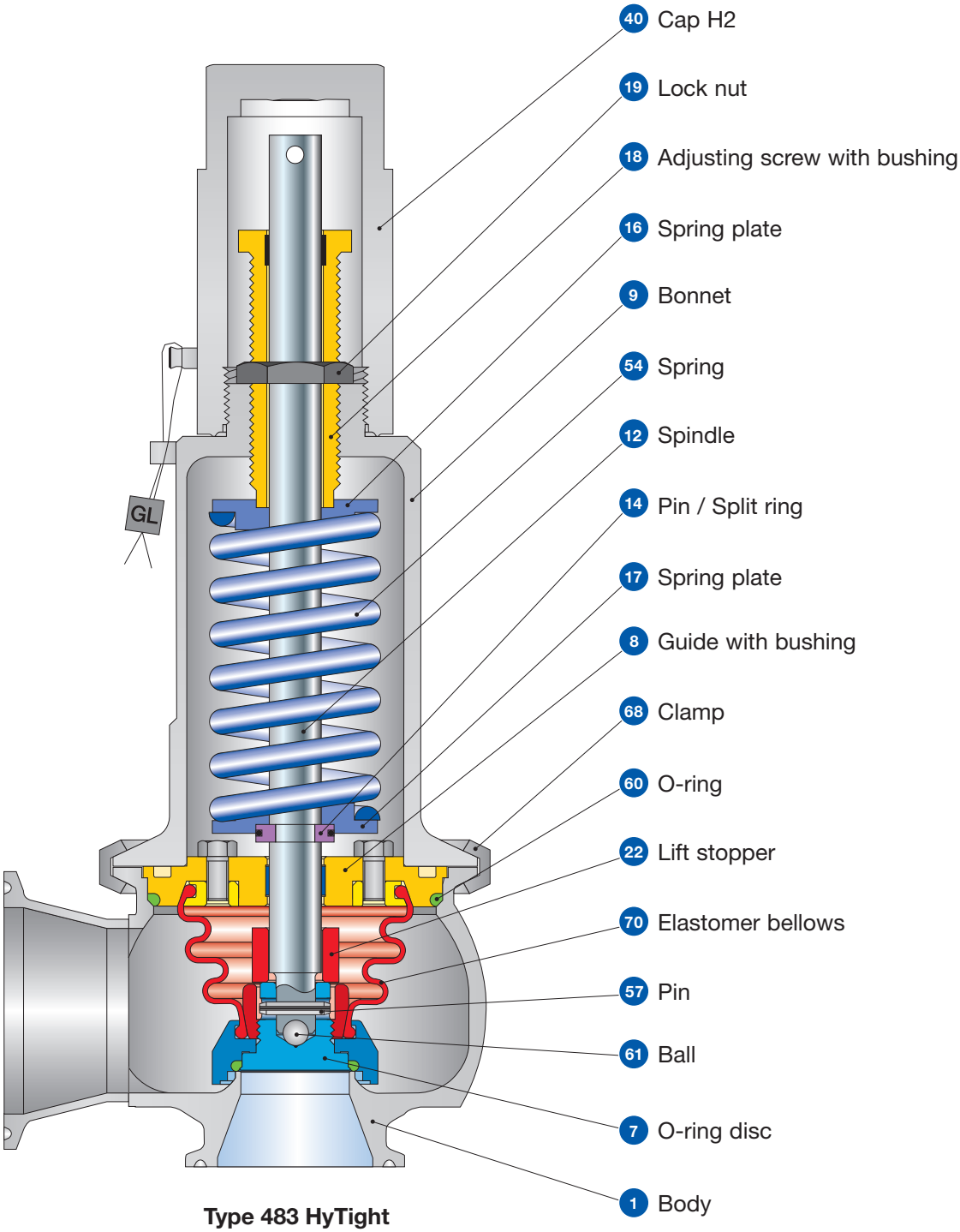
Type 483
Safety Relief Valves – spring loaded

