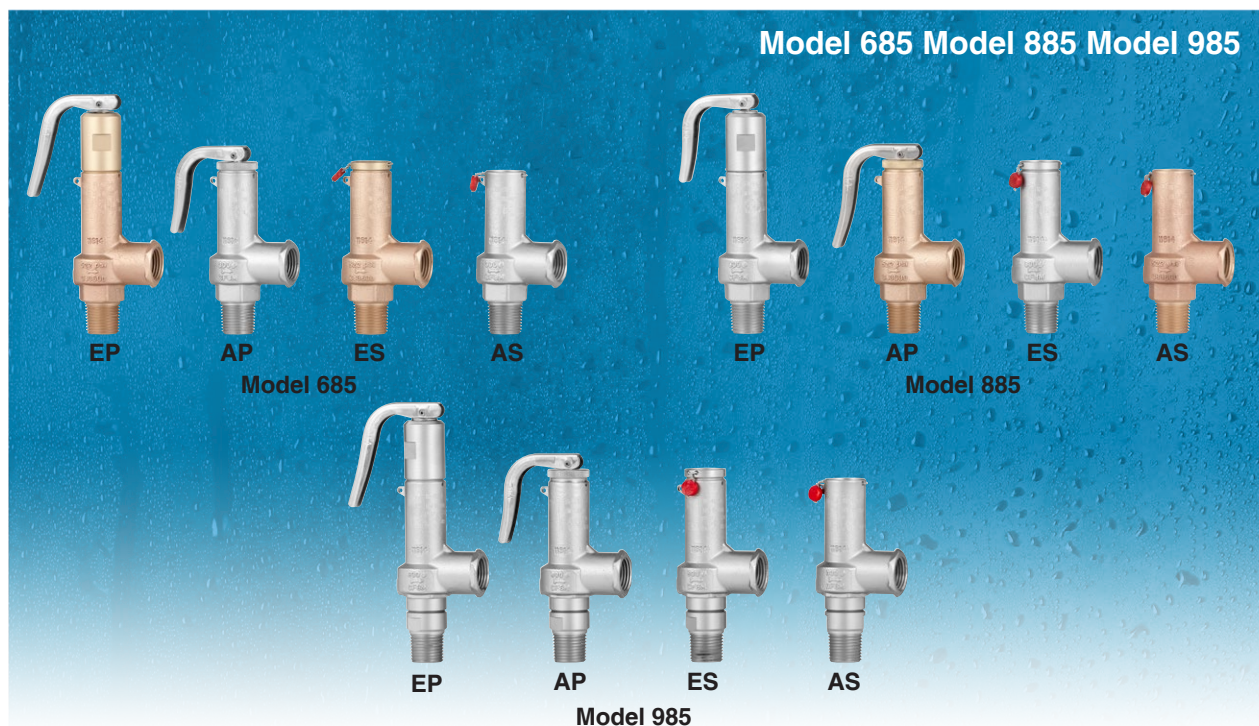


Full lift safety valve with spring loading. (AIT)



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.

Características

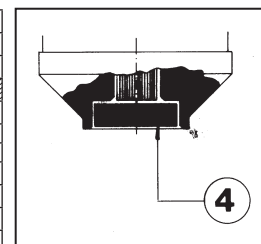
- 90° angular flow.
- Activated by direct action helicoid spring.
- Simplicity of construction ensuring minimum maintenance.
- Materials carefully selected for their resistance to corrosion.
- Internal body designed to offer favourable flow profile.
- Sealing surfaces balanced and making them extremely tightness, even exceeding API-527 requirements.
- Great discharge capacity. For liquids typically used with openings similar to proportional safety valves.
- Auto-centering plug.
- Totally precise open and close.
- 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

1.- Fluorelastomer (Vitón) seals, Silicone's rubber, PTFE (Teflón) o Perfluorelastomer (FFKM).

