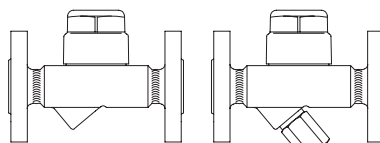


Thermodynamic steam trap

Thermodynamic steam trap

ANSI150 / 300

- with flanges (Fig. 640/641....1)
- with screwed sockets (Fig. 640/641....2)
- with socket weld ends (Fig. 640/641....3)
- with butt weld ends (Fig. 640/641....4)



Forged steel
Stainless steel
Fig. 640/641 (Y)

Page 2

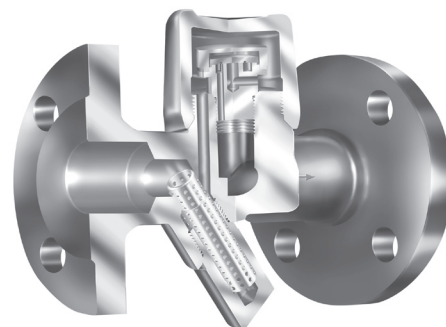
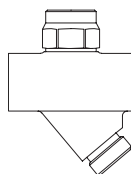


Fig. 641....1

Thermodynamic steam trap

ANSI 400

- with screwed sockets (Fig. 641....2)
- with socket weld ends (Fig. 641....3)



Stainless steel
Fig. 641 (Y)

Page 4

Features:

- For discharging of slight to highly sub-cooled condensate
- Intermittent mode of operation
- Robust and resistant to water-hammer
- Integrated non return protection
- Constructions:
 - With inside strainer - Fig. 640
 - with outside strainer - Fig. 641 (Y)
- Optimized design for quick installation
- Gasket-free sealing of the screwed cap
- Installation in any position
- Heat chamber minimizes the impact of weather conditions on the trap's performance (ANSI300 NPS 1/2" - 1")
- Replaceable controller-unit
- Pressure test acc. to API 598
- CRN approved

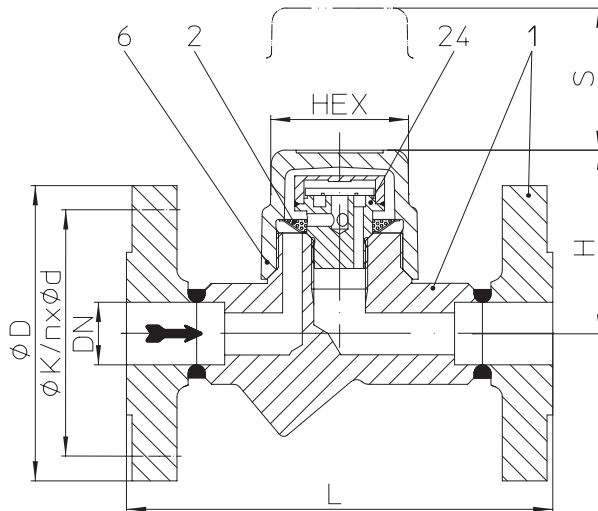
Thermodynamic steam trap (Forged steel, Stainless steel)


Fig. 640....1 with flanges

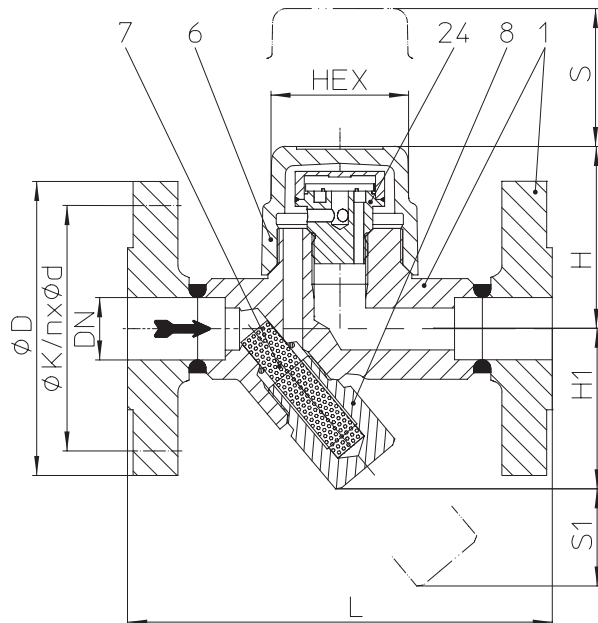
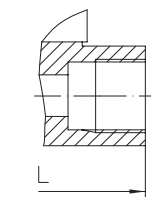
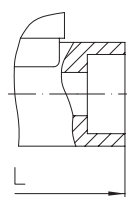
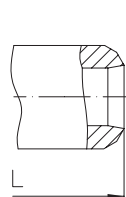


