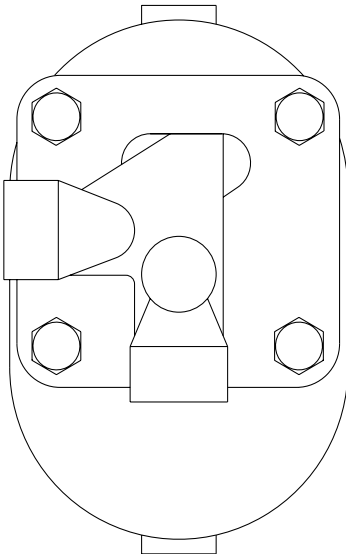


**AE10S High Capacity
Automatic Air and Gas Vent for Liquid Systems
Installation and Maintenance Instructions**



- 1. *General safety information*
- 2. *General product information*
- 3. *Installation*
- 4. *Commissioning*
- 5. *Operation*
- 6. *Maintenance*
- 7. *Spare parts*

— 1. *General safety information* —

Safe operation of the unit can only be guaranteed if it is properly installed, commissioned and maintained by a qualified person (see Section 11 of the attached Supplementary Safety Information) in compliance with the operating instructions. General installation and safety instructions for pipeline and plant construction, as well as the proper use of tools and safety equipment must also be complied with.

Warning

The cover gasket contains a thin stainless steel support ring which may cause physical injury if not handled and disposed of carefully.

Isolation

Consider whether closing isolating valves will put any other part of the system or personnel at risk. Dangers might include; isolation of vents and protective devices or alarms. Ensure isolation valves are turned off in a gradual way to avoid system shocks.

Pressure

Before attempting any maintenance consider what is or may have been in the pipeline. Ensure that any pressure is isolated and safely vented to atmospheric pressure before attempting to maintain the product, this is easily achieved by fitting Spirax Sarco depressurisation valves type DV (see separate literature for details). Do not assume that the system is depressurised even when a pressure gauge indicates zero.

Temperature

Allow time for temperature to normalise after isolation to avoid the danger of burns and consider whether protective clothing (including safety glasses) is required.

Disposal

The product is recyclable. No ecological hazard is anticipated with the disposal of this product providing due care is taken.

2. General product information

2.1 General description

The AE10S is a high capacity float type automatic air and gas vent for liquid systems and is readily maintainable. The body and cover are of cast iron and the valve and seat of stainless steel.

Certification

The product is available with certification to EN 10204 2.2 for body and cover as standard.

2.2 Sizes and pipe connections

3/4" screwed BSP or NPT.

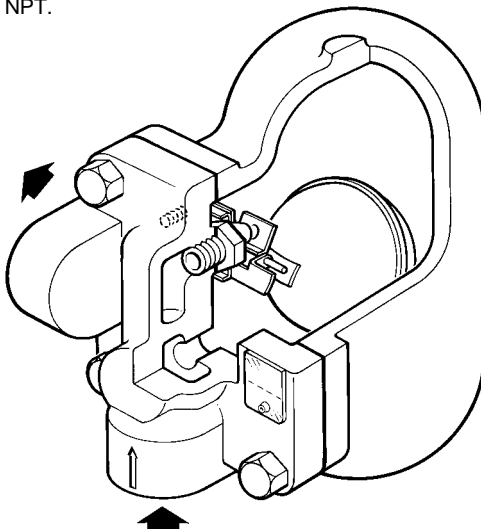
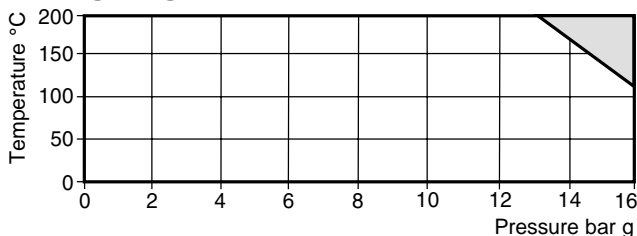