Achieving leakage levels less than: $0,2 \times 10^{-8} \frac{\text{psi pulg}^3}{\text{seg.}}$

		RANGE OF APPLICATION FOR THE SEALS							
		SET PRESSURE IN psi							
FLUID		2,90	26,10	69,61	290,07	435,11	523,58	652,67	2088,54
Saturated steam		S		V	K	T			
Liquids and gases		S		V	K	T			
SEALS		MINIMUM				MAXIMUM			
Silicone's rubber		S	-58			392			
Fluorelastomer (Viton)		V	-4			428			
PTFE (Teflon)		T	-320,8			500			
Perfluorelastomer (FFKM)		K	14			482			



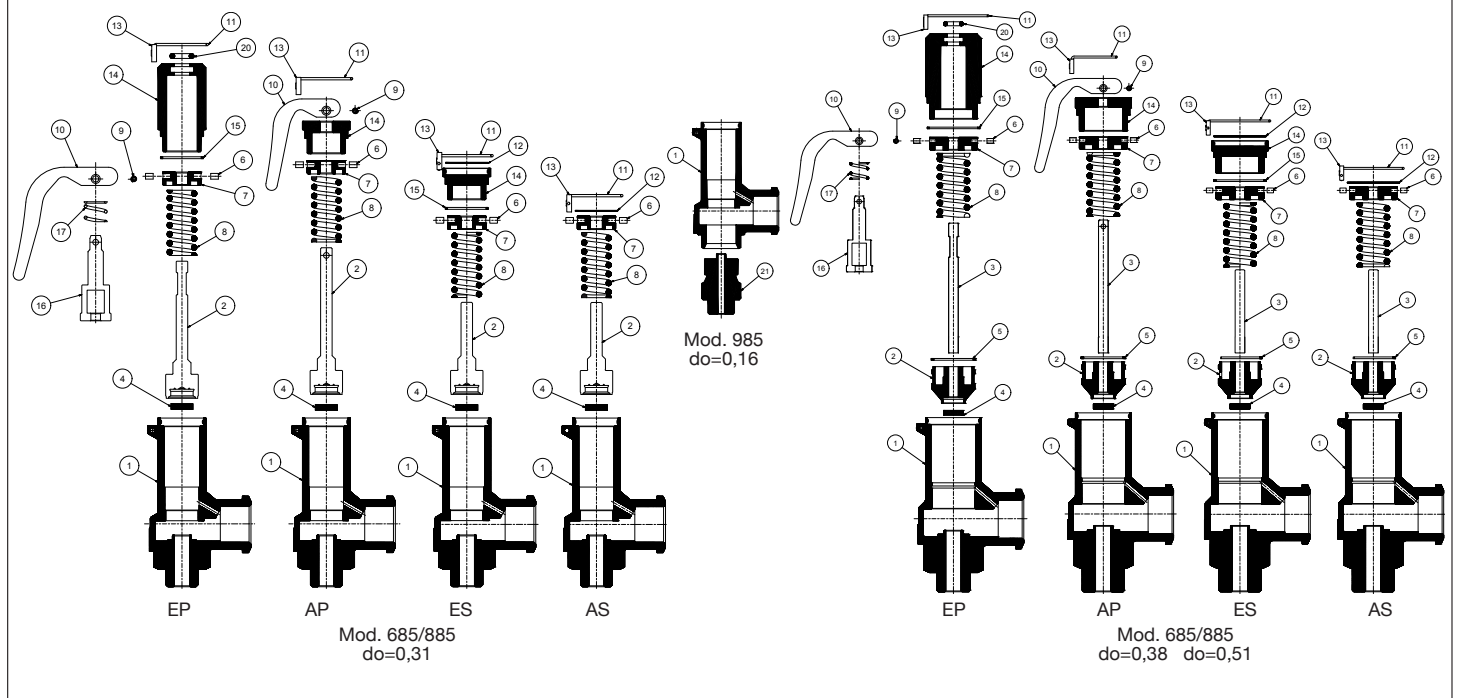
Depending on demand:

1. Buna-nitrils seals, Butyl, Natural rubber, E.P.D.M., Chlorosulphonate polyethylene (Hypalon), Neoprene, etc.
2. Possibility of manufacture in other types of material, for use in special working conditions (high temperatures, fluids, etc.).

