

Accumulator station

RE 50135/07.11
Replaces: 09.05

1/10

Type ABSBG



HAD 7858/11

Table of contents

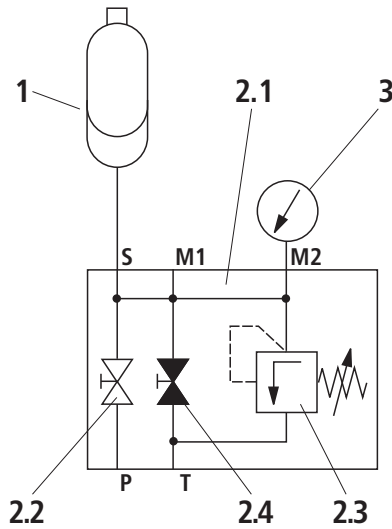
Contents	Page
Features	1
Ordering code	2
Symbols	3
Spare parts and accessories	3
Standard program including preferred types	4, 5
Unit dimensions	6 ... 8
Commissioning, maintenance and operating instructions	9, 10

Features

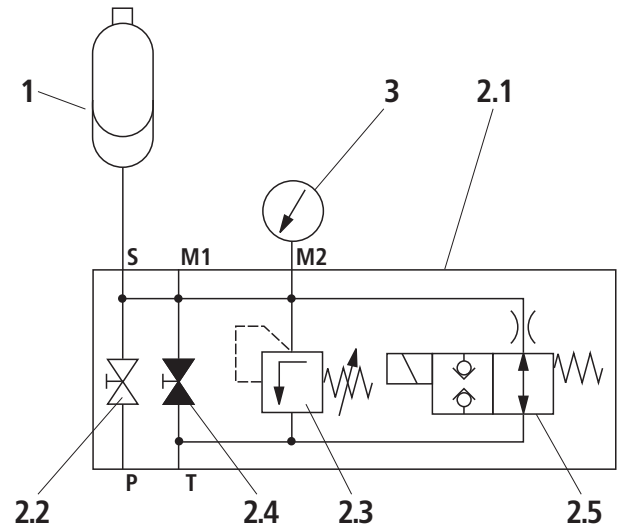
- Accumulator station with shut-off block
- Diaphragm-type or bladder-type accumulator
- Shut-off block with integrated isolator valve, safety valve (type-tested) and drain valve
- Drain valve operated manually or electrically, as option
- Glycerin-filled pressure gauge with red indication of the maximum admissible operating pressure on the dial
- Console for weld or screw connection
- Assembly prepare for external equipotential bonding

Symbols

Accumulator station with manually operated drain valve



Accumulator station with electro-mechanically operated drain valve



- 1 Hydraulic accumulator
- 2.1 Accumulator shut-off block with:
- 2.2 System shut-off cock
- 2.3 Pressure relief valve (type-tested)
- 2.4 Manual unloading
- 2.5 Electro-magnetic unloading (only version E)
- 3 Pressure gauge with red indication of the maximum admissible operating pressure

Spare parts and accessories

- Bladder-type accumulator with CE/BA acceptance according to data sheet 50170
- Diaphragm-type accumulator with CE/BA acceptance according to data sheet 50150
- Shut-off block manual/electrical according to data sheet 50131
- Pressure gauge according to data sheet 50205
- Warning sign according to RNI 17506-001

Consoles contained in the construction kit are intended for mounting by means of screws and nuts or for welding to suitable frames or construction components.

Standard program including preferred types: Accumulator station

Standard program including preferred types with manually operated drain valve (other versions on request)