Fig. 641....1 with flanges


 Fig. 640/641....2
with screwed sockets

 Fig. 640/641....3
with socket weld ends

 Fig. 640/641....4
with butt weld ends

- Thermodynamic steam trap with replaceable controller-unit and cap with heat chamber which minimize the effects from the weather conditions to the function of the trap such as low ambient temperatures, rain, wind, etc..
- Intermittent mode of operation
- Heat chamber minimizes the impact of weather conditions on the trap's performance
- Robust and resistant to water-hammer
- Integrated non return protection
- With inside strainer - BR640
with outside strainer - BR641 (Y)
- Installation in any position
- Optimized design for quick installation
- Maintenance simplified due to screwed cap without sealing
- Options: - Outside strainer with blow down valve (Pos. 46)

Operating limits

Fig. 42.640 / 42.641	ANSI150 - SA105	
Operating pressure PS (psig)	189	80
Operating temperature TS (°F)	437	800
Operating pressure PS (barg)	13	5,5
Operating temperature TS (°C)	225	427
Fig. 45.640 / 45.641	ANSI300 - SA105	
Operating pressure PS (psig)	464	411
Operating temperature TS (°F)	771	800
Operating pressure PS (barg)	32	28
Operating temperature TS (°C)	411	427

Fig. 52.640 / 52.641	ANSI150 - SA182F321	
Operating pressure PS (psig)	189	35
Operating temperature TS (°F)	437	950
Operating pressure PS (barg)	13	2,4
Operating temperature TS (°C)	225	510
Fig. 55.640 / 55.641	ANSI300 - SA182F321	
Operating pressure PS (psig)	464	385
Operating temperature TS (°F)	710	950
Operating pressure PS (barg)	32	27
Operating temperature TS (°C)	377	511

allowable differential pressure ΔPMX (psi):	464
permissible pressure ratio (psig):	Back pressure / Inlet pressure ≤ 12
allowable differential pressure ΔPMX (bar):	32
permissible pressure ratio (barg):	Back pressure / Inlet pressure ≤ 0,8

Types of connection

Flanges1	ANSI150 / 300 acc. to ASME B16.5
Screwed sockets2	Rp- and NPT-Thread acc. to ASME B1.20.1
Socket weld ends3	acc. to ASME B16.11
Butt weld ends4	acc. to ASME B16.25

Other types of connection on request.

Dimensions and weights		Types of connection									Dimensions and weights		Types of connection								
		Flanges			Screwed sockets Socket weld ends			Butt weld ends					Flanges			Screwed sockets Socket weld ends			Butt weld ends		
NPS	(inch)	1/2	3/4	1	1/2	3/4	1	1/2	3/4	1	DN	(mm)	15	20	25	15	20	25	15	20	25
L*	(inch)	5.91	5.91	6.3	3.74	3.74	3.74	9.84	9.84	9.84	L*	(mm)	150	150	160	95	95	95	250	250	250
H	(inch)	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	H	(mm)	65	65	65	65	65	65	65	65	65
H1	(inch)	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	H1	(mm)	62	62	62	62	62	55	62	62	62
S	(inch)	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	S	(mm)	40	40	40	40	40	40	40	40	40
S1	(inch)	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	S1	(mm)	24	24	24	24	24	13	24	24	24
HEX	(inch)	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	HEX	(mm)	50	50	50	50	50	50	50	50	50
Weight approx.	(lb)	6	7.3	8.2	3.1	2.9	4	4	4.2	4.4	Weight approx.	(kg)	2,7	3,3	3,7	1,4	1,3	1,8	1,8	1,9	2
Standard-flange dimensions refer to page 7.																					

