Condensate collection / Steam distribution

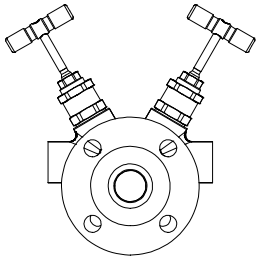
CODI® S 671/672 - 02 to 18
with gland packing
PN40

Vertical installation (02 to 18):

- with flanges	(Fig. 671....1)
- with socket weld ends	(Fig. 671....3)
- with butt weld ends	(Fig. 671....4)

Horizontal installation (02 to 09):

- with flanges	(Fig. 672....1)
- with socket weld ends	(Fig. 672....3)
- with butt weld ends	(Fig. 672....4)



Forged steel
Stainless steel Seite 2

Fig. 671

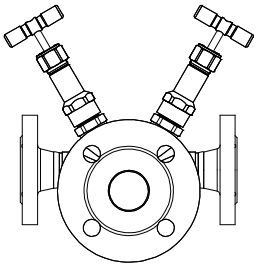
CODI® B 675/676 - 02 to 18
with bellows seal (maintenance-free)
PN40 / PN63

Vertical installation (02 to 18):

- with flanges	(Fig. 675....1)
- with socket weld ends	(Fig. 675....3)
- with butt weld ends	(Fig. 675....4)

Horizontal installation (02 to 09):

- with flanges	(Fig. 676....1)
- with socket weld ends	(Fig. 676....3)
- with butt weld ends	(Fig. 676....4)



Forged steel
Stainless steel Seite 4

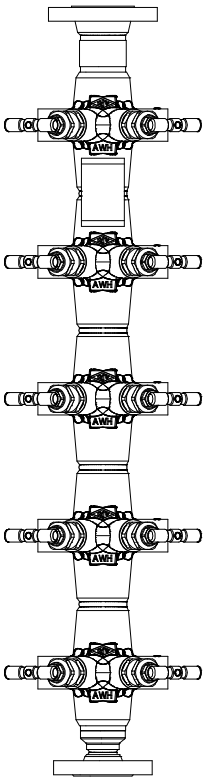


Fig. 671...-10

Features:

- Flexibility through compact, modular design (available with 2, 4, 6, 8, 10, 12, 14, 16 or 18 integrated stop valves!)
- All functional parts replaceable in situe - no need for manifold removal!
- Ventile wartungsarm (CODI S - Fig. 671 / 672) or maintenance-free (CODI B - Fig. 675 / 676) with Open-close- or Throttling function
- Safety back seat when fully opened valve!
- Economic on-site handling and long life (through forged steel and metallic sealing...)
- An insulating jacket provides optimal protection against energy loss (optional) !

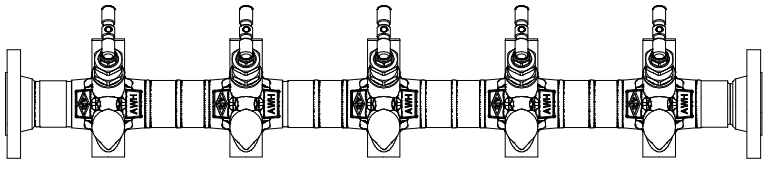


Fig. 672...-5

Manifolds for condensate collection and steam distribution with stuffing box (Forged steel)

