



GKE

Carbon steel ball float steam traps

Description

GKE float steam traps are manufactured with carbon steel body and cover; internal components are made from stainless steel. They are suitable for use with saturated and superheated steam on process equipments and on medium/high consumption applications.

Working is fully automatic also regarding air venting (bimetallic thermo element) while the condensate discharge has modulating characteristics. These traps are ideal for all process drainage applications as condensate is always removed efficiently and quickly over a wide range of fluctuating pressures and load conditions; they meet all the needs and demands of process automatic control systems.

To facilitate the installation on the plant, the mounting connections can be easily positioned in four different way.

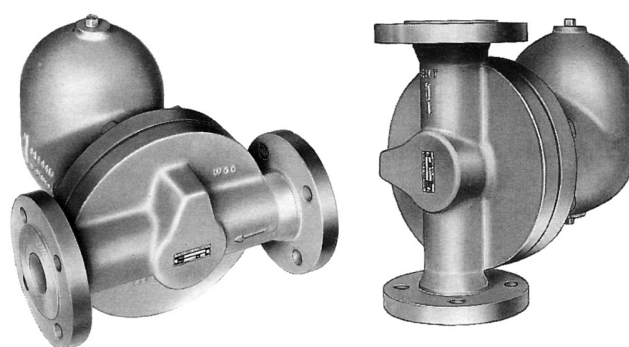
Stainless steel body and cover are available on request and must be stated at the time of order placement.

Standards

This product fully complies with the requirements of the European Pressure Equipment Directive 2014/68/EU and carries the **CE** mark when so required.

Certification

The product is available with material certification EN 10204 3.1.



Available versions

GKE 10, GKE 21.

Sizes and pipe connections

Flanged EN 1092-1 PN40 - DN40, DN50

Pressure/temperature limits

PMA	Maximum allowable pressure	@ 200°C	40 bar
TMA	Maximum allowable temperature	@ 22.8 bar	425°C
Minimum allowable temperature			-10°C
PMO	Maximum operating pressure	@ 254°C	38 bar
TMO	Maximum operating temperature	38 bar	254°C
Minimum operating temperature, danger of freezing considered			0°C
ΔPMX	Maximum differential pressure	GKE 10	10 bar
		GKE 21	21 bar
Designed for a maximum cold hydraulic test pressure of			60 bar

Note: maximum operating pressure can be limited by the rating chosen for the flanges.

Materials

N° Part	Material	
1 Body	Carbon steel	ASTM A216 WCB
2 Cover	Carbon steel	ASTM A216 WCB
3 Cover gasket	Reinforced graphite	
4 Air vent assembly	Stainless steel	
5 Bracket gasket	Reinforced graphite	
6 Bracket assembly	Stainless steel	AISI 304
7 Bracket screws	Stainless steel	AISI 304
8 Lower valve seat	Stainless steel	Series 400C
9 Valve plug	Stainless steel	Series 400C
10 Float arm	Stainless steel	AISI 304
11 Ball float	Stainless steel	AISI 304
12 Drain plug	Carbon steel	ASTM A105
13	Cover studs	Carbon steel
	Cover nuts	Carbon steel

Capacities (kg/h)

The condensate discharge capacities shown below are based on condensate at saturation temperature.

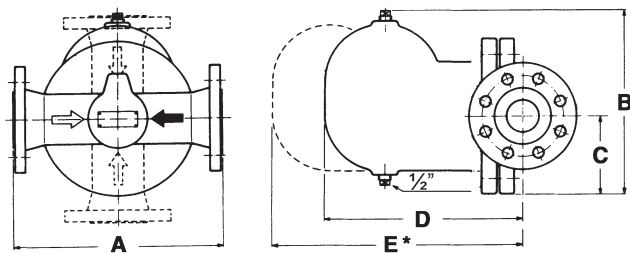
Differential pressure (bar)	Trap type			
	GKE 10 DN 40	GKE 10 DN 50	GKE 21 DN 40	GKE 21 DN 50
0,1	1500	3600	1000	1900
0,3	2500	6000	1700	3300
0,5	3200	7700	2150	4100
0,7	3700	8900	2450	4800
1	4300	10600	2900	5700
1,5	5200	12500	3500	6800
2	6000	14100	4000	7800
4	8200	20000	5500	10500
7	11000	26000	7300	13500
10	13000	30500	8500	16300
13	--	--	9500	18000
15	--	--	10500	19500
18	--	--	12000	21500
21	--	--	12300	22500

The choice of trap should be based on the following data:

- Hourly amount of condensate to be discharged,
- Effective differential pressure,
- Safety factor: 1.25 to 1.5 for continuous use; 2 to 3 for intermittent use.

Dimensions/weights (approximate) in mm and kg

DN	A	B	C	D	Peso
DN40	320	280	120	300	35,0
DN50	320	280	120	300	37,0



Connections

- Black arrow: standard supply configuration (right to left)
- White arrows: optional installation configurations, on request

How to order

Example: N° 1 off ball float steam trap Spirax Sarco GKE 21. Maximum operating and differential pressure 21 bar. Flanged connections according to EN 1092 PN 40 DN 50.

Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions 3.341.5275.140 supplied with the product.

Installation note

The GKE traps must be installed below the draining point and respecting the flow direction as shown on the device cover, and with the float lever positioned on a horizontal plane so that it can vertically rise and lower freely. The use of an upstream protection strainers is always recommended to prevent possible damage to the internal components and to assure regular working operation. In order to allow a safe inspection for cleaning or maintenance purpose install suitable shut-off valves. If the trap discharges to atmosphere ensure that it is to a safe place, the discharged medium may be at a temperature of 100°C.

Disposal

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

Spare parts

The spare parts are shown in the drawing below and are available in groupings as indicated in the table. Other parts are not available as spares.

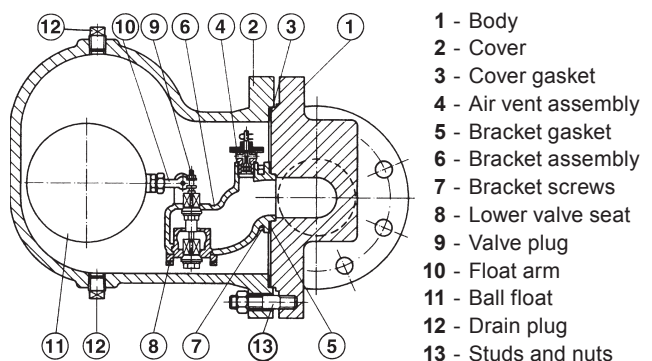
Available spares

Main valve assembly	3, 5, 6, 7, 8, 9, 10
Ball float and cover gasket assembly	3, 11
Air vent assembly (2 off)	4
Gasket set (3+3 off)	3, 5

How to order spares

Always order spare parts by using the description given in the table and state the size and type of trap, including pressure range and type of the connections.

Example: N° 1 main valve assembly for a ball float steam trap Spirax Sarco GKE 10 DN 40. Spirax Sarco GKE 10, DN40.



Recommended tightening torques

Item	DN	o mm		N m
Cover nuts	DN40	24	M 16 x 70	90
	DN50	24	M 16 x 70	90
Bracket screws	DN40		M 8 x 15	18,2
	DN50		M 8 x 15	18,2