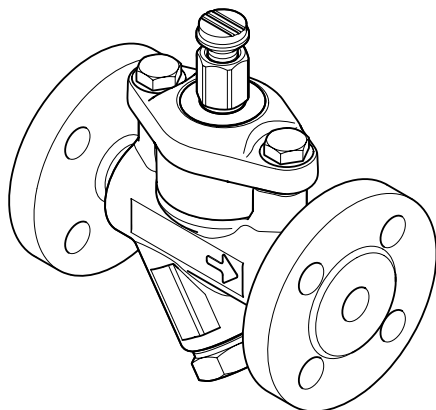
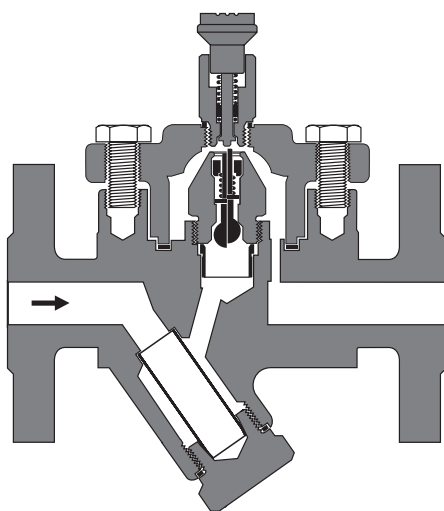




AK 45 with flanged ends



Connections

We reserve the right to design connections as welding neck flanges, socket-weld ends or butt-weld ends via transition pieces.

- Flange EN 1092-1 B1, PN 40
- Flange ASME B 16.5, Class 150 RF
- Flange ASME B 16.5, Class 150 RFS
- Flange ASME B 16.5, Class 300 RF
- Flange ASME B 16.5, Class 300 RFS
- Screwed socket ISO 228-1, G
- Screwed socket ASME B 16.11, NPT

Condensate drain valve, RHOMBUSline

AK 45

PN40/CL300

DN 15, 20, 25, NPS ½", ¾", 1"

Description

The AK 45 drains condensate from steam systems as they are starting up, then closes automatically when closing pressure is reached.

After the system has been powered down or the pressure has fallen below closing pressure, the valve opens and automatically drains the remaining condensate.

The AK 45 features an integrated strainer.

Standard closing pressure 0.8 bar.

Optional versions

- Closing pressure Δp 0.25 bar
- Closing pressure Δp 0.5 bar
- Closing pressure Δp 1.5 bar
- Closing pressure Δp 2.0 bar
- Length 172 mm

Fluids

The equipment is designed for the following fluids (in accordance with the EU Pressure Equipment Directive or Pressure Equipment (Safety) Regulations in the UK):

AK 45

- Group 2 fluids

Chemical and corrosive influences must be taken into consideration.

Use in potentially explosive atmospheres

The equipment does not have its own potential source of ignition (as per ATEX Directive). Please note the following:

Once installed, static electricity may arise between the equipment and the connected system.

If the equipment is used in potentially explosive atmospheres, the plant manufacturer or owner is responsible for discharging or preventing possible static charge.

If it is possible for fluid to escape, e.g. through actuating mechanisms or leaks in threaded joints, the plant manufacturer or owner must take this into consideration when dividing the area into zones.

Do not use the hand purging valve in potentially explosive atmospheres.

Function

The equipment traps condensate in steam when steam systems are started up and powered down.

Once the steam system has started, the valve of the equipment stays open until the service pressure has risen to the closing pressure. Spring pressure then forces the valve to close.

The valve opens when pressure drops below closing pressure or when the steam system is powered down.

The integrated spring keeps the valve open when there is no pressure in the steam system.

You can use the hand purging valve during operation to briefly open the equipment and clear any deposits.

Material

Component	EN	ASTM/ASME
Body and cover	1.0460	SA105
Screws	1.7225	A193 B7
Body gasket	Graphite	
Sealing ring	1.4301	
Other internal parts	Stainless steel	

Pressure and temperature ratings

AK 45 with flange PN40

p Pressure ¹	barg	40.0	33.3	27.6	25.7	23.8	17.1
T Temperature ¹	°C	−10 — 20	200	300	350	400	420

¹ Ratings for strength of body/cover to EN 1092-1

AK 45 with flange CL150

p Pressure ¹	barg	19.6	17.7	13.8	10.2	8.4	5.5
T Temperature ¹	°C	−29 — 38	100	200	300	400	425
p Pressure ¹	psig	285	260	200	140	110	80
T Temperature ¹	°F	−20 — 100	200	400	600	750	800