Standard-flange dimensions refer to page 7.

* Face-to-face acc. to data sheet resp. customer request

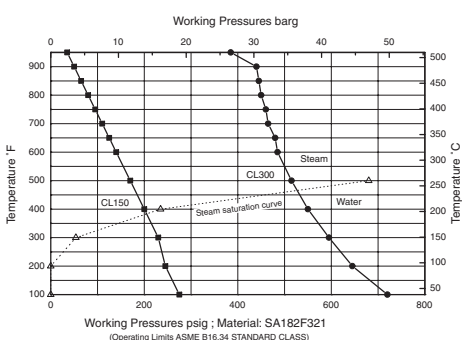
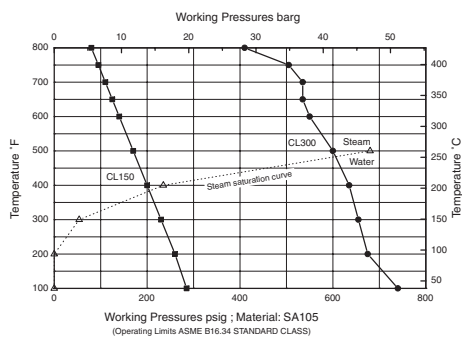
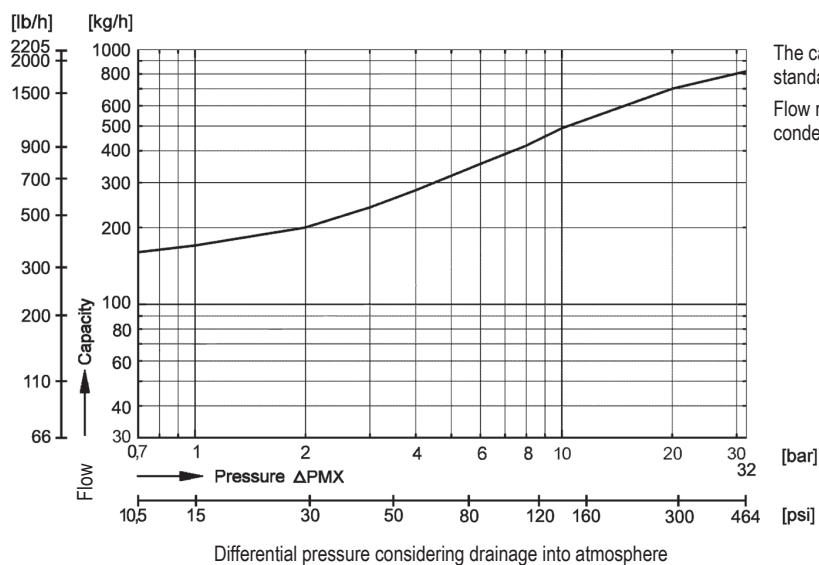
Parts

Pos.	Description	Fig. 42.640/641; 45.640/45.641	Fig. 52.640/641; 55.640 / 55.641
1	Body	SA105	SA182F321
2	Strainer *	SA240Gr.304	
6	Cap	SA105	SA182F321
7	Strainer screen *	SA240Gr.304	
8	Strainer plug *	SA182F321	
24	Controller *	AISI440	
46	Blow down valve, cpl. *	AISI440	
* Spare part			

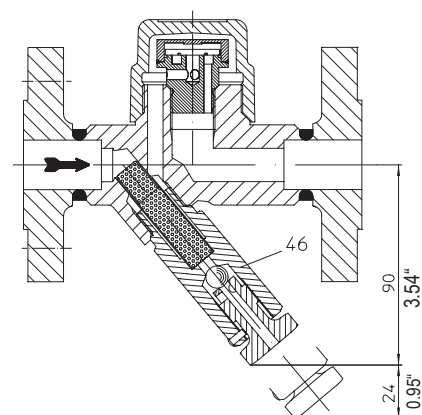
Information / restriction of technical rules need to be observed!

