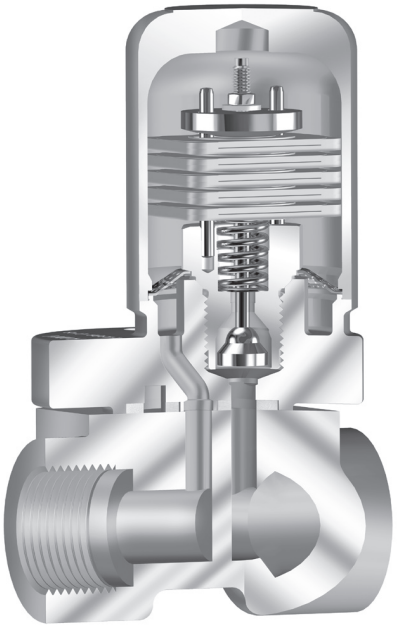
CONA®-Universal
for quick assembly/disassembly on CONA®-Connector or foreign system connectors

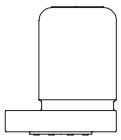


CONA®B-Universal Fig. 604 with **CONA®-Connector Fig. 681....2**

CONA®B-Universal ANSI
Bimetallic steam trap
ANSI300

(Fig. 604)

Stainless steel
Fig. 604

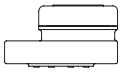


Page 2

CONA®M-Universal ANSI
Thermostatic steam trap
ANSI300

(Fig. 622)

Stainless steel
Fig. 622

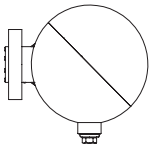


Page 3

CONA®S-Universal ANSI
Ball float steam trap
ANSI300

(Fig. 628)

Stainless steel
Fig. 628

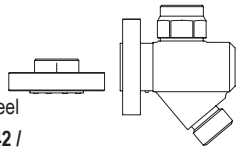


Page 4

CONA®TD-Universal ANSI
Thermodynamic steam trap
ANSI300

- **without strainer** (Fig. 642)
- **with outside strainer** (Fig. 643)

Stain-less steel
Fig. 642 / Fig. 643 (Y)

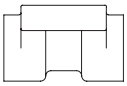


Page 5

CONA®-Connector 681 ANSI
System connecter
ANSI300

- **with screwed sockets** (Fig. 681....2)
- **with socket weld ends** (Fig. 681....3)

Stainless steel
Fig. 681

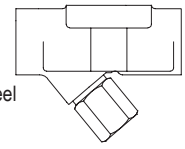


Page 6

CONA®-Connector 682 ANSI
System connecter with outside strainer
ANSI300

- **with flanges** (Fig. 682....1)
- **with screwed sockets** (Fig. 682....2)
- **with socket weld ends** (Fig. 682....3)
- **with butt weld ends** (Fig. 682....4)

Forged steel
Stainless steel
Fig. 682

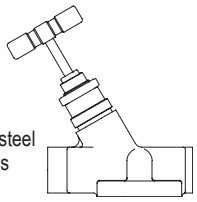


Page 6

CONA®-Connector 683 ANSI
System connecter
with stop function at inlet
ANSI300

- **with flanges** (Fig. 683....1)
- **with screwed sockets** (Fig. 683....2)
- **with socket weld ends** (Fig. 683....3)
- **with butt weld ends** (Fig. 683....4)

Forged steel
Stainless steel
Fig. 683

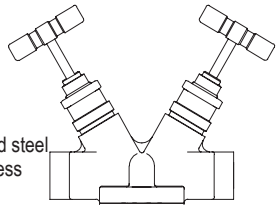


Page 6

CONA®-Connector 684 ANSI
System connecter
with stop function at inlet and outlet
ANSI300

- **with flanges** (Fig. 684....1)
- **with screwed sockets** (Fig. 684....2)
- **with socket weld ends** (Fig. 684....3)
- **with butt weld ends** (Fig. 684....4)

Forged steel
Stainless steel
Fig. 684



Page 6

Features CONA®-Universal:

- For the discharge of
  - Fig. 604 / 622 / 642 / 643: cold condensate
  - Fig. 628: hot condensate
- Robust and resistant to water-hammer
- Automatic air-venting during start up and operation of the plant
- Fig. 604 / 642 / 643: Integrated non return protection
- Mounting position:
  - Fig. 604 / 622: any, except cap upside down
  - Fig. 628: plug always upside down
  - Fig. 642: any position
  - Fig. 643: always with drain plug upside down
- Construction in high quality stainless steel
- Optimized design for quick installation
- Can be combined with all types of CONA-Connector

Features CONA®-Connector:

- Space saving, compact design
- Minimization of installation and maintenance labor
- Material optional in forged steel and stainless steel
- Fig. 682: with outside strainer
- Fig. 683 / 684: with integrated, low-maintenance stop valve with gland seal (on request with maintenance free bellows seal design acc. to german clean air act “TA-Luft”)
- Simple replacement of steam traps by shut-off of inlet and outlet
- Optional with blow down valve
- Fig. 683: Recommended in combination with CODI-collector
- Elemination of potential leak points by reduced numbers of pipe joints
- Can be combined with all types of CONA-Universal
- Pressure test acc. to API 598
- CRN certified

