

Supports for Hydraulic Accumulators



1. DESCRIPTION

1.1. GENERAL

HYDAC supports are used to mount all types of hydraulic accumulator safely and simply. In addition to the standard delivery programme described below, customised, application-specific supports are available on request. For further information and guidance, see:

- HYDAC Accessories Product catalogue No. 61.000

1.2. APPLICATION

The optimum mounting type strongly depends on the use, the type and the size of the accumulator. Clamps, consoles and accumulator sets are all possible options. As they are safety equipment, our supports must only be attached and installed by trained staff.

Support clamps are designed for static use. For dynamic stresses, specially designed clamps are available on request.

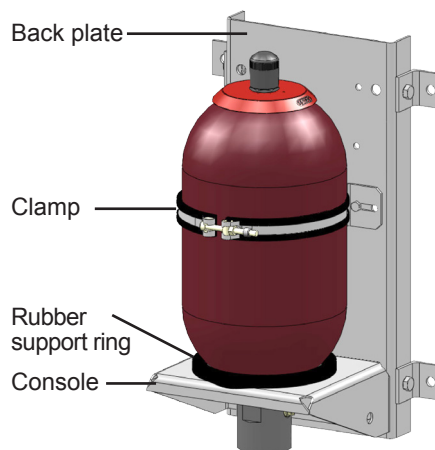
The number of clamps stated in the following overviews is given as a recommendation – the number may vary depending on the accumulator size and the particular application.

More information on HYDAC hydraulic accumulators is available in the following catalogue sections:

- Bladder Accumulators Low Pressure No. 3.202
- Bladder Accumulators Standard No. 3.201
- Piston Accumulators Standard No. 3.301
- Piston Accumulators SK280 No. 3.303
- Diaphragm Accumulators No. 3.100
- Hydraulic accumulators with back-up nitrogen bottles No. 3.553

1.2.1 Bladder accumulator

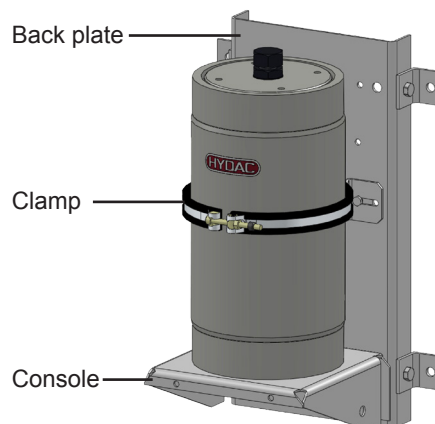
Clamps, consoles and accumulator sets can be used for optimum mounting of the bladder accumulator. The console of the bladder accumulator is equipped with a rubber support ring.



1.2.2 Piston accumulator

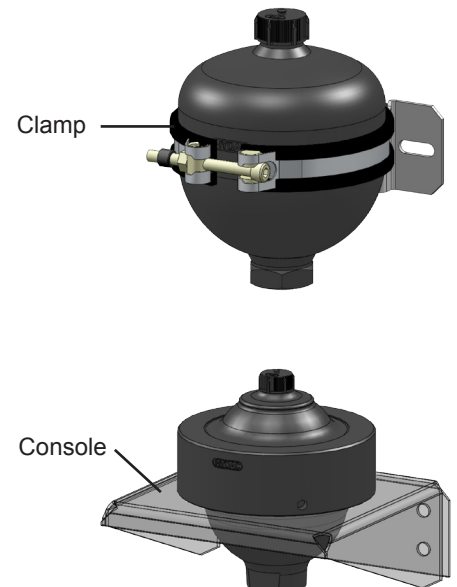
Clamps, consoles and accumulator sets can also be used for piston accumulators. In this case, the console is not equipped with a rubber support ring.

Please request the accumulator set for piston accumulators separately, as the design may vary considerably depending on the accumulator's nominal volume.



1.2.3 Diaphragm accumulator

Weld-type diaphragm accumulators are fastened with an accumulator clamp and screw-type diaphragm accumulators with a console. Accumulator sets are not used for diaphragm accumulators.



1.3. MATERIALS

The following materials are available as standard:

Clamp	
Fastening, foot	zinc-plated
Clamping band	stainless steel
Insert	PE/PP/NBR
	see section 3.1.

