

The valve works as an automatic pressure releasing regulator activated by the static pressure existing at the entrance to the valve and is characterized by its ability to open instantly and totally.

Design in line with the "AD-MERKBLATT A2 Specifications sheet" and "Technical safety instructions for TRD-421 steam boilers".

In accordance with UNE 9-100-86 "Safety valves" (Steam boilers).

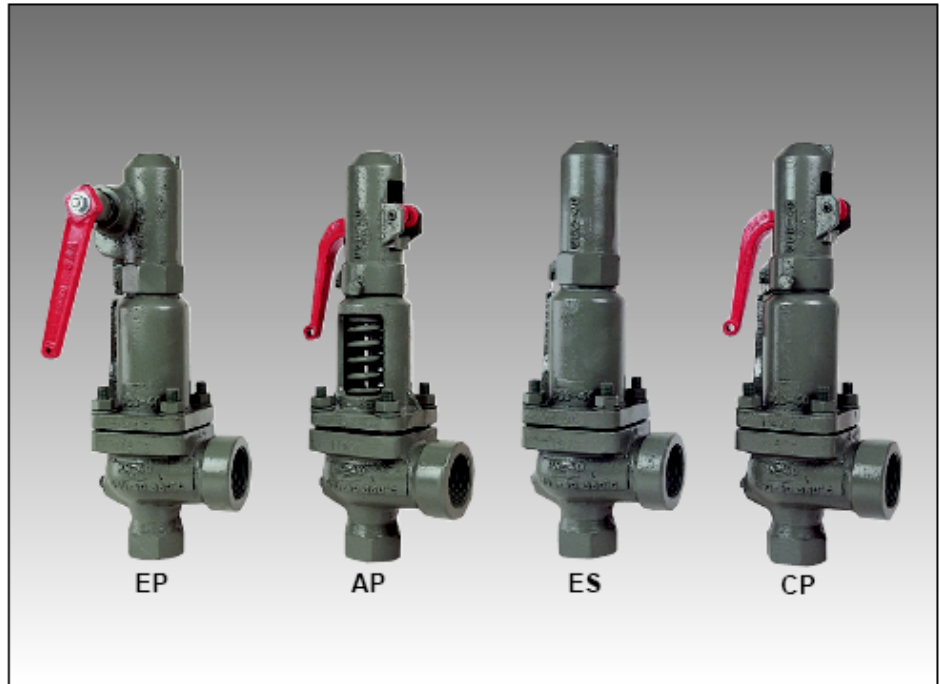
Component test stamp: TÜV Rheinland (German technical supervision authority).

Licence N.º:

PENDING ALLOCATION

**Specifications**

- 90° angular flow.
- Activated by direct action helicoid spring.
- Simplicity of construction ensuring minimum maintenance.
- Materials carefully selected for their resistance to corrosion. With the exception of washers and couplings, the valves are free of non-ferrous materials.
- Internal body designed to offer favourable flow profile.
- Sealing surfaces treated and balanced, making them extremely tightness, even exceeding DIN-3230 requirements. Page 3.
- Great discharge capacity. For liquids typically used with openings similar to proportional safety valves.
- Equipped with draining screws for removing condensation.
- Auto-centering plug.
- Threaded shaft with lever positioner facilitating immediate manual action.
- Elevator, independent of the seal, designed facilitate sudden opening when the steam expands and, with any fluid, guarantees absolute opening and closing precision.
- All the valves are supplied sealed at the set pressure requested, simulating operational conditions, and are vigorously tested.
- All components are numbered, registered and checked. If requested in advance, material, casting, test and efficiency certificates will be enclosed with the valve.



**IMPORTANT**

Depending on demand:

- 1.- Blocking screw which facilitates hydrostatic testing of the container which to be protected.
- 2.- Rapid limiter to reduce the coefficient of discharge.
- 3.- Fluorelastomer (Vitón) seals, Silicone's rubber, PTFE (Teflón)... etc., achieving leakage levels less than