AWH ARMATUREN-WERK HALLE GMBH
A member of the ARI group

CONA®B-Universal - Bimetallic steam trap (Stainless steel)

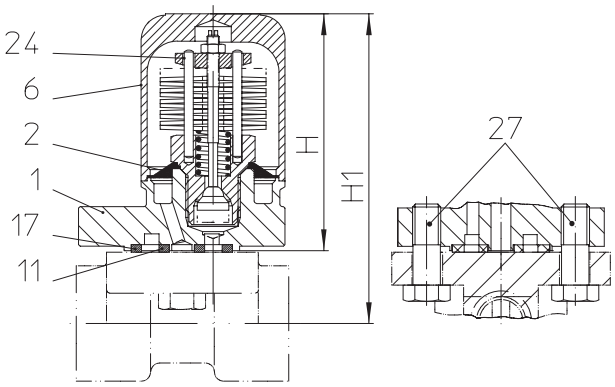


Fig. 604 Universal-Flange with 2 x 3/8" UNC-Thread

- Bimetallic steam trap with corrosion resistant and water hammer proofed bimetallic controller
- Automatic air-venting during start up and operation of the plant
- Non return protection
- With inside strainer
- Robust and insensitive to waterhammer
- Installation in any position, except cap upside down
- Optimized design for quick installation
- Can be combined with all types of CONA-Connector (refer to page 6)

Operating limits

Fig. 55.604	ANSI 300 - SA351CF8
Operating pressure PS (bar-g)	319
Operating temperature TS (°C)	752
Operating pressure PS (bar-g)	22
Operating temperature TS (°C)	400

allowable diff. pressure ΔPMX (psi):	319
allowable diff. pressure ΔPMX (bar):	22
for controller:	R22

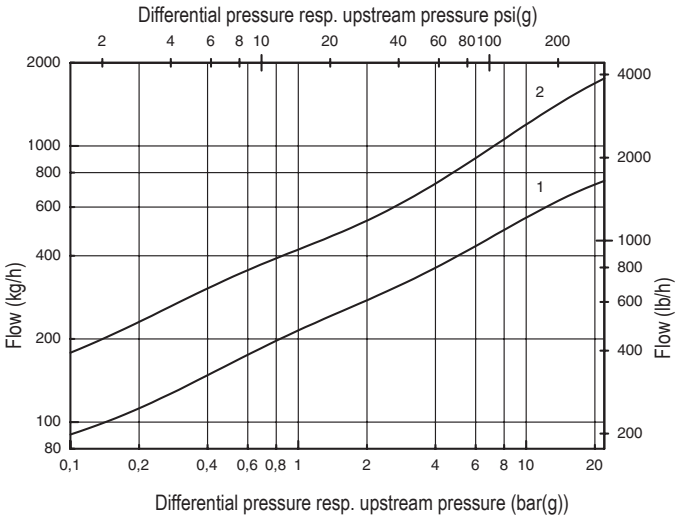
Connection

Universal-Flange	2 x 3/8" UNC-Thread

Dimensions and weights

H	(inch)	3.07
H1	(inch)	acc. to Connector-Type
Weight approx.	(lbs)	1.8
H	(mm)	78
H1	(mm)	acc. to Connector-Type
Weight approx.	(kg)	0,8

Capacity chart



The capacity chart shows the maximum capacity at factory setting.

Curve 1

Maximum flow of hot condensate at approx. 10 K below saturation temperature.

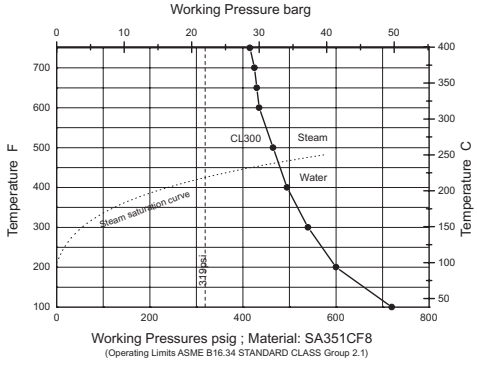
Curve 2

Maximum flow at cold condensate at about 20°C / 68°F
(during start-up of a cold installation).

The condensate temperature determines the opening of the controller.
Capacity is increased with the sub-cooling temperature of the condensate.

Parts

Pos.	Description	Fig. 55.604
1	Body	SA351CF8
2	Strainer	SA240Gr.304
6	Cap	SA182F321
11	Sealing ring (spiral wounded gasket)	with graphite
17	Sealing ring (spiral wounded gasket)	with graphite
24	Controller	corrosion resistant bimetal TB 102 / 85
27	Hexagon screw	SA193Gr.B16 (with metric screw-thread)



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.

