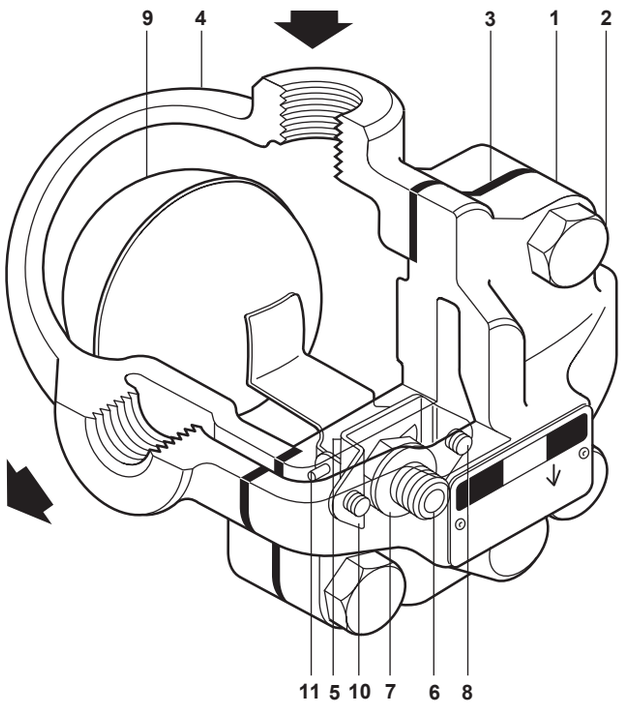
TI-P148-12
CMGT Issue 9

# CA14
# SG Iron
# Air and Gas Trap ½" and ¾" (Screwed)




## Description
The CA14 is a range of float type automatic liquid drainers for air and gas systems. The body and cover are of SG iron and the complete unit is readily maintainable.
The standard version with a Viton valve cone is designated CA14. A stainless steel valve cone version is designated CA14S.

## Operating media
The CA14 is designed for use on air or gases within PED group 2.

**Note**: The CA14 is not suitable for use on PED group 1 liquids or gases.

## Standards
The product fully complies with the requirements of the EU Pressure Equipment Directive/UK Pressure Equipment (Safety) Regulations.

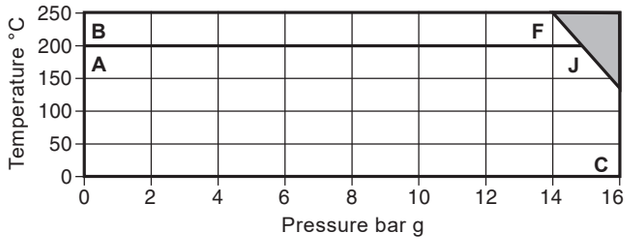
## Certification
The product is available with material certification to EN 10204 2.2.
**Note:** All certification/inspection requirements must be stated at the time of order placement.

## Sizes and pipe connections
½" and ¾" screwed BSP or NPT.

## Material

| No. | Part | | Material | |
|---|---|---|---|---|
| 1 | Body | | SG iron | EN-GJS-400-15 |
| 2 | Cover bolt | | Steel | BS 3692 Gr. 8.8 |
| 3 | Cover gasket | Reinforced exfoliated graphite | | |
| 4 | Cover | | SG iron | EN-GJS-400-15 |
| 5 | Main valve cone | CA14 | Synthetic rubber | Viton |
| | | CA14S | Stainless steel | AISI 440B |
| 6 | Main valve seat | Stainless steel | BS 970 431 S29 | |
| 7 | Main valve seat gasket | Stainless steel | BS 1449 304 S11 | |
| 8 | Main valve assembly screws | | Stainless steel | BS 6105 Cl A270 |
| 9 | Ball float and lever | Stainless steel | BS 1449 304 S16 | |
| 10 | Pivot frame | | Stainless steel | BS 1449 304 S16 |
| 11 | Pivot pin | | Stainless steel | |