Accumulator type	Rated volume in liters	Relief pressure in bar	Shut-off block DN	CE/BA acceptances				Weight in kg	Type ¹⁾	Mounting type	Acceptance China	Acceptance Russia
				Description	Material no.	Material no.	Material no.					
Bladder-type accumulator	1	100	10	ABSBG-1X/B 1,0N-BA /10M100 V/B6M DC	R901301857	14	A3	B	R901301912	R901302202		
		140	10	ABSBG-1X/B 1,0N-BA /10M140 V/B6M DC	R901301858	14	A3		R901301913	R901302203		
		210	10	ABSBG-1X/B 1,0N-BA /10M210 V/B6M DC	R901301863	14	A3		R901301914	R901302204		
		330	10	ABSBG-1X/B 1,0N-BA /10M330 V/B6M DC	R901246327	15	A2		R901301915	R901302205		
	2.5	100	10	ABSBG-1X/B 2,5N-CE /10M100 V/B6M DC	R901290495	20	A3	B	R901301921	R901302212		
		140	10	ABSBG-1X/B 2,5N-CE /10M140 V/B6M DC	R901301865	20	A3		R901301922	R901293215		
		210	10	ABSBG-1X/B 2,5N-CE /10M210 V/B6M DC	R901301866	20	A3		R901301923	R901302213		
		330	10	ABSBG-1X/B 2,5N-CE /10M330 V/B6M DC	R901246328	20	A3		R901301924	R901302214		
	4	100	10	ABSBG-1X/B 4,0N-CE /10M100 V/A6M DC	R901301871	28	A3	A	R901301929	R901302219		
		140	10	ABSBG-1X/B 4,0N-CE /10M140 V/A6M DC	R901301872	28	A3		R901301930	R901302220		
		210	10	ABSBG-1X/B 4,0N-CE /10M210 V/A6M DC	R901301874	28	A3	A	R901301931	R901302222		
		330	10	ABSBG-1X/B 4,0N-CE /10M330 V/A6M DC	R901246329	28	A2		R901296166	R901292707		
	10	210	20	ABSBG-1X/B10,0N-CE /20M210 V/A6M DC	R901261438	55	A3	A	R901302134	R901302229		
		330	20	ABSBG-1X/B10,0N-CE /20M330 V/A6M DC	R901246330	55	A2		R901302135	R901302230		
	20	210	20	ABSBG-1X/B20,0N-CE /20M210 V/A6M DC	R901261440	66	A3	A	R901302137	R901302237		
		330	20	ABSBG-1X/B20,0N-CE /20M330 V/A6M DC	R901246331	66	A2		R901302139	R901293695		
35	330	30	ABSBG-1X/B35,0N-CE /30M330 V/A6M DC	R901246332	121	A3	A	R901302143	R901302239			
50	330	30	ABSBG-1X/B50,0N-CE /30M330 V/A6M DC	R901246334	147	A3	A	R901302145	R901302243			
Diaphragm-type accumulator	0.7	100	10	ABSBG-1X/M 0,7N-BA /10M100 V/K6M DC	R901301879	10	A3	K	R901302149	R901302248		
		140	10	ABSBG-1X/M 0,7N-BA /10M140 V/K6M DC	R901301881	10	A3		R901302150	R901302250		
		210	10	ABSBG-1X/M 0,7N-BA /10M210 V/K6M DC	R901280011	11	A2		R901302151	R901302251		
		330	10	ABSBG-1X/M 0,7N-BA /10M330 V/K6M DC	R901280012	10	A3		R901302152	R901302252		
	1.4	100	10	ABSBG-1X/M 1,4N-CE /10M100 V/K6M DC	R901301884	13	A3	K	R901302157	R901302259		
		140	10	ABSBG-1X/M 1,4N-CE /10M140 V/K6M DC	R901280013	13	A2		R901290489	R901302261		
		210	10	ABSBG-1X/M 1,4N-CE /10M210 V/K6M DC	R901301885	13	A3		R901302158	R901302262		
		330	10	ABSBG-1X/M 1,4N-CE /10M330 V/K6M DC	R901280014	13	A3		R901302159	R901302263		
	2	100	10	ABSBG-1X/M 2,0N-CE /10M100 V/K6M DC	R901280015	15	A2	K	R901302167	R901302269		
		140	10	ABSBG-1X/M 2,0N-CE /10M140 V/K6M DC	R901301889	16	A3		R901302168	R901302270		
		210	10	ABSBG-1X/M 2,0N-CE /10M210 V/K6M DC	R901301890	16	A3		R901302169	R901302271		
		330	10	ABSBG-1X/M 2,0N-CE /10M330 V/K6M DC	R901280016	16	A3		R901302170	R901302272		
	2.8	100	10	ABSBG-1X/M 2,8N-CE /10M100 V/K6M DC	R901301893	21	A3	K	R901302175	R901302277		
		140	10	ABSBG-1X/M 2,8N-CE /10M140 V/K6M DC	R901301894	21	A3		R901302176	R901302278		
		210	10	ABSBG-1X/M 2,8N-CE /10M210 V/K6M DC	R901301895	21	A3		R901302177	R901302279		
		330	10	ABSBG-1X/M 2,8N-CE /10M330 V/K6M DC	R901280017	21	A3		R901302178	R901302281		
3.5	100	10	ABSBG-1X/M 3,5N-CE /10M100 V/K6M DC	R901301900	23	A2	K	R901302186	R901302286			
	140	10	ABSBG-1X/M 3,5N-CE /10M140 V/K6M DC	R901301901	24	A3		R901302187	R901302287			
	210	10	ABSBG-1X/M 3,5N-CE /10M210 V/K6M DC	R901301902	24	A3		R901302188	R901302289			
	330	10	ABSBG-1X/M 3,5N-CE /10M330 V/K6M DC	R901280018	24	A3		R901302189	R901302290			