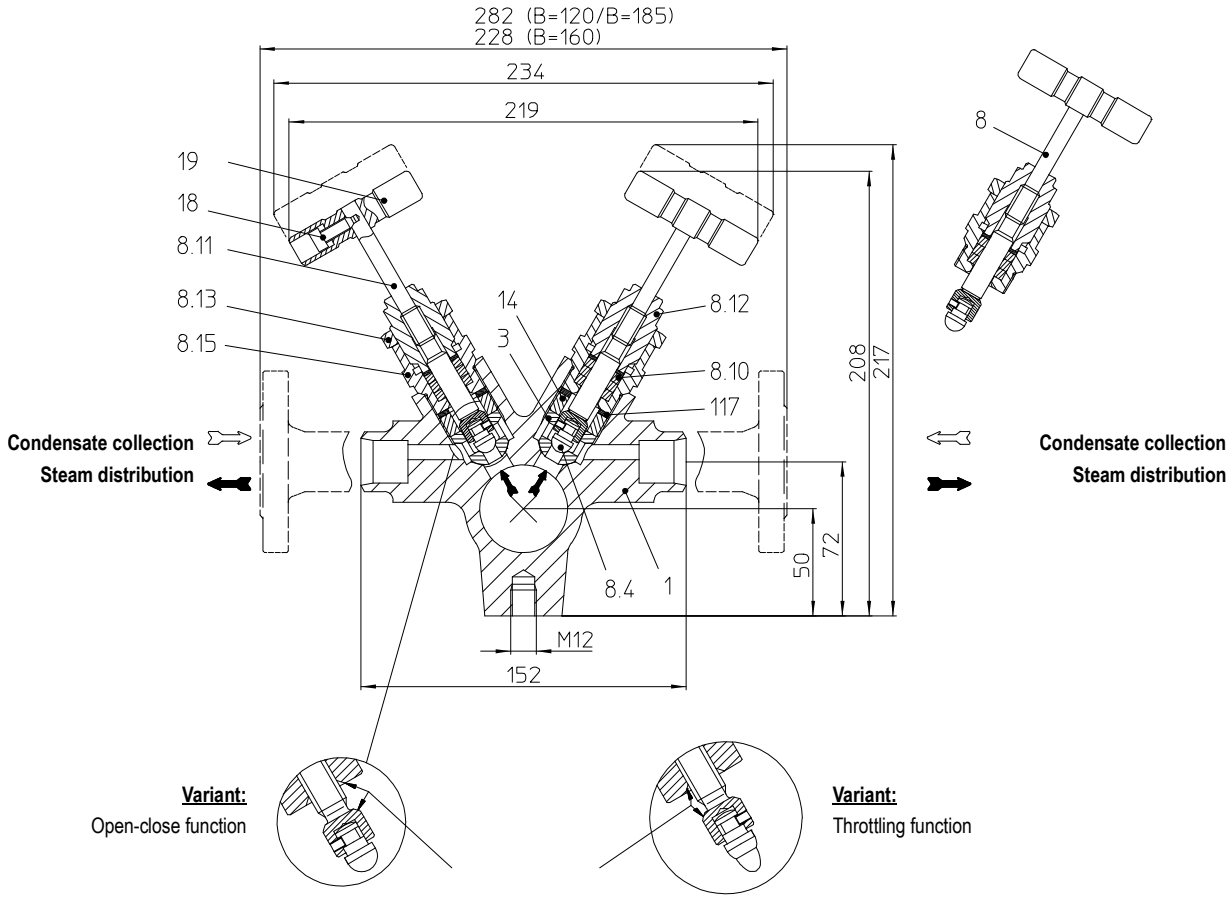


Fig. 671 Modul komplett

Safety back seat when fully opened valve

Figure		Nominal pressure	Material	Nominal diameter / NPS	Operating pressure PS	Inlet temperature TS
45.671... 45.672...	Fig. 671 up to 18 Secondary connection Fig. 672 up to 09 Secondary connection	PN40	1.0460	Primary connections DN 25 / 40 / 50 1" / 1 1/2" / 2"	32 barg	250 °C
					21 barg	400 °C
55.671... 55.672...		PN40	1.4541	Secondary connection DN 15 / 20 / 25 1/2" / 3/4" / 1"	32 barg	350 °C
					22 barg	400 °C
For ANSI versions refer to data sheet CODI®-ANSI						