Fig. 1 AE10S

2.3 Limiting conditions

Maximum body design conditions	PN16	
PMA - Maximum allowable pressure	16 bar g	(232 psi g)
TMA - Maximum allowable temperature	200°C	(392°F)
PMO - Maximum operating pressure	16 bar g	(232 psi g)
TMO - Maximum operating temperature	200°C	(392°F)
ΔPMX - Maximum differential pressure	6 bar	(87 psi g)
Designed for a maximum cold hydraulic test pressure of:	24 bar g	(348 psi g)
Minimum specific gravity of liquid	0.6	

2.4 Operating range



 The product must not be used in this region.

3. Installation

Note: Before actioning any installation observe the 'Safety information' in Section 1.

Referring to the Installation and Maintenance Instructions, name-plate and Technical Information Sheet, check that the product is suitable for the intended installation:

- 3.1** Check materials, pressure and temperature and their maximum values. If the maximum operating limit of the product is lower than that of the system in which it is being fitted, ensure that a safety device is included in the system to prevent overpressurisation.
- 3.2** Determine the correct installation situation and the direction of fluid flow.
- 3.3** Remove protective covers from all connections.
- 3.3** The ¾" AE10S high capacity automatic air vent must always be fitted with the inlet at the bottom so that the float mechanism is rising and falling in a vertical plane. From the tapping provided at the low point of the cover, a ½" balance pipe having continuous rise towards the automatic air vent must be fitted and connected into the inlet pipework (as shown in Figure 2) which is essential for satisfactory operation.

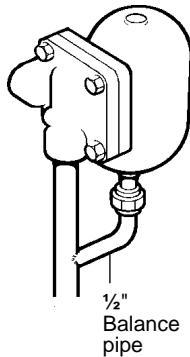


Fig. 2

Because of the way automatic air and gas vents operate they all dribble water and liquid when discharging air and gas. This is perfectly normal. Spirax Sarco recommend piping the discharge to a safe visible point or drain via an air break.

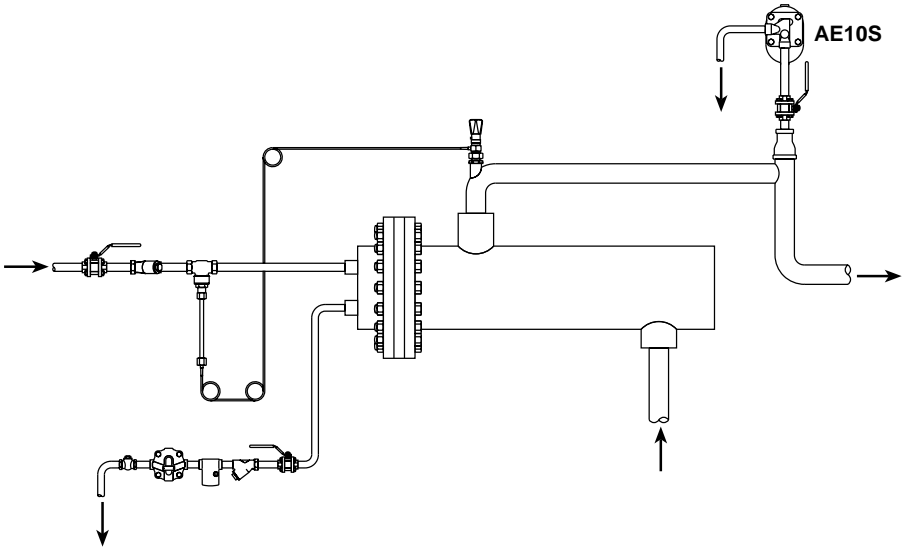


Fig. 3
Typical installation using an AE10S on a fuel oil system where elimination of air is essential prior to a metering station.

4. Commissioning

After installation or maintenance ensure that the system is fully functioning. Carry out tests on any alarms or protective devices.