¹⁾ Material mark for preferred/standard program: A2 = preferred; A3 = standard

Standard program including preferred types: Accumulator station

Standard program including preferred types with electrically operated drain valve (other versions on request)

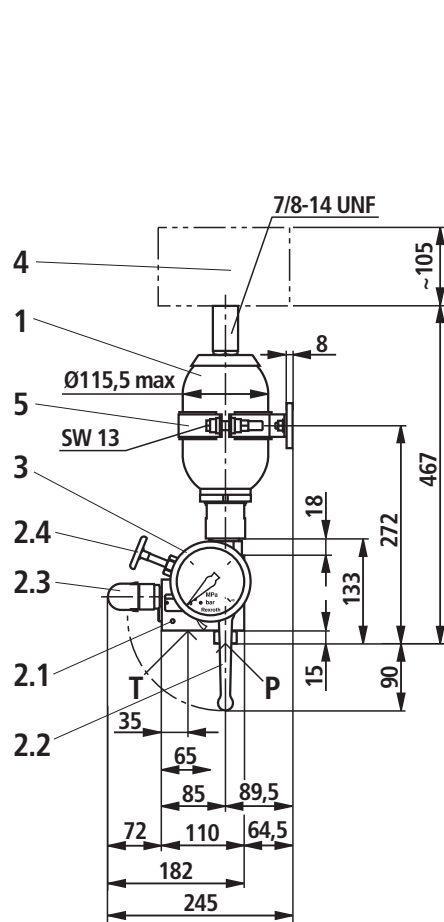
Accumulator type	Rated volume in liters	Relief pressure in bar	Shut-off block DN	CE/BA acceptances				Mounting type	Acceptance China	Acceptance Russia
				Description	Material no.	Weight in kg	Type ¹⁾		Material no.	Material no.
Bladder-type accumulator	1	100	10	ABSBG-1X/B 1,0N-BA /10E100G 24V/B6M DC	R901301859	15	A3	B	R901301907	R901302206
		140	10	ABSBG-1X/B 1,0N-BA /10E140G 24V/B6M DC	R901301861	15	A3	B	R901301908	R901302207
		210	10	ABSBG-1X/B 1,0N-BA /10E210G 24V/B6M DC	R901301862	15	A3	B	R901301909	R901302208
		330	10	ABSBG-1X/B 1,0N-BA /10E330G 24V/B6M DC	R901246335	15	A3	B	R901301910	R901302209
	2.5	100	10	ABSBG-1X/B 2,5N-CE /10E100G 24V/B6M DC	R901302148	20	A3	B	R901301917	R901302215
		140	10	ABSBG-1X/B 2,5N-CE /10E140G 24V/B6M DC	R901301868	20	A3	B	R901301918	R901302216
		210	10	ABSBG-1X/B 2,5N-CE /10E210G 24V/B6M DC	R901301869	20	A3	B	R901301919	R901302217
		330	10	ABSBG-1X/B 2,5N-CE /10E330G 24V/B6M DC	R901246336	20	A3	B	R901301920	R901302218
	4	100	10	ABSBG-1X/B 4,0N-CE /10E100G 24V/A6M DC	R901301875	29	A3	A	R901301925	R901302223
		140	10	ABSBG-1X/B 4,0N-CE /10E140G 24V/A6M DC	R901301876	29	A3	A	R901301926	R901302224
		210	10	ABSBG-1X/B 4,0N-CE /10E210G 24V/A6M DC	R901301877	29	A3	A	R901301927	R901302225
		330	10	ABSBG-1X/B 4,0N-CE /10E330G 24V/A6M DC	R901246337	29	A2	A	R901301928	R901302227
	10	210	20	ABSBG-1X/B10,0N-CE /20E210G 24V/A6M DC	R901292794	55	A2	A	R901299040	R901302231
		330	20	ABSBG-1X/B10,0N-CE /20E330G 24V/A6M DC	R901246338	55	A2	A	R901302133	R901302233
	20	210	20	ABSBG-1X/B20,0N-CE /20E210G 24V/A6M DC	R901301878	67	A3	A	R901302141	R901302238
		330	20	ABSBG-1X/B20,0N-CE /20E330G 24V/A6M DC	R901246339	67	A2	A	R901302142	R901293218
35	330	30	ABSBG-1X/B35,0N-CE /30E330G 24V/A6M DC	R901246340	121	A2	A	R901302144	R901302241	
50	330	30	ABSBG-1X/B50,0N-CE /30E330G 24V/A6M DC	R901246341	147	A2	A	R901295289	R901291911	
Diaphragm-type accumulator	0.7	100	10	ABSBG-1X/M 0,7N-BA /10E100G 24V/K6M DC	R901301882	11	A3	K	R901302153	R901302254
		140	10	ABSBG-1X/M 0,7N-BA /10E140G 24V/K6M DC	R901301883	11	A3	K	R901302154	R901302255
		210	10	ABSBG-1X/M 0,7N-BA /10E210G 24V/K6M DC	R901280001	11	A3	K	R901302155	R901302256
		330	10	ABSBG-1X/M 0,7N-BA /10E330G 24V/K6M DC	R901280002	11	A3	K	R901302156	R901302258
	1.4	100	10	ABSBG-1X/M 1,4N-CE /10E100G 24V/K6M DC	R901301886	14	A3	K	R901302160	R901302264
		140	10	ABSBG-1X/M 1,4N-CE /10E140G 24V/K6M DC	R901280003	14	A3	K	R901302161	R901302265
		210	10	ABSBG-1X/M 1,4N-CE /10E210G 24V/K6M DC	R901301887	14	A3	K	R901302163	R901302266
		330	10	ABSBG-1X/M 1,4N-CE /10E330G 24V/K6M DC	R901280004	14	A3	K	R901302164	R901302267
	2	100	10	ABSBG-1X/M 2,0N-CE /10E100G 24V/K6M DC	R901280005	16	A3	K	R901302171	R901302273
		140	10	ABSBG-1X/M 2,0N-CE /10E140G 24V/K6M DC	R901301891	16	A3	K	R901302172	R901302274
		210	10	ABSBG-1X/M 2,0N-CE /10E210G 24V/K6M DC	R901301892	16	A3	K	R901302173	R901302275
		330	10	ABSBG-1X/M 2,0N-CE /10E330G 24V/K6M DC	R901280006	16	A3	K	R901302174	R901302276
	2.8	100	10	ABSBG-1X/M 2,8N-CE /10E100G 24V/K6M DC	R901301896	21	A3	K	R901302181	R901302282
		140	10	ABSBG-1X/M 2,8N-CE /10E140G 24V/K6M DC	R901301898	21	A3	K	R901302182	R901302283
		210	10	ABSBG-1X/M 2,8N-CE /10E210G 24V/K6M DC	R901301899	22	A3	K	R901302183	R901302284
		330	10	ABSBG-1X/M 2,8N-CE /10E330G 24V/K6M DC	R901280007	21	A3	K	R901302185	R901302285
3.5	100	10	ABSBG-1X/M 3,5N-CE /10E100G 24V/K6M DC	R901301903	24	A3	K	R901302190	R901302291	
	140	10	ABSBG-1X/M 3,5N-CE /10E140G 24V/K6M DC	R901301904	24	A3	K	R901302191	R901302292	
	210	10	ABSBG-1X/M 3,5N-CE /10E210G 24V/K6M DC	R901301905	24	A3	K	R901302192	R901302293	
	330	10	ABSBG-1X/M 3,5N-CE /10E330G 24V/K6M DC	R901280008	24	A3	K	R901302193	R901302294	