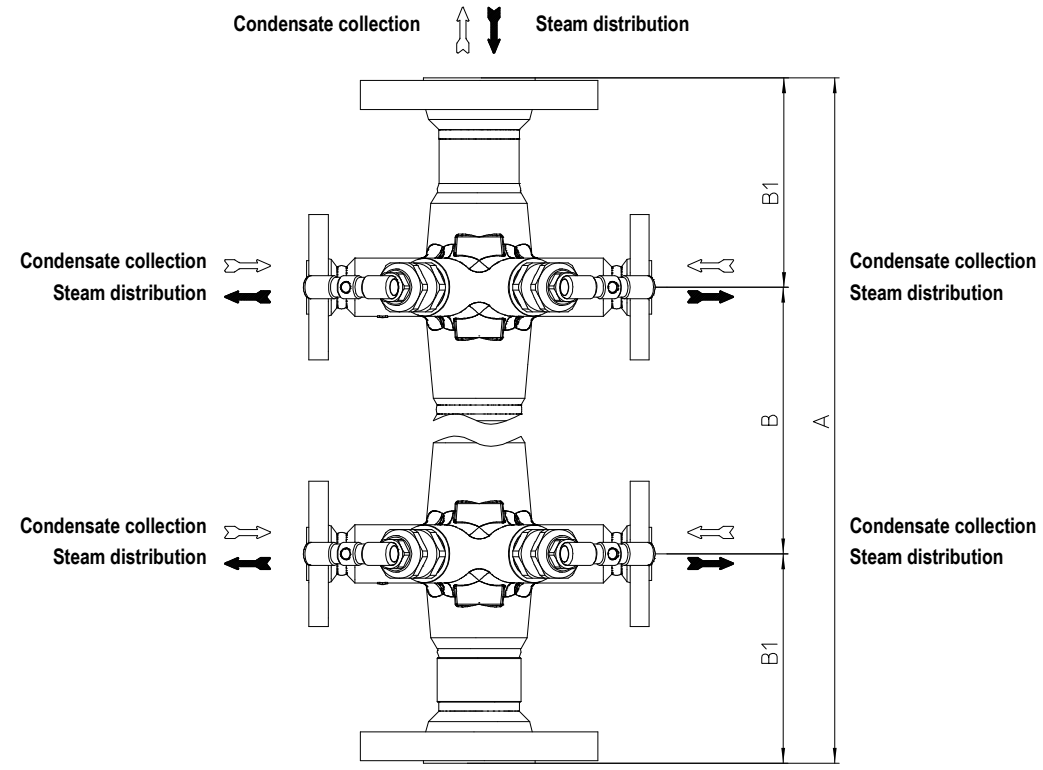
Plug design		
standard:	• Isolation plug (Open-close function)	Safety back seat when fully opened valve
optional:	• Throttling plug (Throttling function)	
Types of connection (Standard)		Other types of connection on request.
Primary connections: Fig. 671: top and bottom Fig. 672: left and right	• Flanges ....1 _____ acc. to DIN EN 1092-1 (PN40) • Screwed sockets ....2 ___ Rp thread acc. to DIN EN 10226-1 or NPT thread acc. to ANSI B1.20.1 • Socket weld ends ....3 ___ acc. to DIN EN 12760 • Butt weld ends ....4 _____ Weld preparation acc. to EN ISO 9692 identification No. 1.3 and 1.5 (Note restriction on operating pressure / inlet temperature depending to design!)	
Secondary connection: Fig. 671: left and right Fig. 672: top		
Features		
• Flexibility through compact, modular design (available with 2, 4, 6, 8, 10, 12, 14, 16 or 18 integrated stop valves!) • All functional parts replaceable in situe - no need for manifold removal! • Safety back seat when fully opened valve! • Economic on-site handling and long life (through forged steel and metallic sealing...)		
Mounting position		
• Preferably vertical (Fig. 671)	Threaded connection M12 are provided at the back for the attachment to a supporting structure.	
Options		(Design refer to page 8)
• Insulating jacket • Immersion tube	• Fastening parts (set) • Mounting wrench	

Parts				
Pos.	**Sp.p.**	**Description**	**Fig. 45.671 / 45.672**	**Fig. 55.671 / 55.672**
1		Body	P250GH, 1.0460	X6CrNiTi18-10, 1.4541
3	x	Seat	X8CrNiS18-9, 1.4305	
8	x cpl. unit	Assembly stop valve, cpl.	Stainless steel	
8.4		Valve ball	X39CrMo17-1+QT, 1.4122+QT	
8.10		Packing ring	Pure graphite	
8.11		Stem	X2CrNiMo17-12-2, 1.4404	
8.12		Threaded bush	X8CrNiS18-9, 1.4305	
8.13		Safety nut	X8CrNiS18-9, 1.4305	
8.15		Fitting	X8CrNiS18-9, 1.4305	
14	x	Banjo bolt	X8CrNiS18-9, 1.4305	
18	x	Cheese head screw	A2-70	
19	x	Hand grip	X14CrMoS17+QT, 1.4104+QT	
117	x	Sealing ring	Graphite	
		Other interior parts	Stainless steel	
	└ Spare parts			

Information / restriction of technical rules need to be observed!
Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview and Resistance list).
Operating and installation instructions can be downloaded at www.ari-armaturen.com.