Type 483
Pneumatic lifting device H8
Inlet and outlet: Clamp connection

Type 483
Packed knob H4
Inlet and outlet: Flange connection

Type 483
HyTight Assembly



Type 483 HyTight
Cap H2
Inlet and outlet:
Clamp connection

Type 483
HyTight Assembly
Materials

Item	Component	Remarks	Type 4834 HyTight
1	Body		1.4435 (BN 2)[1)] SA 479 316L
7	O-ring disc	HyTight Assembly	1.4435 316L
7.4	Soft seal O-ring	"D"	EPDM
		"L"	FKM[2)]
		"C"	FFKM
8	Guide with bushing	PTFE + 15 % glass	1.4435 316L
9	Bonnet		1.4404 316L
12	Spindle		1.4404 316L
14	Pin / Split ring		1.4310 / 1.4404 Stainless steel / 316L
16 / 17	Spring plate		1.4404 316L
18	Adjusting screw with bushing	PTFE + 15 % glass	1.4404 / PTFE 316L / PTFE
19	Lock nut		1.4404 316L
22	Lift stopper		1.4404 316L
40	Cap H2		1.4404 316L
54	Spring		1.4310 Stainless steel
57	Pin		1.4310 Stainless steel
60	O-ring		EPDM
61	Ball		1.4401 316
68	Clamp		1.4401 316
70	Elastomer bellows		EPDM

[1)] The material 1.4435/SA 479 316L fulfils the requirements of the Swiss chemical and pharmaceutical industry Basler Norm (BN 2).
[2)] For design with lifting device H8 a max. operating temperature of 50°C is allowed.

Please notice:
- Modifications reserved by LESER.
- LESER can upgrade materials without notice.
- Every part can be replaced by other material acc. to customer specification.

Type 483
Article numbers

Actual Orifice diameter d_0 [mm]			13	25
Actual Orifice area A_0 [mm²]			133	491
Actual Orifice diameter d_0 [inch]			0,512	0,984
Actual Orifice area A_0 [inch²]			0,206	0,761
O-ring material			EPDM "D" J22	EPDM "D" J22
			FKM "L" J23	FKM[1)] "L" J23
			FFKM "C" J20	FFKM "C" J20
Body material: 1.4435 (316L)				
Bonnet closed	**H2**	Art. No. **4834.**	**7702**	**7712**
	H4	Art. No. **4834.**	**7704**	**7714**
	H8	Art. No. **4834.**	**7708**	**7718**
		p [bar] S/G/L	**0,3 – 16**	**0,1 – 16**
		p [psig] S/G/L	**4,4 – 232**	**1,5 – 232**

[1)] For design with lifting device H8 a max. operating temperature of 50°C is allowed.

