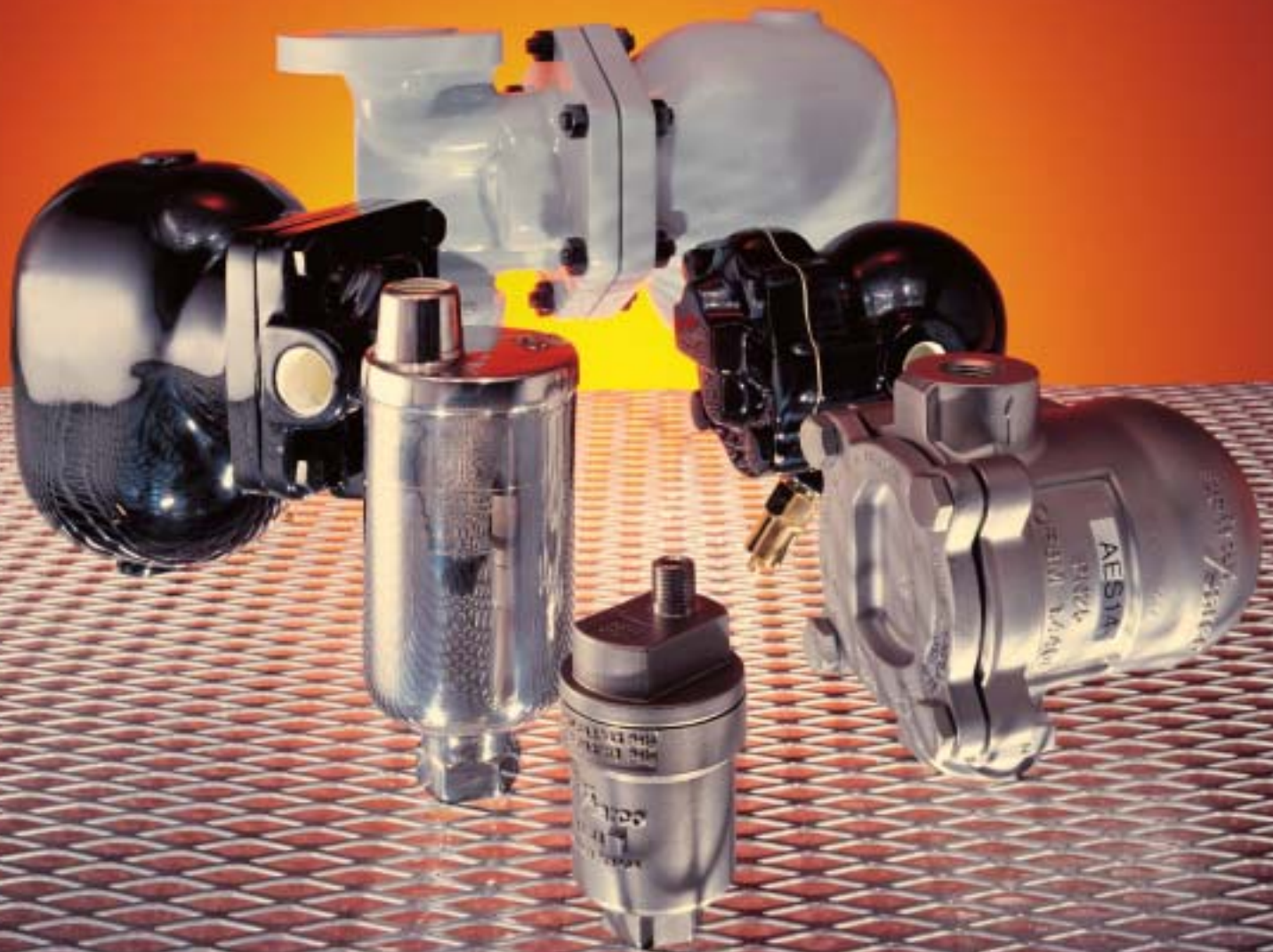


# Air vents

for liquid systems



**spirax**  
**/sarco**

# Why remove air from liquid systems?

The removal of air and other incondensable gases is essential if water-filled systems or liquid lines are to work correctly.

A build up of air or gas can cause excessive noise, set up corrosion and lead to increased maintenance costs.

It can cause air locks which inhibit the filling of the system or the priming of pumps. It can seriously affect the accuracy of the flow measurement meters and regulating valves. In extreme conditions it may even put a plant temporarily out of commission.

The presence of air and other incondensable gases also presents a very real barrier to heat transfer efficiency. A film of air 1 mm thick, presents the same barrier to heat transfer, as a wall of copper 13 m thick!