DN			15	20	25	40	50
Length B1	B = 120 mm	(mm)	81	81	81	81	81
	B = 160 mm	(mm)	118	118	118	138	138

Flow direction in case of Steam distribution or Condensate collection



Dimensions and weights										Face-to-face acc. to data sheet resp. customer request
Fig. 671 / 672		**... -02**	**... -04**	**... -06**	**... -08**	**... -10**	**... -12**	**... -14**	**... -16**	**... -18**
PN40		**B = 120 mm**								Standard-flange dimensions refer to page 7
Dimension A	(mm)	162	282	402	522	642	762	882	1002	1122
Weight (approx.)	(kg)	3,5	7,2	10,7	14,7	17,7	21,2	24,7	28,2	31,7
PN40		**B = 160 mm**								Standard-flange dimensions refer to page 7
Dimension A	(mm)	162	322	482	642	802	962	1122	1282	1442
Weight (approx.)	(kg)	3,5	7,5	11	14,5	18	21,5	25	28,5	32

Condensate collection and Steam distribution with bellows seal maintenance-free (Forged steel)

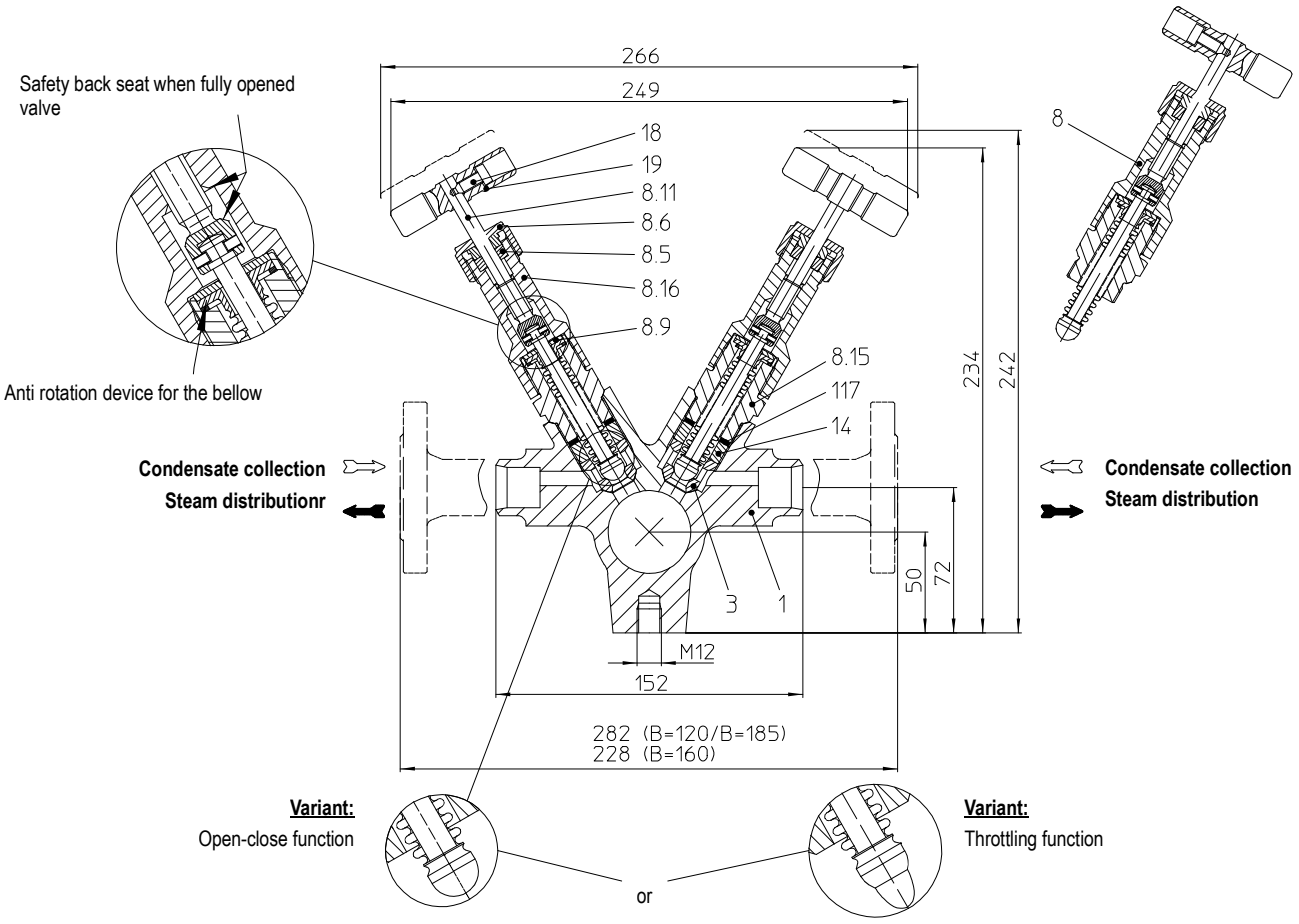


Fig. 675 Modul komplett

Figure		Nominal pressure	Material	Nominal diameter / NPS	Operating pressure PS	Inlet temperature TS
45.675... 45.676...	Fig. 675 up to 18 Secondary connection Fig. 676 up to 09 Secondary connection	PN40	1.0460	Primary connections DN 25 / 40 / 50 1" / 1 1/2" / 2" Secondary connection DN 15 / 20 / 25 1/2" / 3/4" / 1"	32 barg	250 °C
					21 barg	400 °C
55.675... 55.676...		PN40	1.4541		32 barg	350 °C
					22 barg	400 °C
46.675... 46.676...		PN63	1.0460		45 barg	250 °C
					32 barg	400 °C
For ANSI versions refer to data sheet CODI®-ANSI						

Plug design		
standard:	• Isolation plug (Open-close function)	Safety back seat when fully opened valve
optional:	• Throttling plug (Throttling function)	
Types of connection (Standard)		Other types of connection on request.