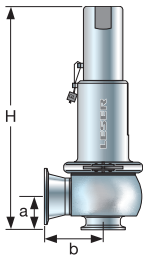
Type 483
Available connections

Actual Orifice diameter d_0 [mm]		13		25	
Actual Orifice area A_0 [mm²]		133		491	
Clamps		**Option code inlet**			
	DN	**25**		**40**	
	SO	L79I16		L79I17	
	DO	I73I16		I73I17	
	NPS	**1"**	**1 1/2"**	**1 1/2"**	**2"**
	BO	I75I79	I75I80	I75I80	I75I81
	CO	L96I79	L96I80	L96I80	L96I81
Aseptic screwed connection		**Option code inlet**			
Pipe standard	**DN**	**25**		**40**	
DIN 11850 / DIN 11866 Range A	00	–			
	GS	H85H34I16		H85H34I17	
	BS	H85H36I16		H85H36I17	
	GT	H85H54I16		H85H54I17	
	BT	H85H56I16		H85H56I17	
	GO	H85L75I16		H85L75I17	
	KO	H85L76I16		H85L76I17	
	GD	H85H60I16		H85H60I17	
	BD	H85H58I16		H85H58I17	
Pipe standard	**DN**	**25**		**40**	
DIN EN ISO 1127 / DIN 11866 Range B	GS	H86H34I16		H86H34I17	
	BS	H86H36I16		H86H36I17	
	GT	H86H54I16		H86H54I17	
	BT	H86H56I16		H86H56I17	
	GD	H86H60I16		H86H60I17	
	BD	H86H58I16		H86H58I17	
Pipe standard	**NPS**	**1"**	**1 1/2"**	**1 1/2"**	**2"**
BS 4825-1 DIN 11866 Range C	GS	H66H34I79	H66H34I80	H66H34I80	H66H34I81
	BS	H66H36I79	H66H36I80	H66H36I80	H66H36I81
	GT	H66H54I79	H66H54I80	H66H54I80	H66H54I81
	BT	H66H56I79	H66H56I80	H66H56I80	H66H56I81
Aseptic flanged connection		**Option code inlet**			
Pipe standard	**DN**	**25**		**40**	
DIN 11850 / DIN 11866 Range A	NF	H85H71I16		H85H71I17	
	BF	H85H73I16		H85H73I17	
	NG	H85H75I16		H85H75I17	
	BG	H85H77I16		H85H77I17	
	TN	H85L78I16		H85L78I17	
	AF	H85L90I16		H85L90I17	
	AN	H85L92I16		H85L92I17	
	VG	H85I82I16		–	
	VH	H85I83I16		H85I83I17	
Pipe standard	**DN**	**25**		**40**	
DIN EN ISO 1127 / DIN 11866 Range B	NF	H86H71I16			
	BF	H86H73I16			
	NG	H86H75I16			
	BG	H86H77I16			
Pipe standard	**NPS**	**1"**	**1 1/2"**	**1 1/2"**	**2"**
BS 4825-1 DIN 11866 Range C	NF	H66H71I79	H66H71I80	H66H71I80	H66H71I81
	BF	H66H73I79	H66H73I80	H66H73I80	H66H73I81
	NG	H66H75I79	H66H75I80	H66H75I80	H66H75I81
	BG	H66H77I79	H66H77I80	H66H77I80	H66H77I81

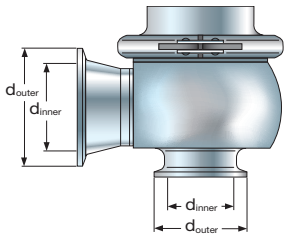
d_0 [mm]	13	25
A_0 [mm²]	133	491
Clamps		**Option code outlet**
DN	**25**	**40**
SO	L86A16	L86A17
DO	I74A16	I74A17
NPS	**1 1/2"**	**2"**
BO	I76A80	I76A81
CO	L97A80	L97A81
Aseptic screwed connection		**Option code outlet**
DN	**25**	**40**
00	A85L83A16	A85L83A17
GS	A85H35A16	A85H35A17
BS	A85H37A16	A85H37A17
GT	A85H55A16	A85H55A17
BT	A85H57A16	A85H57A17
GO	A85L81A16	A85L81A17
KO	A85L82A16	A85L82A17
GD	A85H61A16	A85H61A17
BD	A85H59A16	A85H59A17
DN	**25**	**40**
GS	A86H35A16	A86H35A17
BS	A86H37A16	A86H37A17
GT	A86H55A16	A86H55A17
BT	A86H57A16	A86H57A17
GD	A86H61A16	A86H61A17
BD	A86H59A16	A86H59A17
NPS	**1 1/2"**	**2"**
GS	A84H35A80	A84H35A81
BS	A84H37A80	A84H37A81
GT	A84H55A80	A84H55A81
BT	A84H57A80	A84H57A81
Aseptic flanged connection		**Option code outlet**
DN	**25**	**40**
NF	A85H72A16	A85H72A17
BF	A85H74A16	A85H74A17
NG	A85H76A16	A85H76A17
BG	A85H78A16	A85H78A17
TN	A85L84A16	A85L84A17
AF	A85L91A16	A85L91A17
AN	A85L93A16	A85L93A17
VG	–	–
VH	–	–
DN	**25**	**40**
NF	A86H72A16	A86H72A17
BF	A86H74A16	A86H74A17
NG	A86H76A16	A86H76A17
BG	A86H78A16	A86H78A17
DN	**1 1/2"**	**2"**
NF	A84H72A80	A84H72A81
BF	A84H74A80	A84H74A81
NG	A84H76A80	A84H76A81
BG	A84H78A80	A84H78A81