N.º PIECE	PIECE	MATERIAL	
		BRONZE	STAINLESS STEEL
1	Body	Bronze (ASTM UNS C83600)	Stainless steel (ASTM A351 CF8M)
2	Plug	Brass (ASTM C38000)	Stainless steel (AISI 316)
3	Shaft	Stainless steel (AISI 303)	Stainless steel (AISI 303)
4	Seal	Silicone rubber	Silicone rubber
		Fluorelastomer (Viton)	Fluorelastomer (Viton)
		PTFE (Teflon)	PTFE (Teflon)
		Perfluorelastomer (FFKM)	Perfluorelastomer (FFKM)
5	Limiter ring	Stainless steel. (AISI 301)	Stainless steel (AISI 301)
6	End-stop	PTFE (Teflon)	PTFE (Teflon)
7	Spring press	Brass (ASTM C38000)	Stainless steel (AISI 303)
8	Spring	Stainless steel (AISI 301)	Stainless steel (AISI 301)
9	Clip	Stainless steel (AISI 301)	Stainless steel (AISI 301)
10	Lever	Stainless steel (AISI 304)	Stainless steel (AISI 304)
11	Sealing wire	Sealing wire	Sealing wire
12	Characteristic plate	Aluminium	Aluminium
13	Seal	Plastic	Plastic
14	Cap	Brass (ASTM C38000)	Stainless steel (AISI 303)
15	Hood coupling	PTFE (Teflon)	PTFE (Teflon)
16	Piston	Brass (ASTM C38000)	Stainless steel. (AISI 303)
17	Piston Spring	Stainless steel (AISI 301)	Stainless steel (AISI 301)
18	Inlet clamp	-	Stainless steel (AISI 316L)
19	Outlet clamp	-	Stainless steel (AISI 316L)
20	O-ring	Fluorelastomer (Vitón) (1)	Fluorelastomer (Vitón) (1)
21	Seat	-	-

MODEL		MNPT ₁ xFNPT ₂	3/8"x1/2" a 1"x1"		
			Class	PMS 522,14 psi	300 lbs
685	OPERATING CONDITIONS	MNPT ₁ xFNPT ₂	Class	PMS 522,14 psi	300 lbs
			PRESSURE IN psi	522,14	522,14
			MAX. TEMPERATURE IN °F	392	482
			MIN. TEMPERATURE IN °F	-76	-76
885	OPERATING CONDITIONS	MNPT ₁ xFNPT ₂	Class	PMS 522,14 psi	300 lbs
			PRESSURE IN psi	522,14	522,14
			MAX. TEMPERATURE IN °F	392	482
			MIN. TEMPERATURE IN °F	-320,80	-320,80
985	OPERATING CONDITIONS	MNPT ₁ xFNPT ₂	Class		900 lbs
			PRESSURE IN psi	-	2088,54
			MAX. TEMPERATURE IN °F	-	482
			MIN. TEMPERATURE IN °F	-	-76

(1) Mod. 895; Perfluorelastomer (FFKM)



Full lift safety valve with spring loading (AIT) version EP.

1. Disassembly and assembly

1.1 Disassembly

To replace the spring (8) or clean any of the internal components of the valve, proceed in the following manner:

- A - Cut the seal thread (11) with pliers.
- B - Withdraw the fastener (9), using a punching tool, until the lever (10) comes free.
- C - Unscrew and extract the hood (14).
- D - Unscrew the piston (16) from the rod (3) and then the screw cap (22).
- E - Holding the rod (3), unscrew the spring press (7) until you note a releasing of the spring (8).
- F - Extract the spring (8).

