

GESTRA Steam Systems

Product Range A1

Duo Steam Trap

BK 212, BK 212-F91, BK 212-ASME
DN 15, 20, 25

BK 212

BK 212-F91

BK 212-ASME

Description

Thermostatic / thermodynamic steam trap with corrosion-resistant (Duo S.S.) regulator unaffected by waterhammer. Integral strainer and non-return valve action. Asbestos-free cover gasket (graphite/CrNi). Installation in any position. The factory setting enables the steam traps to discharge condensate with virtually no banking-up.

Function

During start-up of the plant the Duo stainless steel plates are flat. The service pressure acts in the opening direction, the valve is completely open. As the condensate temperature rises, the plates deflect, drawing the stage nozzle towards the closed position. As the condensate temperature sinks, the deflection of the Duo stainless steel plates decreases and the steam trap opens at the adjusted opening temperature.

The thermostatic and spring characteristics of the stack of plates are balanced such that condensate is always discharged at a given undercooling temperature.

The trap provides automatic air-venting at start-up and during operation. BK 212 can also be used for thermal air-venting in steam systems.

Pressure / Temperature Rating

BK 212, Body/cover: 1.7383, screws: 1.7709 (standard)							
PMA (Maximum allowable pressure)	[bar]g	630	630	543	447	306	261
TMA (Maximum allowable temperature)	[°C]	20	300	480	500	530	540
Δ PMX (Maximum differential pressure)	[bar]	250					

Calculated according to DIN EN 12516-2

BK 212, Body/cover: 1.7383, screws: 1.4923 (optional)							
PMA (Maximum allowable pressure)	[bar]g	630	630	333	289	252	163
TMA (Maximum allowable temperature)	[°C]	20	450	530	540	550	580
Δ PMX (Maximum differential pressure)	[bar]	250					

Calculated according to DIN EN 12516-2

BK 212-F91, Body/cover: 1.4903/F91, screws: 1.4923 (standard)							
PMA (Maximum allowable pressure)	[bar]g	775	775	741	607	381	205
TMA (Maximum allowable temperature)	[°C]	20	425	450	500	540	580
Δ PMX (Maximum differential pressure)	[bar]	250					

Calculated according to DIN EN 12516-2

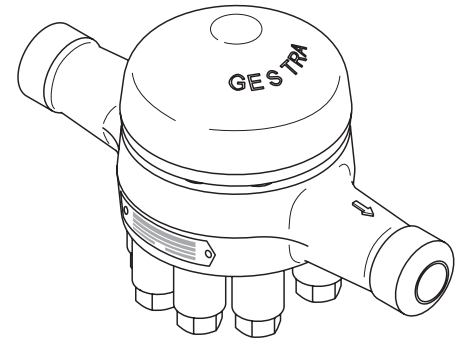
BK 212-F91, Body/cover: 1.4903/F91, screws: 1.4980 (optional)							
PMA (Maximum allowable pressure)	[bar]g	775	775	615	473	348	255
TMA (Maximum allowable temperature)	[°C]	20	525	550	575	600	625
Δ PMX (Maximum differential pressure)	[bar]	250					

Calculated according to DIN EN 12516-2

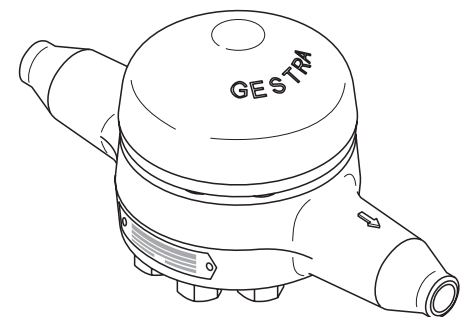
BK 212-ASME, Body/cover: ASTM A182 F22, screws: A193 B16 (standard)							
PMA (Maximum allowable pressure)	[bar]g	430	304	235	170	130	81
TMA (Maximum allowable temperature)	[°C]	20	400	500	530	550	580
PMA (Maximum allowable pressure)	[psi]g	6250	4430	3220	2230	1455	915
TMA (Maximum allowable temperature)	[°F]	100	750	950	1000	1050	1100
Δ PMX (Maximum differential pressure)	[bar]	250					
	[psi]	3625					

Calculated according to ASME B16.34

Note that the selected end connections may reduce the pressure / temperature ratings.
For more information see the indications on the name plate.