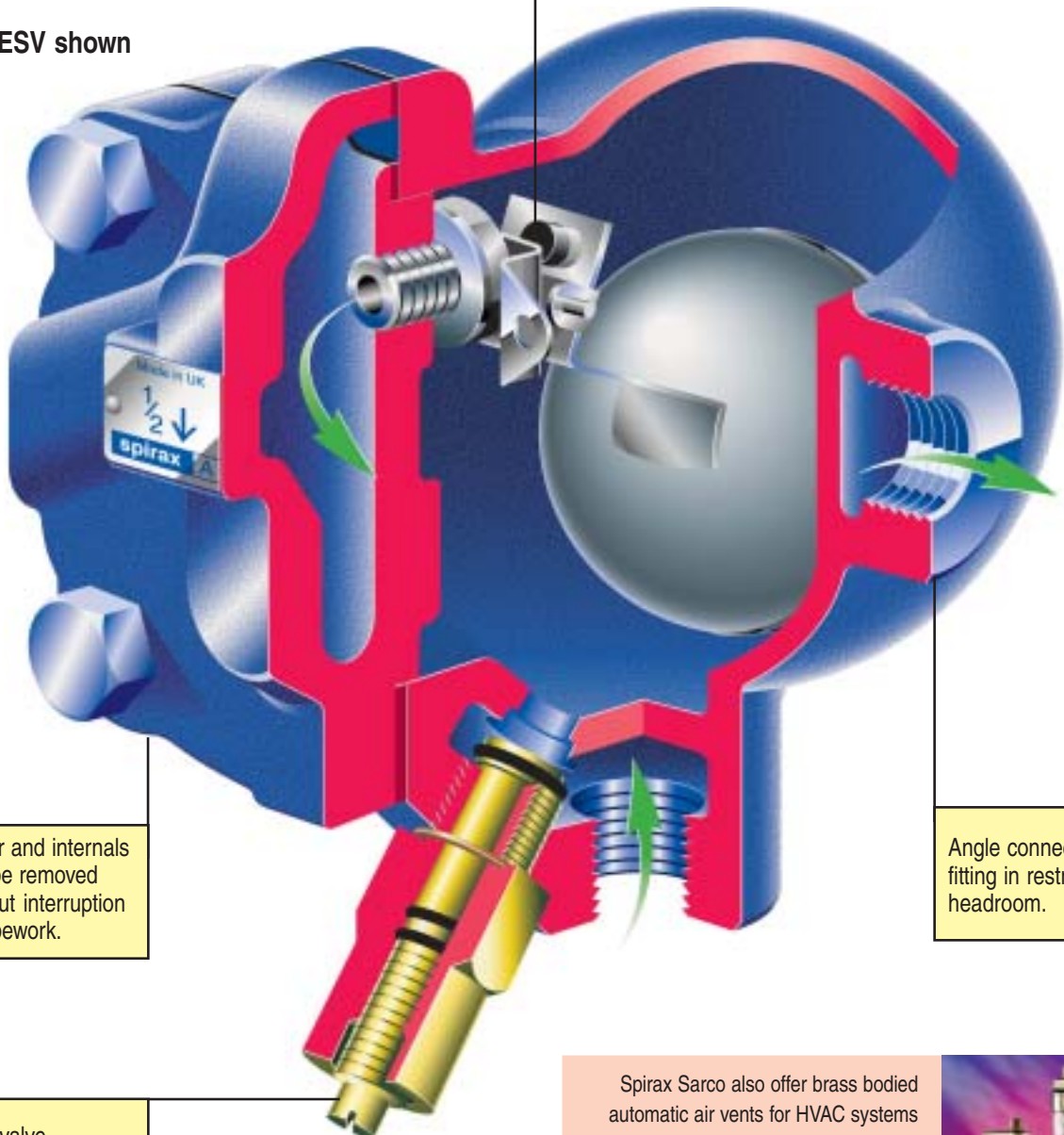
Entrapped air in any water system is an enemy to thermal efficiency. It is particularly damaging in a chilled water system which does not have the natural deaeration process of hot water.

Air vents fully comply with the requirements of the European Pressure Equipment Directive 97/23/EC.

3 options of valve head:

- Viton for hydro carbons.
- EPDM for water systems.
- Stainless steel for high temperatures.

**AE14ESV shown**



Cover and internals can be removed without interruption of pipework.

Angle connection for fitting in restricted headroom.

Stop valve optional for in-line maintenance.

Spirax Sarco also offer brass bodied automatic air vents for HVAC systems up to 8 bar g, with check and lockshield valve options. For further details, see SB-S31-06.



## Product range and options

Material		Cast iron	SG iron					Carbon steel		Stainless steel				Austenitic stainless steel
Type		AE 10S	AE 14	AE 14E	AE 14S	AE 14SV	AE 14ESV	AE 44	AE 44S	AE 36A	AES 14	AES 14E	AES 14S	AE 50S
Sizes	½" inlet ¼" outlet									●				
	¾" inlet ½" outlet													●
	DN15 - ½"		●	●	●	●	●	●	●		●	●	●	
	DN20 - ¾"	●	●	●	●	●	●	●	●		●	●	●	
	DN25 - 1"								●					
Connections	Screwed	●	●	●	●	●	●			●	●	●	●	●
	Socket weld										●	●	●	
	Flanged							●	●					
Valve head	Viton		●			●		●			●			
	EPDM			●			●			●		●		
	Stainless steel	●			●				●				●	●
Pressure / temperature limits	Maximum differential pressure	6 bar	14 bar	14 bar	14 bar	14 bar	14 bar	21 bar	3.5 bar to 21 bar	8 bar	14 bar	14 bar	14 bar	30 bar
	Maximum operating temperature	200°C	200°C	127°C	250°C	200°C	127°C	200°C	400°C	110°C	200°C	127°C	225°C	427°C
Options	Check valve									●				
	Stop valve					●	●							
	Screen										●	●	●	

## Why choose automatic air vents?

Manual air vents may be used to good effect during the initial charging of a system, but afterwards their effectiveness rapidly declines.