CONA®M-Universal - Thermostatic steam trap (Stainless steel)

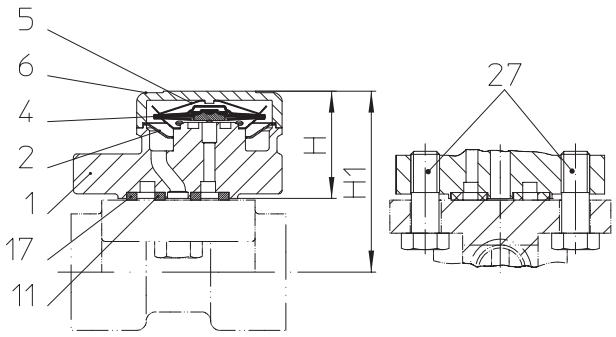


Fig. 622 Universal-Flange with 2 x 3/8" UNC-Thread

- Thermostatic steam trap with noncorrosive and robust water hammer proofed capsule
- With inside strainer
- Robust and insensitive to waterhammer
- Installation in any position, except cap upside down (Filter effect maximised at horizontal installation)
- Optimized design for quick installation
- With capsule for condensate sub-cooling about approx. 10K
- Can be combined with all types of CONA-Connector (refer to page 6)

Operating limits

Fig. 55.622	ANSI300 - SA351CF8
Operating pressure PS (barg)	420
Operating temperature TS (°F)	752
Operating pressure PS (barü)	29
Operating temperature TS (°C)	400
allowable diff. pressure ΔPMX (psi):	420
allowable diff. pressure ΔPMX (bar):	29
for controller:	R32

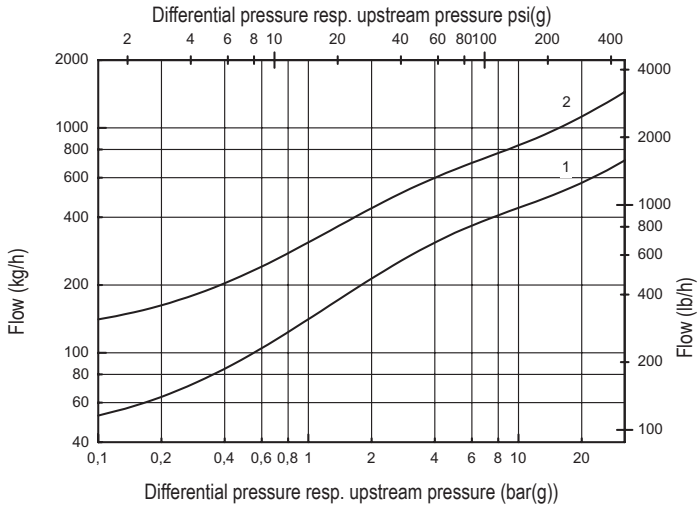
Connection

Universal-Flange	2 x 3/8" UNC-Thread

Dimensions and weights

H	(inch)	1.38
H1	(inch)	acc. to Connector-Type
Weight approx.	(lbs)	1.1
H	(mm)	35
H1	(mm)	acc. to Connector-Type
Weight approx.	(kg)	0,5

Capacity chart



The capacity chart shows the maximum flow rates.

Curve 1

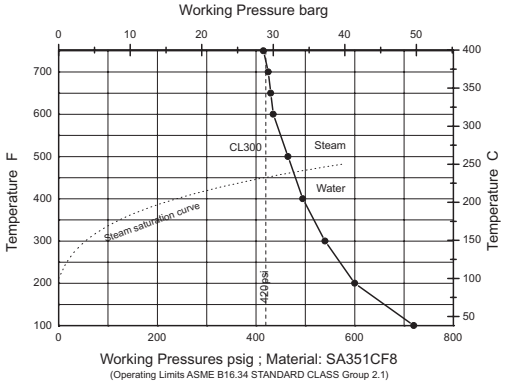
Maximum flow of hot condensate at approx. 10 K below saturation temperature.

Curve 2

Maximum flow at cold condensate at about 20°C / 68°F (during start-up of a cold installation).

Parts

Pos.	Description	Fig. 55.622
1	Body	SA351CF8
2	Strainer	SA240Gr.304
4	Capsule B (Diaphragm / Capsule)	Hastelloy / SA240Gr.304
5	Flat spring	AISI301
6	Cap	SA182F321
11	Sealing ring (spiral wounded gasket)	with graphite
17	Sealing ring (spiral wounded gasket)	with graphite
27	Hexagon screw	SA193Gr.B16 (with metric screw-thread)



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.

CONA®S-Universal - Ball float steam trap (Stainless steel)

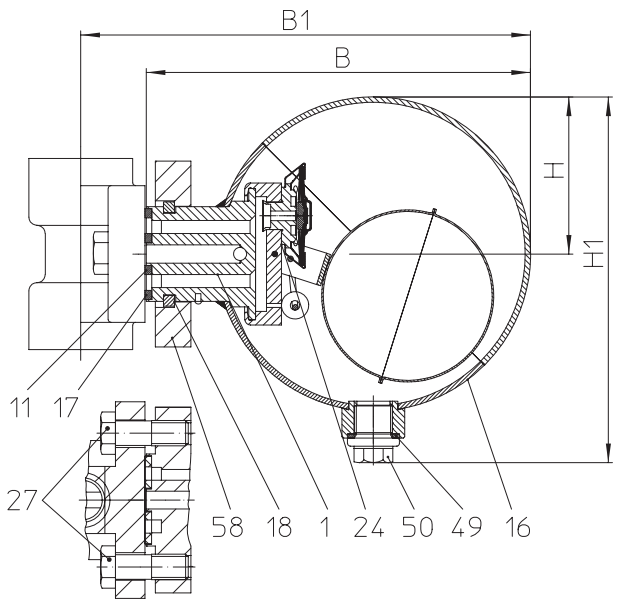


Fig. 628 Universal-Flange with 2 x 3/8" UNC-Thread

- Ball float steam trap with level control for the condensate-discharge from all kinds of steam systems
- Rapid system start-up due to thermostatic air venting capsule
- Immediate discharge of hot boiling condensat
- Robust and insensitive to waterhammer
- Installation always with drain plug (Pos. 50) upside down
- Can be combined with all types of CONA-Connector (refer to page 6)