Operating instructions can be ordered by phone +49 (0)5207 / 994-0 or fax +49 (0)5207 / 994-158 or -159.

Capacity chart



Options



Outside strainer with blow down valve

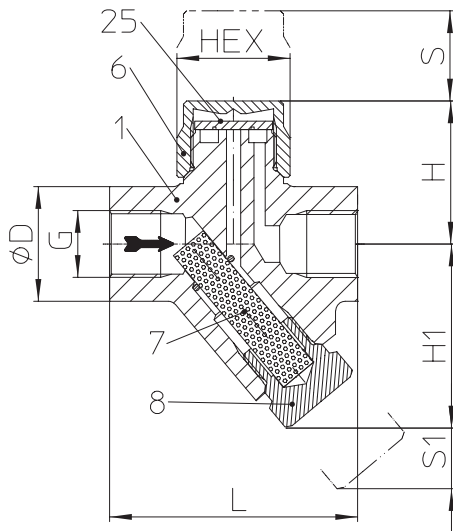
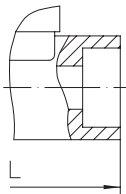
Thermodynamic steam trap (Stainless steel)


Fig. 641....2 with screwed sockets


 Fig. 641....3
 with socket weld ends

- Thermodynamic steam trap steel for the condensate-discharge from all kinds of steam systems
- Intermittent mode of operation
- Robust and resistant to water-hammer
- Integrated non return protection
- with outside strainer
- Installation in any position
- Optimized design for quick installation
- Maintenance simplified due to screwed cap without sealing

Operating limits

Fig. 56.641	ANSI400 3/8"-3/4" 1" = A743CA40 = SA182F6A
Operating pressure PS (psig)	609
Operating temperature TS (°F)	755
Operating pressure PS (barg)	42
Operating temperature TS (°C)	402
allowable differential pressure ΔPMX (psi):	609
permissible pressure ratio (psig):	Back pressure / Inlet pressure ≤ 12
allowable differential pressure ΔPMX (bar):	42
permissible pressure ratio (barg):	Back pressure / Inlet pressure ≤ 0,8

Types of connection

Screwed sockets2	Rp- and NPT-Thread acc. to ASME B1.20.1
Socket weld ends3 (DN15-20)	acc. to ASME B16.11

Other types of connection on request.

Dimensions and weights		Types of connection				Dimensions and weights		Types of connection			
		Screwed sockets (3/8" - 1") Socket weld ends (1/2"-3/4")						Screwed sockets (DN10 - 25) Socket weld ends (DN15 - 20)			
NPS	(inch)	3/8	1/2	3/4	1	DN	(mm)	10	15	20	25
L*	(inch)	3.07	3.07	3.54	3.74	L*	(mm)	78	78	90	95
H	(inch)	1.85	1.85	1.85	2.32	H	(mm)	47	47	50	59
H1	(inch)	2.2	2.2	2.2	2.4	H1	(mm)	56	56	56	61
S	(inch)	0.79	0.79	0.79	0.79	S	(mm)	20	20	20	20
S1	(inch)	0.51	0.51	0.51	0.51	S1	(mm)	45	45	45	45
HEX	(inch)	1.26	1.26	1.26	1.61	HEX	(mm)	32	32	32	41
Weight approx.	(lb)	1.8	1.8	1.8	2	Weight approx.	(kg)	0,8	0,8	0,8	0,9
Standard-flange dimensions refer to page 7.											

Standard-flange dimensions refer to page 7.