Air or gas in a plant may take time to reach a vent point and these tend to be in inaccessible places. This makes manual venting a tiresome and frequently neglected task.

Automatic air vents provide the complete answer. The Spirax Sarco range covers all duties from the smallest low pressure hot water heating system to the largest product line.

## How do they work?

Spirax Sarco automatic air vents 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.

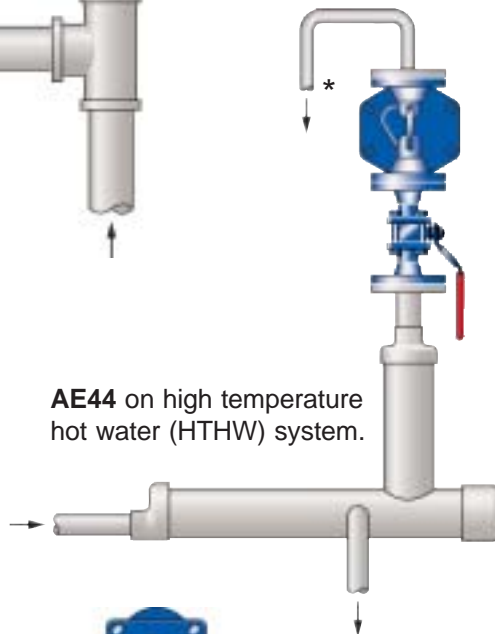
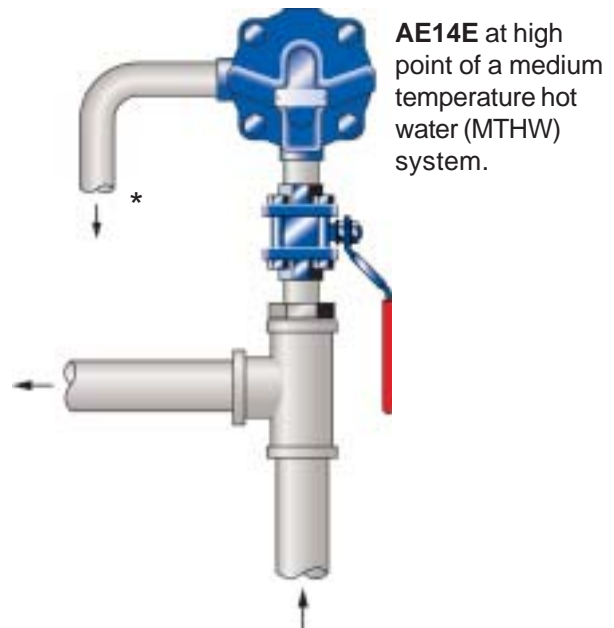
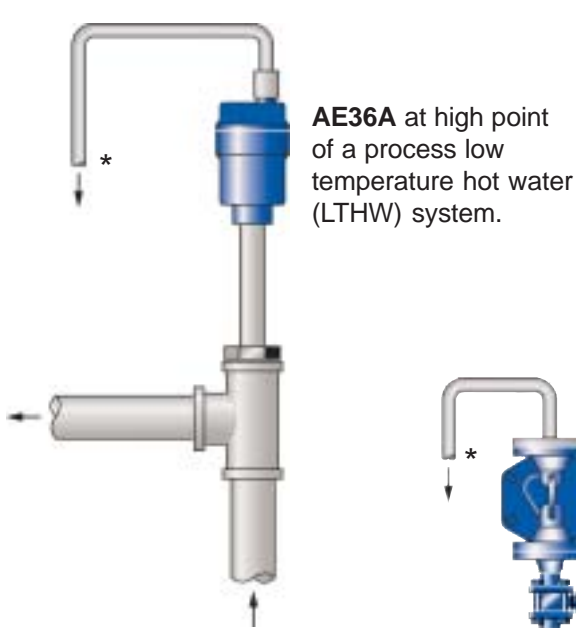
Operation is totally automatic over a variety of light or heavy duty applications.

## User benefits

- Air vents fully comply with the requirements of the European Pressure Equipment Directive 97/23/EC.
- Reliable, leak free operation for soft seated options.
- Check valve and stop valve options available.
- Compact body design.
- Simple lever and float operation.
- Can be easily cleaned and maintained.
- Spirax Sarco's guarantee of worldwide knowledge, service and technical support.

## Typical applications

Although Spirax Sarco automatic air vents are most commonly used on water systems, they may also be used on other liquid systems where the specific gravity and viscosity of the liquid is suitable. Please consult Spirax Sarco before using them on liquids other than water.