1.2 Assembly

- A - Enter the spring (8) through the upper part of the rod (3).
- B - Screw the spring press (7) holding the rod (3) and the screw cap (22).
- C - Adjust the set pressure with the spring press (7).
- D - Screw the piston (16) to the rod (3).
- E - Screw the hood (14).
- F - Place the lever (10) and fix it with the fastener (9).

2. Adjusting the firing pressure

- A - Proceed according to points 1.1.A, 1.1.B, 1.1.C, 1.1.D, 1.1.E.
- B - Proceed according to points 1.2.C, 1.2.D, 1.1.E, 1.1.F.

Full lift safety valve with spring loading (AIT) version AP.

1. Disassembly and assembly

1.1 Disassembly

To replace the spring (8) or clean any of the internal components of the valve, proceed in the following manner:

- A - Cut the seal thread (11) with pliers.
- B - Withdraw the clip (9), using a punching tool, until the lever (10) comes free.
- C - Unscrew and extract the hood (14).
- D - Holding the rod (3), unscrew the spring press (7) until you note a releasing of the spring (8).
- E - Extract the spring (8).

1.2 Assembly

- A - Enter the spring (8) through the upper part of the rod (3).
- B - Screw the spring press (7) holding the rod (3).
- C - Adjust the set pressure with the spring press (7).
- D - Screw the hood (14).
- E - Place the lever (10) and fix it with the fastener (9).

2. Adjusting the firing pressure

- A - Proceed according to points 1.1.A, 1.1.B, 1.1.C, 1.1.D.
- B - Proceed according to points 1.2.C, 1.2.D, 1.1.E.

Full lift safety valve with spring loading (AIT) version ES.

1. Disassembly and assembly

1.1 Disassembly

To replace the spring (8) or clean any of the internal components of the valve, proceed in the following manner:

- A - Cut the seal thread (11) with pliers and extract the characteristic plate (12).
- B - Unscrew and extract the hood (14).
- C - Holding the rod (3), unscrew the spring press (7) until you note a releasing of the spring (8).
- D - Extract the spring (8).

1.2 Assembly

- A - Enter the spring (8) through the upper part of the rod (3).
- B - Screw the spring press (7) holding the rod (3).
- C - Adjust the set pressure with the spring press (7).
- D - Screw the hood (14).

2. Adjusting the firing pressure

- A - Proceed according to points 1.1.A, 1.1.B, 1.1.C.
- B - Proceed according to points 1.2.C, 1.2.D.

Full lift safety valve with spring loading (AIT) version AS.

1. Disassembly and assembly

1.1 Disassembly

To replace the spring (8) or clean any of the internal components of the valve, proceed in the following manner:

- A - Cut the seal thread (11) with pliers and extract the characteristic plate (12).
- B - Holding the rod (3), unscrew the spring press (7) until you note a releasing of the spring (8).
- C - Extract the spring (8).

