

Accumulators

Low pressure bladder type
conform to CE regulations



EBV-ELG Ranges



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- The principle of precaution is always essential for everything related to the Oil activity. It is based on anticipating and adopting measures to prevent major risks.

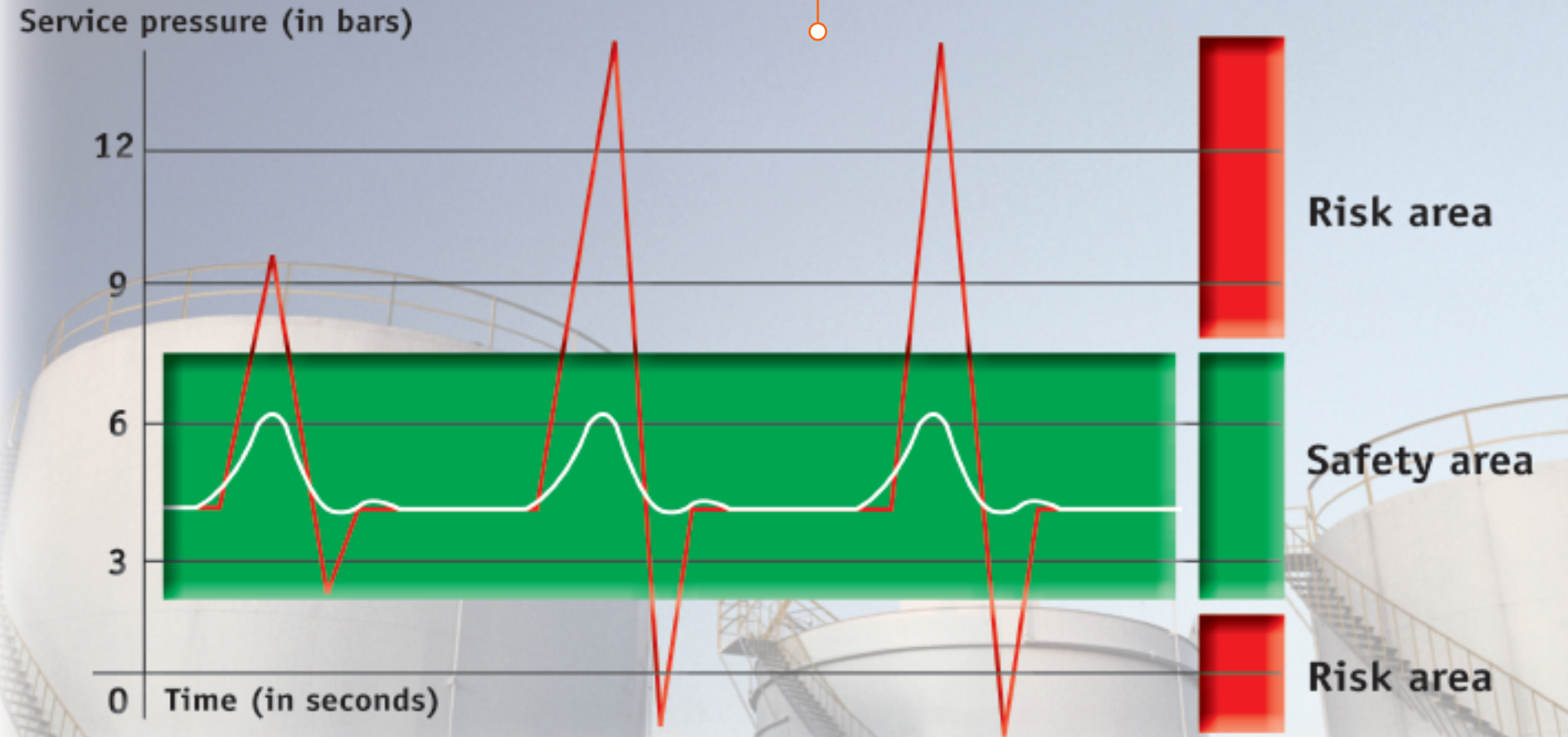
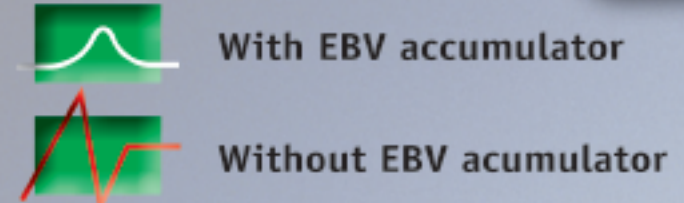
How to secure your installations ?