¹⁾ Material mark for preferred/standard program: A2 = preferred; A3 = standard

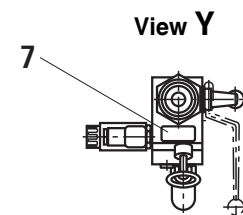
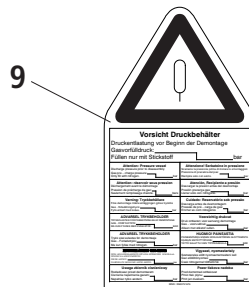
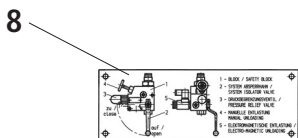
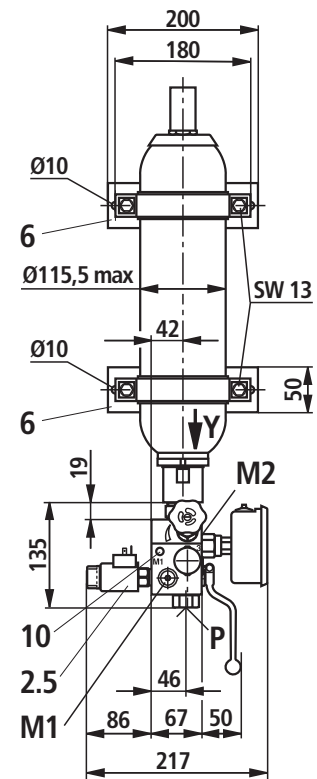
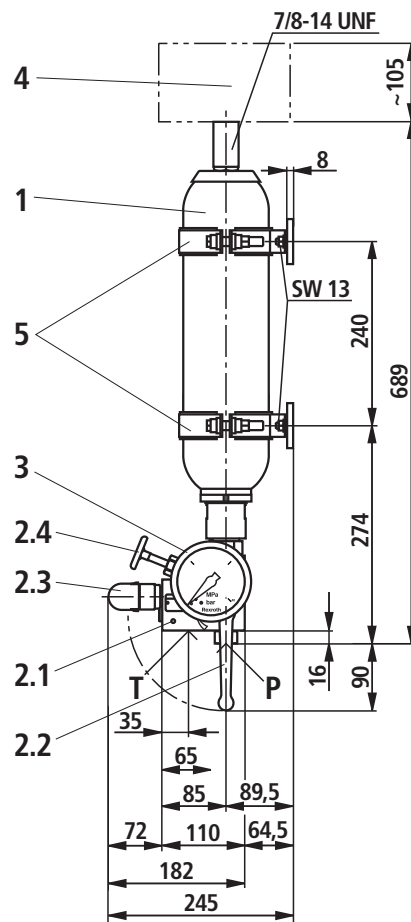
Unit dimensions: Mounting B with clamps (dimensions in mm)