1.2 Assembly

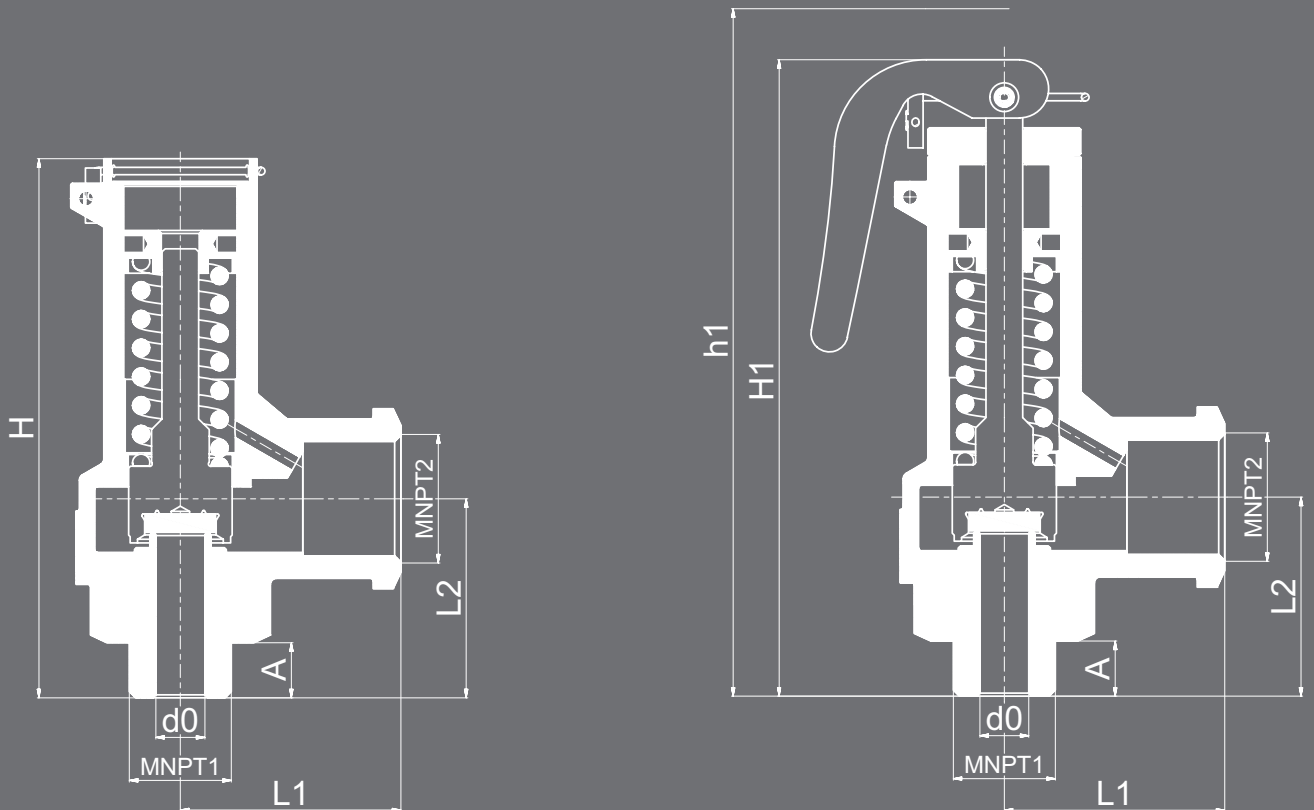
- A - Enter the spring (8) through the upper part of the rod (3).
- B - Screw the spring press (7) holding the rod (3).
- C - Adjust the set pressure with the spring press (7).

2. Adjusting the firing pressure

- A - Proceed according to points 1.1.A, 1.1.B.
- B - Proceed according to points 1.2.C.

MODEL 685/885/985

MNPT ₁ xFNPT ₂		3/8"x1/2"				1/2"x 1/2"				1/2"x 3/4"		
CONNECTIONS		Male thread x Female thread NPT ASME B1.20.1										
d ₀	685/885	0,31								0,38		
	985	0,16										
$A_0 = \frac{\pi \cdot d_0^2}{4}$	685/885	0,08								0,12		
	985	0,02										
H	685/885	-	3,71	-	-	-	3,89	-	-	-	4,60	
	985	-	4,14	-	-	-	4,32	-	-			
H ¹	685/885	4,26	-	5,72	3,91	4,44	-	5,78	4,09	5,31	-	
	985	4,69	-	6,03	4,09	4,88	-	6,21	4,52			
h ¹	685/885	4,93	-	6,07	4,54	5,11	-	6,25	4,72	5,90	-	
	985	5,36	-	6,51	4,97	5,55	-	6,69	5,15			
A	685/885/985	0,60				0,78				0,78		
L ₁	685/885/985	1,42								1,73		
L ₂	685/885	1,53				1,71				1,79		
	985	1,96				2,14						
WEIGHT IN lbs		EP	AP	ES	AS	EP	AP	ES	AS	EP	AP	
685/885/985	BRONZE	1,04	0,84	0,79	0,75	1,04	0,84	0,79	0,75	2,14	1,63	
	S. STEEL	0,99	0,79	0,75	0,71	0,99	0,79	0,75	0,71	2,09	1,59	
CODE	685	BRONZE 2002-685.	83810	838110	838120	838130	80210	802110	802120	802130	80211	802111
		S. STEEL 2002-685.	83820	838210	838220	838230	80220	802210	802220	802230	80221	802211
	885	BRONZE 2002-885.	83810	838110	838120	838130	80210	802110	802120	802130	80211	802111
		S. STEEL 2002-885.	83820	838210	838220	838230	80220	802210	802220	802230	80221	802211
	985	S. STEEL 2002-985.	03820	03821	03822	03823	0022	00221	00222	00223		