Console	zinc-plated
Rubber support ring*	NBR

Accumulator set

Clamp	see above
Console	see above
Back plate	zinc-plated

Other materials (e.g. stainless steel) are available on request.

* only for bladder accumulators

2. SELECTION TABLES FOR SUPPORTS

2.1. BLADDER ACCUMULATORS AND GAS PRESSURE VESSELS

The following table shows the recommended mounting type for each series and volume. The number of clamps can vary depending on the requirements and on the length of the accumulator. The stated number of clamps is a recommendation.

Designation	Part no.	Nominal volume [l]																									
		SB330(H)							SB400			SB550		SB500 / SB600		SB40(H)				SB35HB	SN360	SN600					
		1	2.5	4+6+10 slimline version	10-20	32+50	60+80	100+130	160+200	0.5	4	10-20	32+50	1	2.5+5	10+20	32+50	2.5+5	10+20	32+50	70-130	190+220	20	32+50	50	75(C)	50+75
Clamp																											
HyRac 96-100/100 ST	445041							1																			
HyRac 106-114/115 H3 ST	444905																			2							
HyRac 110-118/124 H10 ST	445042	1	2																								
HyRac 121-129/133 H8 ST	444906											1	2														
HyRac 167-175/178 H5 ST	445043			1*					1																		
HyRac 216-224/226 H5 ST	445047																	1	2				1	2			
HyRac 223-230/231 H3 ST	445048				1	2																			2		
HyRac 225-234/234 H3 ST	445049									1	2														2	3*	
HSS 242	362712														1	2											
HRVMS 3 R 268-279/276 ST	3559057																									2**	
HRGKSM 4 R 352-363/360 ST	444795						2	3												2							
HRRBS 17 B1L 406 PP ST M ZN B145 H525	3434519							3														3					
Console																											
KBK 167/G	2107989			1																							
KBK 222/G	2100651				1	1				1	1				1	1						1	1	1			1
KBK 360/G	2107990						1	1																	1		
Accumulator set																											
SEB 2.5	290787		1																								
SEB 4	238403			1					1																		
SEB 6	2115851			1																							
SEB 10 slimline version	4189835			1																							
SEB 10	238407				1					1																	
SEB 13-20	240598				1					1																	
SEB 32	238409					1						1															
SEB 50	240599					1						1															
SEBL 60-80	3605561						1																				
SEBL 100-130	372132							1																			
SEH 2.5	2105194													1													
SEH 5	2105195													1													
SEH 10	378952														1												
SEH 20	298181															1											
SEH 32	298182																1										
SEH 50	298183																	1									
SEM 2.5	3007402																		1								
SEM 5	3007423																			1							
SEM 10	3007424																				1						
SEM 20	3007425																					1					
SEM 32	3007426																						1				
SEM 50	3007427																						1				
SEHB 20	3007431																							1			
SEHB 32	3007432																								1		
SEHB 50	3007433																								1		

* 2 clamps for SB330-10 litres slimline version or SN600-50 litres

** C = compact version

others on request

2.2. PISTON ACCUMULATORS

The following table shows the recommended mounting type for each piston accumulator type. The clamp is selected on the basis of the accumulator's external diameter. Depending on the application and length of the accumulator, we recommend that several clamps are used. To prevent deformation of the cylinder, clamps should preferably be mounted near the end caps.

Designation	Part no.	Piston diameter [mm]																			
		50		60		80		100		125		150		180		200		250		> 250	
		Accumulator external diameter [mm]																			
		60	75	80	95	100	120	125	150	160	180	210	220	235	286	300	> 300				
Clamps SK280																					
HRGKSM 0 R 58-61/62 ST	3018442	●																	on request		
HRGKSM 0 R 73-76/76 ST	444912		●																		
HRGKSM 0 R 92-95/96 ST	444995				●																
HRGKSM 1 R 119-127/124 ST	444505						●														
HRGKSM 1 R 146-154/151 ST	444321								●												
Clamps SK Standard																					
HRGKSM 0 R 77-80/80 ST	3018445			●															on request		
HyRac 96-100/100 ST	445041					●															
HyRac 121-129/133 H8 ST	444906							●													
HyRac 160-167/169 H5 ST	444910									●											
HyRac 176-185/187 H5 ST	445044										●										
HyRac 209-217/223 H10 ST	445046											●									
HyRac 216-224/226 H5 ST	445047												●								
on request	-														●						
HSS 286	237395															●					
HSS 310	237389																●				
Consoles																					
KBK 126	290530							1											on request		
KBK 219	238042											1	1								
KBK 310	238043														1	1					
on request	-														1						