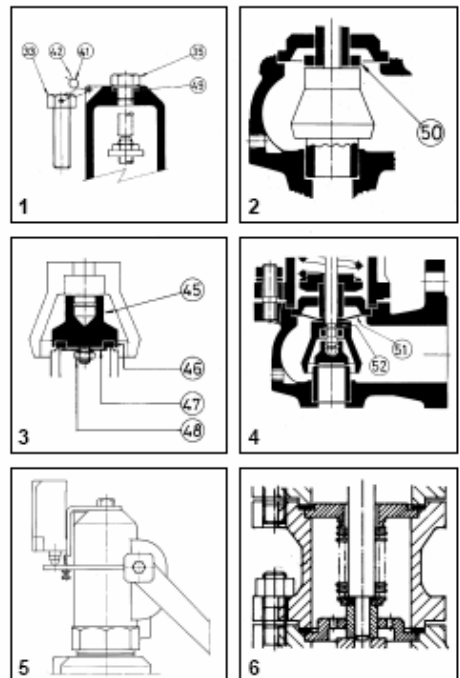
$$0,3 \times 10^{-3} \frac{\text{Pa} \cdot \text{cm}^2}{\text{sec}}$$

The ranges of application allow certain flexibility although we recommend limiting them to:

RANGE OF APPLICATION FOR THE SEALS					
FLUID	SET PRESSURE IN bar				
	0,2	1,0	4,0	16,0	70,0
Saturated steam	S	V	T		
Liquids and gases	S		V	T	
SEALS	TEMPERATURE IN °C				
		ACCORDING TO MANUFACTURERS		RECOMMENDED BY VVC	
		MINIMUM	MAXIMUM	MINIMUM	MAXIMUM
Silicone's rubber	S	-50	+200	-50	+115
Fluorelastomer (Vitón)	V	-40	+250	-90	+150
PTFE (Teflón)	T	-265	+260	-80	+230 (1)

(1) For temperatures exceeding 230°C apply metallic seal only.

- 4.- Fluorelastomer (Vitón) membrane and O-ring isolating the rotating or sliding parts from the working fluid.
- 5.- Electrical contact indicating open/closed.
- 6.- Balance bellows to:
  - Protect the spring from atmospheric influences.
  - Ensure outside of valve body is totally tightness.
  - Level out external or self-generated back pressure.
- 7.- Possibility of manufacture in other types of material, for special operating conditions (high temperatures, fluids, etc.).
- 8.- Totally free of oil and grease, to work with oxygen, avoiding possible fire risks (UV- Oxygen-VBG 62).
- 9.- Special springs for critical temperatures.