Operating limits

Fig. 55.628	ANSI300 Body: SA182F321 / Hood: SA240Gr.304
Operating pressure PS (barg)	420
Operating temperature TS (°F)	752
Operating pressure PS (barü)	29
Operating temperature TS (°C)	400
allowable diff. pressure ΔPMX (psi):	420
allowable diff. pressure ΔPMX (bar):	29
for controller:	R32

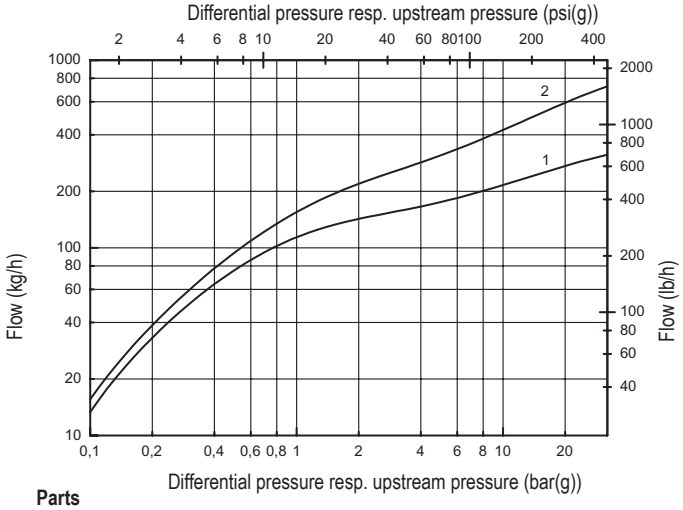
Connection

Universal-Flange	2 x 3/8" UNC-Thread

Dimensions and weights

H	(inch)	2,28
H1	(inch)	5,28
B	(inch)	5,51
B1	(inch)	acc. to Connector-Type
Weight approx.	(lbs)	3,09
H	(mm)	58
H1	(mm)	134
B	(mm)	140
B1	(mm)	acc. to Connector-Type
Weight approx.	(kg)	1,4

Capacity chart



The capacity chart shows the maximum flow rates.

Curve 1

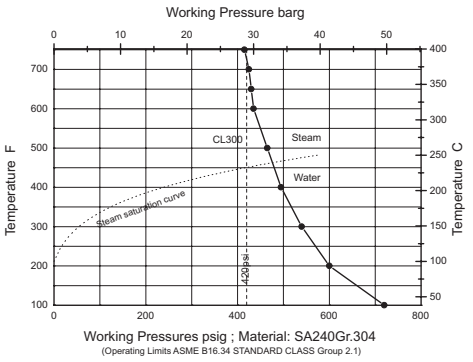
Maximaler Flow an hot condensate.

Curve 2

Maximum flow at cold condensate at about 20°C / 68°F
(during start-up of a cold installation).

Parts

Pos.	Description	Material, Material-Nr.
1	Body	SA182F321
11	Sealing ring (spiral wounded gasket)	with graphite
16	Hood	SA240Gr.304
17	Sealing ring (spiral wounded gasket)	with graphite
18	Retaining ring	A4
24	Capsule B (Diaphragm / Capsule)	Hastelloymembran / SA240Gr.304
27	Hexagon screw	SA193Gr.B16 (with metric screw-thread)
49	Sealing ring for plug *	A4
50	Plug (M14x1,5) *	SA182F321
58	Loose flange	SA182F321
* 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.

CONA®TD-Universal - Thermodynamic steam trap (Stainless steel)