MODEL 685/885/985

1/2"x 3/4"

3/4"x3/4"

3/4"x1"

1"x1"

Male thread x Female thread NPT ASME B1.20.1

0,38

0,51

0,12

0,21

- - - 4,61 - - - 5,64 - - - 5,75 - -

6,77 4,88 5,32 - 6,38 4,89 6,46 - 7,92 5,99 6,58 - 8,04 6,11

7,32 5,58 5,91 - 7,33 5,60 7,05 - 8,47 6,70 5,99 - 8,59 6,82

0,78

0,79

0,79

0,98

1,73

2,36

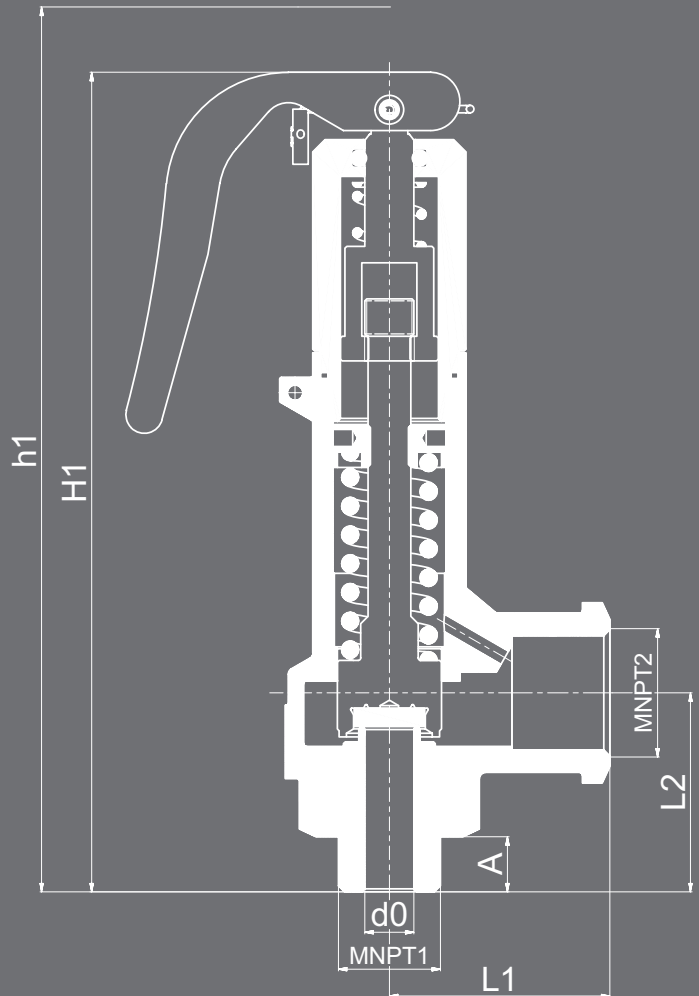
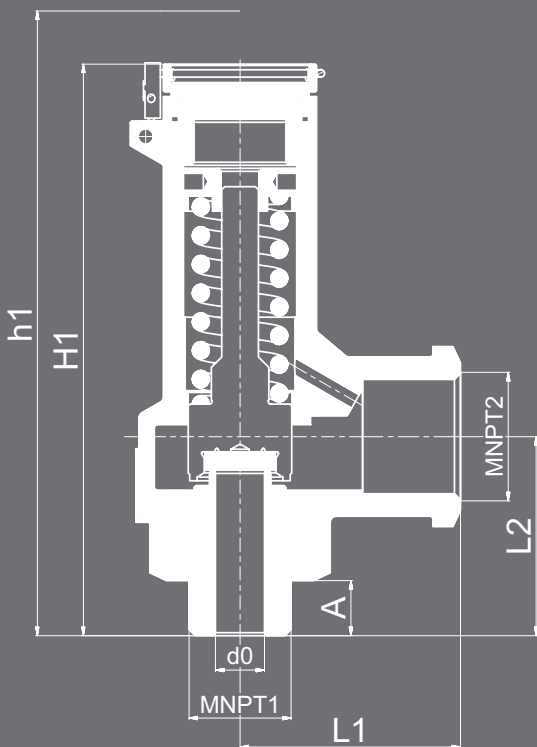
1,79