## Pressure/temperature limits




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

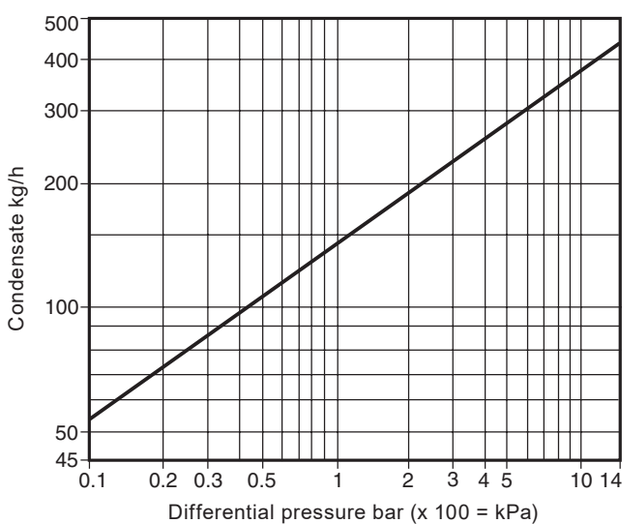
**A-J-C** CA14 screwed BSP or NPT.

**B-F-C** CA14S screwed BSP or NPT.

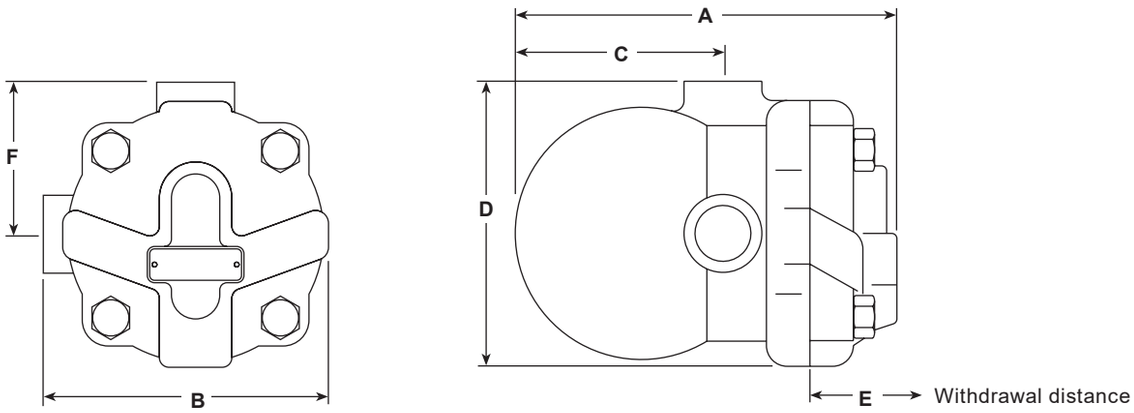
| | | | | | | |
|---|---|---|---|---|---|---|
| Body design conditions | | | | | | PN16 |
| PMA | Maximum allowable pressure | | | | | 16 bar g @ 120 °C |
| TMA | Maximum allowable temperature | | | | | 250 °C |
| Minimum allowable temperature | | | | | | 0 °C |
| PMO | Maximum operating pressure | | | | | 16 bar g |
| TMO | Maximum operating temperature: | | | | CA14 | 200 °C @ 14.7 bar g |
| | | | | | CA14S | 250 °C @ 13.9 bar g |
| Minimum operating temperature | | | | | | 0 °C |
| ΔPMX | Maximum differential pressure bar, depending on the specific gravity of the liquid being drained: | | | | | |
| | Specific gravity | 1.0 | 0.9 | 0.8 | 0.7 | Min. 0.6 |
| | ΔPMX bar | 14.0 | 14.0 | 14.0 | 9.0 | 5.0 |
| ΔPMN | Minimum differential pressure | | | | | 0.1 bar |
| Designed for a maximum cold hydraulic test pressure of | | | | | | 24 bar g |



## Capacities



## Dimensions (approximate) in mm and kg




| Size | A | B | C | D | E | F | Weight |
|---|---|---|---|---|---|---|---|
| ½" | 147 | 114 | 80 | 114 | 105 | 60.5 | 2.5 |
| ¾" | 147 | 114 | 80 | 114 | 105 | 60.5 | 2.5 |

## Safety information, Installation and Maintenance

For full details see the Installation and Maintanence Instructions (IM-P144-02) supplied with the product.