For definitions of connection codes please refer to pages 12 up to 15.

Type 483
Dimensions and weights
Metric Units



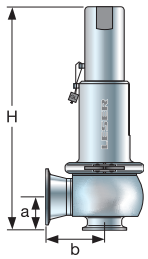
Type 483 – Cap H2



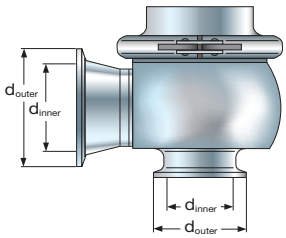
Type 483 – Clamp diameters

Actual Orifice diameter d_0 [inch]			13	25	13	25
Actual Orifice area A_0 [inch²]			133	491	133	491
Welded connections			**Inlet a**		**Outlet b**	
		PN	**16**	**16**	**16**	**16**
Center to face		[mm]	–	–	81,5	91,5
Height – H4	H max.	[mm]	–	–	–	–
Height – H8 double piston design	H max.	[mm]	–	–	–	–
Clamp connections			**Inlet a**		**Outlet b**	
		PN	**16**	**16**	**16**	**16**
Center to face		[mm]	29	44	52	60
Clamp diameter	d_{inner}	[mm]	For varying clamp diameters please refer to page 16 and 17		For varying clamp diameters please refer to page 16 and 17	
	d_{outer}	[mm]				
Height – H4	H max.	[mm]	206	303	–	–
Height – H8 double piston design	H max.	[mm]	234	311	–	–
Aseptic screwed connections			**Inlet a**		**Outlet b**	
		PN	**16**	**16**	**16**	**16**
Center to face		[mm]	40	48	70	78
Height – H4	H max.	[mm]	217	304	–	–
Height – H8 double piston design	H max.	[mm]	245	312	–	–
Aseptic flange connections			**Inlet a**		**Outlet b**	
		PN	**16**	**16**	**16**	**16**
Center to face		[mm]	45 (AN: 40 mm)	51	76 (AN: 60 mm)	82
Height – H4	H max.	[mm]	222	310	–	–
Height – H8 double piston design	H max.	[mm]	250	318	–	–
Weight						
Weight	max.	[kg]	1,6	3,7		

Type 483
Dimensions and weights
US Units



Type 483 – Cap H2



Type 483 – Clamp diameters

Actual Orifice diameter d_0		[inch]	0,512	0,984	0,512	0,984
Actual Orifice area A_0		[inch²]	0,206	0,761	0,206	0,761
Welded connections			**Inlet a**		**Outlet b**	
		PN	**16**	**16**	**16**	**16**
Center to face		[inch]	–	–	3 7/32	3 19/32
Height – H4	H max.	[inch]	–	–	–	–
Height – H8 double piston design	H max.	[inch]	–	–	–	–
Clamp connections			**Inlet a**		**Outlet b**	
		PN	**16**	**16**	**16**	
Center to face		[inch]	1 5/32	1 23/32	2 1/16	2 3/8
Clamp diameter	d_{inner}	[inch]	For varying clamp diameters please refer to page 16 and 17		For varying clamp diameters please refer to page 16 and 17	
	d_{outer}	[inch]				
Height – H4	H max.	[inch]	1 5/32	1 23/32	–	–
Height – H8 double piston design	H max.	[inch]	8 1/8	11 15/16	–	–
Aseptic screwed connections			**Inlet a**		**Outlet b**	
		PN	**16**	**16**	**16**	**16**
Center to face		[inch]	1 9/16	1 7/8	2 3/4	3 1/16
Height – H4	H max.	[inch]	8 17/32	11 31/32	–	–
Height – H8 double piston design	H max.	[inch]	9 27/32	12 17/32	–	–
Aseptic flange connections			**Inlet a**		**Outlet b**	
		PN	**16**	**16**	**16**	**16**
Center to face		[inch]	1 25/32 (AN: 1 5/8)	2	3 (AN: 2 3/8)	3 7/32
Height – H4	H max.	[inch]	8 3/4	12 7/32	–	–
Height – H8 double piston design	H max.	[inch]	9 27/32	12 17/32	–	–
Weight						
Weight	max.	[lb]	3,527	8,157		