¹ Ratings for strength of body/cover to ASME B16.5

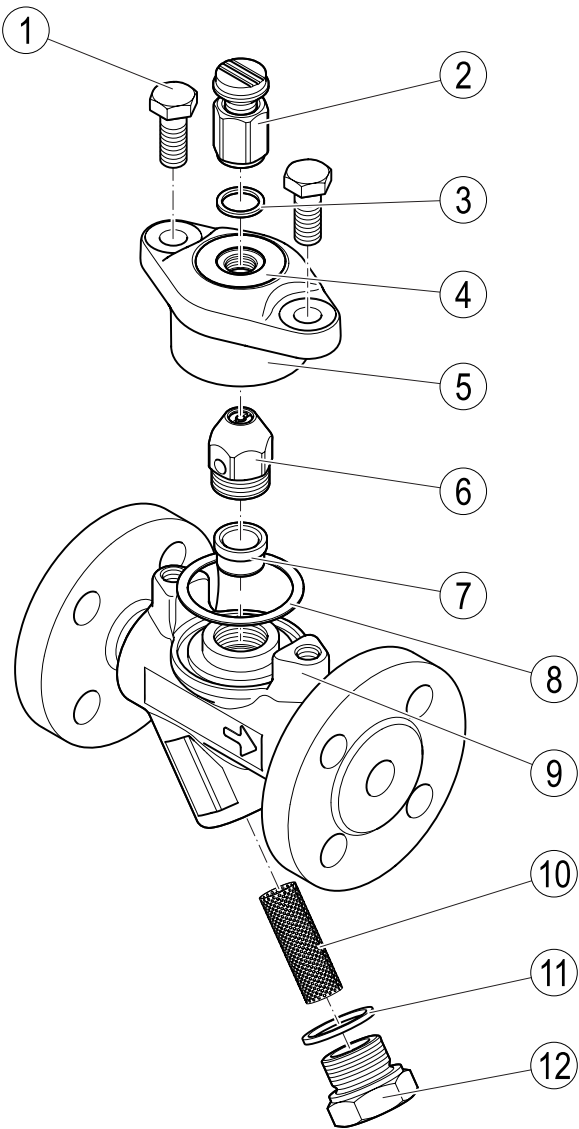
AK 45, flange CL300, screwed socket G, screwed socket NPT

p Pressure ¹	barg	51.1	46.6	43.8	39.8	34.7	28.8
T Temperature ¹	°C	−29 — 38	100	200	300	400	425
p Pressure ¹	psig	740	680	635	570	505	410
T Temperature ¹	°F	−20 — 100	200	400	600	750	800

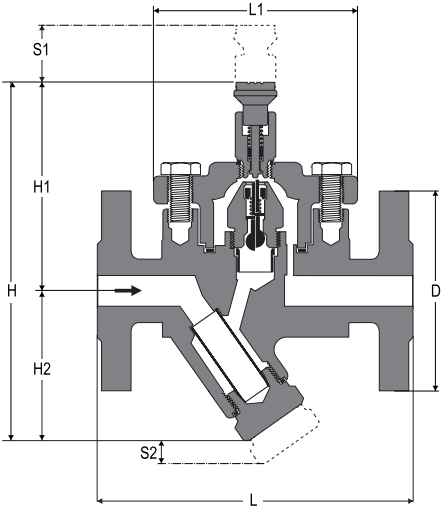
¹ Ratings for strength of body/cover to ASME B16.5

Equipment parts

No.	Designation
1	Screw (M 10 × 25)
2	Hand purging valve
3	Sealing ring (A 14 × 18)
4	Name plate
5	Cover
6	Valve insert
7	Bushing, interference fit
8	Body gasket
9	Body
10	Strainer
11	Sealing ring (A 24 × 29)
12	Sealing plug



Condensate drain valve, RHOMBUS*line*
AK 45



Dimensions and weights

All equipment

	mm	in"
H	171	6.7"
H1	100	3.9"
H2	71	2.8"
L1	97	3.8"
S1 Cover service dimensions	40	1.6"
S2 Sealing plug service dimensions	30	1.2"