- Sudden flow changes in pipes (starting and stopping a pump, closing a valve) cause pressure waves that propagate in pipes and cause leaks at connections, maladjustments of regulation devices, measurement devices, deterioration to the pump and the network. If correctly sized, **the new range of EBV accumulators** absorbs these oscillations, guaranteeing operation of your installations in complete safety within an acceptable pressure range.
- With our **new EBV range**, we offer to measure overpressures on your network and make a commitment to provide the best technical solution adapted to your needs, so that you can benefit from our experience.
- OLAER INDUSTRIES** contributes to improving your **Safety**



An example application* that means a lot

Considering the need to **make** its network of truck loading stations **conform**, an oil depot leader would like to **optimize** operation of his installations by taking all **safety** measures necessary in this field.



* study carried out on a "lead free gasoline" line equipped with source loading stations.



OPERATING PRINCIPLE

This accumulator is composed of a forged or welded steel body, an elastomer bladder compatible with a large number of fluids and a steel strainer.

Due to its profile, the strategically shaped bladder deforms in 3 lobes such that the accumulator can absorb and dampen pressure peaks.

YOUR BENEFITS

For flows greater than 130 m³/h in the networks, the EBV accumulator absorbs overpressures and compensates for pressure reductions generated by fast valve closures.

For example:

lead free gasoline network

Maximum network pressure = 10 bar

Feed : three 130 m³/h pumps at 4 bar

Valve closure in 3 s.

• Results :

• Without accumulator

→ P_{min} = - 1 bar

→ P_{max} = 14 bar

• With EBV accumulator 100-40/90 01180

→ P_{min} = 2.5 bar

→ P_{max} = 8 bar

When starting pumps on a pressurized network, the overpressure generated by "putting the fluid mass into circulation" is compensated by the EBV accumulator.

The EBV and ELG accumulator ranges are conform with the new EC regulations.

OLAER has developed software to design accumulators to absorb the shock

You can use two different procedures to evaluate and to find a shock absorber solution with guaranteed results*.

*(complete procedure)

	Procedure	
	Complete	Partial
• Pressure readings and validation of assumptions on site	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Shock absorber calculation starting from a correctly filled in questionnaire with isometric drawing (supplied by you)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
• Validation of calculations on site by pressure readings after installation of the selected accumulators	<input checked="" type="checkbox"/>	<input type="checkbox"/>

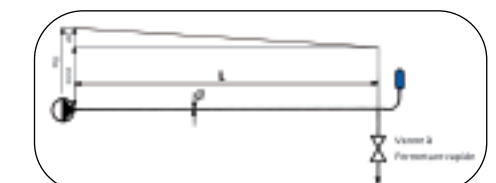
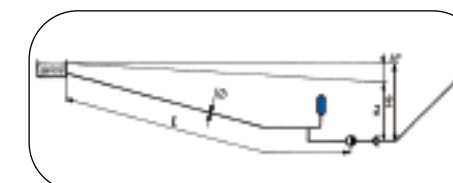
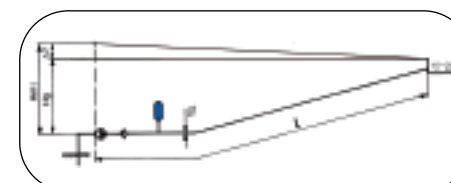
Formular to return

Company : Service : Name :

Phone : E-mail : Fax :