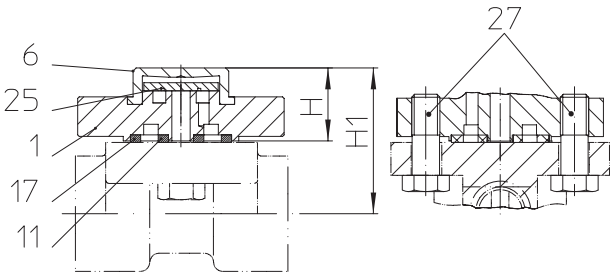


Fig. 642 without strainer
Universal-Flange with 2 x 3/8" UNC-Thread

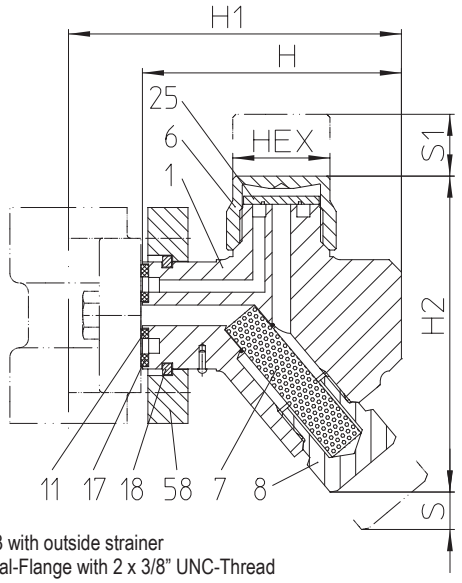


Fig. 643 with outside strainer
Universal-Flange with 2 x 3/8" UNC-Thread

- Thermodynamic steam trap in compact design for the condensate-discharge of steam systems.
- Intermittent mode of operation
- Integrated non return protection
- Robust and insensitive to waterhammer
- Constructions: - Fig. 642: without strainer
  - Fig. 643: with outside strainer
- Mounting position: - Fig. 642: any position
  - Fig. 643: always with drain plug upside down
- Can be combined with all types of CONA-Connector (refer to page 6)

Operating limits

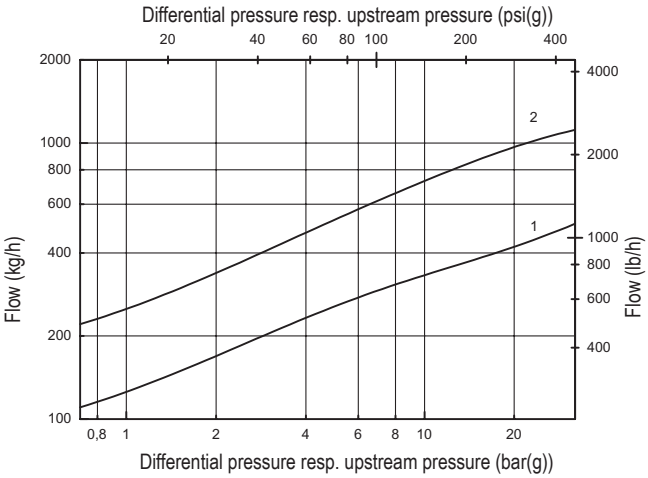
Fig. 55.642 / 55.643 (Y)	ANSI300 - SA470Gr.410 / SA182F6 A
Operating pressure PS (psig)	420
Operating temperature TS (°F)	752
Operating pressure PS (barü)	29
Operating temperature TS (°C)	400
allowable diff. pressure ΔPMX (psi):	420
allowable diff. pressure ΔPMX (bar):	29
permissible pressure ratio (barg):	Back pressure / Inlet press. ≤ 0,8

Connection

Universal-Flange	2 x 3/8" UNC-Thread

Dimensions and weights		Fig. 642	Fig. 643
H	(inch)	0.94	3.31
H1	(inch)	acc. to Connector-Type	
H2	(inch)	--	4.06
S	(inch)	--	1.77
S1	(inch)	--	0.79
HEX	(inch)	--	1.26
Weight approx.	(lbs)	0.88	2.87
H	(mm)	24	84
H1	(mm)	acc. to Connector-Type	
H2	(mm)	--	103
S	(mm)	--	45
S1	(mm)	--	20
HEX	(mm)	--	32
Weight approx.	(kg)	0,4	1,3

Capacity chart



The capacity chart shows the maximum flow rates.

Curve 1

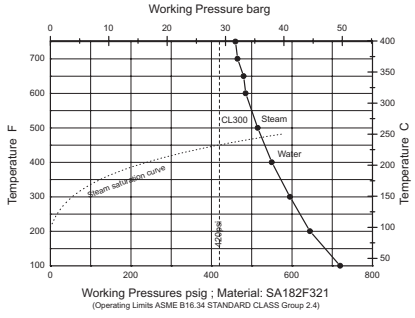
Maximum flow of hot condensate.

Curve 2

Maximum flow at cold condensate at about 20°C / 68°F
(during start-up of a cold installation).

Parts

Pos.	Description	Fig. 55.642	Fig. 55.643
1	Body	SA470Gr.410	SA182F6 A
6	Cap	SA470Gr.410	SA182F321
7	Strainer screen (Y)	--	SA240Gr.304
8	Strainer plug (Y)	--	SA182F321
11	Sealing ring (spiral wounded gasket)	with graphite	
17	Sealing ring (spiral wounded gasket)	with graphite	
18	Retaining ring	--	A4
25	Disc	AISI440	
27	Hexagon screw	SA193Gr.B16 (with metric screw-thread)	
58	Loose flange	--	SA182 F321



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.