Type 483
Pressure temperature ratings

Metric Units

Actual Orifice diameter d_0 [mm]		13		25	
Actual Orifice area A_0 [mm²]		133		491	
Body material: 1.4435 (316L)					
Inlet	Pressure rating	For pressure ratings and connection size please refer to chapter dimensions and weights (page 36)			
Outlet	Pressure rating				
Minimum set pressure	p [bar] S/G/L	0,3		0,1	
Maximum set pressure	p [bar] S/G/L	16		16	
Temperature range[1)]		Minimum	Maximum	Minimum	Maximum
EPDM	[°C]	-45	+150	-45	+150
FKM	[°C]	-18	+150	-18	+150
FFKM	[°C]	0	+150	0	+150

US Units

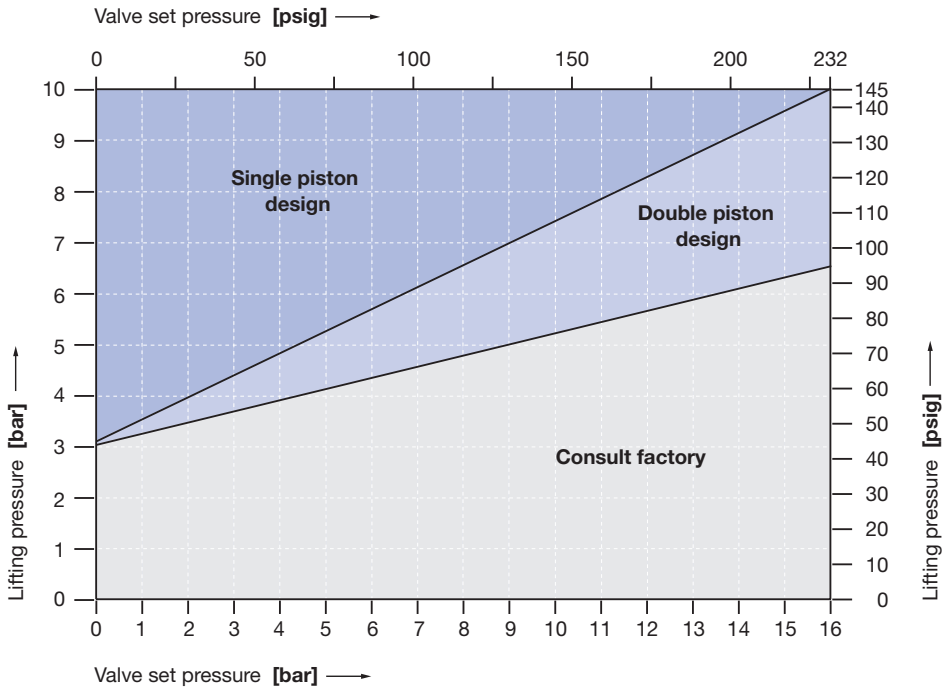
Actual Orifice diameter d_0 [inch]		0,512		0,984	
Actual Orifice area A_0 [inch²]		0,206		0,761	
Body material: 1.4435 (316L)					
Inlet	Pressure rating	For pressure ratings and connection size please refer to chapter dimensions and weights (page 37)			
Outlet	Pressure rating				
Minimum set pressure	p [psig] S/G/L	4,4		1,5	
Maximum set pressure	p [psig] S/G/L	232		232	
Temperature range[1)]		Minimum	Maximum	Minimum	Maximum
EPDM	[°F]	-49	+302	-49	+302
FKM	[°F]	-0,4	+302	-0,4	+302
FFKM	[°F]	+32	+302	+32	+302