I want : (tick the appropriate box) A complete procedure A partial procedure

Your installation



Your installation : (tick the appropriate box) fig. 1

fig. 2

fig. 3

Hmt : Total pressure head - Hg : geometric head - ΔP : Pressure loss - Ø : Pipe diameter - Hd : Intake head - He : Static head

Application type (fill in according to your installation)

Starting and stopping the pump (fig. 1) Pump stop time (secondes) :

Pressurized intake (fig. 2) Pump stop time (secondes) :

Closes valves (fig. 3) Valves closure time (secondes) :

Fluid :

Pipe material : Max.flow rate at valve : Mcl

Pipe length : m Total pressure head : Mcl

Pipe inner diameter : mm Geometric head : Mcl

Pipe thickness : mm Intake head : Mcl

Pump maximum : L/mn Static head : Mcl

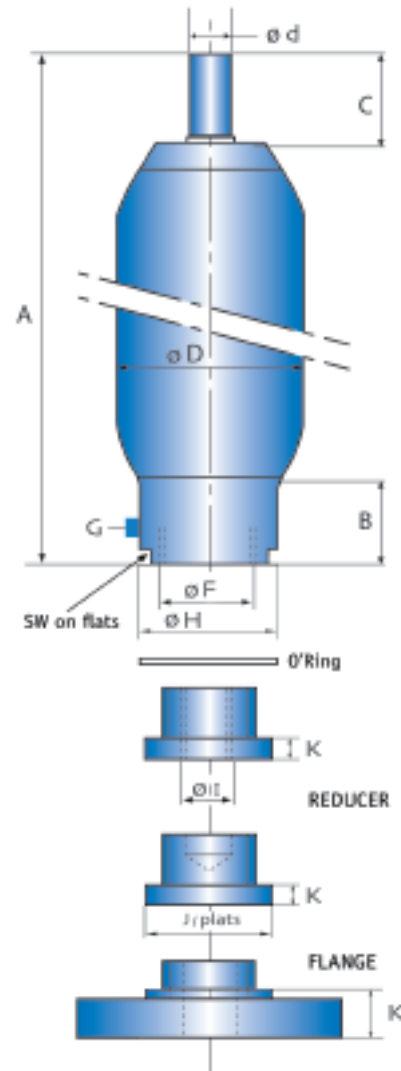
Table provided for guidance, valid for a residual fluid pressure of about 3 bar at the end of the column and for a flow speed in the pipe of 2.5 m/s max. precharge pressure equivalent to the residual pressure at the end of the column. Precharge done by us at the factory outlet.

Pipe Ø	Pipe length or height (m)		
	10-20-30	40-50-60	70-80-90
8/13	OLG 0.13-50/00 01925	OLG 0.13-50/00 01925	OLG 0.13-50/00 01925
15/21	OLG 0.13-50/00 01925	OLG 1-20/00 03325	OLG 1-20/00 03325
20/27	OLG 0.13-50/00 01925	OLG 1-20/00 03325	OLG 1-20/00 03325
26/34	OLG 1-20/00 03325	OLG 1-20/00 03325	ELG 4-20/90 01925
33/42	OLG 1-20/00 03325	ELG 4-20/90 01925	ELG 4-20/90 01925
40/49	OLG 1-20/00 03325	ELG 4-20/90 01925	ELG 4-20/90 01925
50/60	ELG 4-20/90 01925	ELG 4-20/90 01925	Consult OLAER