BK 212, BK 212-F91



BK 212-ASME

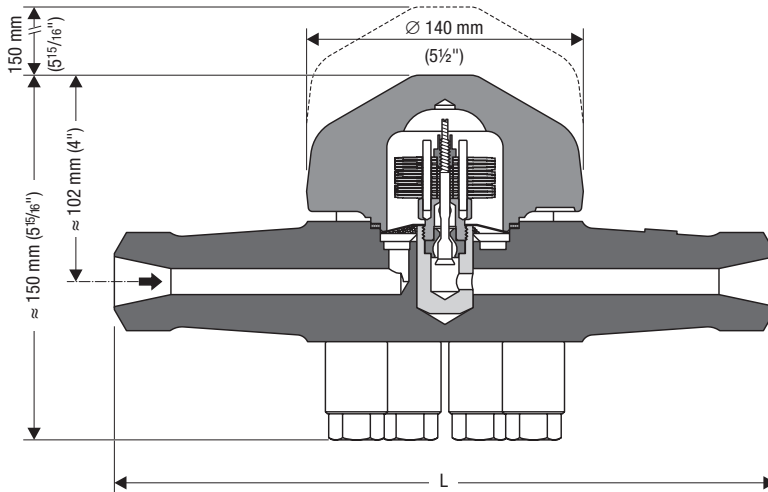
Materials

Type	BK 212	
Designation	DIN / EN	ASTM
Body and cover	1.7383	
Expansions bolts (standard)	17709	
Cap nuts (standard)	1.7709	
Expansions bolts (optional)	1.4923	
Cap nuts (optional)	1.4923	
Temperature feeler	Corrosion-resistant Duo S.S.	
Nozzle stem and seat	Wear-resistant titanium alloy	
Other internals	Stainless steels	

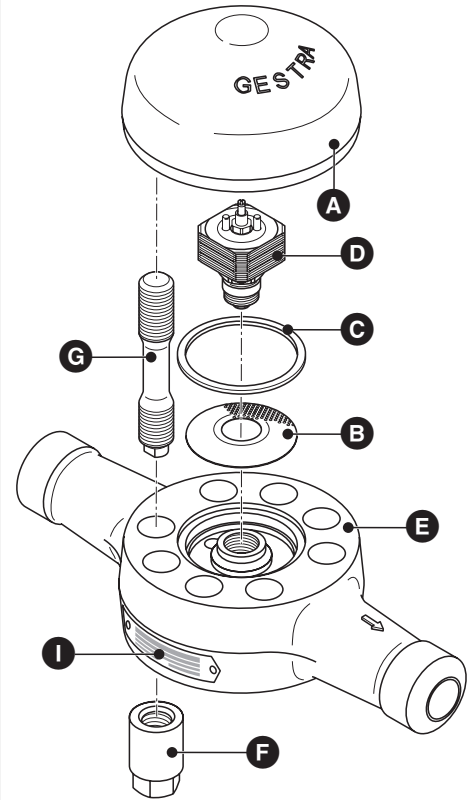
Type	BK 212-F91	
Designation	DIN / EN	ASTM
Body and cover	1.4903	ASTM A182 F91
Expansions bolts (standard)	1.4923	
Cap nuts (standard)	1.4923	
Expansions bolts (optional)	1.4980	
Cap nuts (optional)	1.4980	
Temperature feeler	Corrosion-resistant Duo S.S.	
Nozzle stem and seat	Wear-resistant titanium alloy	
Other internals	Stainless steels	

Type	BK 212-ASME	
Designation	DIN / EN	ASTM
Body and cover		ASTM A182 F22
Set screws with collar		A193 B16
Temperature feeler		Corrosion-resistant Duo S.S.
Nozzle stem and seat		Wear-resistant titanium alloy
Other internals		Stainless steels

Dimensions



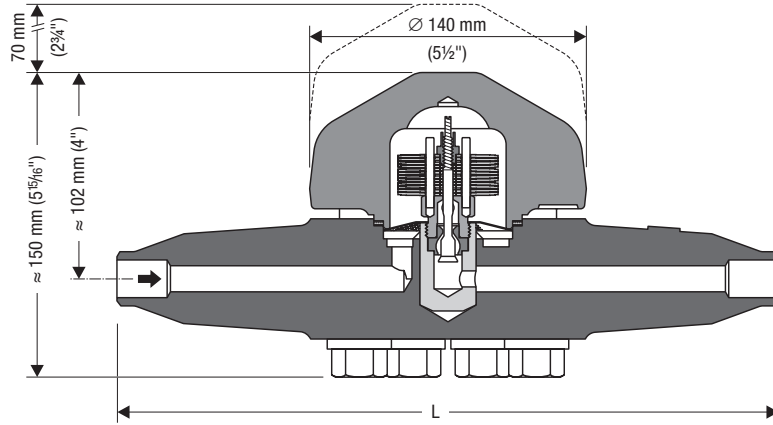
Design BK 212, BK 212-F91



- A** Cover
- B** Strainer
- C** Gasket
- D** Regulator
- E** Body
- F** Cap nut
- G** Expansion bolts to DIN 2510
- I** Name plate