N <sup>o</sup> . PIECE	PIECE	MATERIAL																			
		CAST IRON	NODULAR IRON	CAST STEEL	STAINLESS STEEL																
1	Body	Cast iron (DIN-0.6025 GG-25)	Nodular iron (DIN-0.7040 GGG-40)	Cast steel (DIN-1.0619.01 GS-C 25N)	Stainless steel (DIN-1.4408) (ASTM A351 CF8M)																
2	Closed ball	Cast iron (DIN-0.6025 GG-25)	Nodular iron (DIN-0.7040 GGG-40)	Nodular iron (DIN-0.7040 GGG-40)	Stainless steel (DIN-1.4408) (ASTM A351 CF8M)																
3	Open ball	Cast iron (DIN-0.6025 GG-25)	Nodular iron (DIN-0.7040 GGG-40)	Cast steel (DIN-1.0619.01 GS-C 25N)	Stainless steel (DIN-1.4408) (ASTM A351 CF8M)																
4	Hood	Nodular iron (DIN-0.7040 GGG-40)	Nodular iron (DIN-0.7040 GGG-40)	Nodular iron (DIN-0.7040 GGG-40)	Stainless steel (DIN-1.4408) (ASTM A351 CF8M)																
5, 6	Elevator	Nodular iron (DIN-0.7040 GGG-40) (1)	Nodular iron (DIN-0.7040 GGG-40) (1)	Nodular iron (DIN-0.7040 GGG-40) (1)	Stainless steel (DIN-1.4408) (ASTM A351 CF8M)																
7	Cam	Nodular iron (DIN-0.7040 GGG-40) (1)	Nodular iron (DIN-0.7040 GGG-40) (1)	Nodular iron (DIN-0.7040 GGG-40) (1)	Stainless steel (DIN-1.4408) (ASTM A351 CF8M)																
8	Lever	Nodular iron (DIN-0.7040 GGG-40) (1)	Nodular iron (DIN-0.7040 GGG-40) (1)	Nodular iron (DIN-0.7040 GGG-40) (1)	Stainless steel (DIN-1.4408) (ASTM A351 CF8M)																
9, 10	Sealing	Stainless steel (DIN-1.4028) (AISI-420)	Stainless steel (DIN-1.4028) (AISI-420)	Stainless steel (DIN-1.4028) (AISI-420)	Stainless steel (DIN-1.4521) (AISI-320) (17-4PH)																
11	Plug	Stainless steel (DIN-1.4028) (AISI-420)	Stainless steel (DIN-1.4028) (AISI-420)	Stainless steel (DIN-1.4028) (AISI-420)	Stainless steel (DIN-1.4401) (AISI-315)																
12	Lead	Carbon steel (DIN-1.1191 Ck-45)	Carbon steel (DIN-1.1191 Ck-45)	Carbon steel (DIN-1.1191 Ck-45)	Stainless steel (DIN-1.4305) (AISI-302)																
13	Spring press	Stainless steel (DIN-1.4028) (AISI-420)	Stainless steel (DIN-1.4028) (AISI-420)	Stainless steel (DIN-1.4028) (AISI-420)	Stainless steel (DIN-1.4401) (AISI-315)																
14	Separator	Stainless steel (DIN-1.4028) (AISI-420)	Stainless steel (DIN-1.4028) (AISI-420)	Stainless steel (DIN-1.4028) (AISI-420)	Stainless steel (DIN-1.4401) (AISI-315)																
15	Rod	Carbon steel (DIN-1.1191 Ck-45)	Carbon steel (DIN-1.1191 Ck-45)	Carbon steel (DIN-1.1191 Ck-45)	Stainless steel (DIN-1.4305) (AISI-302)																
16	Lever shaft	Carbon steel (DIN-1.1231 Ck-67)	Carbon steel (DIN-1.1231 Ck-67)	Carbon steel (DIN-1.1231 Ck-67)	Stainless steel (DIN-1.4310) (AISI-301)																
17	Gudgeon	Stainless steel (DIN-1.4028) (AISI-420)	Stainless steel (DIN-1.4028) (AISI-420)	Stainless steel (DIN-1.4028) (AISI-420)	Stainless steel (DIN-1.4401) (AISI-315)																
18	Ring	Stainless steel (DIN-1.4028) (AISI-420)	Stainless steel (DIN-1.4028) (AISI-420)	Stainless steel (DIN-1.4028) (AISI-420)	Stainless steel (DIN-1.4401) (AISI-315)																
19	Sealing ring	Stainless steel (DIN-1.4302) (AISI-302)	Stainless steel (DIN-1.4302) (AISI-302)	Stainless steel (DIN-1.4302) (AISI-302)	Stainless steel (DIN-1.4302) (AISI-302)																
20, 21	Safety ring	Vanadium-chrome steel (DIN-1.8159 50CrV4) (2)	Vanadium-chrome steel (DIN-1.8159 50CrV4) (2)	Vanadium-chrome steel (DIN-1.8159 50CrV4) (2)	Stainless steel (DIN-1.4305) (AISI-302)																
22	Spring	Carbon steel (DIN-1.1191 Ck-45)	Carbon steel (DIN-1.1191 Ck-45)	Carbon steel (DIN-1.1191 Ck-45)	Stainless steel (DIN-1.4305) (AISI-302)																