### Installation note:

The CA14 must be installed with the direction of flow as indicated on the body, and with the float arm in a horizontal plain so that it rises and falls vertically.

### Disposal

If a product which contains a Viton component has been subjected to a temperature approaching 315 °C or higher, then it may have decomposed and formed hydrofluoric acid. Avoid skin contact and inhalation of any fumes as the acid will cause deep skin burns and damage to the respiratory system. Viton must be disposed of in a recognised manner as stated in the Installation and Maintenance Instructions. No other ecological hazard is anticipated with the disposal of this product providing due care is taken.

## How to order

**Example:** 1 off Spirax Sarco ½" CA14 having screwed BSP connections with SG iron body and cover.

# Compressed air products

## Isolation valves, drain traps and ancillaries

### Spare parts

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

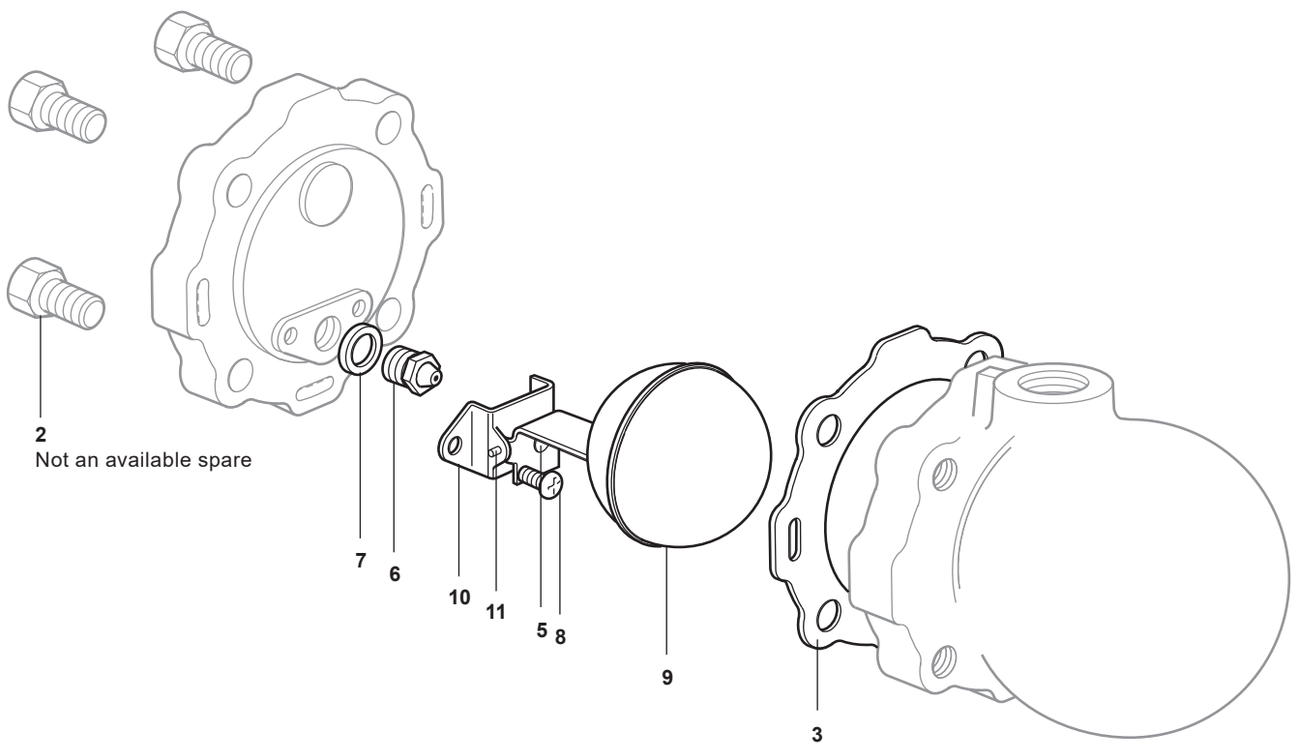
#### Available spares

| | | |
|---|---|---|
| Maintenance kit | CA14 | **3, 5+9, 6, 7, 8 (2 off), 10, 11** |
| | CA14S | **3, 5+9, 6, 7, 8 (2 off), 10, 11** |
| Seal kit | CA14 | **3, 5** |

### 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 trap.
**Example:** 1 off Maintenance kit for a Spirax Sarco ½" CA14 air and gas trap.