Primary connections: Fig. 675: top and bottom Fig. 676: left and right	• Flanges ....1 _____ acc. to DIN EN 1092-1 (PN40), DIN EN 1092-1 (PN63) • Screwed sockets ....2 ___ Rp thread acc. to DIN EN 10226-1 or NPT thread acc. to ANSI B1.20.1 • Socket weld ends ....3 ___ acc. to DIN EN 12760 • Butt weld ends ....4 _____ Weld preparation acc. to EN ISO 9692 identification No. 1.3 and 1.5 (Note restriction on operating pressure / inlet temperature depending to design!)	
Secondary connection: Fig. 675: left and right Fig. 676: top		
Features		
• Flexibility through compact, modular design (available with 2, 4, 6, 8, 10, 12, 14, 16 or 18 integrated stop valves!) • All functional parts replaceable in situe - no need for manifold removal! • Safety back seat when fully opened valve! • Economic on-site handling and long life (through forged steel and metallic sealing...)		
Mounting position		
• Preferably vertical (Fig. 675)	Threaded connection M12 are provided at the back for the attachment to a supporting structure.	
Options		(Design refer to page 8)
• Insulating jacket • Immersion tube	• Fastening parts (set) • Mounting wrench	

Parts				
Pos.	**Sp.p.**	**Description**	**Fig. 45.675 / 45.676 Fig. 46.675 / 46.676**	**Fig. 55.675 / 55.676**
1		Body	P250GH, 1.0460	X6CrNiTi18-10, 1.4541
3	x	Seat	X8CrNiS18-9, 1.4305	
8	x cpl. unit	Assembly stop valve, cpl.	Stainless steel	
8.5		Packing ring	Pure graphite	
8.6		Union nut	X14CrMoS17+QT, 1.4104+QT	
8.9		Safety washer	X5CrNi18-10, 1.4301	
8.11		Stem	X39CrMo17-1+QT, 1.4122+QT	
8.15		Fitting	X8CrNiS18-9, 1.4305	
8.16		Stem guiding	X8CrNiS18-9, 1.4305	
14	x	Banjo bolt	X8CrNiS18-9, 1.4305	
18	x	Cheese head screw	A2-70	
19	x	Hand grip	X14CrMoS17+QT, 1.4104+QT	
117	x	Sealing ring	Graphit	
		Other interior parts	Stainless steel	
	└ Spare parts			