23	Gland	Stainless steel (DIN-1.4305) (AISI-302)	Stainless steel (DIN-1.4305) (AISI-302)	Stainless steel (DIN-1.4305) (AISI-302)	Stainless steel (DIN-1.4305) (AISI-302)																
24	Hollow screw	Stainless steel (DIN-1.4305) (AISI-302)	Stainless steel (DIN-1.4305) (AISI-302)	Stainless steel (DIN-1.4305) (AISI-302)	Stainless steel (DIN-1.4305) (AISI-302)																
25	Hollow screw nut	Stainless steel (DIN-1.4305) (AISI-302)	Stainless steel (DIN-1.4305) (AISI-302)	Stainless steel (DIN-1.4305) (AISI-302)	Stainless steel (DIN-1.4305) (AISI-302)																
26	Bulfrut	Carbon steel (DIN-1.1141 Ck-15)	Carbon steel (DIN-1.1141 Ck-15)	Carbon steel (DIN-1.1141 Ck-15)	Stainless steel (DIN-1.4401) (AISI-315)																
27	Rod check nut	Carbon steel (DIN-1.1141 Ck-15)	Carbon steel (DIN-1.1141 Ck-15)	Carbon steel (DIN-1.1141 Ck-15)	Stainless steel (DIN-1.4401) (AISI-315)																
28, 29, 48	Nut	Carbon steel (DIN-1.1141 Ck-15)	Carbon steel (DIN-1.1141 Ck-15)	Carbon steel (DIN-1.1141 Ck-15)	Stainless steel (DIN-1.4401) (AISI-315)																
30, 31	Washer	Carbon steel (DIN-1.1141 Ck-15)	Carbon steel (DIN-1.1141 Ck-15)	Carbon steel (DIN-1.1141 Ck-15)	Stainless steel (DIN-1.4401) (AISI-315)																
32	Stud	Carbon steel (DIN-1.1181 Ck-35)	Carbon steel (DIN-1.1181 Ck-35)	Carbon steel (DIN-1.1181 Ck-35)	Stainless steel (DIN-1.4401) (AISI-315)																
33, 34, 35	Screw	Carbon steel (DIN-1.1191 Ck-45)	Carbon steel (DIN-1.1191 Ck-45)	Carbon steel (DIN-1.1191 Ck-45)	Stainless steel (DIN-1.4401) (AISI-315)																
36	Cap	Carbon steel (DIN-1.1181 Ck-35)	Carbon steel (DIN-1.1181 Ck-35)	Carbon steel (DIN-1.1181 Ck-35)	Stainless steel (DIN-1.4401) (AISI-315)																
38	Coupling	Ningent cardboard	Ningent cardboard	Ningent cardboard	PTFE (Teflon)																
39, 49	Coupling	Copper	Copper	Copper	PTFE (Teflon)																
40	Seal	Graphite	Graphite	Graphite	PTFE (Teflon)																
41	Seal	Lead	Lead	Lead	Lead																
42	Sealing wire	Sealing wire	Sealing wire	Sealing wire	Sealing wire																
43	Characteristic plate	Aluminium	Aluminium	Aluminium	Aluminium																
44	Rivets	Carbon steel (DIN-1.1141 Ck-15)	Carbon steel (DIN-1.1141 Ck-15)	Carbon steel (DIN-1.1141 Ck-15)	Stainless steel (DIN-1.4401) (AISI-315)																
45	Plug	Stainless steel (DIN-1.4401) (AISI-315)	Stainless steel (DIN-1.4401) (AISI-315)	Stainless steel (DIN-1.4401) (AISI-315)	Stainless steel (DIN-1.4401) (AISI-315)																
46	Sealing disk	PTFE (Teflon)	PTFE (Teflon)	PTFE (Teflon)	PTFE (Teflon)																
47	Washer	Silicone's rubber	Silicone's rubber	Silicone's rubber	Silicone's rubber																
50	Limit	Fluorolastomer (Viton)	Fluorolastomer (Viton)	Fluorolastomer (Viton)	Fluorolastomer (Viton)																
51	Membrane	Stainless steel (DIN-1.4401) (AISI-315)	Stainless steel (DIN-1.4401) (AISI-315)	Stainless steel (DIN-1.4401) (AISI-315)	Stainless steel (DIN-1.4401) (AISI-315)																
52	O-ring	Stainless steel (DIN-1.4028) (AISI-420)	Stainless steel (DIN-1.4028) (AISI-420)	Stainless steel (DIN-1.4028) (AISI-420)	Stainless steel (DIN-1.4401) (AISI-315)																
R <sub>1</sub> x R <sub>2</sub>		3/4" x 1 1/4" to 1" x 1 1/2"																			
PN		16																			
OPERATING	PRESSURE IN bar	16	13	13	13	40	35	32	28	24	40	35	32	28	24	21	20	40	34	32	29
	MAX. TEMP. IN °C	120	200	250	300	120	200	250	300	350	120	200	250	300	350	400	450	120	200	300	400
CONDITIONS	MIN. TEMP. IN °C	-10				-10				-10				-60							

