Full lift safety valve with spring loading.(AIT)

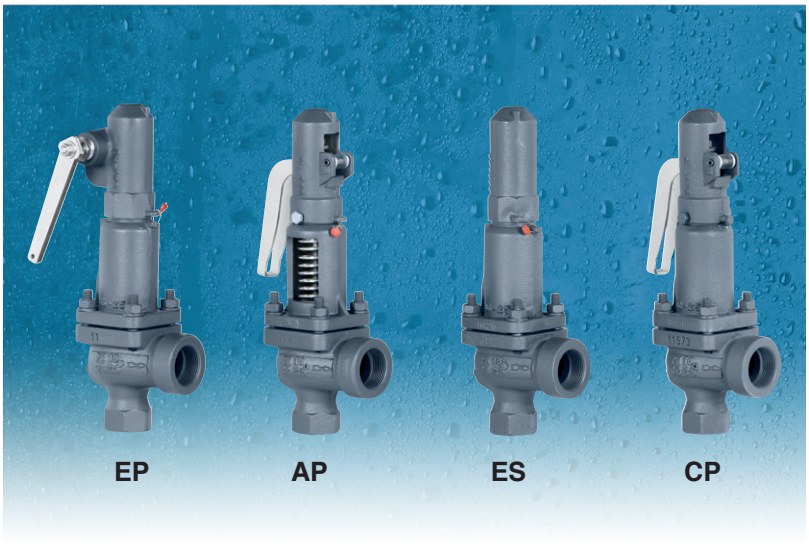
Model 485

VYC

ASME

Catalog available in International System Units (SI) in PDF format.

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 accordance with "ASME code section VIII". Materials according ASME code section II and ASTM.
Connections according ASME B1.20.1 standard.
In accordance with the requirements of the pressure equipment directive 2014/68/EU.
EC valve verification certified by: TÜV Internacional Grupo TÜV Rheinland, S.L. EC 0035.
Type (Module D) EC examination report nº 33530455 certified by: TÜV Internacional Grupo TÜV Rheinland, S.L.
In compliance with the ATEX 2014/34/EU directive "Protective equipment and systems for use in potentially explosive atmospheres".
Other authorisations: ISCIR, ITI, NASTHOL, EAC,...etc.



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-ferric materials.
— Internal body designed to offer favourable flow profile.
— Sealing surfaces treated and balanced, making them extremely tightness, even exceeding API-527 requeriments.
— 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, and the instruction manual, in accordance with P.E.D. 2014/68/EU.

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 (Viton) seals, Silicone's rubber, PTFE (Teflon)... etc., achieving leakage levels less than:

$$0{,}2 \times 10^{-8} \ \frac{\text{psi pulg.}^3}{\text{seg.}}$$

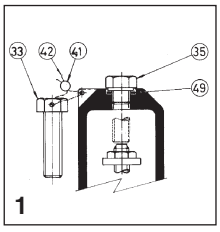
The ranges of application allow certain flexibility although we recommend limiting them to:

RANGE OF APPLICATION FOR THE SEALS						
FLUID		SET PRESSURE IN bar				
		2,90 — 26,11 — 58 — 69,62 — 101,5 — 435,10 — 580,2				
Saturated steam		S	V	T		
Liquids and gases		S		V	T	
SEALS		TEMPERATURE IN °C				
		ACCORDING TO MANUFACTURERS		RECOMMENDED BY VYC		
		MINIMUM	MAXIMUM	MINIMUM	MAXIMUM	
Silicone's rubber	S	–76	+392	-58	+239	
Fluorelastomer (Vitón)	V	–40	+482	-22	+302	
PTFE (Teflón)	T	–445	+500	-112	+446 (1)	

(1) For temperatures exceeding 446°F apply metallic seal only.

4.- Flourelastomer (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.



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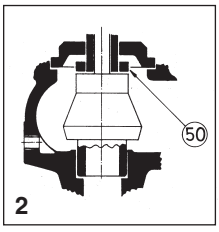

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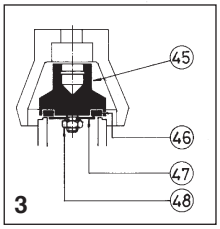

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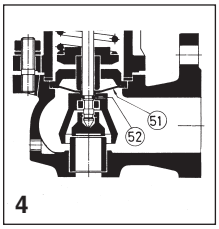