1,91

2,30

2,42

ES	AS	EP	AP	ES	AS	EP	AP	ES	AS	EP	AP	ES	AS
1,59	1,54	2,14	1,63	1,59	1,54	3,68	2,98	2,93	2,89	3,68	2,98	2,93	2,89
1,54	1,50	2,09	1,59	1,54	1,50	3,64	2,93	2,89	2,84	3,64	2,93	2,89	2,84
802121	802131	83410	834110	834120	834130	83411	834111	834121	834131	81010	810110	810120	810130
802221	802231	83420	834210	834220	834230	83421	834211	834221	834231	81020	810210	810220	810230
802121	802131	83410	834110	834120	834130	83411	834111	834121	834131	81010	810110	810120	810130
802221	802231	83420	834210	834220	834230	83421	834211	834221	834231	81020	810210	810220	810230



SET PRESSURES AND REGULATING RANGES									
MODEL			685/885/985						
ENTRY CONNECTION	685/885/985		MNPT ₁	3/8	1/2"	1/2"	3/4"	3/4"	1"
EXIT CONNECTION	685/885/985		FNPT ₂	1/2"		3/4"		1"	
d ₀	685/885			0,31		0,38		0,51	
	985			0,16					
SET PRESSURE IN psi	MAXIMUM	685/885	PMS. 522,14 psi	522,14		522,14		522,14	
		685	300 lbs	522,14		522,14		522,14	
		985	900 lbs	2088,54					
	MINIMUM	685/885	PMS. 522,14 psi	2,90		2,90		2,90	
		685	300 lbs	2,90		2,90		2,90	
		985	900 lbs	523,58					
SPRING REGULATING RANGE IN psi	685/885	985							
	2,90 a 10,15		CODE	56160		56169		56178	
	8,70 a 23,21		CODE	56161		56170		56179	
	21,76 a 50,76		CODE	56162		56171		56180	
	49,31 a 79,77		CODE	56163		56172		56181	
	78,32 a 145,04	523,58 a 580,15	CODE	56164- 56334		56173		56182	
	142,14 a 217,56	565,65 a 870,23	CODE	56165- 56335		56174		56183	
	210,30 a 290,08	841,22 a 1160,30	CODE	56166- 56336		56175		56184	
	275,57 a 362,59	1102,29 a 1450,38	CODE	56167- 56337		56176		56185	
	348,09 a 522,14	1392,36 a 2088,54	CODE	56168- 56338		56177		56186	

RECOMMENDED RANGES OF APPLICATION						
MODEL		685/885/985				
		AP	AS	EP	ES	
FLUID	SATURATED STEAM		*	*	*	*
	GASES	INERT	*	*	*	*
		NON INERT			*	*
LIQUIDS				*	*	
OPENING PRESSURE IN % OF THE SET PRESSURE			+10%			
CLOSURE PRESSURE IN % OF THE SET PRESSURE			-10%			