(1) R<sub>1</sub>/R<sub>2</sub> 3/4" x 1 1/4" in stainless steel (DIN-1.4408) (ASTM A351 CF8M).

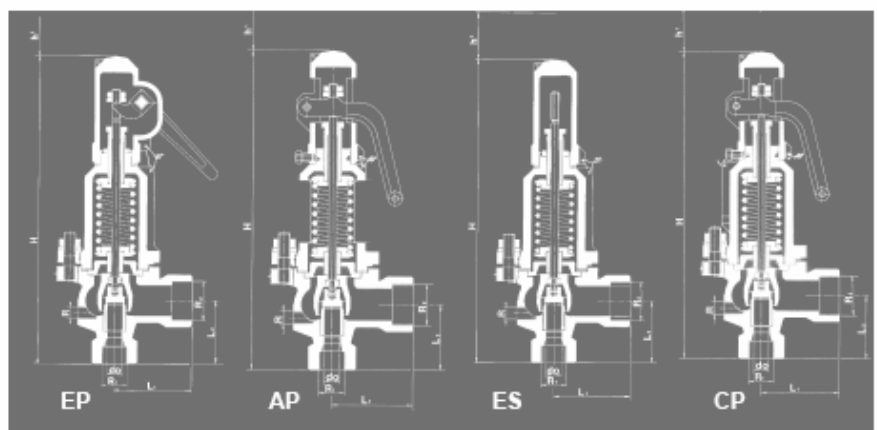
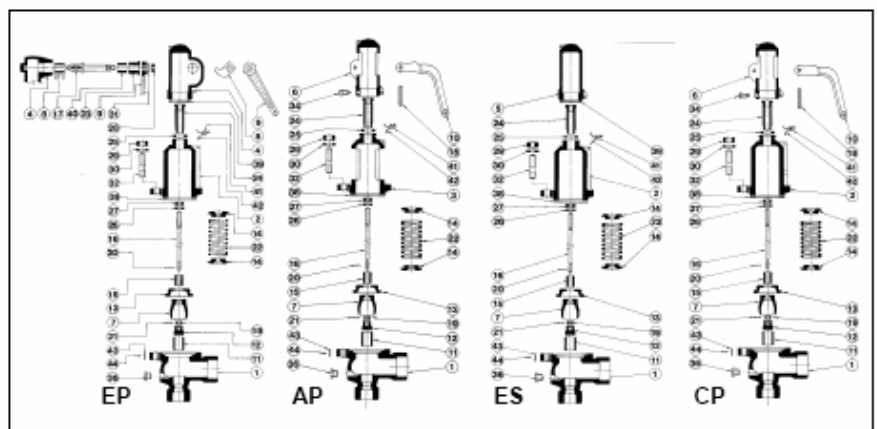
(2) Spring steel (DIN-1.0600 GRADE B) for wire spring Ø < 8 mm. Maximum temperature 250°C.

R <sub>1</sub> x R <sub>2</sub>		3/4" x 1 1/4"				1" x 1 1/2"			
CONNECTIONS		Whitworth cylindrical female thread ISO 228/1 G 1 1/2" (DIN-259)							
do		16				20			
A <sub>0</sub> = $\frac{\pi \cdot do^2}{4}$		201				314			
H		320				370			
h <sup>1</sup>		112				129			
L <sub>1</sub>		80				85			
L <sub>2</sub>		65				80			
R		1/4"				1/4"			
MODEL		EP	AP	ES	CP	EP	AP	ES	CP
WEIGHT IN KG	CAST IRON	5,24	4,84	4,84	5,04	6,80	5,88	6,12	6,32
	NODULAR IRON	5,97	5,31	5,33	5,73	7,47	6,88	6,94	7,14
	CAST STEEL	5,65	5,01	5,22	5,42	7,50	6,70	6,97	7,17
	STAINLESS STEEL								
CODE	CAST IRON	2002-495	8349	83461	83482	83483	8106	81081	81082
	NODULAR IRON	2002-495	8349	83461	83482	83483	8106	81081	81082
	CAST STEEL	2002-495	8344	83441	83442	83443	8104	81041	81042
	STAINLESS STEEL	2002-495	8102	81021	81022	81023	8102	81021	81022

Recommended ranges of application.  
Open and closed pressures in % of set pressure.  
Set pressures and regulating ranges.  
Coefficient of discharge.  
Discharge capacity.

See brochure Model 496.

Model 495 R, 3/4" x 1 1/4" - Model 496 DN - 20x32. do = 16.  
Model 495 R, 1" x 1 1/2" - Model 496 DN - 25x40. do = 20.



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