[1)] The temperature is limited by the elastomer bellows up to 150 °C / 302 °F.

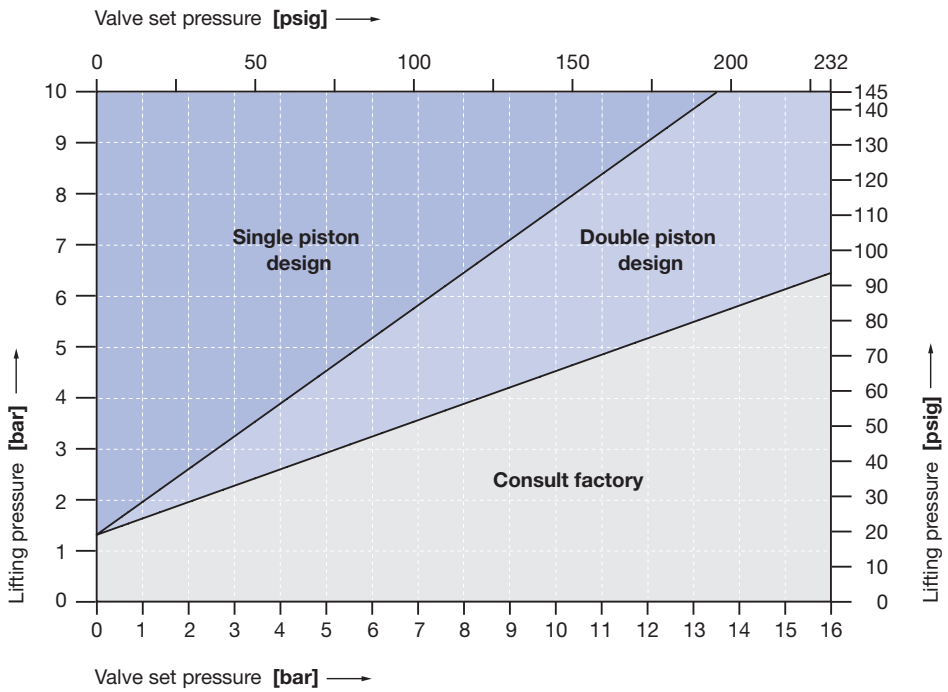
Type 483
Selection chart H8

Depending on the set pressure and lifting pressure (air supply) a double piston lifting device (option code J41) may be required instead of a single piston. The chart below determines the required lifting device.

Selection chart lifting device H8, size 0. d_0 13 mm / 0,512 inch



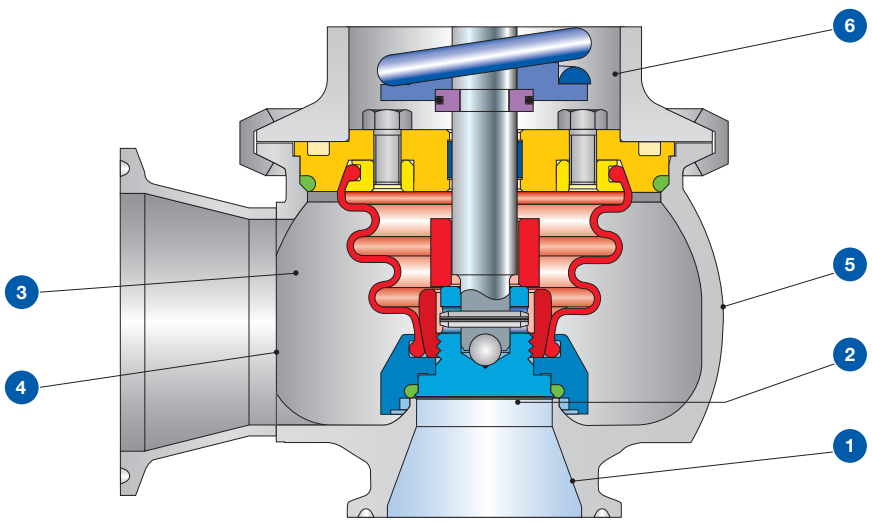
Selection chart lifting device H8, size I. d_0 25 mm / 0,984 inch