Part number	EBV0.5-50/00*	EBV1-80/00*	EBV2.5-80/90	EBV5-80/90
Maximum pressure in bar	50	80	80	80
Nominal gas volume in litres	0.5	1	2.3	5
Weight in kg	2.2	5	9	16
ø D maxi	90	116	116	116
A max height	243	306	480	863
Connection ø F	G2" cyl.	G2" cyl.	G2" cyl.	G2" cyl.
ø I connection with reducing bush	G1" cyl.	G1" cyl.	G1" cyl.	G1" cyl.
J/Flats	65	65	65	65
K reducer	13	13	13	13
Flange PN 20	DN K	40 23	40 23	40 23
Flange PN 40	DN K	40 23	40 23	40 23
Flange ANSI 150 lbs	Dia K	2" 23	2" 23	2" 23
Flange ANSI 300 lbs	Dia K	2" 28	2" 28	2" 28
B	47	47	47	47
C	28	65	65	65
ø d	16	22,5	22,5	22,5
ø H	68	68	68	68
SW on flats	-	-	-	-
O'ring ø int x ø tore	54 x 3	54 x 3	54 x 3	54 x 3
P/N clamps x (quantity)	B 90 x 1	B 114 X 1	B 114 X 2	B 114 X 2
P/N support bracket	-	CE 89	CE 89	CE 89

* Complying to the CE regulation 3.3

Part number	EBV 10-40/90	EBV 20-40/90	EBV 32-40/90	EBV 50-40/90	EBV 100-40/90	EBV 200-40/90
Maximum pressure in bar	40	40	40	40	40	40
Nominal gas volume in litres	10	18	34	50	90	202
Weight in kg	11	19	34	49	125	210
ø D maxi	212	212	212	212	371	371
A max height	448	772	1303	1823	1315	2526
Connection ø F	G3"1/2cyl.	G3"1/2cyl.	G3"1/2cyl.	G3"1/2cyl.	M 205x3	M 205x3
ø I connection with reducing bush	G2" cyl.	G2" cyl.	G2" cyl.	G2" cyl.	G2" cyl.	G2" cyl.
J/Flats	112	112	112	112	2 opposite holes ø 8,5	2 opposite holes ø 8,5
K reducer	20	20	20	20	20	20
Flange PN 20	DN K	100 28	100 28	100 28	200 102	200 102
Flange PN 40	DN K	100 29	100 29	100 29	200 128	200 128
Flange ANSI 150 lbs	Dia K	4" 28	4" 28	4" 28	8" 142	8" 142
Flange ANSI 300 lbs	Dia K	4" 37	4" 37	4" 37	8" 151	8" 151
B	51	51	51	51	158	158
C	73	73	73	80	93	93
ø d	22,5	22,5	22,5	51	80	80
ø H	120	120	120	120	236	236
SW on flats	112	112	112	112	-	-
G drain	-	-	-	-	6 hex 19 0/flats	6 hex 19 0/flats
O'ring ø int x ø tore	96 x 4	96 x 4	96 x 4	96 x 4	196.21 x 5,33	196.21 x 5,33
P/N clamps x (quantity)	D 215 x 2	D 215 x 2	D 215 x 2	D 215 x 2	D 368 x 2	D 368 x 2
P/N support bracket	CE 159	CE 159	CE 159	CE 159	C 300	C 300



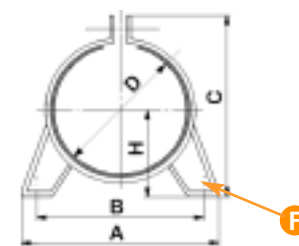
Part number	OLG 0.13-50/00 ¹	OLG 1-20/00 ²	ELG4-20/90 ³
Maximum pressure in bar	50	20	20
Nominal gas volume in litres	0.13	1	3.8
Weight in kg	0.3	1.3	3.7
ø D maxi	50	107	155
A Max height	136	209	340
Connection ø F	G3/4" cyl.	G1" cyl.	G2" cyl. ⁴
ø spot facing x proof	33x0.5	-	73x1.5
B	16	30.5	40
C	13	11	16
SW on flats	36	46	82
P/N clamps x (quantity)	-	E 106 x 1	E 155 x 1

- (1) Conforming to the CE regulation 3.3 stainless steel
- (2) Conforming to the CE regulation 3.3
- (3) Conforming to the CE regulation stainless steel
- (4) possibility with connection G3/4" cyl.

