Important safety information is highlighted as WARNING and CAUTION instructions; you must obey these instructions. The use of WARNINGS and CAUTIONS is defined below.



### WARNING

Warnings are given where failure to observe the instruction could result in injury or death to people.

### CAUTION

Cautions are given where failure to observe the instruction could result in damage to the equipment, associated equipment and process.

The units used throughout this manual conform to the SI international system of units of measurement.

## 1.2 Description

The XDS silencer has two main functions.

- To reduce exhaust noise during pump down and gas ballast operation.
- To collect and retain tip seal dust as the pump is operated.

Exhaust gases exit the exhaust port when the pump is being used to evacuate a process chamber, or when the gas ballast control is being used, or both. The noise level when pumping down rises as the throughput increases and the silencer is used to reduce this noise level.

The outer can is made of pressed steel and is split to allow access to the filter elements.

The filter element housing is made from Santoprene® thermoplastic elastomer. The element itself is polyester. The foam block is manufactured from filter foam.

*Note:* These elements can only be used in dry applications and must not be allowed to moisten.

No pressure relief valve is fitted to the silencer.

## 1.3 Applications



### WARNING

The Edwards XDS silencer is not recommended for use with pumping hazardous substances.

## 1.4 Connections

The XDS silencer has been manufactured with an NW25 fitting to enable fitting to the pump exhaust. An NW25 clamp and centring ring are included. A sectional view of the silencer is shown in [Figure 1](#).

## 2 TECHNICAL DATA

### 2.1 Operating and storage conditions

Table 1 - General data

General items	Reference data
Ambient temperature range (operation)	+10 °C to +40 °C
Ambient temperature range (storage)	-30 °C to +70 °C

### 2.2 Performance

Table 2 - Performance data

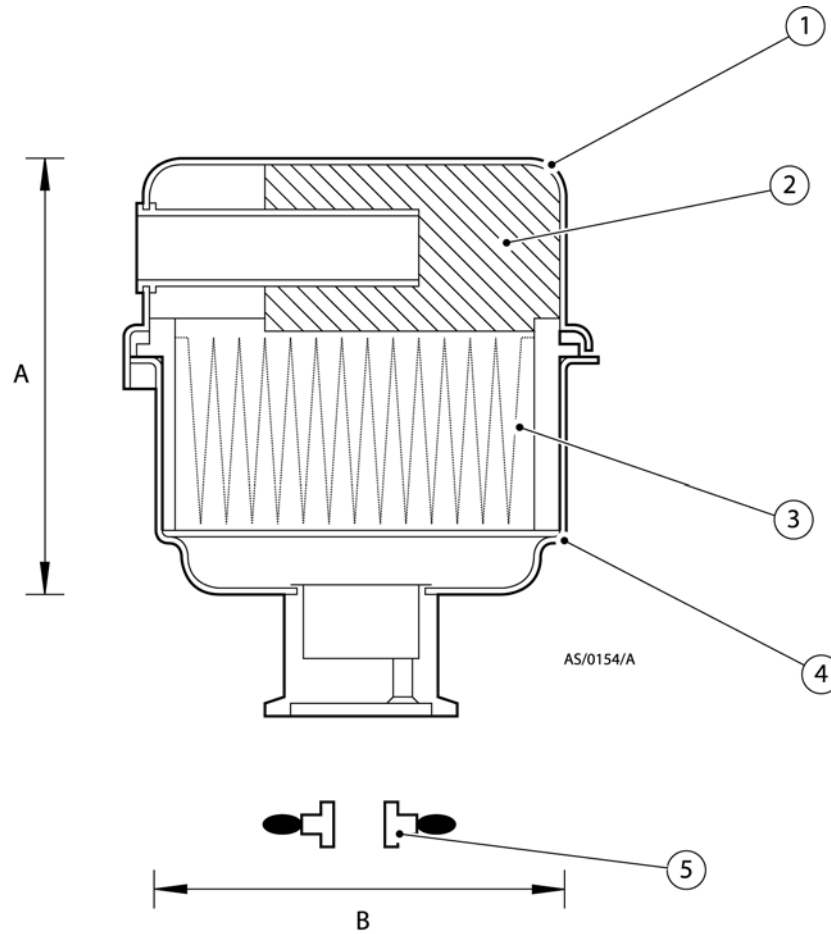
Performance items	Reference data
Rated flow	XDS5/10 - A505-97-000 - 11m <sup>3</sup> h <sup>-1</sup> XDS35i - A505-97-001 - 60m <sup>3</sup> h <sup>-1</sup>
Maximum back pressure	0.2 bar gauge
Tip seal dust	Pump performance and silencer performance unaffected providing elements serviced in accordance with recommendations.

### 2.3 Mechanical data

Table 3 - Mechanical data

Mechanical items	Reference data
Dimensions	Refer to Figure 1
Mass complete	XDS5/10 - A505-97-000 - 265 g XDS35i - A505-97-001 - 500 g
Flange size	NW25

Figure 1 - Silencer Dimensions (mm)



1. Top casing
2. Foam block
3. Polyester element
4. Bottom casing
5. Centring ring

Silencer	Dimension A	Dimension B
XDS5/10 From kit A505-97-000	94 mm	81 mm
XDS35i From kit A505-97-001	100 mm	100 mm

## 3 INSTALLATION

### 3.1 Unpack and inspect

Remove all packing materials and check your XDS silencer. If your silencer is damaged, notify your supplier and the carrier in writing within three days; state the Item number of the unit together with your order number and your supplier's invoice number. Retain all packing materials for inspection. Do not use the silencer if it is damaged.