CONA®-Connector - System connecter (Forged steel, Stainless steel)

- System connector for minimization of installation and maintenance space saving and compact design
- Fig. 683 / 684: with integrated, low-maintenance stop valve with gland seal (on request with maintenance free bellows seal design acc. to german clean air act “TA-Luft”)
- Optional: - blow down valve

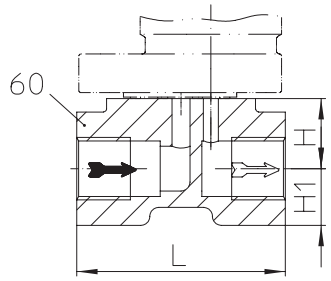


Fig. 681....2 with screwed sockets

Operating limits

Fig. 55.681	ANSI300 - SA351CF8
Operating pressure PS (psig)	420
Operating temperature TS (°F)	752
Operating pressure PS (barü)	29
Operating temperature TS (°C)	400

Fig. 45.682 / 45.683 / 45.684	ANSI300 - SA105
Operating pressure PS (psig)	464
Operating temperature TS (°F)	752
Operating pressure PS (barü)	32
Operating temperature TS (°C)	400

Fig. 55.682 / 55.683 / 55.684	ANSI300 - SA182F321
Operating pressure PS (psig)	464
Operating temperature TS (°F)	752
Operating pressure PS (barü)	32
Operating temperature TS (°C)	400

Types of connection

Flanges 1	ANSI300 acc. to ASME B16.5
Screwed sockets 2	Rp- and NPT-thread acc. to ASME B1.20.1
Socket weld ends 3	acc. to ASME B16.11
Butt weld ends 4	acc. to ASME B16.25

Other types of connection on request.

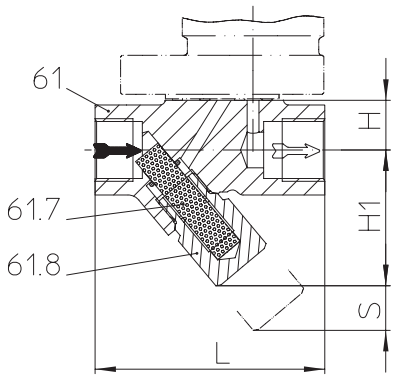


Fig. 682....2 with outside strainer and screwed sockets

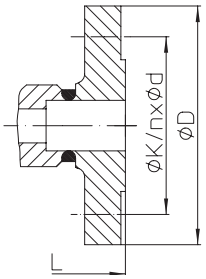


Fig. 682/683/684....1 with flanges

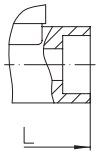


Fig. 681/682/683/684....3 with socket weld ends

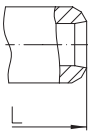


Fig. 682/683/684....4 with butt weld ends

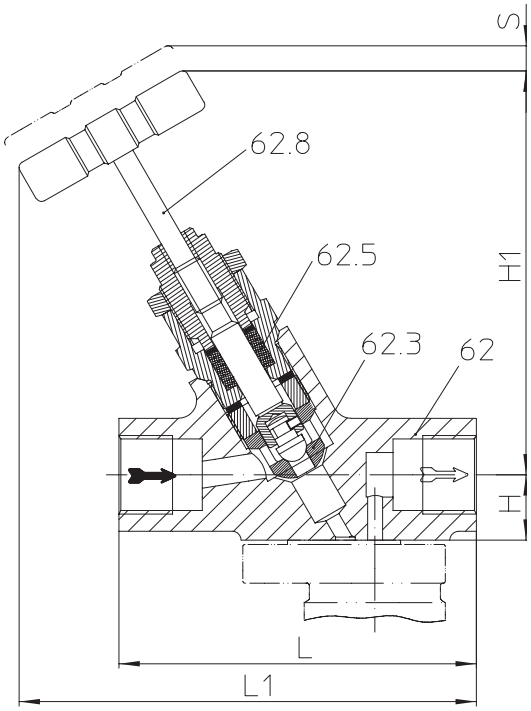


Fig. 683....2 with stop function at inlet and screwed sockets

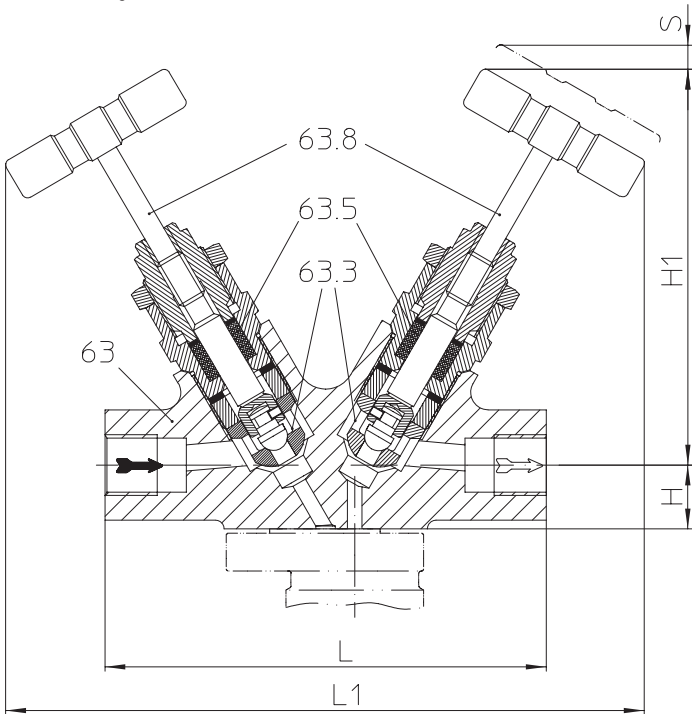
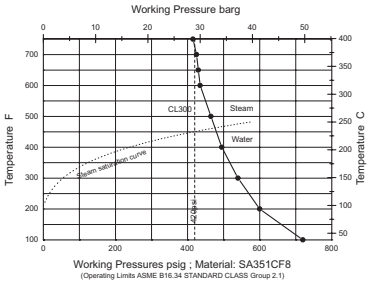