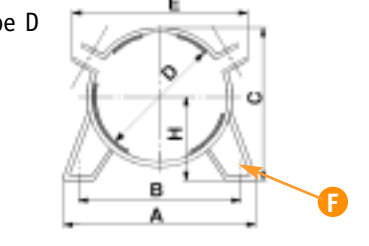
Accessories

Clamps

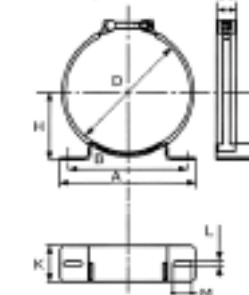
Shape B



Shape D

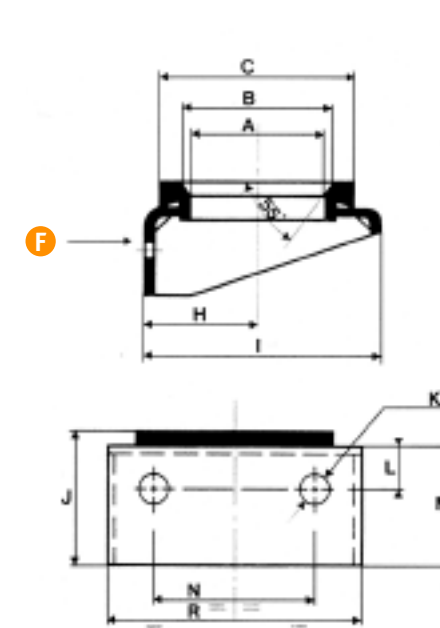


Shape E



Details of the legs
as per F
(thickness 3 mm)

Support brackets



as per F

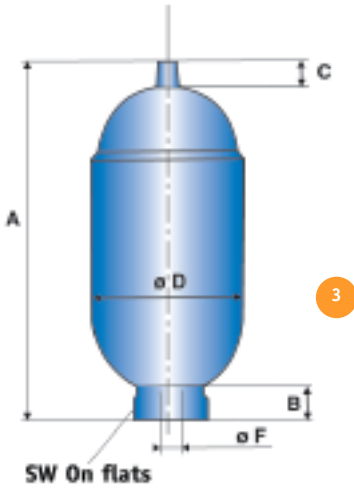
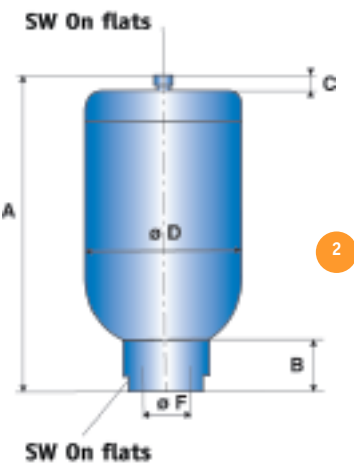
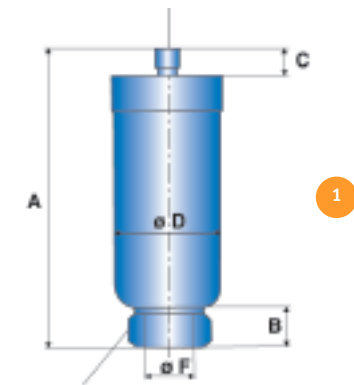
Dimensions Support brackets

Designation	A	B	C	H	I	J	K	L	M	N	R	POIDS
CE 89	89	111	141	73	140	75	13	25	60	75	130	0,7
CE 159	159	170	200	123	235	115	17	25	100	200	260	2,5
CE 300*	300	-	-	200	380	-	20	50/200	300	375	475	31

* Without rubber part

Dimensions clamps

Designation	Forme	D	A	B	C	E	H	K	L	M
B 90	B	90	134	97	127	-	53	30	9	14
B 114	B	114	138	100	159	-	76	30	9	14
D 215	D	215	270	216	238	280	123	40	15	21
D 368	D	368	420	340	392	430	200	50	15	21
E 106	E	106	160	148	-	-	72	65	9	35
E 155	E	155	210	198	-	-	90,7	65	9	35



Above dimensions are in mm
and are subject to manufacturing tolerances

Charging and gauging assembly

The charging and gauging assembly checks, filling and does a nitrogen purge on all accumulators.