2.3. DIAPHRAGM ACCUMULATORS

2.3.1 Weld type

Clamps	Part no.	Type of accumulator
HyRac 62-65/65 ST	445037	SBO250-0.075E
HyRac 73-76/76 ST	445038	SBO210-0.16E
HRGKSM 0 R 77-80/80 ST	3018445	SBO160-0.16E
		SBO300-0.16E
HyRac 92-95/96 ST	445040	SBO210-0.32E
		SBO300-0.32E
HyRac 100-105/106 H3 ST	444904	SBO160-0.5E
		SBO210-0.5E
HyRac 106-114/115 H3 ST	444905	SBO100-0.7E
HyRac 110-118/124 H10 ST	445042	SBO140-0.75E
		SBO330-0.6E
HyRac 121-129/133 H8 ST	444906	SBO210-0.75E
		SBO250-0.75E
		SBO250-1E
		SBO330-0.75E
		SBO330-1E
HyRac 133-142/142 H3 ST	444907	SBO200-1E
HyRac 143-151/151 H3 ST	444908	SBO140-1.4E
		SBO210-1.4E
HyRac 152-159/160 H3 ST	444909	SBO250-1.4E
		SBO250-2E
		SBO330-1.4E
HyRac 160-167/169 H5 ST	444910	SBO100-2E
		SBO210-2E
		SBO210-2.8E
		SBO250-2.8E
		SBO330-2E
		SBO330-2.8E
HyRac 167-175/178 H5 ST	445043	SBO330-3.5E

2.3.2 Screw type

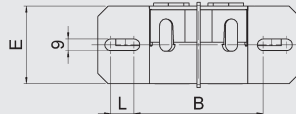
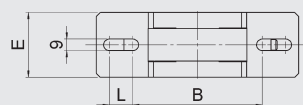
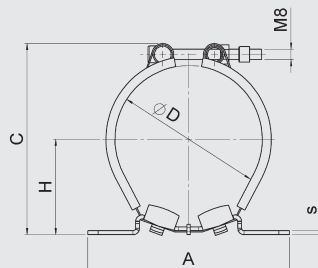
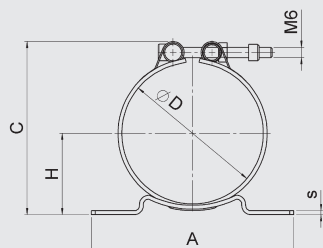
Consoles	Part no.	Type of accumulator
KMS 210	358989	SBO400-1.3A6
		SBO100-2A6
KMS 220	359922	SBO250-2A6
		SBO250-2A6
KMS 280	359925	SBO400-2.8A6
KMS 310	359927	SBO400-4A6

3. TECHNICAL DATA

3.1. CLAMPS

HRGKSM
HyRac (ØD ≤ 100 mm)

HyRac (ØD ≥ 100 mm)