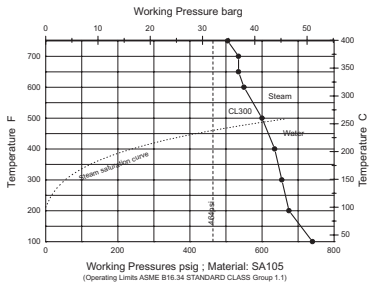
Fig. 684....2 with stop function at inlet and outlet and screwed sockets

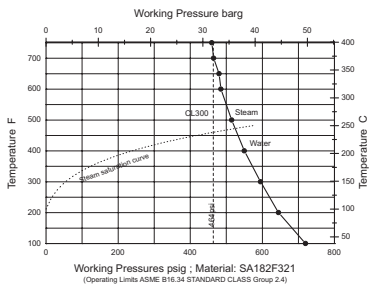
Dimensions and weights			Types of connection								
			Flanges			Screwed sockets Socket weld ends			Butt weld ends		
	NPS		1/2	3/4	1	1/2	3/4	1	1/2	3/4	1
L*	Fig. 681	(inch)	--	--	--	70	70	--	--	--	--
	Fig. 682	(inch)	5.91	5.91	6.30	3.74	3.74	6.30	9.84	9.84	9.84
	Fig. 683	(inch)	5.91	5.91	6.30	4.72	4.72	6.30	9.84	9.84	9.84
	Fig. 684	(inch)	7.87	7.87	8.07	5.98	5.98	8.07	9.84	9.84	9.84
L1	Fig. 683	(inch)	6.65	6.65	6.85	6.06	6.06	6.85	8.62	8.62	8.62
	Fig. 684	(inch)	8.66	8.66	8.66	8.66	8.66	8.66	8.66	8.66	8.66
H	Fig. 681	(inch)	0.93	0.93	0.93	9.93	0.93	0.93	0.93	0.93	0.93
	Fig. 682	(inch)	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
	Fig. 683	(inch)	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
	Fig. 684	(inch)	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
H1	Fig. 681	(inch)	--	--	--	0.75	0.75	--	--	--	--
	Fig. 682	(inch)	2.28	2.28	2.28	2.28	2.28	2.28	2.28	2.28	2.28
	Fig. 683	(inch)	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35
	Fig. 684	(inch)	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35
S	Fig. 682	(inch)	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18
	Fig. 683	(inch)	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
	Fig. 684	(inch)	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
Ø D		(inch)	3.74	4.61	4.88	--	--	--	--	--	--
Ø K		(inch)	2.62	3.25	3.50	--	--	--	--	--	--
n x Ød		(inch)	4x0.63	4x0.75	4x0.75	--	--	--	--	--	--
Weight approx.	Fig. 681	(lbs)	--	--	--	1.3	1.3	--	--	--	--
	Fig. 682	(lbs)	5.1	6.4	7.7	2.2	2.2	2.6	2.9	3.1	3.3
	Fig. 683	(lbs)	6.6	7.7	9.0	3.7	3.5	4.0	4.2	4.4	4.6
	Fig. 684	(lbs)	8.8	9.9	11.2	6.0	5.7	6.2	6.4	6.6	6.8

	Types of connection								
	Flanges			Screwed sockets Socket weld ends			Butt weld ends		
DN	15	20	25	15	20	25	15	20	25
(mm)	--	--	--	70	70	--	--	--	--
(mm)	150	150	160	95	95	160	250	250	250
(mm)	150	150	160	120	120	160	250	250	250
(mm)	200	200	205	152	152	205	250	250	250
(mm)	169	169	174	154	154	174	219	219	219
(mm)	220	220	220	220	220	220	220	220	220
(mm)	23,5	23,5	23,5	23,5	23,5	23,5	23,5	23,5	23,5
(mm)	21	21	21	21	21	21	21	21	21
(mm)	22	22	22	22	22	22	22	22	22
(mm)	22	22	22	22	22	22	22	22	22
(mm)	--	--	--	19	19	--	--	--	--
(mm)	58	58	58	58	58	58	58	58	58
(mm)	136	136	136	136	136	136	136	136	136
(mm)	136	136	136	136	136	136	136	136	136
(mm)	30	30	30	30	30	30	30	30	30
(mm)	10	10	10	10	10	10	10	10	10
(mm)	10	10	10	10	10	10	10	10	10
(mm)	95	117	124	--	--	--	--	--	--
(mm)	66,5	82,5	89	--	--	--	--	--	--
(mm)	4x16	4x19	4x19	--	--	--	--	--	--
(kg)	--	--	--	0,6	0,6	--	--	--	--
(kg)	2,3	2,9	3,5	1,0	1,0	1,2	1,3	1,4	1,5
(kg)	3,0	3,5	4,1	1,7	1,6	1,8	1,9	2,0	2,1
(kg)	4,0	4,5	5,1	2,7	2,6	2,8	2,9	3,0	3,1