It is designed to be screwed onto the precharge valve and is connected by a hose to the pressure reducer fitted on the nitrogen source.

The assembly delivered in a box is made differently depending on the model (VG3 or VGU)

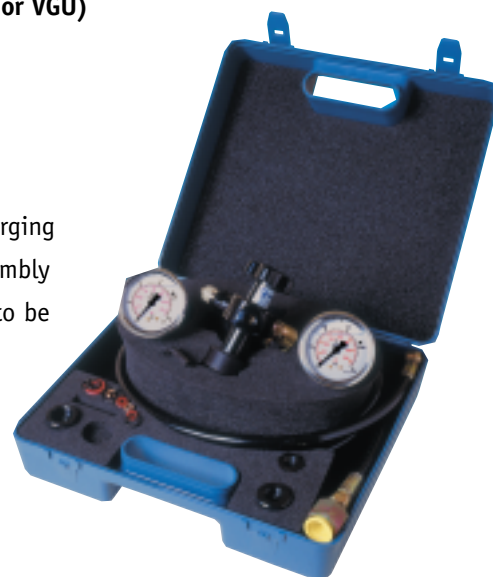
MODEL VG3

The charging and gauging assembly VG3 is designed solely for use with Olaer accumulators.



MODEL VGU

The universal charging and gauging assembly VGU is designed to be used with all accumulators on the market



TECHNICAL DATA

Maximum working pressure: 340 bar or as shown on gauge

ORDERING CODE

Example: VGU/F 6/25 7 TS2 3

6/25 = Gauges, possible choice between pressure ranges 6/10/25 bar



TECHNICAL DATA

Maximum working pressure: 550 bar or as shown on gauge

ORDERING CODE

Example: VG3 25 1 TS2 1

25 = Gauges, possible choice between Pressure ranges 6/10/25 bar
TS 2 : Flexible hose for maximum working pressure 400 bar

INSTALLED ACCUMULATOR RUCK

Olaer designs and manufactures moduable compact assemblies.

For any request, please refer to Olaer technical services.

How to order ?

- Ordering **the EBV accumulator**

EBV 100-40/90 01180 Po=5b PN40-DN200

Accumulator range _____
European low pressure with bladder

Volume _____
in liters

Maximum working pressure _____
in bar

Regulation code _____
00 : Regulation C€ for the 0.5 L. volume
90 : Regulation C€ for all other volumes

Construction _____
to be determined according to the table

Fluid	Operating temperature °C*	Construction
Minerals oils	- 15 + 100	01125
Water	0 + 60	03325
Diesel fuel (Gas oil)	-5 + 115	01130
Fuel oil	-5 + 115	01130
Kerosene	-5 + 115	01130
Gasoline	-5 + 115	01130
Lead free gasoline	-20 + 130	01180
Others fluids	Other temperatures	Consult Olaer

* accumulator's operating temperature range

Nitrogen gaz pressure _____
in bar at 20 °C, limited to 20 bar maximum at the maximum working temperature.

Connection to be specified _____
NP : With blind connector
or with reduction connector (refer to dimension I on the overall dimensions pages and specify the connection)
or with flange (refer to the flange line on the dimensions pages and specify the type)

- Ordering **the ELG accumulator**

State the designation of the ELG accumulators mentioned in the table in page 5 "plumbing"
(other constructions on request)

Nitrogen gaz pressure _____
in bar at 20 °C, limited to 20 bar maximum at maximum working temperature.
refer to the plumbing sector section

- Order **accessories and peripheral materials**

Indicate the designation of accessories mentioned in the tables in pages 6 and 7 and the peripheral equipment on page 8.

Before starting any installation, a visual inspection of the accumulator has to be carried out in order to detect any damage. For optimum operation, the accumulator must be placed as close as possible to the user device.