Check that your package contains the items shown in Table 4. If any of the items are missing, notify your supplier in writing within three days.

If the silencer is not to be used immediately, return it to its protective packaging and store in suitable conditions; refer to Section 2.

### 3.2 Install the XDS silencer

Ensure the pump is switched off before fitting.

1. Clean the face of the pump exhaust with a lint free cloth.
2. Place the centring ring (Figure 1, item 5) in the end of the NW25 flange and seat the silencer in the pump exhaust.
3. Fit the clamp and tighten to secure the silencer.

Table 4 - Checklist of items

Qty	Description	Check (✓)
1	Silencer body	<input type="checkbox"/>
1	NW25 clamp	<input type="checkbox"/>
1	Centring ring	<input type="checkbox"/>
1	Instruction manual	<input type="checkbox"/>



## 4 MAINTENANCE

### 4.1 Introduction

Figure 1 shows the polyester element (Figure 1, item 3) and foam block (Figure 1, item 2) which need to be inspected periodically. We recommend both are replaced every 9000 hours of pump use. The silencer has been designed to handle 10 cc of tip seal dust without affecting the performance of the pump. Replacement kit A505-97-800 (XDS5/10) and A505-97-801 (XDS35i) contains both items.

### 4.2 Removal of elements



#### **WARNING**

Take all necessary precautions if toxic or dangerous substances have been pumped. Wear PPE when you handle contaminated filters and filter elements.



#### **WARNING**

Do not attempt to dismantle the silencer whilst the pump is running. Ensure the pump is isolated from its electrical supply before removing the silencer.



#### **WARNING**

Do not inhale the tip seal dust. Do not blow the tip seal dust from the silencer with compressed air.

Remove the NW25 clamp and silencer from the pump exhaust. Hold the top half of the silencer with one hand, and the bottom half with the other hand. Keeping one hand steady, twist clockwise with the other, and the two halves will separate. The polyester element will be retained in the top half. With the element uppermost, lift the element out by lightly gripping the protruding surface of the element. Put the element to one side ready to inspect it. The foam block is pushed onto the outlet pipe and is trapped into position by the polyester element.

### 4.3 Inspection of elements



#### **WARNING**

Take all necessary precautions if toxic or dangerous substances have been pumped. Wear PPE when you handle contaminated filters and filter elements.

#### **CAUTION**

At high temperature (in excess of 250 °C) tip seal wear product will begin to decompose, giving rise to gaseous fumes which can produce unpleasant symptoms.

The silencer will be contaminated with the process chemicals that have been pumped during operation. Ensure that the pump is decontaminated before maintenance and that adequate precautions are taken to protect people from the effects of dangerous substances if contamination has occurred.

Renewal of the elements is recommended regardless of their level of contamination. Neither element should be heavily contaminated with tip seal dust, but if either is, they **MUST** be replaced or cleaned in order to avoid a build up of dust that may adversely affect performance. Rinse the elements through with soap and water to clean them. Observe local guidelines to advise the safe disposal of PTFE dust.

### 4.4 Replacement of elements

Fitting the new elements is the reverse of removal, fit the foam block first and then the polyester element. Fit both halves of the silencer together and twist anticlockwise to secure. Ensure fastening is complete by looking at the bayonet fitting and checking it is home.

### 4.5 Disposal

Dispose of the used XDS silencer elements safely in accordance with all local and national safety and environmental requirements.

## 5 SPARES AND ACCESSORIES

### 5.1 Introduction

Edwards products, spares and accessories are available from Edwards companies in Belgium, Brazil, Canada, France, Germany, Hong Kong, Italy, Japan, Korea, Switzerland, United Kingdom, U.S.A, and a worldwide network of distributors. The majority of these centres employ service Engineers who have undergone comprehensive Edwards training courses.

Order spare parts and accessories from your nearest Edwards company or distributor. When you order, please state for each part required:

- Model and Item Number of your equipment
- Serial number (if any)
- Item Number and description of part.

Table 5 - Element replacement kits

Description	Silencer kit	Item number
Element replacement kit	XDS5/10	A505-97-800
Element replacement kit	XDS35i	A505-97-801

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## Return the equipment or components for service

Before you send your equipment to us for service or for any other reason, you must send us a completed Declaration of Contamination of Vacuum Equipment and Components - Form HS2. The HS2 form tells us if any substances found in the equipment are hazardous, which is important for the safety of our employees and all other people involved in the service of your equipment. The hazard information also lets us select the correct procedures to service your equipment.

We provide instructions for completing the form in the Declaration of Contamination of Vacuum equipment and Components - Procedure HS1.

If you are returning a vacuum pump, note the following:

- If a pump is configured to suit the application, make a record of the configuration before returning the pump. All replacement pumps will be supplied with default factory settings.
- Do not return a pump with accessories fitted. Remove all accessories and retain them for future use.
- The instruction in the returns procedure to drain all fluids does not apply to the lubricant in pump oil reservoirs.

Download the latest documents from [www.edwardsvacuum.com/HSForms/](http://www.edwardsvacuum.com/HSForms/), follow the procedure in HS1, fill in the electronic HS2 form, print it, sign it, and return the signed copy to Edwards.

**Note:** *If we do not receive a completed HS2 form, we will not accept the return of the equipment.*