Accumulator station with bladder-type accumulator 1.0 to 2.5 liters

Bladder-type accumulator 1.0 liter



Bladder-type accumulator 2.5 liters



- 1 Hydraulic accumulator
- 2.1 Shut-off block with:
- 2.2 System shut-off cock
- 2.3 Pressure relief valve (type-tested)
- 2.4 Manual unloading
- 2.5 Electro-magnetic unloading (only version E)
- 3 Pressure gauge with red indication of the maximum admissible operating pressure

- 4 Space required for filling device
- 5 Clamp(s)
- 6 Clip
- 7 Nameplate of the accumulator station
- 8 Functional sign (loose)
- 9 Warning sign (loose)
- 10 Threaded connection M8 for equipotential bonding

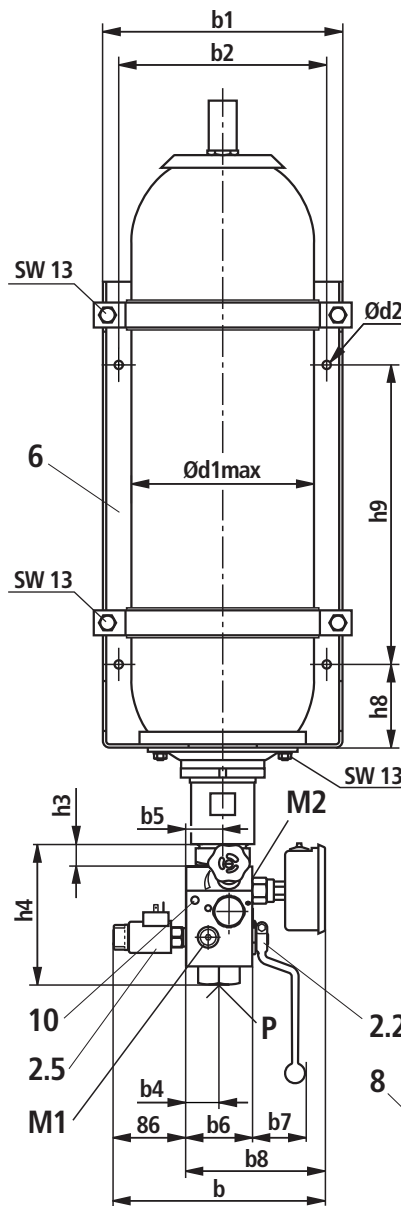
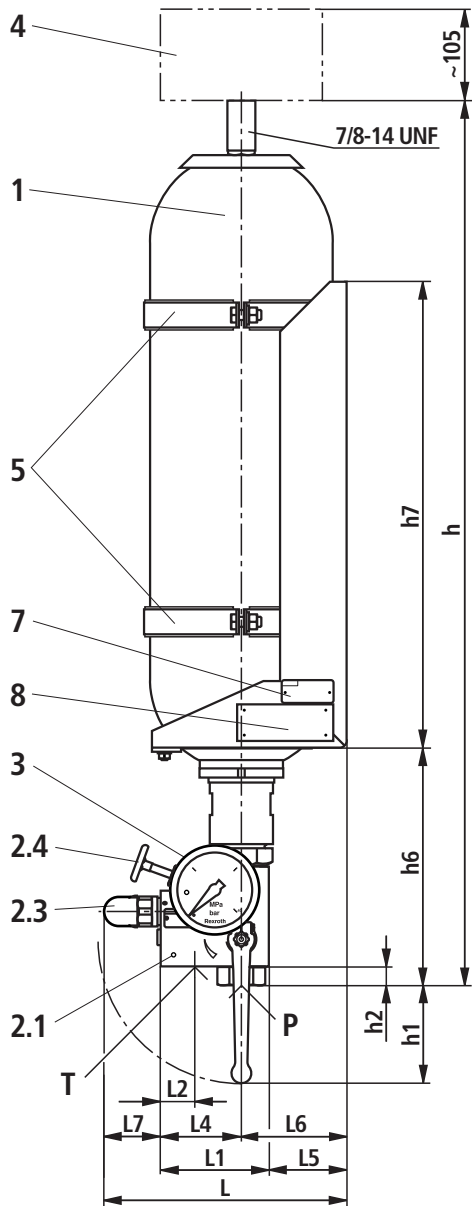
Connection designations:

- M1** Measuring port G 1/4
- M2** Pressure gauge G 1/4 connection
- P** Pump connection G 1/2
- T** Tank port G 3/8

Gas filling pressure of the accumulators upon delivery 2 bar.

Unit dimensions: Mounting A in console (dimensions in mm)

Accumulator station with bladder-type accumulator 4.0 to 50 liters



- 1 Hydraulic accumulator
- 2.1 Shut-off block with:
- 2.2 System shut-off cock
- 2.3 Pressure relief valve (type-tested)
- 2.4 Manual unloading
- 2.5 Electro-magnetic unloading (only version E)
- 3 Pressure gauge with red indication of the maximum admissible operating pressure
- 4 Space required for filling device
- 5 Clamps
- 6 Console
- 7 Nameplate of the accumulator station
- 8 Functional sign
- 9 Warning sign (loose)
- 10 Threaded connection M8 for equipotential bonding

Connection designation:

- M1 Measuring port G 1/4
- M2 Pressure gauge connection G 1/4
- P Pump connection
- T Tank port

Gas filling pressure of the accumulators upon delivery 2 bar.

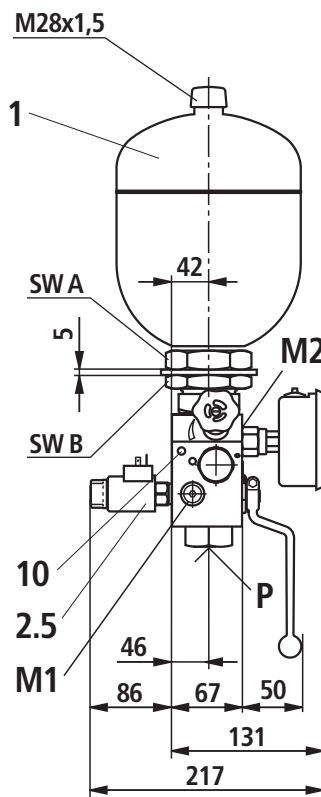
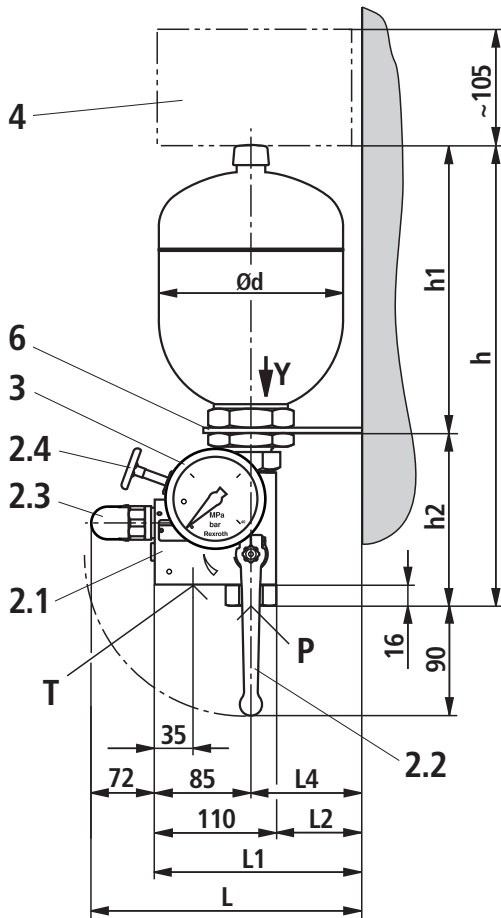


ABSBG-... construction kit	Ød1 _{max}	Ød2	L	L1	L2	L4	L5	L6	L7	P	T
B4,0.../10...	170	10	270	110	35	85	87.5	112.5	72	G 1/2	G 3/8
B10.../20...	225.5	10	294	130	41	97	95	128	68	G 1	G 1/2
B20.../20...			292				93	126			
B35.../30-...	252	12	318	175	45.3	125	77	127	65	G 1 1/2	G 1
B50.../30-...											