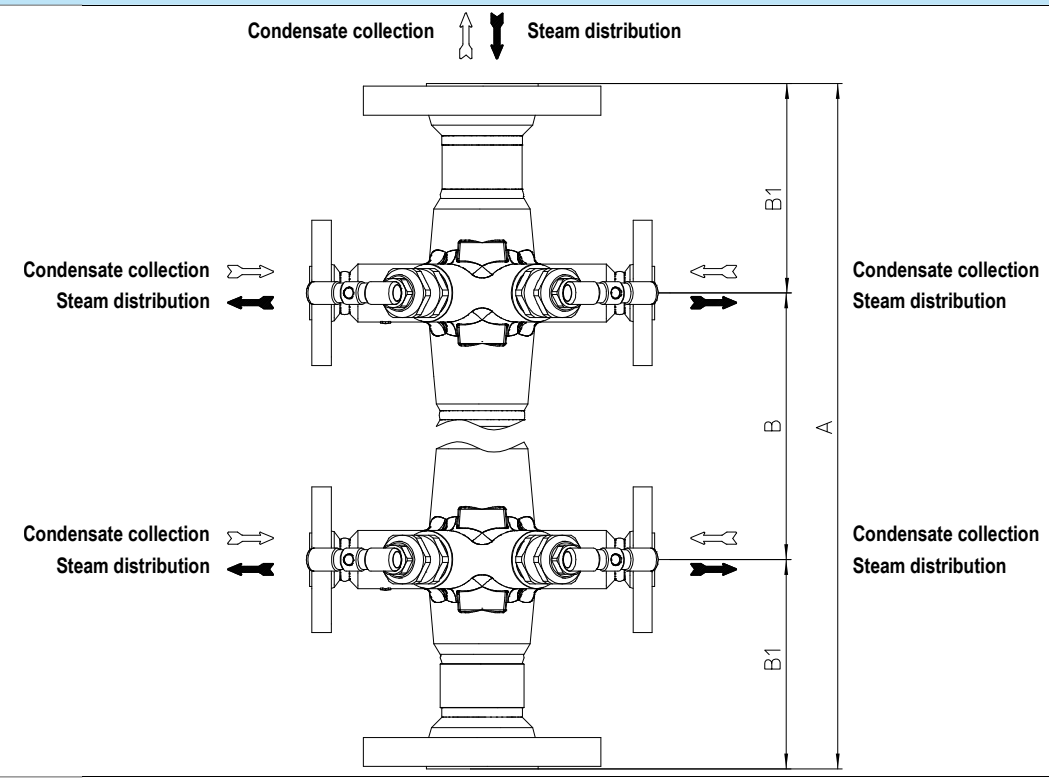
Information / restriction of technical rules need to be observed!

Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview and Resistance list).

Operating and installation instructions can be downloaded at www.ari-armaturen.com.

DN			15	20	25	40	50
Length B1	B = 120 mm	(mm)	81	81	81	81	81
	B = 160 mm	(mm)	118	118	118	138	138

Flow direction in case of Steam distribution or Condensate collection



Dimensions and weights									Face-to-face acc. to data sheet resp. customer request	
Fig. 675		**... -02**	**... -04**	**... -06**	**... -08**	**... -10**	**... -12**	**... -14**	**... -16**	**... -18**
PN40		**B = 120 mm**								Standard-flange dimensions refer to page 7
Dimension A	(mm)	162	282	402	522	642	762	882	1002	1122
Weight (approx.)	(kg)	3,5	7,2	10,7	14,7	17,7	21,2	24,7	28,2	31,7
PN40		**B = 160 mm**								Standard-flange dimensions refer to page 7
Dimension A	(mm)	162	322	482	642	802	962	1122	1282	1442
Weight (approx.)	(kg)	3,5	7,5	11	14,5	18	21,5	25	28,5	32
PN63		**B = 185 mm**								Standard-flange dimensions refer to page 7
Dimension A	(mm)	162	347	532	717	902	1087	1272	1457	1642
Weight (approx.)	(kg)	4	8,5	12,5	16,5	20,5	24,5	28,5	32,5	36,5

Operating ranges

Fig. 671/672 and Fig. 675/676 both can be applied as condensate collector or steam distributor. Applications are wide spread piping systems, steam tracers on pipes and apparatus. The flow media can be steam, water, oil etc. On the application as steam distributor the steam inlet is at the top flange. At the bottom outlet flange a steam trap shall be installed. On the application as condensate collector the outlet is at the top flange. At the bottom flange a blowdown valve shall be installed. In case of a vertical installation a siphon pipe should be applied. This ensures even temperature distribution thus pressure shocks and noise on condensate return are reduced..

The design is based on a robust module construction with integral stop valves (ball/seat). Body and stop valve are threaded together with a hard seal (metal to metal).