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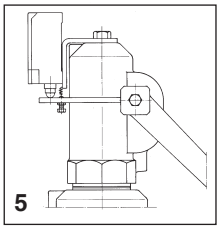
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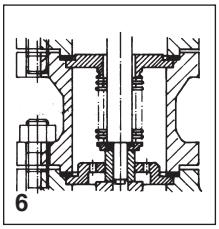
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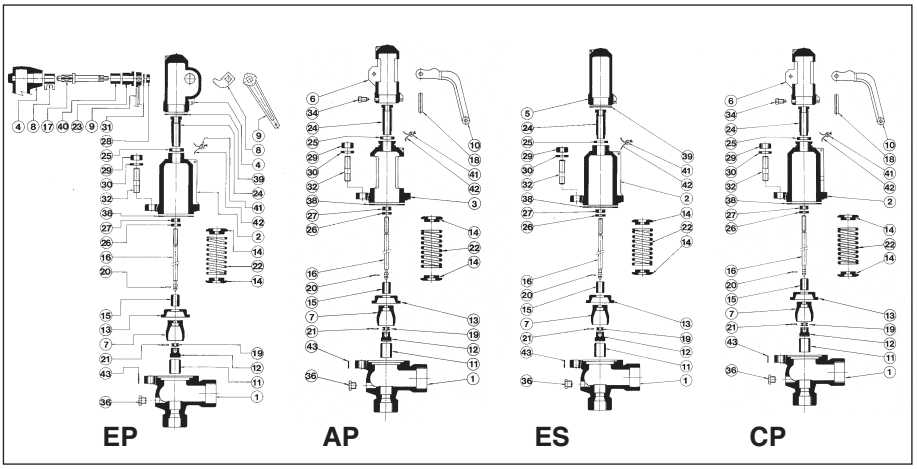
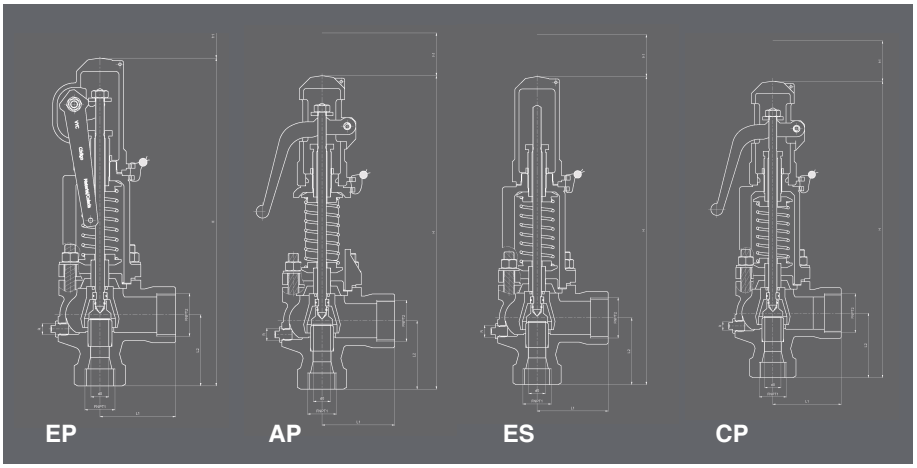
N° PIECE	PIECE	MATERIAL	
		CAST STEEL	STAINLESS STEEL
1	Body	Cast steel (ASTM A216 - WCB)	Stainless steel (ASTM A 351 - CF8M)
2	Closed bell	Nodular iron (ASTM A536 65 - 45 -12)	Stainless steel (ASTM A 351 - CF8M)
3	Open bell	Cast steel (ASTM A 216 - WCB)	Stainless steel (ASTM A 351 - CF8M)
4, 5, 6	Hood	Nodular iron (ASTM A 536 65 - 45 -12)	Stainless steel (ASTM A 351 - CF8M)
7	Elevator	Nodular iron (ASTM A 536 65 - 45 -12) (1)	Stainless steel (ASTM A 351 - CF8M)
8	Cam	Carbon steel (ASTM A 570 - 36) (3)	Stainless steel (AISI 304)
9, 10	Lever	Carbon steel (ASTM A 570 - 36)	Carbon steel (ASTM A 570 - 36)
11	Seating	Stainless steel (AISI 420)	Stainless steel (AISI 630)
12	Plug	Stainless steel (AISI 420)	Stainless steel (AISI 630)
13	Lead	Stainless steel (AISI 420)	Stainless steel (AISI 316)
14	Spring press	Carbon steel (AISI 1045)	Stainless steel (AISI 303)
15	Separator	Stainless steel (AISI 420)	Stainless steel (AISI 316)
16	Rod	Stainless steel (AISI 420)	Stainless steel (AISI 316)
17	Lever shaft	Carbon steel (AISI 1045)	Stainless steel (AISI 303)
18	Gudgeon	Carbon steel (AISI 1070)	Stainless steel (AISI 301)
19	Ring	Stainless steel (AISI 420)	Stainless steel (AISI 316)
20, 21	Safety ring	Stainless steel (AISI 301)	Stainless steel (AISI 301)
22	Spring	Vanadium chrome steel (AISI 6150 (2)	Stainless steel (AISI 301)
23	Gland	Carbon steel (AISI 1045)	Stainless steel (AISI 303)
24	Hollow screw	Stainless steel (AISI 303)	Stainless steel (AISI 303)
25	Hollow screw nut	Stainless steel (AISI 303)	Stainless steel (AISI 303)
26	Buffer nut	Stainless steel (AISI 303)	Stainless steel (AISI 303)
27	Rod check nut	Carbon steel (AISI 1015)	Stainless steel (AISI 316)
28, 29, 48	Nut	Carbon steel (AISI 1015)	Stainless steel (AISI 316)
30, 31	Washer	Carbon steel (AISI 1015)	Stainless steel (AISI 316)
32	Stud	Carbon steel (AISI 1035)	Stainless steel (AISI 316)
33, 34, 35	Screw	Carbon steel (AISI 1045)	Stainless steel (AISI 316)
36	Cap	Carbon steel (AISI 1035)	Stainless steel (AISI 316)
38	Coupling	Graphite	PTFE (Teflon)
39	Coupling	PTFE (Teflon)	PTFE (Teflon)
40	Seal	Graphite	PTFE (Teflon)
41	Seal	Plastic	Plastic
42	Sealing wire	Sealing wire	Sealing wire
43	Characteristic plate	Stainless steel (AISI 304)	Stainless steel (AISI 304)
45	Plug	Stainless steel (AISI 316)	Stainless steel (AISI 316)
46	Sealing disk	PTFE (Teflon)	PTFE (Teflon)
		Silicone's rubber	Silicone's rubber
		Fluorelastomer (Viton)	Fluorelastomer (Viton)
47	Washer	Stainless steel (AISI 316)	Stainless steel (AISI 316)
49	Coupling	Copper	PTFE (Teflon)
50	Limiter	Stainless steel (AISI 420)	Stainless steel (AISI 316)
51	Membrane	Fluorelastomer (Viton)	Fluorelastomer (Viton)
52	O-ring	Fluorelastomer (Viton)	Fluorelastomer (Viton)
FNPT1 x FNPT2		3/4" x 1 1/4" to 1" x 1 1/2"	
Class		300 lbs	300 lbs
OPERATING CONDITIONS	PRESSURE IN psi	580,15 / 580,15 / 580,15 / 577,25 / 545,34 / 503,28 / 410	580,15 / 517,79 / 458,32 / 426,41
	MAX. TEMP. IN °F	248 / 392 / 482 / 572 / 662 / 752 / 800	248 / 392 / 572 / 752
	MIN. TEMP. IN °F	-20,2	-20,2