ABSBG-... construction kit	b	b1	b2	b4	b5	b6	b7	b8	h	h1	h2	h3	h4	h6	h7	h8	h9
B4,0.../10...	217	210	170	46	42	67	50	131	623	90	16	19	135	200	250	50	120
B10.../20...	223	288	250	39.5	39.5	75	62	139	735	118	22	23	165	275	280	75	130
B20.../20...				1045	118	22	275	560	100	360							
B35.../30-...	252	288	250	50	50	103	63	167	1585	153	21	30	211	321	1120	150	820
B50.../30-...									2150	153	21			321	1120	150	820

Unit dimensions: Mounting with bracket K (dimensions in mm)

Accumulator station with diaphragm-type accumulator 0.7 to 3.5 liters

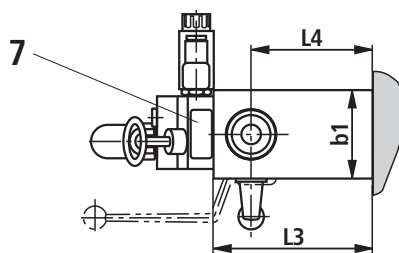


- 1 Hydraulic accumulator
- 2.1 Shut-off block with:
- 2.2 System shut-off cock
- 2.3 Pressure relief valve (type-tested)
- 2.4 Manual unloading
- 2.5 Electro-magnetic unloading (only version E)
- 3 Pressure gauge with red indication of the maximum admissible operating pressure
- 4 Space required for filling device
- 6 Bracket
- 7 Nameplate of the accumulator station
- 8 Functional sign (loose)
- 9 Warning sign (loose)
- 10 Threaded connection M8 for equipotential bonding

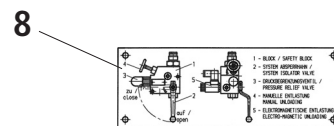
Connection designations:

- M1 Measuring port G 1/4
- M2 Pressure gauge connection G 1/4
- P Pump connection G 1/2
- T Tank port G 3/8

View Y



Gas filling pressure of the accumulators upon delivery 2 bar.



ABSBG... construction kit	Ød	h	h1	h2	b1	L	L1	L2	L3	L4	SW A	SW B	Weight with manual unloading in kg	Weight with electrical unloading in kg
M0,7.../10...210	123.5	315	164	151	60	237	165	55	120	80	41	50	9	9.5
M0,7.../10...330	128.5	321	170	151	60	237	165	55	120	80	41	50	10.3	10.8
M1,4.../10...140	150	340	189	151	60	237	165	55	120	80	41	50	10.6	11.1
M1,4.../10...330	156	347	196	151	60	237	165	55	120	80	41	50	13.3	13.8
M2,0.../10...100	147	396	243	153	80	262	190	80	150	105	50	60	11	11.5
M2,0.../10...330	156	407	254	153	80	262	190	80	150	105	50	60	7.7	8.2
M2,8.../10...330	180	423	270	153	80	262	190	80	150	105	50	60	21	21.5
M3,5.../10...330	180	463	310	153	80	262	190	80	150	105	50	60	23.6	24.1

Commissioning, maintenance and operating instructions

General

- You should observe the documentation for the complete machine.
- You should also observe the documentation pertaining to the other components, assemblies and partly completed machinery, which form part of the complete machinery.
- You should observe the generally applicable, legal or otherwise binding European and national regulations as well as the relevant stipulations for your country pertaining to the prevention of accidents and protection of the environment.
- Operating instructions according to data sheet of the accumulator
- Depending on the country of installation, national pressure vessel regulations are to be complied with.
- In the standard, the country acceptance is effected according to BA, CE as well as for the countries China and Russia. Other acceptances on request.
- Please indicate the country of installation in the order.
- Keep documents included in the delivery carefully; they will be required by the expert in recurring tests.
- The operator will have sole responsibility for complying with existing provisions.
- The accumulator assemblies in this issue with "CE/BA" country acceptance are assemblies in the sense of directive 97/23/EC section 2.1.5 (Pressure Equipment Directive).
- The accumulator assemblies described here contain the entire equipment which is required for safety reasons according to DIN EN ISO 4413.
- The accumulator assemblies must not be modified; otherwise, the operating license according to directive 97/23/EC will be lost and the dealer and/or manufacturer warranty will be forfeited.
- The accumulator assemblies may only be operated within the admissible limit values.

- Repairs may only be carried out by the manufacturer or their authorized dealers and agencies. Independently performed repairs invalidate the approval and release the manufacturer from all demands and claims resulting from an unauthorized intervention.
- Assembly and commissioning must be implemented by authorized, instructed persons only.
- The accumulator assemblies are provided with signs:

- 1. Name plate** specifying the pressure rating, explains the device
- 2. Functional plate** explains the components and elementary lever positions
- 3. Warning sign** must be attached to or close to the device in a clearly visible position.