AK 45 with flanged ends

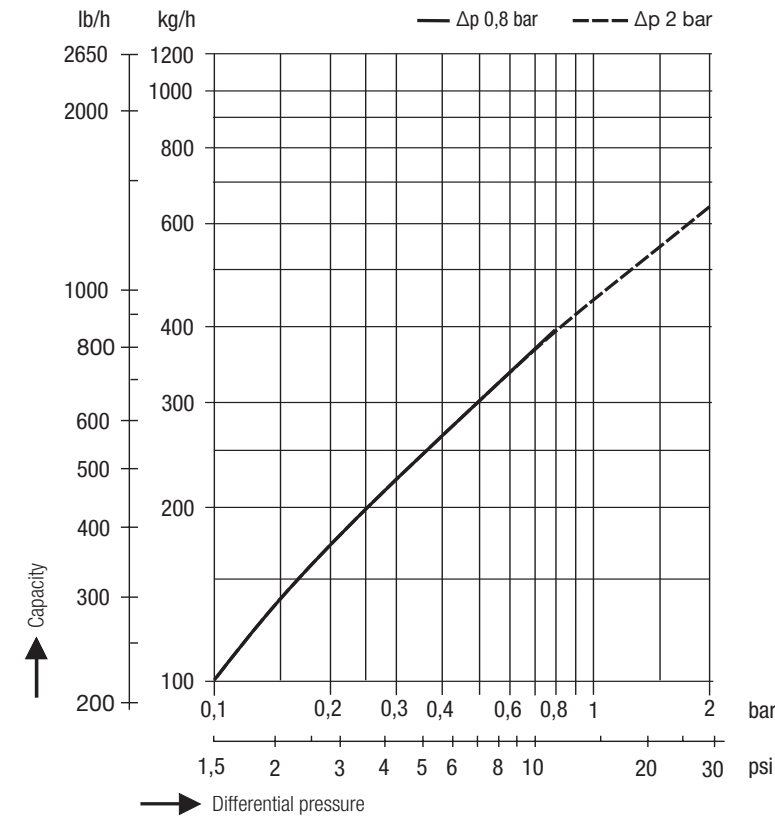
		PN40			CL150			CL300		
Nominal size	DN	15	20	25	15	20	25	15	20	25
	NPS	½"	¾"	1"	½"	¾"	1"	½"	¾"	1"
L Length	mm	150		160	160		160	150		160
	in"	5.9"		6.3"	6.3"		6.3"	5.9"		6.3"
D Flange Ø	mm	95	105	115	89	99	108	95	117	124
	in"	3.7"	4.1"	4.5"	3.5"	3.9"	4.2"	3.7"	4.6"	4.9"
Weight	kg	3.6	4.2	4.8	3.6	4.2	4.8	3.7	4.3	4.9
	lb	7.9	9.3	10.6	7.9	9.3	10.6	8.2	9.5	10.8

AK 45 with screwed socket G, screwed socket NPT

Nominal size	DN	15	20	25
	NPS	½"	¾"	1"
L Length	mm	95		
	in"	3.7"		
Weight	kg	2.1	2.0	2.0
	lb	4.6	4.4	4.4

Capacity chart

The chart shows the maximum flowrate of cold water as a function of the differential pressure (without back pressure).



How to order

GESTRA Condensate Drain Valve
Type: AK 45 (1.0460)
Connection: Flange/screwed socket
Nominal size: DN 15, 20, 25
NPS ½", ¾", 1"
Pressure rating: PN40/CL150/CL300
Closing pressure: Standard Δp 0.8 bar

Acceptance inspections

An inspection certificate to EN 10204 can be provided as verification of material and construction tests. All inspection requirements must be included in the request for a quote or in the order. Once a product has been delivered, inspection certificates can no longer be issued. The standard test scope and costs of the above-mentioned test certificates can be found in our price list "Test and Inspection Charges for Standard Equipment". If you require a different inspection scope, please request a separate quote.

Directives and standards

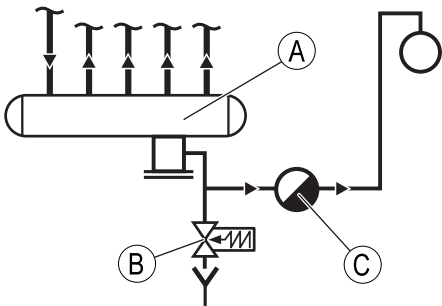
You can find details on the conformity of the equipment and the relevant standards and directives, where applicable, in the Declaration of Conformity and associated certificates or approvals.

Please note our general terms of business.

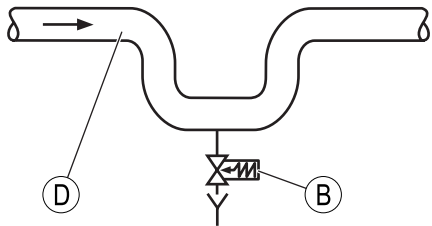
Installation examples

Install the AK 45 so that discharge takes place into an open drain (without back pressure), preferably in a vertical line with downward flow.

If installed in a horizontal line, for safety reasons the pipe on the discharge of the trap must include a 90° downward bend.



Draining a steam manifold



Draining a water pocket

Designation	Meaning
A	Steam manifold
B	AK
C	Steam trap
D	Steam

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