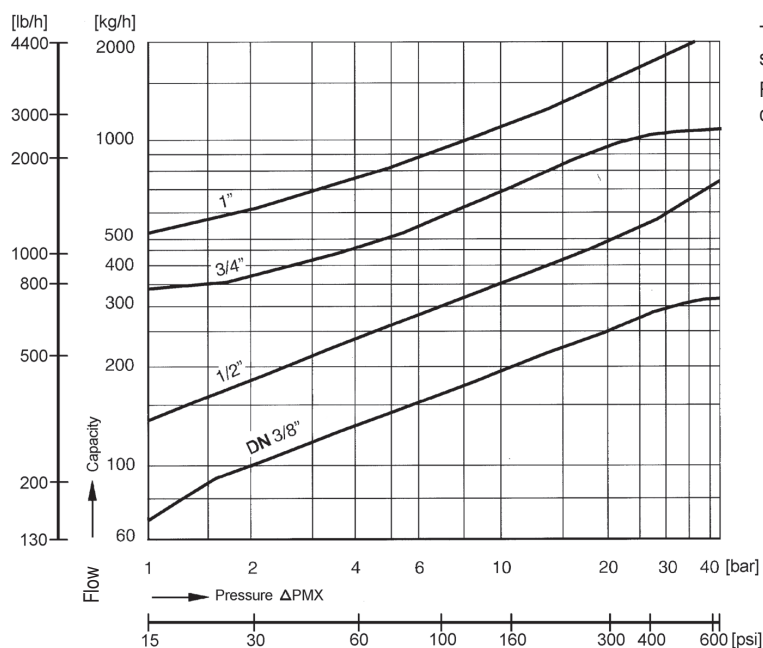
* Face-to-face acc. to data sheet resp. customer request

Parts

Pos.	Description	Fig. 56.641	
		NPS 3/8" - 3/4"; DN10-20	NPS 1"; DN25
1	Body	A743 CA40	SA182F6A
6	Cap	SA182F321	
7	Strainer screen *	SA240Gr.304	
8	Strainer plug *	SA182F321	
25	Disc *	AISI440	
* Spare part			

Information / restriction of technical rules need to be observed!

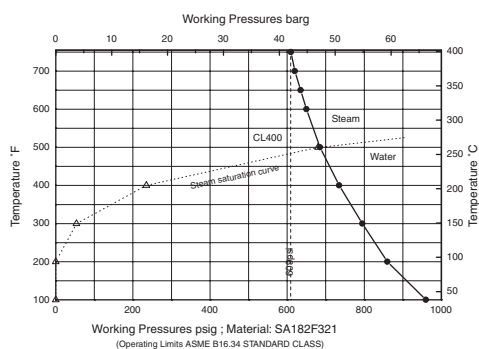
Operating instructions can be ordered by phone +49 (0)5207 / 994-0 or fax +49 (0)5207 / 994-158 or -159.

Capacity chart


The capacity chart shows the maximum flow of hot condensate for the standard controller

Flow rate of cold condensate at 20°C is about 1,5 times the volume of hot condensate

Differential pressure considering drainage into atmosphere



Informations about pipe welding

Welding groove acc. to ASME B16.25

The material used for ARI valves with butt weld ends are:

SA105

A743 CA40 acc. to ASTM A743/A743M-98a

SA182F6A

Due to our experience, we recommend to apply an electric welding process.

Because of the different material compositions and wall thickness of the steam traps and the pipe gas welding shall not be applied. Quenching cracks and coarse grain structure may develop.

Steam traps with socket-weld ends shall only be welded by arc welding (welding process 111 acc. to DIN EN 24063).

If during the time of warranty others than the manufacturer or by the manufacturer authorized persons are interfering in the product and/or the setting, the right of claim for warranty will lapse!