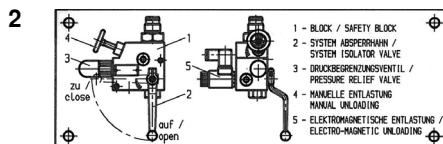
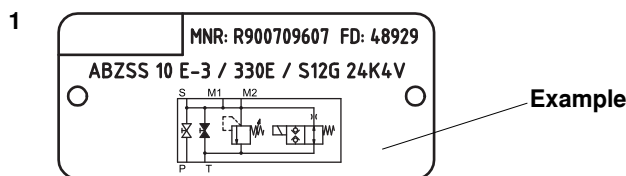
In the standard, the warning sign is designed in the languages according to the country acceptance. Other languages on request.

In hydraulic systems with one or several hydraulic accumulators the warning signs of which are not visible after installation into the machine, an additional warning sign with the following content must be available at the system in a clearly visible position:

"ATTENTION -- System contains hydraulic accumulator."



The circuit diagram must contain the same note.

With mounting "B" and "K", the warning signs and functional signs are supplied loosely and must be attached to or close to the accumulator assembly in a clearly visible position. The attachment of the signs must already be considered in the construction.




Commissioning, maintenance and operating instructions

Commissioning - Operating instructions according to data sheet of the accumulator!

	<p>DANGER</p> <p>Do not charge hydraulic accumulators with oxygen or air. Risk of explosion!</p> <ul style="list-style-type: none"> – Before the initial commissioning, the hydraulic accumulator must be filled with nitrogen of class 4.0, purest (N2 content 99.99 vol. %). The preset gas pressure necessary for the operation is indicated in the circuit diagrams and operating instructions. – For charging, only suitable filling and testing devices may be used. We recommend the filling and testing devices by Bosch Rexroth according to 50150.
	<p>WARNING</p> <ul style="list-style-type: none"> – Risk of injury caused by improper assembly. – Hydraulic accumulators are energy stores. They may supply the energy for uncontrolled movements to actuators. – Before the beginning of repair, the system must be depressurized on the oil and gas side and protected against unauthorized re-start! – Do not carry out welding, soldering or any other mechanical work at the accumulator tank! Any kind of work at the product invalidates the declaration of conformity and the operating license! <ul style="list-style-type: none"> • Risk of explosion in welding and soldering works! • Danger of bursting during and after mechanical work. – A warning sign is enclosed to the accumulator station. It is to be attached to or closed to the accumulator station in a clearly visible position.

Maintenance

	<p>ATTENTION</p> <ul style="list-style-type: none"> – In case of damage at the accumulator bladder or diaphragm, the accumulator will lose its function immediately. – Loss of the initial gas tension will lead to damage at the accumulator bladder or the accumulator diaphragm if operation of the system is continued nevertheless. – Check the initial gas tension in regular intervals.
---	--

Legal provisions

- Hydraulic accumulators are pressure vessels and subject to the applicable national provisions and/or regulations valid at the place of installation.
- In Germany, the Ordinance on Industrial Safety and Health (BetrSichV) applies.
- Country acceptances by default effected according to BA, CE as well as for the countries China and Russia. Other acceptances on request.
- Special rules are to be observed in shipbuilding, aircraft construction, mining, etc.
- Design, production and testing are effected according to the data sheets according to AD 2000. Installation, equip-

ment and operation are controlled by the "Technical rules Pressure vessels" (TRB).

Note in the sense of the EC Machinery Directive 2006/42/EC, according to annex II part 1, section A, manufacturer's declaration:

- The assemblies were manufactured in accordance with the harmonized standards DIN EN ISO 4413, DIN EN ISO 12100, EN 983, and EN 60204-1.
- The commissioning is prohibited until it was confirmed that the machine into which the assemblies are to be integrated complies with the regulations laid down in the EC Directives.

Bosch Rexroth AG
Hydraulics
Zum Eisengießer 1
97816 Lohr am Main, Germany
Phone +49 (0) 93 52 / 18-0
Fax +49 (0) 93 52 / 18-23 58
documentation@boschrexroth.de
www.boschrexroth.de

© This document, as well as the data, specifications and other information set forth in it, are the exclusive property of Bosch Rexroth AG. It may not be reproduced or given to third parties without its consent. The data specified above only serve to describe the product. No statements concerning a certain condition or suitability for a certain application can be derived from our information. The information given does not release the user from the obligation of own judgment and verification. It must be remembered that our products are subject to a natural process of wear and aging.