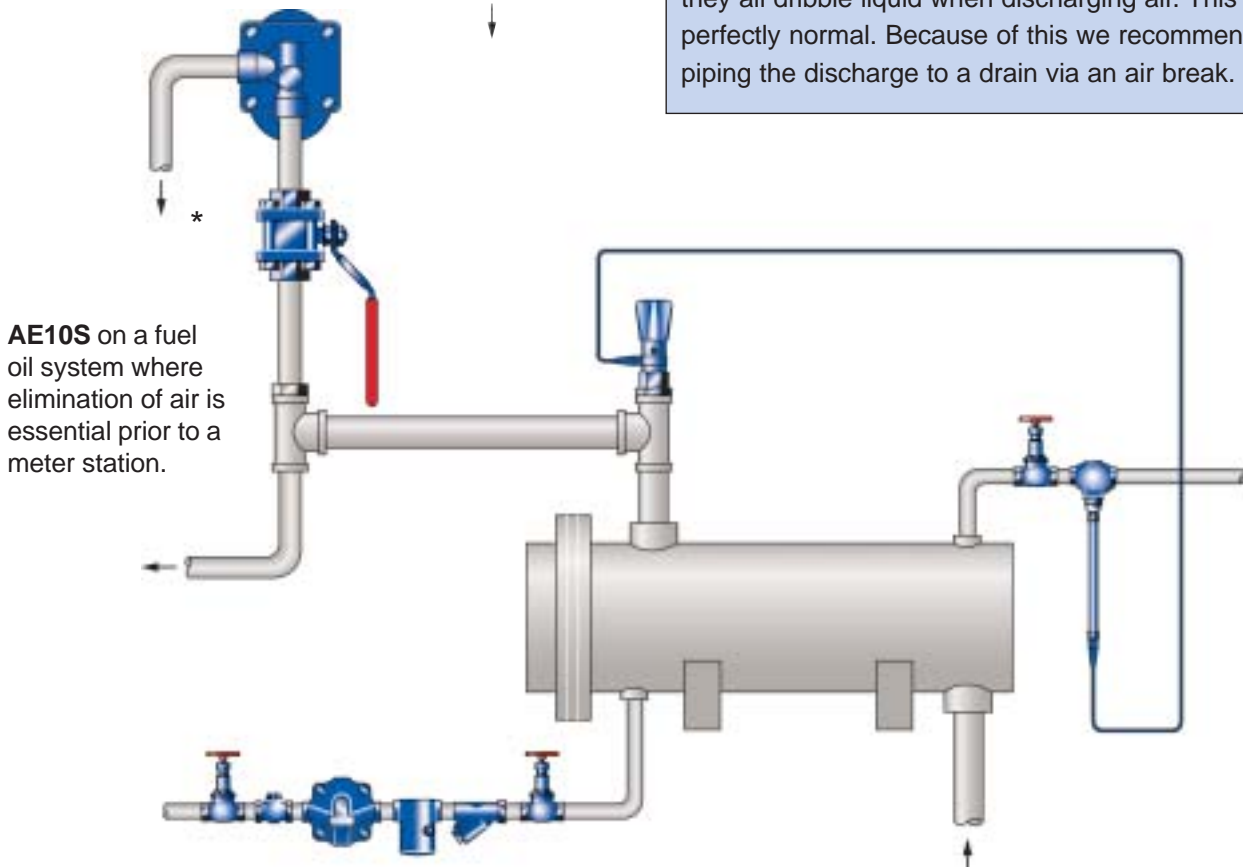


## Installation

All Spirax Sarco air vents should be installed vertically with the inlet at the bottom. Dribbling may occur if the valve becomes fouled with dirt.

### \*Please note:

Because of the way automatic air vents operate they all dribble liquid when discharging air. This is perfectly normal. Because of this we recommend piping the discharge to a drain via an air break.



# AE10S



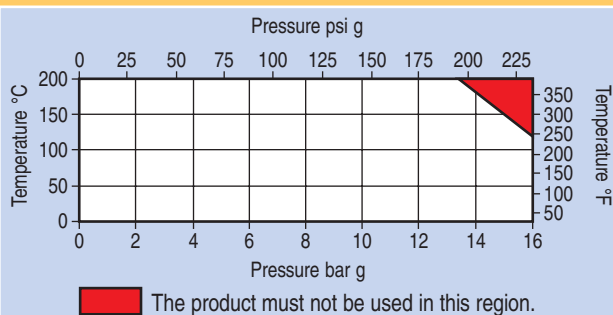
## Sizes and pipe connections

¾" screwed BSP or NPT

## Materials

Body and cover	Cast iron	DIN 1691 GG 25
Cover bolts	Steel	BS 3692 Gr. 8.8
Cover gasket	Reinforced exfoliated graphite	
Valve head	Stainless steel	
Internals	Stainless steel	

## Pressure / temperature limits



Body design conditions PN16

PMA - Maximum allowable pressure 16 bar g

TMA - Maximum allowable temperature 200°C

PMO - Maximum operating pressure 16 bar g

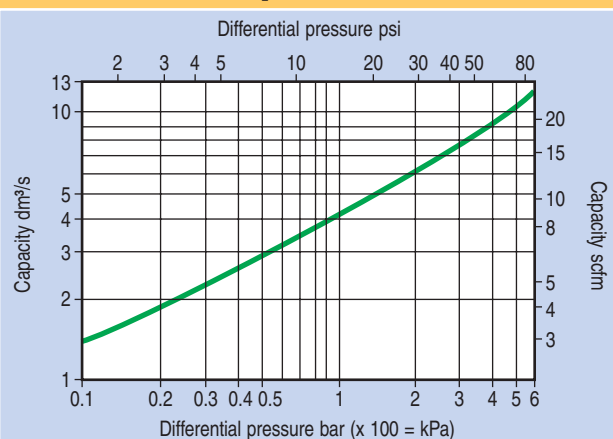
TMO - Maximum operating temperature 200°C