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





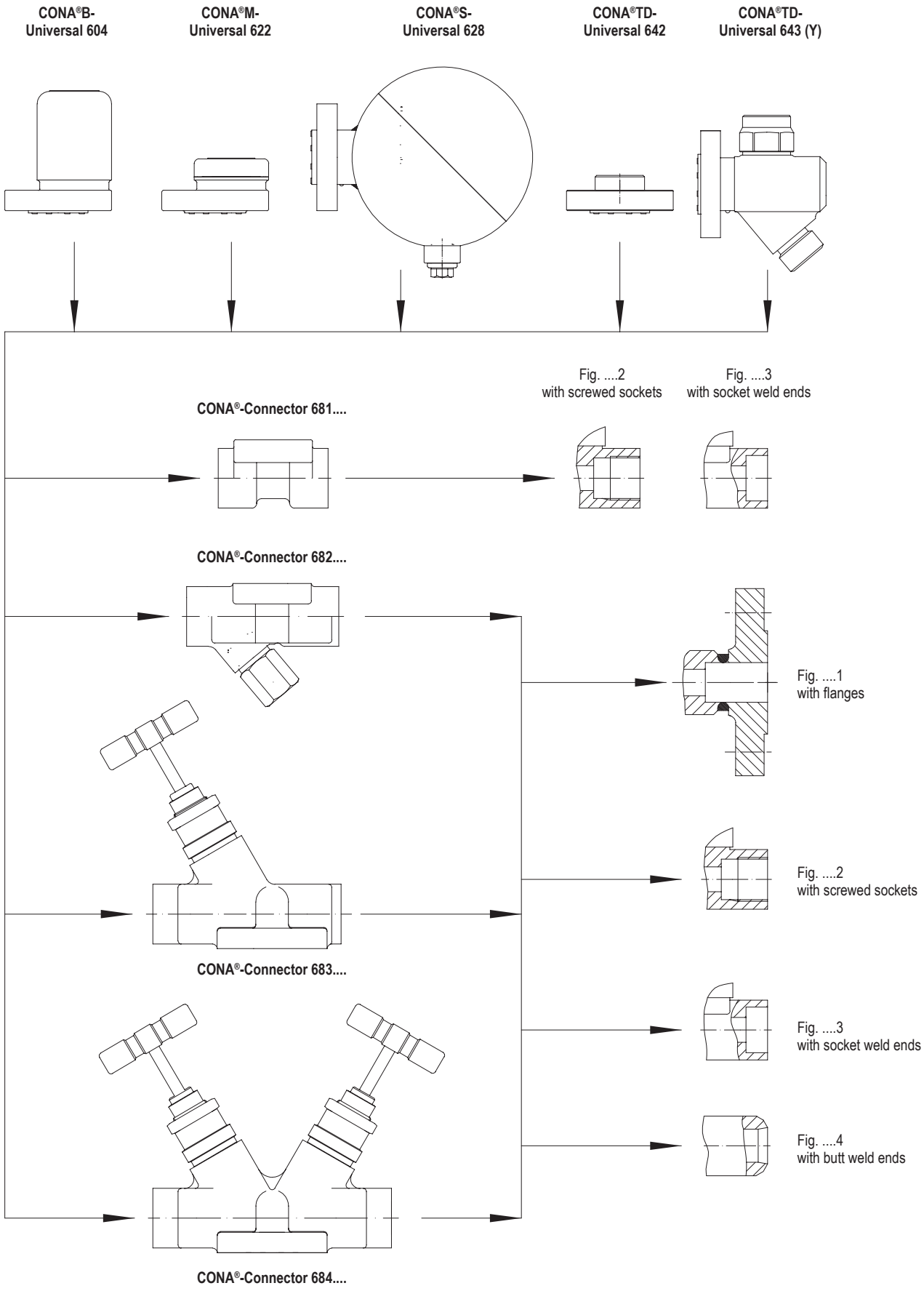


Parts

Pos.	Description	Fig. 45.682 / 683 / 684	Fig. 55.681	Fig. 55.682 / 683 / 684
60	Body (Fig. 681)	--	SA351CF8	--
61 (Y)	Body (Fig. 682)	SA105	--	SA182F321
61.7 (Y)	Strainer screen *	SA240Gr.304		
61.8 (Y)	Strainer plug *	SA182F321		
62	Body (Fig. 683)	SA105	--	SA182F321
62.3	Seat *	AISI303		
62.5	Sealing ring *	Pure graphite		
62.8	Assembly stop valve, cpl. *	SA240		
63	Body (Fig. 684)	SA105	--	SA182F321
63.3	Seat *	AISI303		
63.5	Sealing ring *	Pure graphite		
63.8	Assembly stop valve, cpl. *	SA240		
* 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.



ARI-Armaturen Albert Richter GmbH & Co. KG, D-33756 Schloß Holte-Stukenbrock,
Tel. +49 52 07 / 994-0, Telefax +49 52 07 / 994-158 or 159 Internet: http://www.ari-armaturen.com E-mail: info.vertrieb@ari-armaturen.com