Spare parts list see page 4

Dimensions – continued –



BK 212-ASME with butt-weld ends

End dimensions for flanges

DN	DIN 2526 PN 250			DIN 2526 PN 320			DIN 2526 PN 400			
	[inch]	1/2	3/4	1	1/2	3/4	1	1/2	3/4	1
[mm]	15		25	15		25	15		25	
D	130		150	130		160	145		180	
b	26		28	26		34	30		38	
k	90		105	90		115	100		130	
g	45		68	45		68	45		68	
l	18		22	18		22	22		26	
n	4		4	4		4	4		4	
L	on request									
[kg]	23		29	25		25	30		30	

DN	ASME B 16.5 Class 1500			ASME B 16.5 Class 2500						
	[inch]	1/2	3/4	1	1/2	3/4	1			
[mm]	15	20	25	15	20	25				
D	120.6	130.2	149.2	133.3	139.7	158.7				
b	22.2	25.4	28.6	30.2	31.7	34.9				
k	82.5	88.9	101.6	88.9	95.2	107.9				
g	34.9	42.9	50.8	34.9	42.9	50.8				
l	22.2	22.2	25.4	22.2	22.2	25.4				
n	4	4	4	4	4	4				
L	on request									
[kg]	25	25	25	30	30	30				

Other versions available on request. Special dimensions and materials of end connections on request.

Dimensions of butt-weld ends

DN	DIN 3239-1 EN 12627			ASME B 16.25 ASME B 36.10			
	[inch]	1/2	3/4	1	1/2	3/4	1
[mm]	15	20	25	15	20	25	
d ₂	max. 49.0						
d ₁	min. 11.0						
for pipe	21.3	26.9	33.7	21.3	26.7	33.4	
L	330	330	330	330	330	330	
[kg]	15.4	15.4	15.4	15.4	15.4	15.4	

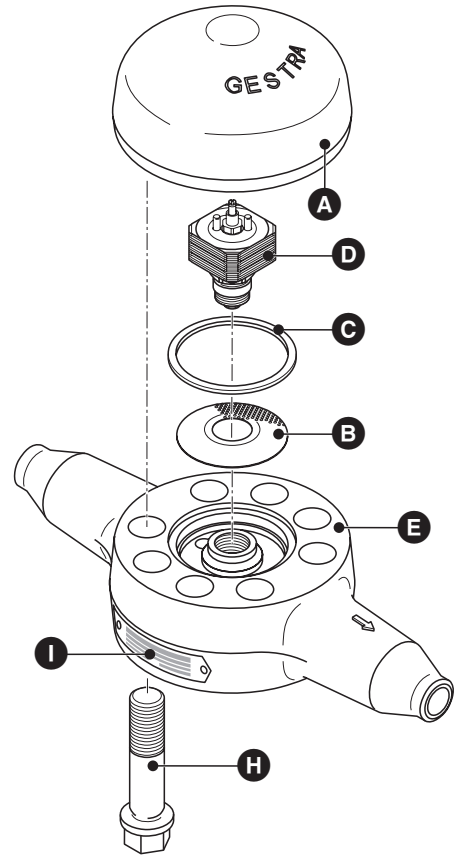
Other versions available on request. Special dimensions and materials of end connections on request.

Dimensions of socket-weld ends

DN	DIN EN 12760, ASME B 16.11, Class 9000		
[inch]	1/2	3/4	1
[mm]	15	20	25
d ₂	41.0	47.5	57.5
d ₁	21.9	27.3	34.0
b	10.0	13.0	13.0
L	330	330	330
[kg]	15.4	15.4	15.4

Other versions available on request. Special dimensions and materials of end connections on request.

Design BK 212-ASME



- A** Cover
- B** Strainer
- C** Gasket
- D** Regulator
- E** Body
- H** Set screws with collar
- I** Name plate

Spare parts list see page 4

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Capacity Chart

The chart shows the maximum capacities for hot and cold condensate discharge at factory setting.