Type 483
Surface quality

Type of surface	Area			LESER Surface package		
				Clean finish	HyClean finish	Sterile finish
			Option code	B53	B54	B55
	Description	No.		R_a max.	R_a max.	R_a max.
				LESER Surface grade		
Product contact surface	Inlet	1		M4	ME4	ME1
			[µm]	0,750	0,750	0,375
			[µinch]	30	30	15
	Bottom side of disc	2		M4	ME4	ME1
			[µm]	0,750	0,750	0,375
			[µinch]	30	30	15
Blow off surface	Inside surface of outlet area	3		M5	ME5	ME4
			[µm]	1,500	1,500	0,750
			[µinch]	60	60	30
	Welding seam	4		M6	ME6	ME6
			[µm]	3,000	3,000	3,000
			[µinch]	120	120	120
Outer surface	Outside surface of body, bonnet and cap/lifting device	5		M5	ME5	ME4
			[µm]	1,500	1,500	0,750
			[µinch]	60	60	30
Shielded surface	Surface never in contact with the product because it is shielded by the bellows	6		No definition		

If required surface deviates from standard specify No. and required LESER Surface Grade.



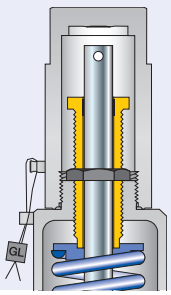
Type 483
Approvals

Actual Orifice diameter d_0 [mm]		13	25
Actual Orifice area A_0 [mm²]		133	491
Actual Orifice diameter d_0 [inch]		0,512	0,984
Actual Orifice area A_0 [inch²]		0,206	0,761
Europe		**Coefficient of discharge K_{dr}**	
DIN EN ISO 4126-1, PED	Approval No.	07 202 0111 Z 0008/0/21-2	
	S/G	0,6	0,38
	L	0,4	0,26
Germany		**Coefficient of discharge α_w**	
AD 2000-Merkblatt A2, PED	Approval No.	TÜV SV 1047	
	S/G	0,6	0,38
	L	0,4	0,26
United States		**Coefficient of discharge K**	
ASME Sec. VIII	Approval No.	M37145	M37167
	S/G	Rated slope acc. to ASME VIII, Div. 1 UG-131 (d) (2) S: 5,52 lb / hr / psia ≙ K ≈ 0,521 G: 1,96 SCFM / psia ≙ K ≈ 0,521	Rated slope acc. to ASME VIII, Div. 1 UG-131 (d) (2) S: 13,97 lb / hr / psia ≙ K ≈ 0,357 G: 4,96 SCFM / psia ≙ K ≈ 0,357
	Approval No.	M37145	M37167
	L	Rated slope acc. to ASME VIII, Div. 1 UG-131 (d) (2) L: 2,96 GPM $\sqrt{psid}$*) ≙ K ≈ 0,379	Rated slope acc. to ASME VIII, Div. 1 UG-131 (d) (2) L: 7,46 GPM $\sqrt{psid}$*) ≙ K ≈ 0,258
Canada		**Coefficient of discharge K**	
CRN	Approval No.	OG0772.9C	
	S/G	Rated slope acc. to ASME VIII, Div. 1 UG-131 (d) (2) S: 5,52 lb / hr / psia ≙ K ≈ 0,521 G: 1,96 SCFM / psia ≙ K ≈ 0,521	Rated slope acc. to ASME VIII, Div. 1 UG-131 (d) (2) S: 13,97 lb / hr / psia ≙ K ≈ 0,357 G: 4,96 SCFM / psia ≙ K ≈ 0,357
	L	Rated slope acc. to ASME VIII, Div. 1 UG-131 (d) (2) L: 2,96 GPM $\sqrt{psid}$*) ≙ K ≈ 0,379	Rated slope acc. to ASME VIII, Div. 1 UG-131 (d) (2) L: 7,46 GPM $\sqrt{psid}$*) ≙ K ≈ 0,258
China		**Coefficient of discharge α_w**	
AQSIQ	Approval No.	For current approval no. see www.leser.com	
	S/G	0,6	0,38
	L	0,4	0,26
Eurasian Custom Union		**Coefficient of discharge α_w**	
EAC	Approval No.	For current approval no. see www.leser.com	
	S/G	0,6	0,38
	L	0,4	0,26
Classification societies			
		on request	

