Steam Trap
DK 45

Description

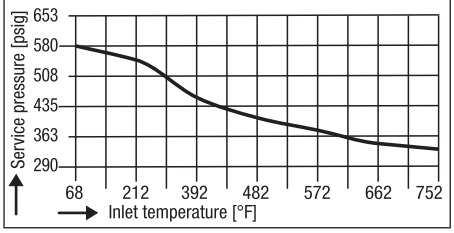
Thermodynamic steam trap for discharging condensate with virtually no banking-up. With integrated non-return valve and Y-type strainer. Asbestos free body gasket (graphite). Installation in any position.

Function

The thermodynamic steam trap features a movable valve disk that rests on a double seat. The condensate enters the steam trap from below, thereby lifting the disk off its seat. It is then deflected by 180° and flows through the small seat orifice into the discharge line. As the temperature of the condensate increases, upstream pressure builds up in the space above the valve disk. When the condensate evaporates into steam, a low-pressure area is formed under the disk due to the increased flow velocity, forcing the disk downwards against its bearing surface and stopping all flow. Since the pressure above the valve disk is acting on a larger surface area, the closing force is much higher than the pressure pushing against the disk from the inlet side. As the steam loses heat, some of it condenses, reducing the pressure above the valve disk and hence the closing force. As soon as the pressure on top of the disk has dropped to a value that equals the opening pressure produced by the upstream pressure, the disk is lifted off its seat, and the cycle repeats itself. External factors such as heat, wind, precipitation etc. can effect the functioning and performance of the thermodynamic steam trap considerably. However, the DK 45 is not influenced by these environmental factors because the regulator is protected by the permanently mounted cap.

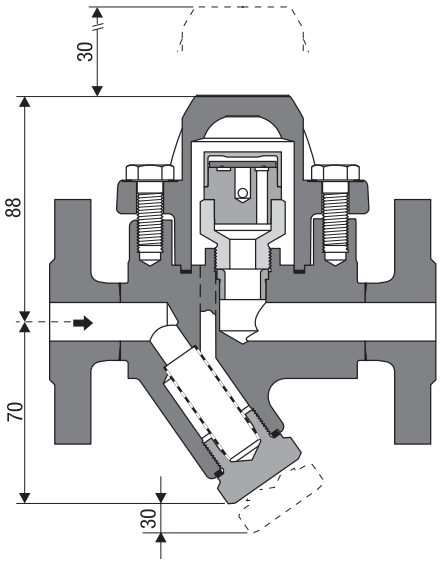
Pressure rating

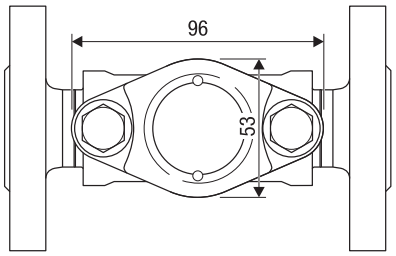
Service pressure	[psig]	580	450	363	334
Inlet temperature	[°F]	68	392	572	752
Admissible differential pressure (**inlet** pressure minus **outlet** pressure)	[psig]	464			



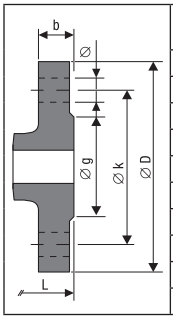
Materials

Designation	EN	ASTM
Body, cap	1.0460	A 105
Screws	1.7225	A 193 B 7
Regulator	Stainless steel	
Other internals	Stainless steel	





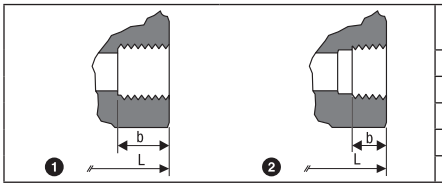
Flange dimensions



DN	EN 1092-1 PN 40			ASME B16.5*) Cl 150			ASME B16.5*) Cl 300		
[Inch]	1/2	3/4	1	1/2	3/4	1	1/2	3/4	1
[mm]	15	20	25	15	20	25	15	20	25
D	95	105	115	88.9	98.4	107.9	95.2	117.5	123.8
b	16	18	18	11.1	12.7	14.3	14.3	15.9	17.5
k	65	75	85	60.3	69.8	79.4	66.7	82.5	88.9
g	45	58	68	34.9	42.9	50.8	34.9	42.9	50.8
l	14	14	14	15.9	15.9	15.9	15.9	19.0	19.0
n	4	4	4	4	4	4	4	4	4
L	150	150	160	150	150	160	150	150	160
[kg]	3.7	4.3	4.8	3.7	4.3	4.8	3.7	4.3	4.8