It may be installed vertically with the filling valve upwards, or horizontally.

- Do not stand in line with the openings,
- Check environmental conditions and protect the accumulator from heat sources, electrical and magnetic fields, lightning, humidity and the weather, if necessary
- Reserve a space of 200 mm above the filling valve for installing the charging and gauging assembly. Leave the markings visible,
- Install so as to avoid any abnormal force on the pipes connected directly or indirectly to it,
- Either fix the accumulator body to a support, or surround it by a handrail capable of preventing or limiting its displacement if there is a break in its connections to the hydraulic installation,
- Connect the accumulator to the hydraulic circuit using appropriate connection devices (connectors, flanges),
- Check that the fluid is compatible with the equipment,
- Check that the accumulator precharge pressure is less than **20 bar** at the maximum operating temperature or is limited to the pressure of the body if < 20 bar.
- Check that temperature and pressure limits are respected,
- Fit a pressure relief valve to the hydraulic circuit,
- If necessary, provide a burst disk or safety valve to overcome the risk of overpressure related to thermodynamic phenomena,
- Fill with nitrogen only

It is forbidden to :

- add any part onto the accumulator by welding, rivet or screw,
- carry out any operation that could modify the mechanical properties of the accumulator,
- use the accumulator as a construction part: the accumulator must not resist any stress or load,
- modify the accumulator without the prior agreement of the manufacturer,
- inflate the accumulator with oxygen or air, risk of explosion!

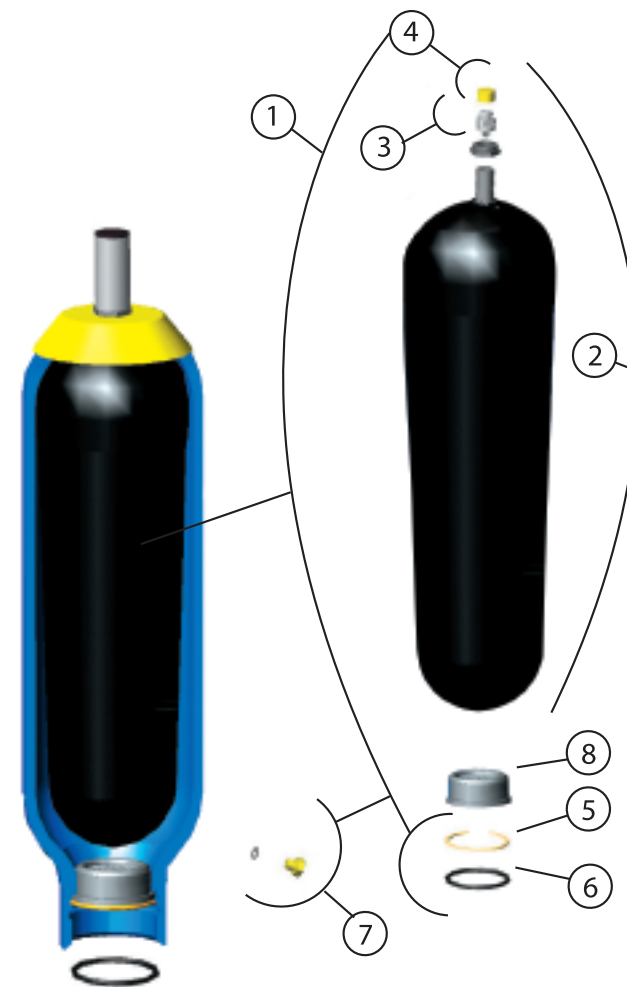
Commissioning

For commissioning, refer to the instructions delivered with the accumulator.