#### Recommended tightening torques

| Item | or mm | | N m |
|---|---|---|---|
| **2** | 17 A/F | M10 x 30 | 47 - 50 |
| **6** | 17 A/F | | 50 - 55 |
| **8** | Pozidrive | M4 x 6 | 2.5 - 3.0 |

TI-P148-23
CMGT Issue 5

# CA44S
# Carbon Steel
# Air and Gas Trap 1" Screwed

## Description

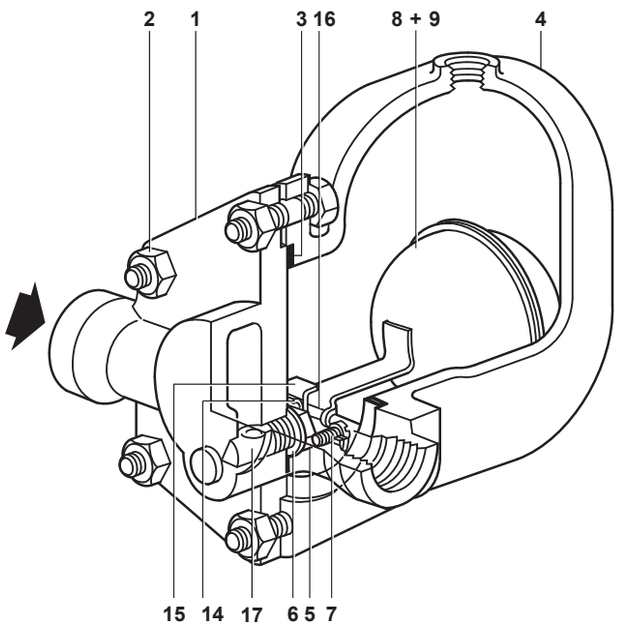
The CA44S is a carbon steel ball float air and gas trap with a stainless steel valve cone and has horizontal screwed or socket weld connections. The cover will be drilled and tapped ½" BSP or NPT (socket weld also available) for the purpose of fitting a balance line. Body and cover castings are produced by a TÜV approved foundry.

### Standards

This product fully complies with the requirements of the Pressure Equipment Directive (PED) and carries the CE mark when so required.

### Certification

This product is available with certification to EN 10204 3.1.
**Note:** All certification/inspection requirements must be stated at the time of order placement.




## Sizes and pipe connection

**1"** Screwed BSP or NPT with BSP or NPT balance line.

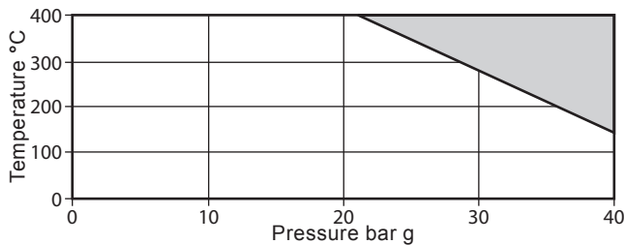
**1"** Socket weld BS 3799 class 3000 with NPT or Socket weld balance line.