ΔPMX - Maximum differential pressure 6 bar

Designed for a maximum cold hydraulic test pressure of 24 bar g

Minimum specific gravity 0.6

## Capacities



# AE14

# AE14E

# AE14S

# AE14SV

# AE14ESV



AE14SV  
shown

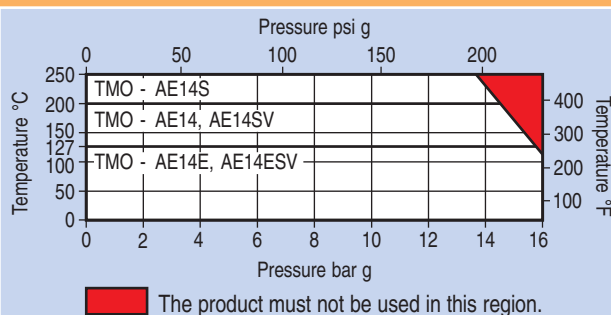
## Sizes and pipe connections

Inlet ½", ¾" screwed BSP or NPT

## Materials

Body and cover	SG iron	DIN 1693 GGG 40
Cover bolts	Steel	BS 3692 Gr. 8.8
Cover gasket	Synthetic fibre Asbestos free	BS 7531 Gr. X
Valve head	AE14, AE14SV Rubber	Viton
	AE14E, AE14ESV EPDM	
	AE14S Stainless steel	AISI 440B
Internals	Stainless steel	
Stop valve	Brass	BS 2874 CZ 121 3Pb
Stop valve gasket	Copper	BS 2870 C101

## Pressure / temperature limits



Body design conditions PN16

PMA - Maximum design pressure 16 bar g

TMA - Maximum allowable temperature 250°C

PMO - Maximum operating pressure 16 bar g

TMO - Maximum operating temperature:

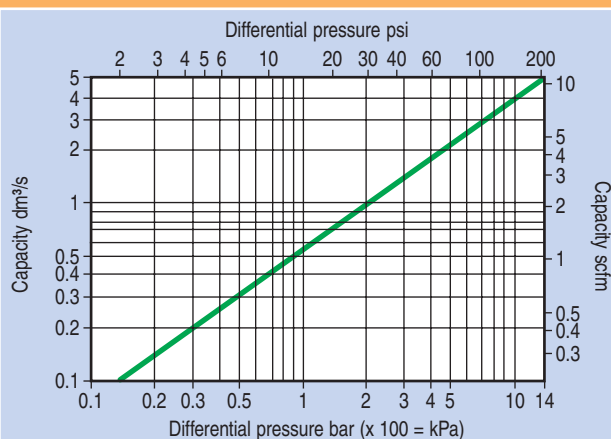
AE14E, AE14ESV - 127°C AE14, AE14SV - 200°C AE14S - 250°C

ΔPMX - Maximum differential pressure 14 bar

Designed for a maximum cold hydraulic test pressure of 24 bar g

Minimum specific gravity 0.75

## Capacities



# AE44 AE44S



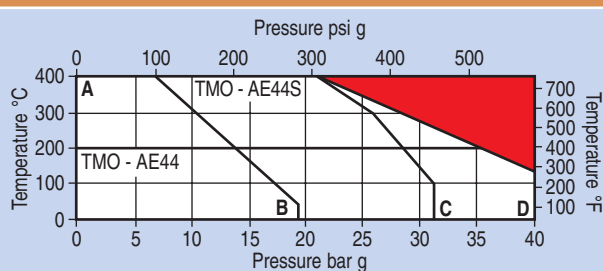
## Sizes and pipe connections

DN15, DN20 and DN25 (DN25 AE44S only)  
flanged EN 1092 PN40, ANSI 150 or 300, JIS / KS 20K

## Materials

Body and cover	Carbon steel	DIN 17245 GSC 25N
Cover studs and nuts	Chrome moly steel	24CrMo5 and 21CrMoV57
Cover gasket	Reinforced exfoliated graphite	
Valve head	AE44 Rubber	Viton
	AE44S Stainless steel	
Internals	Stainless steel	

## Pressure / temperature limits



**The product must not be used in this region.**

**A - B** ANSI 150 **A - C** JIS / KS 20K **A - D** PN40 / ANSI 300

Body design conditions PN40

PMA - Maximum allowable pressure 40 bar g

TMA - Maximum allowable temperature 400°C

PMO - For maximum operating pressure see graph above

TMO - Maximum operating temperature:

**AE44** - 200°C **AE44S** - 400°C

ΔPMX - Maximum differential pressure:

**DN15 / DN20** AE44 - 21 bar AE44S-21 - 21 bar

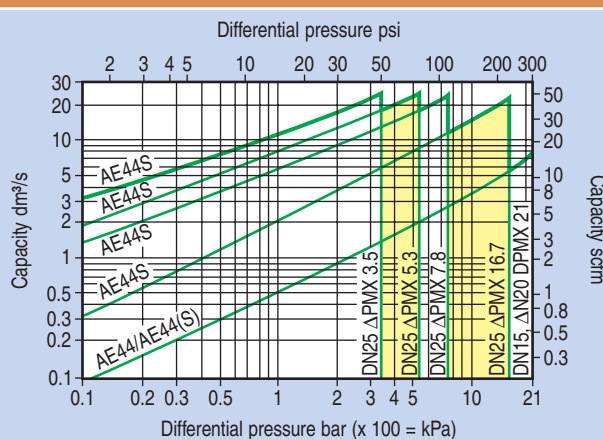
**DN25** AE44S-3.5 - 3.5 bar AE44S-5.3 - 5.3 bar

AE44S-7.8 - 7.8 bar AE44S-16.7 - 16.7 bar

Designed for a maximum cold hydraulic test pressure of 60 bar g

Minimum specific gravity 0.75

## Capacities



# AE36A



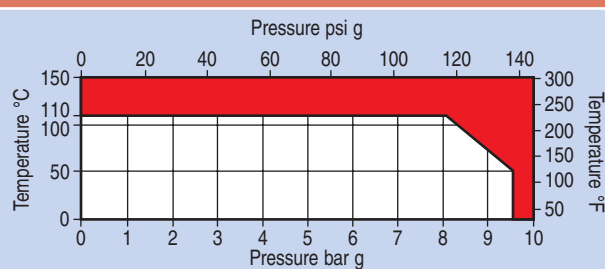
## Sizes and pipe connections

Inlet 1/2" screwed BSP or NPT  
Outlet 1/4" screwed BSP or NPT

## Materials

Body and cap	Stainless steel	ASTM A351 CF3M
Cap 'O' ring	Green Viton 75	
Float	Acetal co-polymer / carbon steel	
Valve head	EPDM	
Internals	Stainless steel	
Check valve	Stainless steel	

## Pressure / temperature limits



**The product must not be used in this region.**

Body design conditions PN10

PMA - Maximum allowable pressure 10 bar g

TMA - Maximum allowable temperature 150°C

PMO - Maximum operating pressure 10 bar g

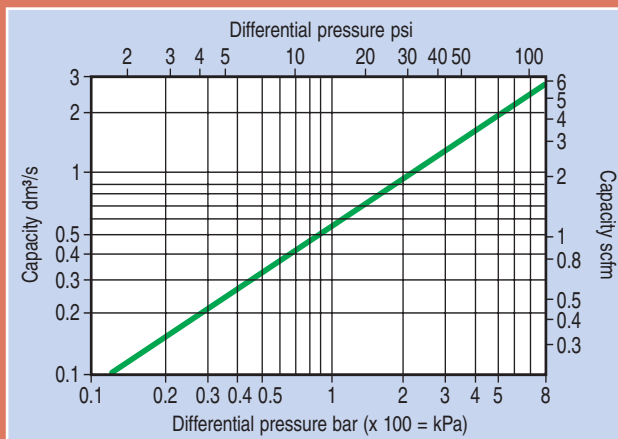
TMO - Maximum operating temperature 110°C

ΔPMX - Maximum differential pressure 8 bar

Designed for a maximum cold hydraulic test pressure of 15 bar g

Minimum specific gravity 0.926

## Capacities



# AES14 AES14E AES14S



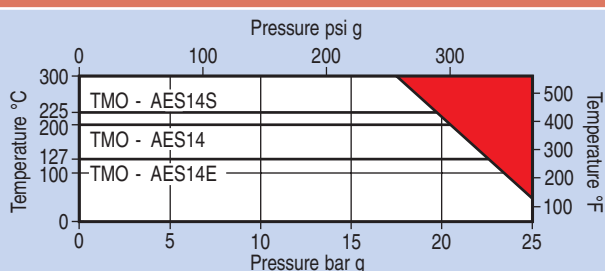
## Sizes and pipe connections

1/2" and 3/4" screwed BSP or NPT and  
socket weld ends.

## Materials

Body and cover	Austenitic stainless steel (316)	EN 10213-4 (1.4408) ASTM A351 CF8M
Cover bolts	Stainless steel	BS EN 3506 A2-70
Cover gasket	Reinforced exfoliated graphite	
Valve head	AES14	Viton
	AES14S	Stainless steel
	AES14E	EPDM
Internals	Stainless steel	

## Pressure / temperature limits



The product must not be used in this region.