(1) 3/4" FNPTx 1 1/4" FNPT in stainless steel (ASTM A351 CF8M)
(2) Maximum temperature EP, ES and CP 482°F / AP 752°F
(3) 3/4" FNPT x 1 1/4" FNPT in Stainless steel (AISI 304)

$FNPT_1$ X $FNPT_2$	3/4" x 1 1/4"				1" x 1 1/2"			
CONNECTIONS	Female thread NPT ASME B1.20.1							
API Orifice Letter	D-E				F			
do	0,63				0,79			
Ao	7,91				12,36			
H	12,60				14,57			
h^1	4,41				5,08			
L_1	3,15				3,35			
L_2	2,56				3,15			
R	1/4"				1/4"			
	Whitworth cylindrical female thread ISO 228/1 of 1978 (DIN-259)							
MODEL	EP	AP	ES	CP	EP	AP	ES	CP
WEIGHT IN kgs. CAST STEEL	12,46	11,05	11,51	11,95	16,53	14,77	15,37	15,81
WEIGHT IN kgs. STAINLESS STEEL								
CODE CAST STEEL 2002 - 485. 300 lbs	8344 D	83441 D	83442 D	83443 D	8104 F	81041 F	81042 F	81043 F
CODE STAINLESS STEEL 2002 - 485. 300 lbs	8342 D	83421 D	83422 D	83423 D	8102 F	81021 F	81022 F	81023 F





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 486.

Model 485 FNPT 3/4"x1 1/4"= Model 486 NPS-1"x2"do = 0,63
Model 485 FNPT 1"x1 1/2"= Model 486 NPS-1 1/2"x2"do = 0,79

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