## Materials

| No. | Part | Material | |
|---|---|---|---|
| 1 | Body | Carbon steel | DIN 17245 GS-C25N |
| 2 | Cover studs | Steel | DN 17240 21 Cr Mo V57 |
| | Cover nuts | Steel | EN 10269 25 Cr Mo 4 |
| 3 | Cover gasket | Reinforced exfoliated graphite | |
| 4 | Cover | Carbon steel | DIN 17245 GS-C25N |
| 5 | Valve seat | Stainless steel | BS 970 431 S29 |
| 6 | Valve seat gasket | Stainless steel | BS 1449 304 S11 |
| 7 | Pivot frame assembly set screws | Stainless steel | BS 4183 18/8 |
| 8 | Ball float and lever | Stainless steel | BS 1449 304 S16 |
| 9 | Valve cone CA44S* | Stainless steel | |
| 14 | Support frame | Stainless steel | BS 1449 304 S16 |
| 15 | Pivot frame | Stainless steel | BS 1449 304 S16 |
| 16 | Pivot | Stainless steel | |
| 17 | Erosion deflector | Stainless steel | BS 970 431 S29 |

*** Note:** The valve cone in the CA44S is permanently attached to the ball float and lever.

## Pressure/temperature limits




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

| | | |
|---|---|---|
| Body design conditions | | PN40 |
| PMA | Maximum allowable pressure | 40 bar g @ 120 °C |
| TMA | Maximum allowable temperature | 400 °C @ 20 bar g |
| Minimum allowable temperature | | -10 °C |
| PMO | Maximum operating pressure | 40 bar g @ 120 °C |
| TMO | Maximum operating temperature | 400 °C @ 20 bar g |
| Minimum operating temperature | | 0 °C |

ΔPMX Maximum differential pressure bar, depending on the specific gravity of the liquid being drained:

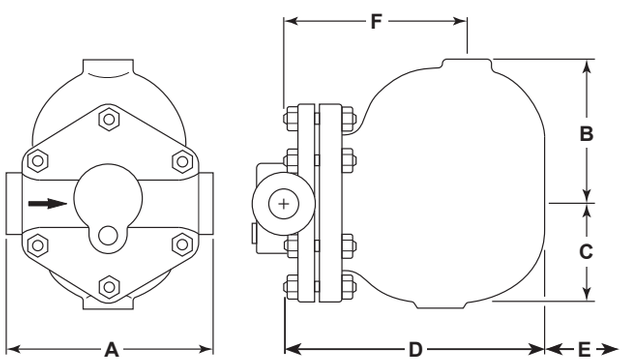
| Specific gravity | 1.0 | 0.9 | 0.8 | 0.7 | Min. 0.6 |
|---|---|---|---|---|---|
| **CA44S-4.5** | 4.5 | 4.5 | 4.5 | 3.4 | 2.0 |
| **CA44S-10** | 10.0 | 9.5 | 6.8 | 5.5 | 3.4 |
| **CA44S-14** | 14.0 | 14.0 | 11.0 | 8.0 | 5.0 |
| **CA44S-21** | 21.0 | 19.0 | 15.0 | 10.0 | 6.5 |
| **CA44S-32** | 32.0 | 30.0 | 23.0 | 16.5 | 10.0 |

| | | |
|---|---|---|
| ΔPMN | Minimum differential pressure | 0.1 bar |
| Designed for a maximum cold hydraulic test pressure of: | | 60 bar g |