5. Operation

Spirax Sarco automatic air eliminators utilise a simple, but well proven, float and lever valve assembly which opens to air and gases and closes tightly against water. Once fitted they require no adjustment, either on start-up or during subsequent running. Operation is totally automatic over a variety of light or heavy duty applications.

6. Maintenance

Note: Before actioning any maintenance program observe the 'Safety information' in Section 1.

Warning

The cover gasket contains a thin stainless steel support ring which may cause physical injury if not handled and disposed of carefully.

6.1 General information

With suitable isolation, repairs can be carried out with the automatic air vent in the pipeline.

6.2 How to fit the main valve assembly:

- Once the trap has been isolated, undo the cover bolts (2) and lift off the cover.
- Remove the existing mechanism (5, 6, 7, 8, 9, 15, 16 and 17). Using a little jointing paste on the thread and gasket (6), fit the new valve seat (5) to the body.
- Attach the support frame (15) and pivot frame (16) to the body using the assembly set screws (7) but do not tighten.
- Fit the float arm (8 and 9) to the pivot frame (16) using the pin (17) and by moving the complete assembly, centre the valve cone onto the seat orifice. Tighten the assembly set screws (7) to the recommended torque (see Table 1).
- Check the operation by raising and lowering the float several times, making sure that the valve cone is centering properly on the seat.
- When reassembling make sure that all joint faces are clean. Always use a new gasket (3). Tighten cover bolts uniformly and to the recommended torque.
- Open up the isolating valve, allowing system pressure to build up slowly.
- Check for leaks.

7. Spare parts

The spare parts available are shown in heavy outline. Parts drawn in broken line are not supplied as spares.

Available spares

Main valve assembly with float	5, 6, 7, 8, 9, 15, 16, 17
Three complete sets of gaskets (packet of 3 sets)	3, 6

How to order spares

Always order spares by using the description given in the column headed 'Available spares' and state the size and type of automatic air vent.

Example: 1 - Main valve assembly with float for a ¾" Spirax Sarco AE10S high capacity automatic air and gas vent.

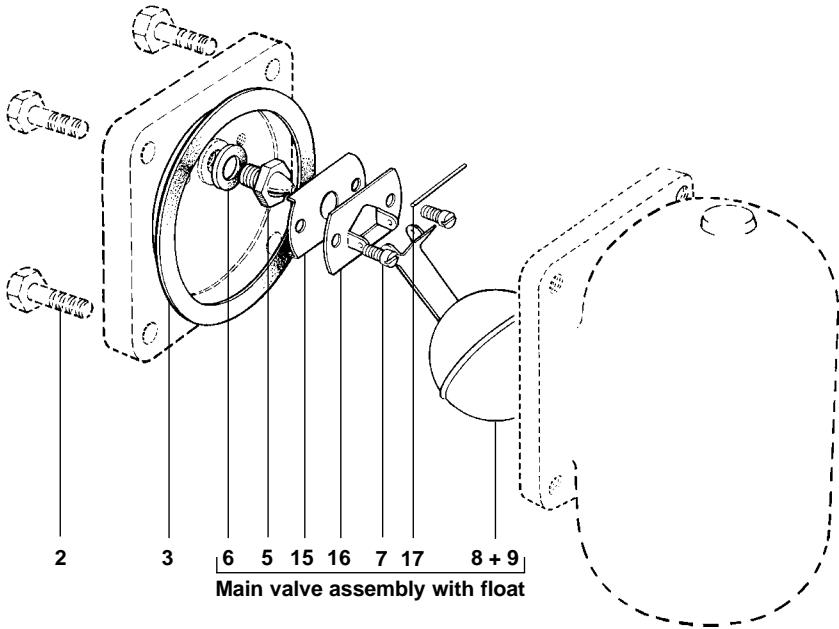




Fig. 4

Table 1 Recommended tightening torques

Item No.		or mm		N m	(lbf ft)
2	17 A/F		M10 x 30	29 - 32	(20 - 23)
7			M5 x 20	2.5 - 2.8	(1.8 - 2.0)
5	17 A/F		M12 x 8	50 - 55	(36 - 39)