Selection criteria:

- | | |
|-------------------------------|--|
| - Steam pressure | - Type of connection |
| - Back pressure | - Material |
| - Quantity of condensate | - Place of service or kind of steam consumer |
| - Nominal diameter / pressure | |

Example for order data:

=> Thermodynamic steam trap CONA® TD,
 Fig. 640, ANSI300, NPS 1/2", SA105, with screwed sockets, Face-to-face dimension 5.9 inch

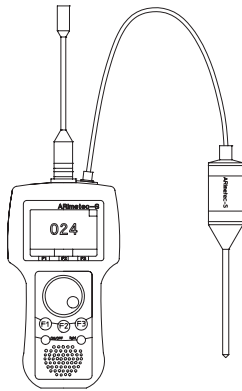
Dimensions in inch
 Weights in lb
 1 bar $\triangleq$ 10⁵ Pa $\triangleq$ 0,1 MPa
 1 bar $\triangleq$ 14,5 psi
 1 inch $\triangleq$ 25,4 mm

Standard-flange dimensions

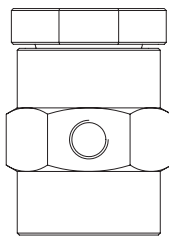
Flanges acc. to ASME B16.5

NPS		(inch)	1/2	3/4	1
ANSI150	ØD	(inch)	3.50	3.90	4.25
ANSI150	ØK	(inch)	2.36	2.70	3.10
ANSI150	n x Ød	(inch)	4 x 0.62	4 x 0.62	4 x 0.62
ANSI300	ØD	(inch)	3.75	4.62	4.88
ANSI300	ØK	(inch)	2.62	3.25	3.50
ANSI300	n x Ød	(inch)	4 x 0.62	4 x 0.75	4 x 0.75

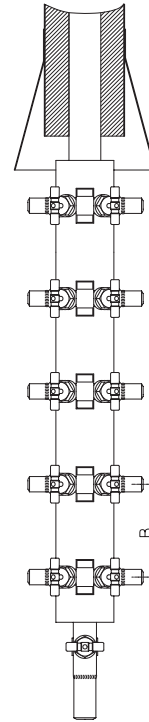
DN		(mm)	15	20	25
ANSI150	ØD	(mm)	89	99	108
ANSI150	ØK	(mm)	60	70	79
ANSI150	n x Ød	(mm)	4 x 16	4 x 16	4 x 16
ANSI300	ØD	(mm)	95	117	124
ANSI300	ØK	(mm)	66,5	82,5	89
ANSI300	n x Ød	(mm)	4 x 16	1 4 x 9	4 x 19



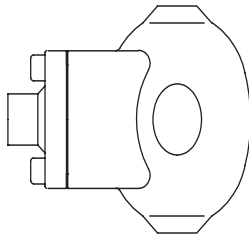
Multifunction tester **ARImetec®-S**



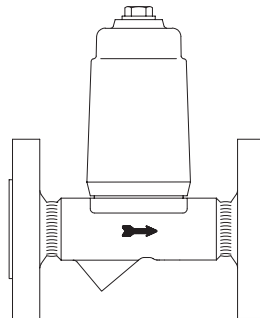
Vacuum breaker Fig. 655



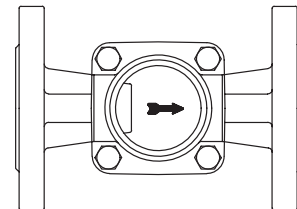
CODI®S with gland packing Fig. 671/672;
CODI®B with bellows seal, maintenance-free Fig. 675/676



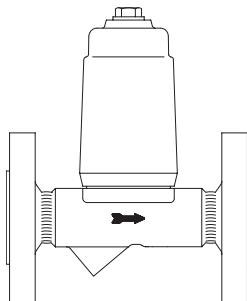
Automatic air vent for liquid systems
Fig. 656



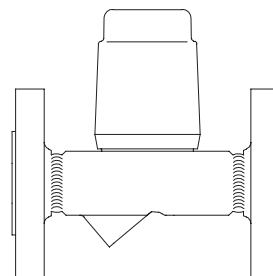
Condensate discharge temperature limiter
Fig. 645/647



Flow indicator
Fig. 660/661



Return temperature limiter Fig. 650



Liquid drainer Fig. 665

(Further informations about the accessories can be found in the appropriate data sheets.)