5.5
36

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

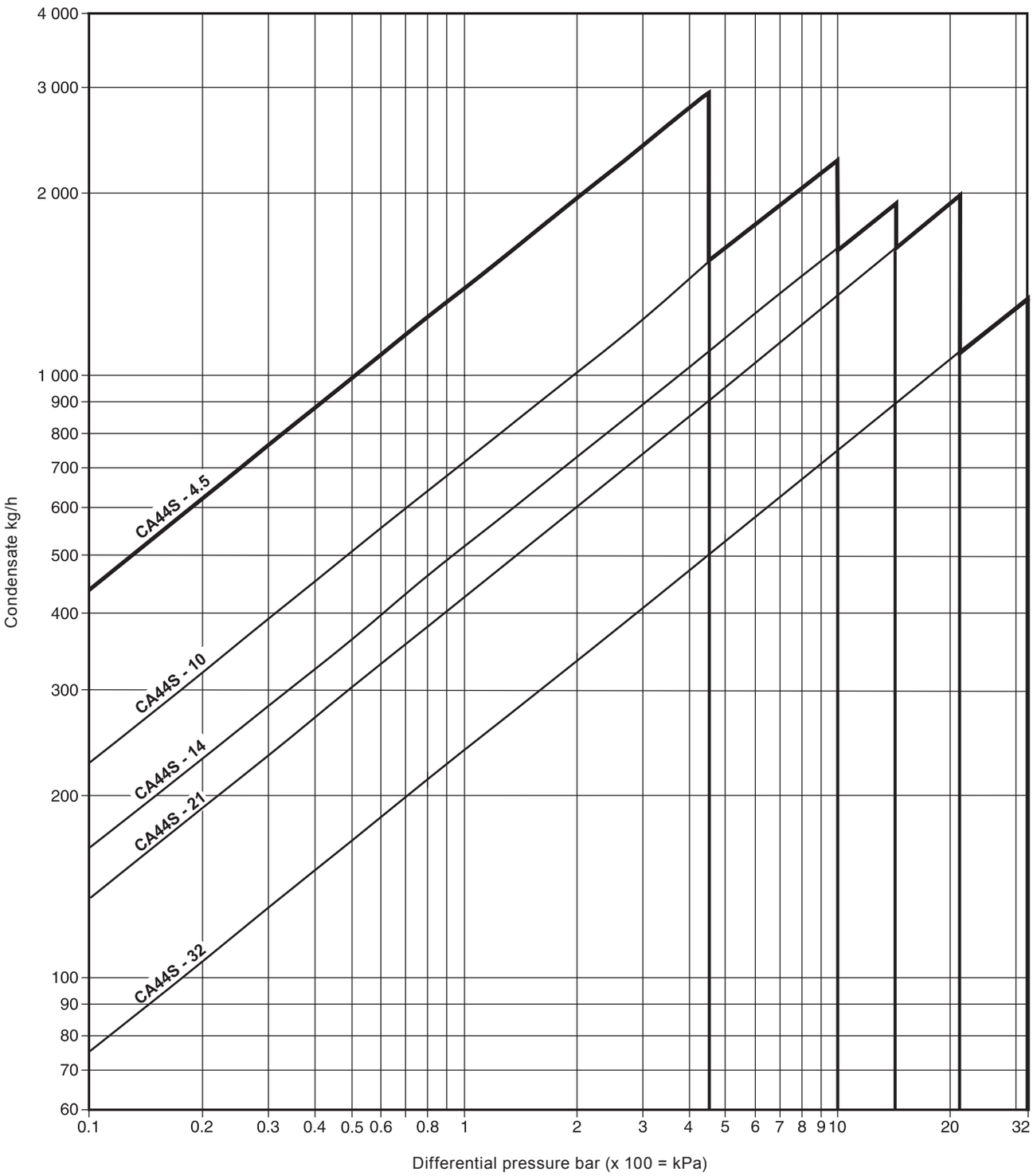
| A | B | C | D | E | F | Weight |
|---|---|---|---|---|---|---|
| 165 | 115 | 85 | 208 | 170 | 146 | 12.5 |



Withdrawal distance

## Capacities

**Note:** The capacities provided here are calculated using water at ambient temperature.
The discharge capacity is affected with a change in specific gravity, for further information contact Spirax Sarco.



## Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P148-37) supplied with the product.

**Installation note:**
The trap should be fitted in the horizontal plane below what it is draining with the direction of flow as indicated on the body so that the float mechanism is free to rise and fall in a vertical plane.
Advice on welding of socket weld variants is provided with the installation and maintenance instructions.
One of the advantages of the float trap for draining air and gas systems is that no bleed is required for satisfactory operation. However, because the trap has no bleed a separate balance line is needed to prevent it becoming air or gas locked.
Make sure that the balance line is piped back to the upstream side.
**A balance line is essential for the correct operation of this product.**
For convenience of maintenance it is recommended that a union is fitted in the balance line near to the trap cover.