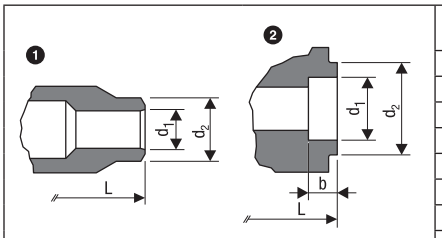
*) Length of installation L to ISO 6554

Thread dimensions



DN	❶ BSP thread			❷ NPT thread		
[Inch]	1/2	3/4	1	1/2	3/4	1
[mm]	15	20	25	15	20	25
b	15.0	16.3	18.5	13.6	14.1	16.8
L	95	95	95	95	95	95
[kg]	2.2	2.1	2.0	2.2	2.1	2.0

Dimensions of butt/socket-weld ends



DN	❶ Butt-weld ends			❷ Socket-weld ends		
[Inch]	1/2	3/4	1	1/2	3/4	1
[mm]	15	20	25	15	20	25
d_2	22	28	34	32.0	38.0	40.0
d_1	17.3	22.3	28.5	21.8	27.3	34.1
for pipe	21.3x2.0	26.9x2.3	33.7x2.6			
b				10.0	13.0	13.0
L	200	200	200	95	95	95
[kg]	2.5	2.5	2.5	2.2	2.1	2.0

Steam Trap
DK 45

Capacity chart

The chart shows the maximum capacity for hot condensate.

Curve 1
The indicated capacity for hot condensate can be discharged with virtually no banking up.

When ordering please state

Steam pressure, back pressure, condensate flowrate, design, connection, size, mounting position of the trap, type of steam user and details of application.

The following test certificates can be issued on request, at extra cost:

Test certificates in accordance with EN 10204-2.1, -2.2, 3.1 and 3.2.

All inspection requirements have to be stated with the order. After supply of the equipment certificates can no longer be established. Charges and extent of the above mentioned certificates as well as the different tests confirmed therein are listed in our Price List, section Test and Inspection Charges for Standard Equipment.

For other tests and inspections than those listed above, please consult us.

PED (Pressure Equipment Directive)

The equipment meets the requirements of the Pressure Equipment Directive (PED) 97/23/EC. Applicable with fluids of group 2. With CE marking, except for equipment according to section 3.3. For more information see our PED Declaration of Conformity.

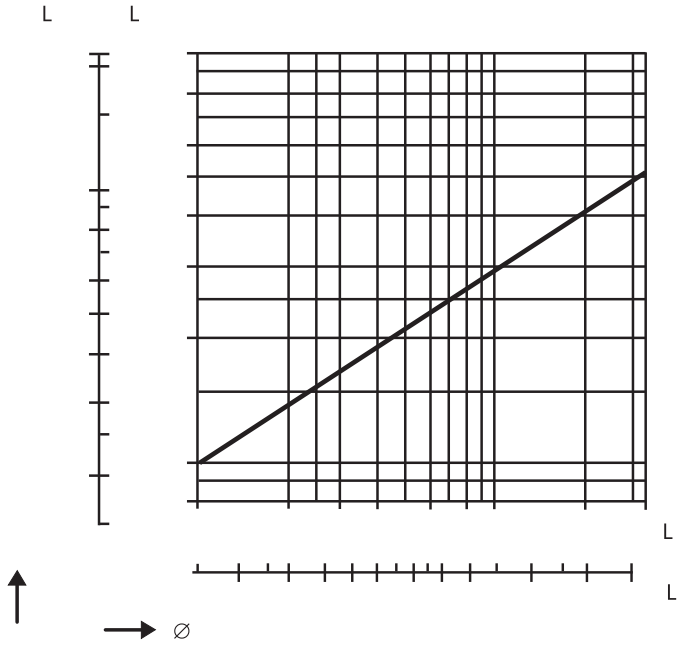
ATEX (Atmosphère Explosible)

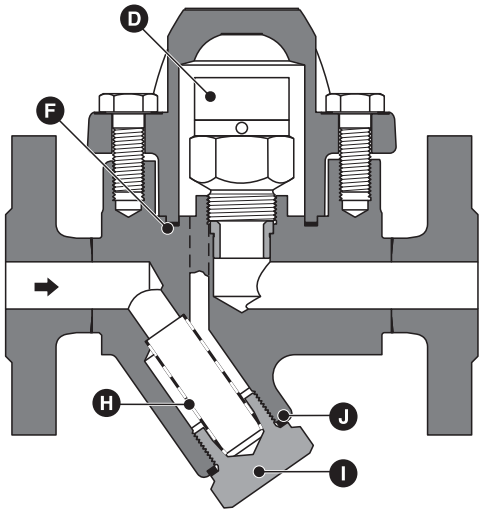
The equipment does not have its own potential source of ignition and is therefore excluded from the scope of the ATEX Directive 94/9/EC.

Applicable in Ex zones 0, 1, 2, 20, 21 and 22 (1999(92/EC). For more information see our ATEX Declaration of Manufacturer.

Supply in accordance with our general terms of business.

Capacity chart





Spare Parts

Item	Designation	Stock code
D	Regulator	377735
H I J	Strainer, cpl.	375113
F	Gasket *) 40 x 48 x 2, graphite	375159
I	Gasket *) A24 x 29, s. s.	375162

*) Minimum purchasing quantity: 50 items. Please contact your local dealer for smaller quantities.