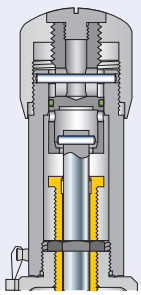
*) psid = Differential pressure P-P_d
P = absolute flow pressure [psia]
P_d = pressure at discharge from valve [psia]

Type 483
Available options

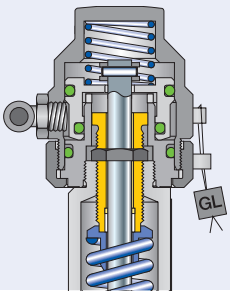
Gastight cap H2
H2



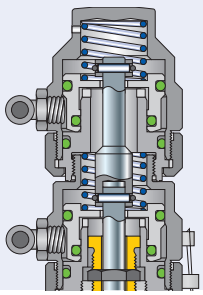
Gastight lifting device H4
Packed knob H4



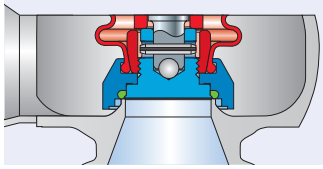
Pneumatic lifting device H8
H8 single piston design



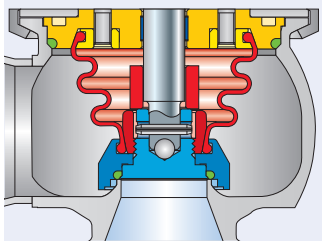
Pneumatic lifting device H8
J41: H8 double piston design



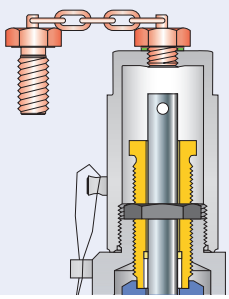
O-ring-disc
J22: EPDM "D"
J23: FKM "L"
J20: FFKM "C"



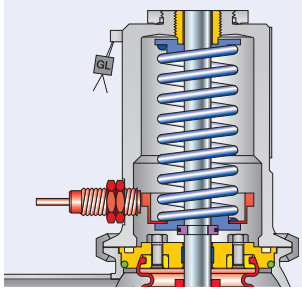
Bellows FFKM "C"
S70 – only for $d_0$13
and liquid application



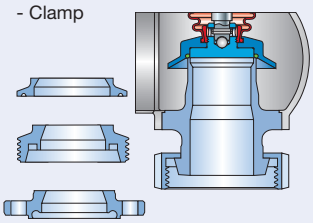
Test gag
J70: H2



Lift indicator placed in bonnet
J38 + J93



Multiple possibilities of aseptic connections
- Dairy industry coupling
- Sterile screw coupling
- Small flange
- Clamp



Special material
2.4610 HASTELLOY C4
2.4360 MONEL 400
1.4462 DUPLEX