Body design conditions PN25

PMA - Maximum allowable pressure 25 bar g

TMA - Maximum allowable temperature 300°C

PMO - Maximum operating pressure 25 bar g

TMO - Maximum operating temperature:

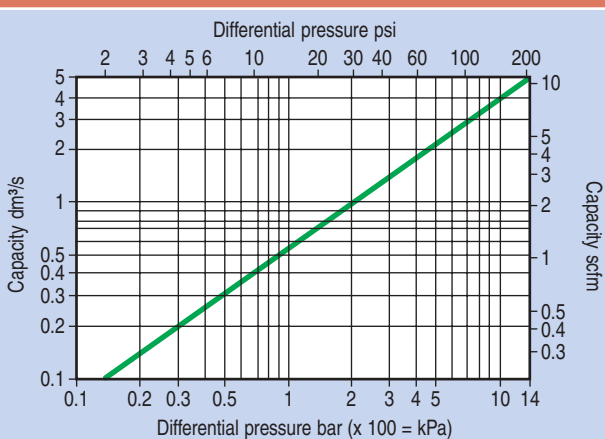
**AES14E** - 127°C    **AES14** - 200°C    **AES14S** - 225°C

ΔPMX - Maximum differential pressure 14 bar

Designed for a maximum cold hydraulic test pressure of 37.5 bar g

Minimum specific gravity of liquid 0.75

## Capacities



# AE50S



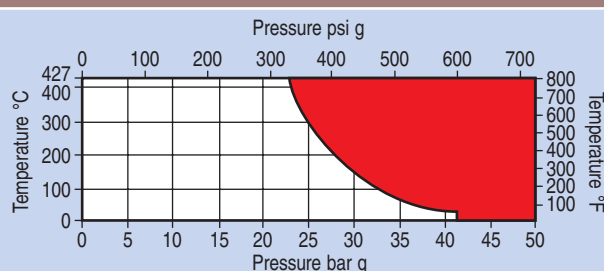
## Sizes and pipe connections

Inlet 1/2" screwed BSP or NPT  
Outlet 1/4" screwed BSP or NPT

## Materials

Bowl	Austenitic stainless steel	ASTM A240 304L
Cover	Austenitic stainless steel	ASTM A182 304L
Inlet connection	Austenitic stainless steel	AISI 304
Float	Austenitic stainless steel	AISI 316L
Valve seat	Austenitic stainless steel	ASTM A276 316
Internals	Austenitic stainless steel	
Valve head	Stainless steel	X30 Cr 13

## Pressure / temperature limits



The product must not be used in this region.

Body design conditions ANSI 300

PMA - Maximum allowable pressure 41.4 bar g

TMA - Maximum allowable temperature 427°C

PMO - Maximum operating pressure 41.4 bar g

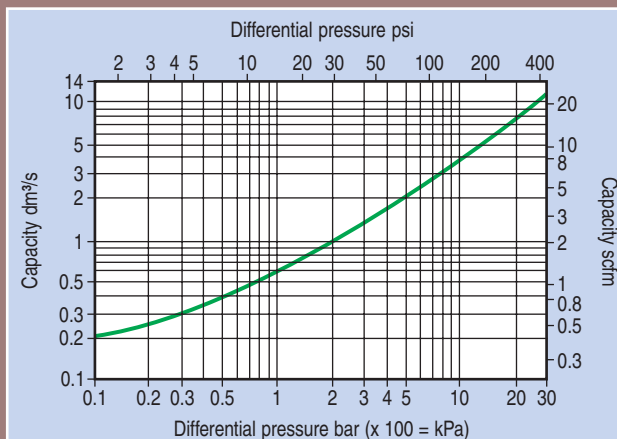
TMO - Maximum operating temperature 427°C