Integral stop valves on CODI S require low maintenance. All functional parts are replaceable in situ. There is no need for manifold removal from the pipe. Fig. 676 (CODI B bellows seal design for horizontal installation) and Fig. 675 (CODI B bellows seal design for vertical installation) are designed for those installations where we find the highest requirements for tight sealing to the open and maintenance free operation of the valve.

A clearance of 50 mm between the construction bracket and the condensate collector/steam distributor ensures that the insulation jacket can be wrapped around it.

During welding at the primary and secondary connections the integral stop valves have to be in an open position. Further precautions are not required..

Handling

The integral stop valves with shut-off plugs shall not be used for throttling of condensate or steam flows.
For throttling purposes the throttling plug shall be applied. The valves are generally equipped with back seats.

The advantage of Fig. 671/ 672 is that this additional back seat sealing protects the graphite packing and multiples it's longevity.

On Fig. 675/676 the back seat may be advantageous in case of damages to the bellows. On CODI B 675/676 no twist to the bellow will be effected due to the non-rotation lock.
The stop valves are screwed into the body without using a gasket (hard seal) If necessary, the union nut (pos. 6) can be tightened, but the stem must to be turned with normal forces!

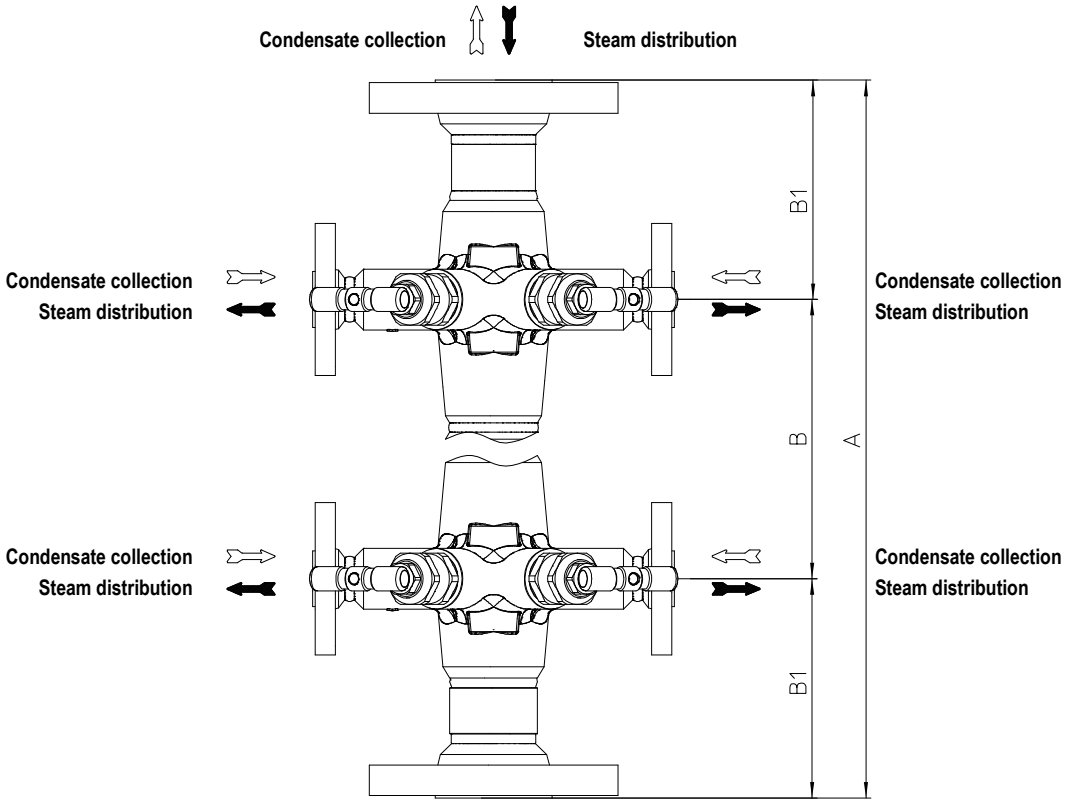
Basic types

Vertical installation		recommended for attachment
Fig. 671 / 675	-02	1 screw
Fig. 671 / 675	-04	2 screws
Fig. 671 / 675	-06	3 screws
Fig. 671 / 675	-08	3 screws
Fig. 671 / 675	-10	4 screws
Fig. 671 / 675	-12	4 screws
Fig. 671 / 675	-14	5 screws
Fig. 671 / 675	-16	5 screws
Fig. 671 / 675	-18	6 screws