Check the precharge pressure

Check the initial inflation pressure when commissioning, then once every week for the first month, then adjust the intervals of inspections (weekly, monthly, six-monthly, annual) as a function of the drop of the precharge pressure (permeation)

Installation



Mark	Spare parts
1	Replacement kit
2*	Complete bladder
3*	Filling valve
4*	Valve plug
5*	Retaining ring
6*	Sealing ring
7*	Bleeder plug with seal (1)
8	Perforated bushing

* these parts are delivered in the replacement kit with explanatory notice
(1) Depending on model

How to order the replacement kit

Example : For an EBV accumulator 100-40/90 01180
KIT EBV 100-40/90 01180

CE Réglementation

Extract from European legislation. Directive 97/23/CE is applicable from 29-11-1999 and mandatory from 29-05-2002. Decree 99-1046, which applies to new machinery and the ministerial order of 15-03-2000, which applies to the operation of all machinery, transposed the directive into French domestic legislation.

What you need to know:

DIRECTIVE 97/23/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 29 May 1997

Free movement of machinery within the European Union

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 100a thereof,

Having regard to the proposals from the Commission(*),

Having regard to the Opinion of the Economic and Social Committee(*),

Acting in accordance with the procedure laid down in Article 189b of the Treaty(*), in the light of the joint text approved by the Conciliation Committee on 4 February 1997,

1. Whereas the internal market is an area without internal frontiers in which the free movement of goods, persons, services and capital is ensured;

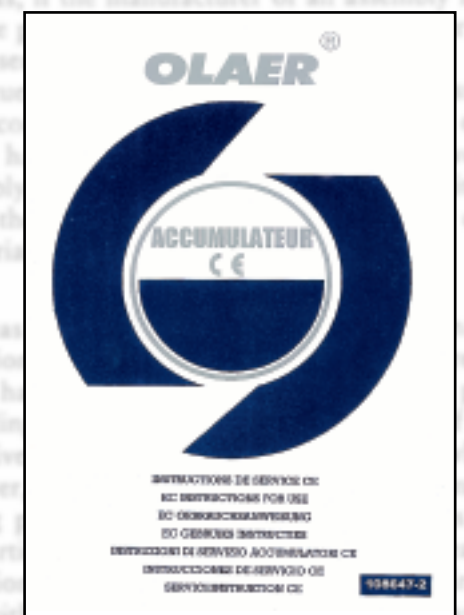
The EC marking should be accompanied by the identification number of the notified authority

CE type accumulators are delivered with instructions for operation and a declaration of conformity

Olaer designs and manufactures hydro-pneumatic accumulators for use in all countries and which comply with national regulations in force.

EBV-ELG Ranges

Group 2 fluid accumulators whose V ≤ 1 L and PS ≤ 1000 bar are not entitled to bear EC marking





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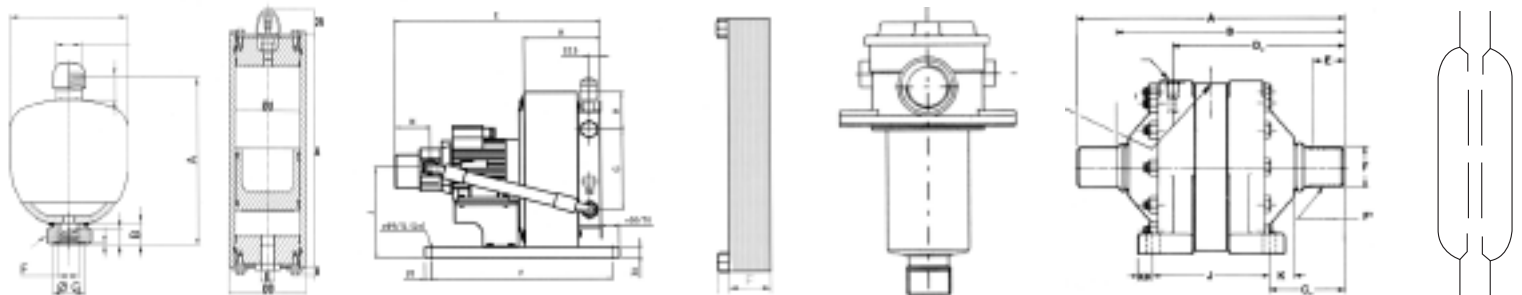
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