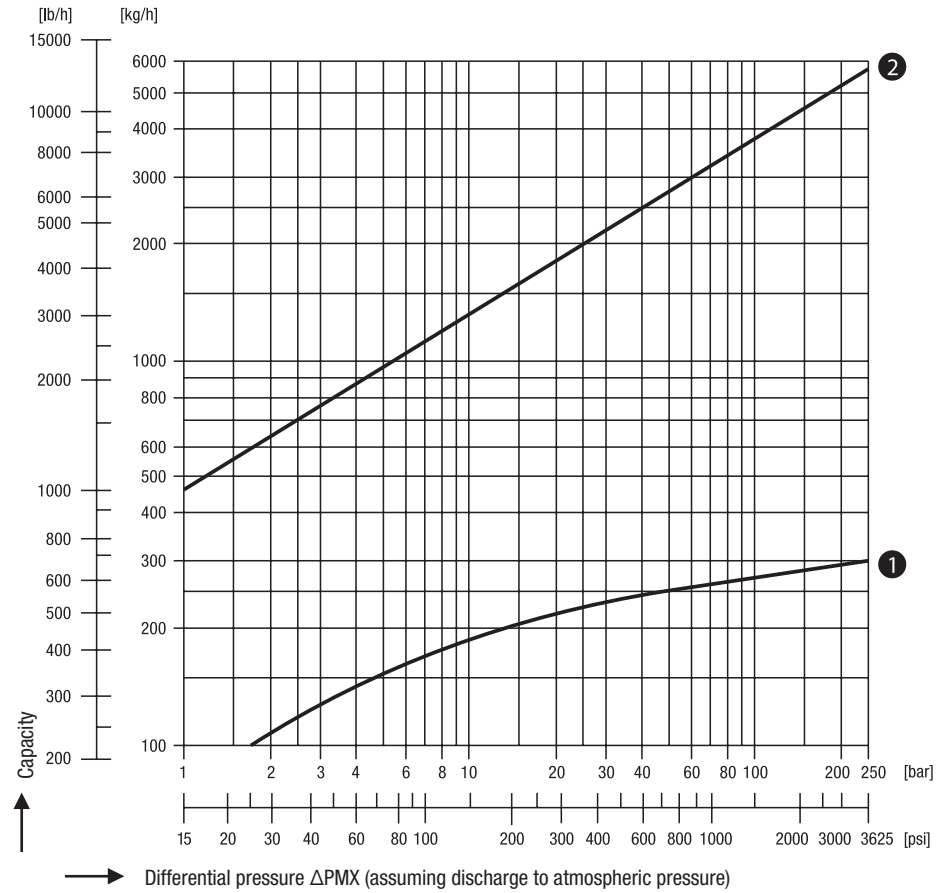
Curve 1

The steam trap BK 212 discharges the amount of hot condensate without banking-up.

Curve 2

Discharge capacity of cold condensate (20 °C).

Capacity charts



When ordering please state:

Temp./pressure rating, operating parameters (pressure/temperature), reference standard (DIN, EN, ASME etc.), materials, back pressure, condensate flowrate, design, end connection (e.g. pipe diameter, size, position of the trap, details of application).

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

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 certification cannot be established. For tests and inspections charges please consult us.

PED (Pressure Equipment Directive)

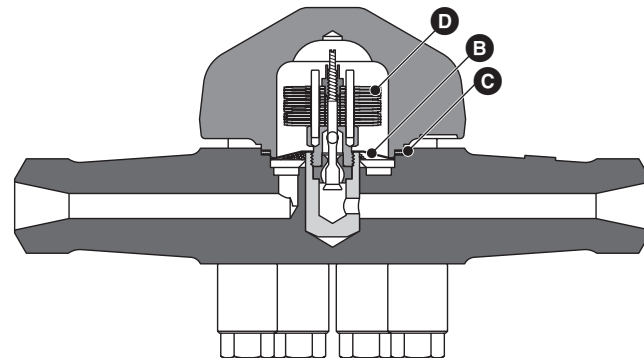
The equipment fulfills the requirements of the Pressure Equipment Directive PED 97/23/EC. For applications with fluids of group 2. Without CE marking (equipment according to section 3.3).

ATEX (Atmosphère Explosible)

The equipment does not have its own potential source of ignition and is therefore not subject to the ATEX Directive 94/9/EC. The equipment can be used in potentially explosive areas 0, 1, 2, 20, 21, 22 (1999/92/EC). The equipment is not Ex marked.

Supply in accordance with our general terms of business.

Spare Parts



Item	Designation	Stock code
D	Regulator, complete with gasket C	371862
C	Cover gasket graphite / CrNi	374009
B	Strainer	096345

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