Horizontal installation		recommended for attachment
Fig. 672 / 676	-02	1 screw
Fig. 672 / 676	-03	2 screws
Fig. 672 / 676	-04	3 screws
Fig. 672 / 676	-05	3 screws
Fig. 672 / 676	-06	4 screws
Fig. 672 / 676	-07	4 screws
Fig. 672 / 676	-08	5 screws
Fig. 672 / 676	-09	5 screws

Threaded connection M12 are provided at the back for the attachment to a supporting structure.

Working principle



Condensate collection	• Condensate inlet in port side (lateral) • Condensate outlet usually at the top • Opening and closing of the port side with stop valves
Steam distribution	• Steam inlet at the top • Steam outlet through port sides (lateral) • Opening and closing of the port side with stop valves

Informations about pipe welding

Welding groove acc. to DIN 2559

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

1.0460	P250GH acc. to DIN EN 10222-2
1.4541	X6CrNiTi18-10 acc. to DIN EN 10222-5

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

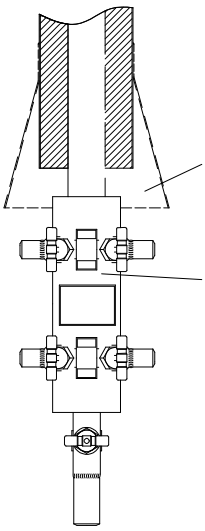
Because of the different material compositions and wall thickness of the steam traps and the pipe gas welding shall not be applied. Quenching cracks and coarse grain structure may develop.

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!

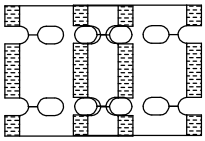
Standard-flange dimensions acc. to DIN EN 1092-1					**Primary connections**		
			Secondary connection				
DN			**15**	**20**	**25**	**40**	**50**
NPS			**1/2"**	**3/4"**	**1"**	**1 1/2"**	**2"**
PN40	ØD	(mm)	95	105	115	150	165
	ØK	(mm)	65	75	85	110	125
	n x Ød	(mm)	4 x 14	4 x 14	4 x 14	4 x 18	4 x 18
PN63	ØD	(mm)	105	130	140	170	180
	ØK	(mm)	75	90	100	125	135
	n x Ød	(mm)	4 x 14	4 x 18	4 x 18	4 x 22	4 x 22

Insulating jacket / pipe connection



Insulating jacket in mounted position

Insulating jacket preventing radiation of heat

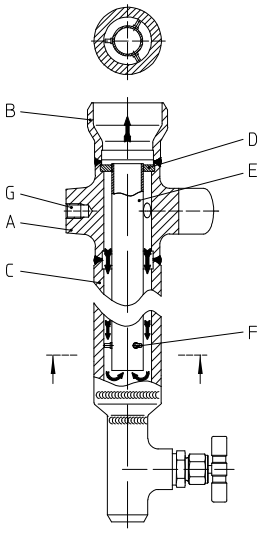


Cona insulating jackets provide a simple and effective heat insulation (suitable for every condensate collection / steam distribution)

Advantages:

- energy saving
- less radiation of heat to the atmosphere
- safety of the operation personal
- robust, non ageing
- resistance to heat
- low weight and flexible
- clean handling (no contact with the insulating material)
- free from asbestos
- water repellent
- simple disassembly and reusable

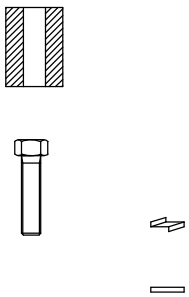
Immersion tube



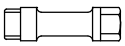
Condensate collector with immersion tube

Part	Description	
A	CODI® Module	
B	But weld end	
C	Welding bushing for the connection with an additional module	
D	Retainer	P250 GH, 1.0460
E	Immersion tube	X6CrNiTi18-10, 1.4541
F	Spacer	A2-50
G	Fixing point	

Fastening parts



- 1 Satz consisting of:
  - Distance sleeve
  - Hexagon bolt M12
  - Washer
  - Washer



- Mounting wrench for banjo bolt (14) for replacing the seat (3)