ΔPMX - Maximum differential pressure 30 bar g

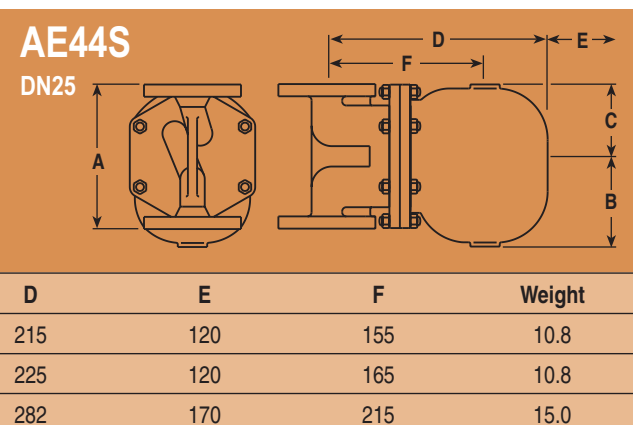
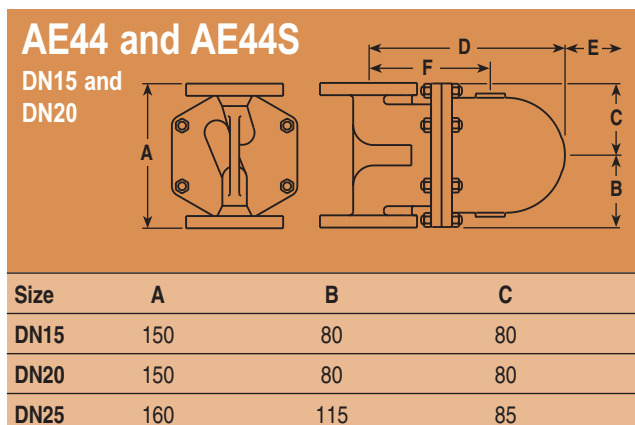
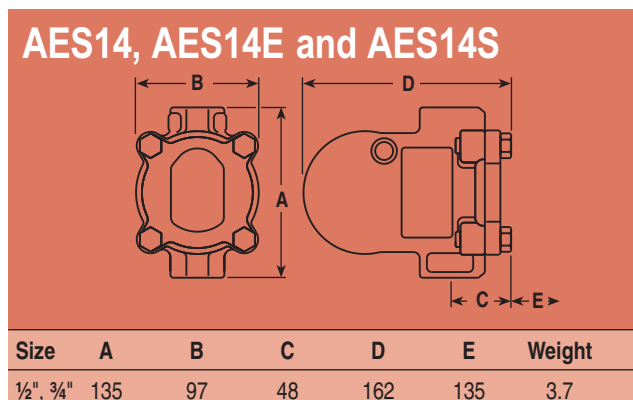
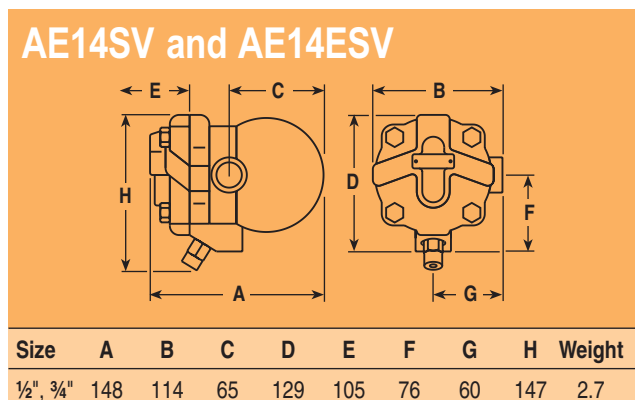
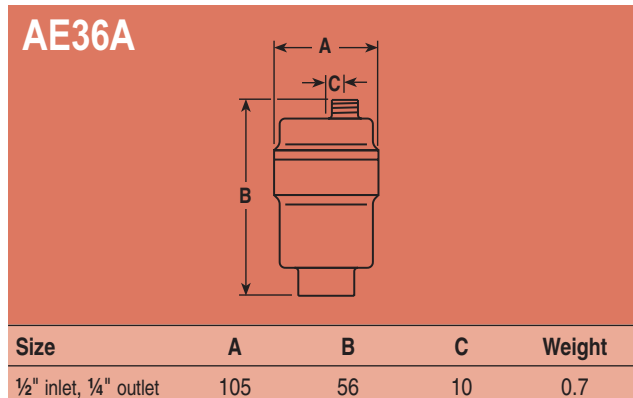
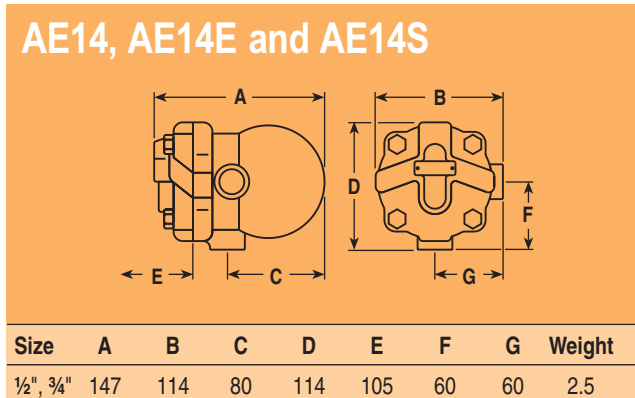
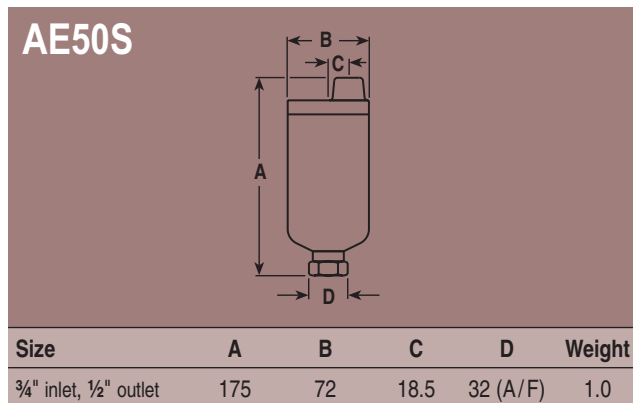
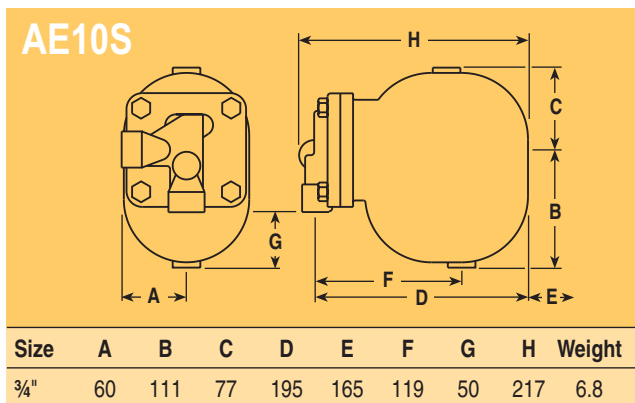
Designed for a maximum cold hydraulic test pressure of 63 bar g

Minimum specific gravity 0.65

## Capacities



## Dimensions / weights (approximate) in mm and kg



Some of the products may not be available in certain markets.

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ST Issue 5