## How to order

**Example:** 1 off Spirax Sarco 1" socket weld CA44S-32 air and gas trap with carbon steel body and cover.

## Spare parts

The spare parts available are shown in solid outline. Parts drawn in a grey line are not supplied as spares.

| Available spares | |
|---|---|
| * Main valve assembly with float | **5, 6, 7, 8 + 9, 14, 15, 16** |
| Complete set of gaskets (packet of 3 sets) | **3, 6** |

*** Note:** The erosion deflector is pressed into the body during manufacture and not available as a spare.

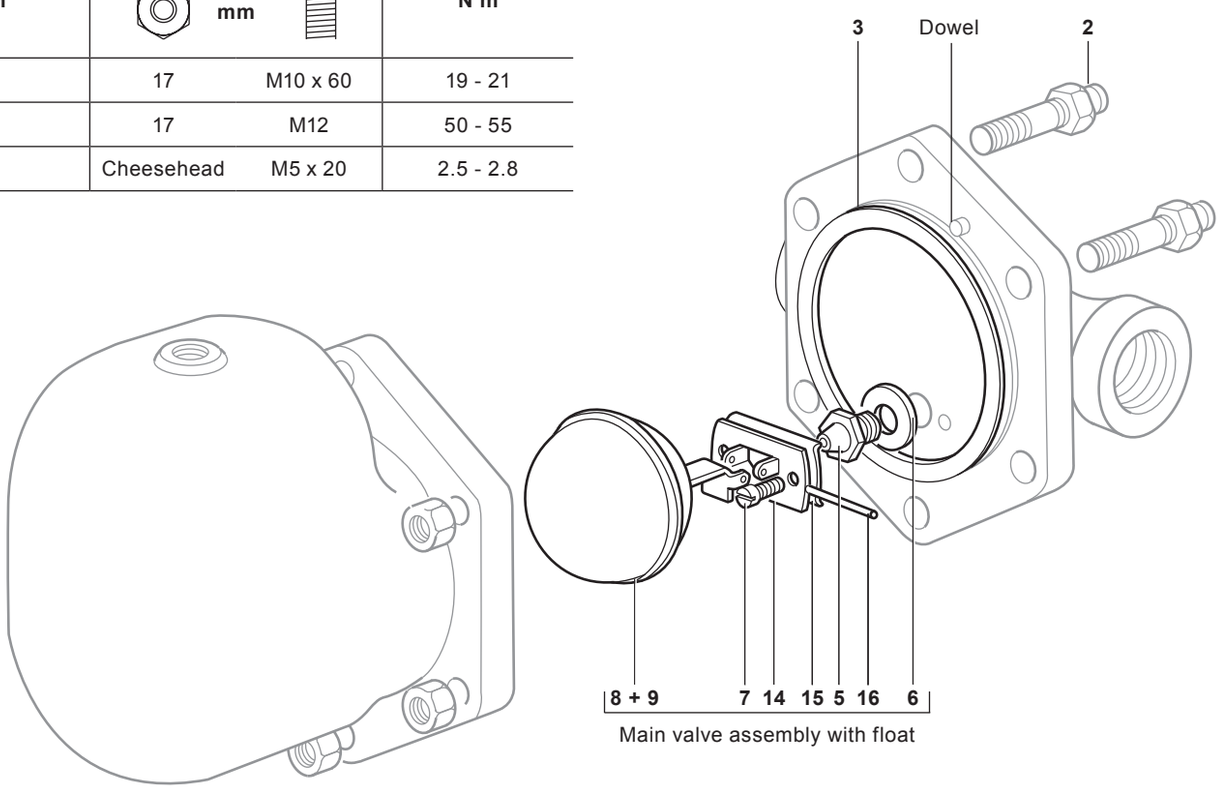
**How to order spares**
Always order spares by using the description given in the column headed 'Available spares' and state the size and type of trap.

**Example:** 1 - Main valve assembly for a Spirax Sarco DN25 CA44S-32 air and gas trap.



### Recommended tightening torques

| Item | or mm | | N m |
|---|---|---|---|
| **2** | 17 | M10 x 60 | 19 - 21 |
| **5** | 17 | M12 | 50 - 55 |
| **7** | Cheesehead | M5 x 20 | 2.5 - 2.8 |



Main valve assembly with float