Fastening, foot zinc-plated
Clamping band stainless steel
Insert PE

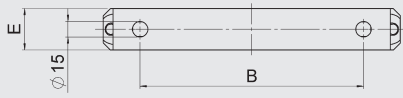
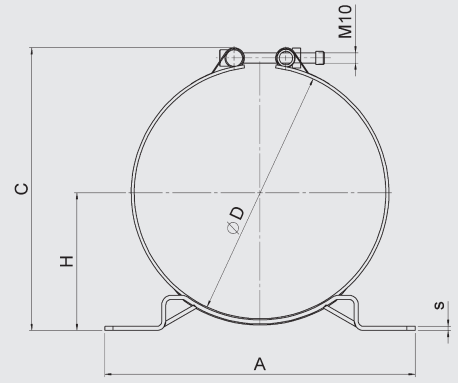
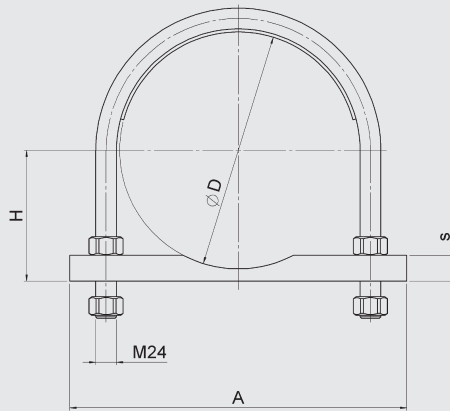
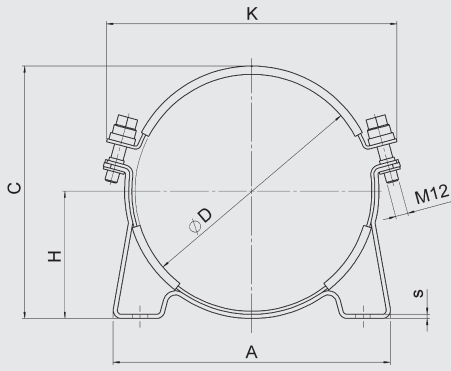
Fastening, foot zinc-plated
Clamping band stainless steel
Insert PE, NBR

Designation	Part no.	A [mm]	B [mm]	C max [mm]	ØD (from - to) [mm]	H (from - to) [mm]	E [mm]	L [mm]	s [mm]	K max. [mm]	Weight [kg]
HRGKSM 0 R 58-61/62 ST	3018442	120	85	83	58 - 61	37.3 - 38.8	40	6	3	-	0.16
HRGKSM 0 R 73-76/76 ST	444912			96	73 - 76	43.5 - 45					0.22
HRGKSM 0 R 77-80/80 ST	3018445			100	77 - 80	45.5 - 47					0.22
HRGKSM 0 R 92-95/96 ST	444995			115	92 - 95	52.5 - 54					0.24
HRGKSM 1 R 119-127/124 ST	444505	156	100	154	119 - 127	66.8 - 70.8	50	18	3	-	0.36
HRGKSM 1 R 146-154/151 ST	444321			181	146 - 154	80.5 - 84.5					50
HRGKSM 4 R 352-363/360 ST	444795	400	322	398	352 - 363	187.7 - 193.2	60	28	4	-	1.4
HyRac 62-65/65 ST	445037	120	85	85	62 - 65	38 - 39.5	40	8	3	-	0.16
HyRac 73-76/76 ST	445038			96	73 - 76	43.5 - 45					0.16
HyRac 92-95/96 ST	445040			115	92 - 95	52.5 - 54					0.17
HyRac 96-100/100 ST	445041			120	96 - 100	54.5 - 56.5					0.17
HyRac 100-105/106 H3 ST	444904	156	100	135	100 - 105	59 - 62	60	18	3	-	0.4
HyRac 106-114/115 H3 ST	444905			143	106 - 114	62.5 - 66					0.41
HyRac 110-118/124 H10 ST	445042			156	110 - 118	72.5 - 77					0.42
HyRac 121-129/133 H8 ST	444906			165	121 - 129	75.5 - 80					0.43
HyRac 133-142/142 H3 ST	444907			174	133 - 142	76.5 - 82.5					0.44
HyRac 143-151/151 H3 ST	444908			182	143 - 151	83 - 86.5					0.45
HyRac 152-159/160 H3 ST	444909			191	152 - 159	87 - 91					0.46
HyRac 160-167/169 H5 ST	444910			197	160 - 167	89 - 93					0.7
HyRac 167-175/178 H5 ST	445043	207	167 - 175	92.5 - 96.5	0.72						
HyRac 176-185/187 H5 ST	445044	241	176 - 185	97 - 102.5	0.75						
HyRac 209-217/223 H10 ST	445046	236	152	255	209 - 217	122.5 - 126.5	60	32	4	-	0.77
HyRac 216-224/226 H5 ST	445047			256	216 - 224	120 - 124					0.77
HyRac 223-230/231 H3 ST	445048			259	223 - 230	120.5 - 123.5					0.78
HyRac 225-234/234 H3 ST	445049			265	225 - 234	123 - 127.5					0.79

HSS

HRRBS

HRVMS



Clamp zinc-plated
Insert NBR

Clamp zinc-plated
Insert PP

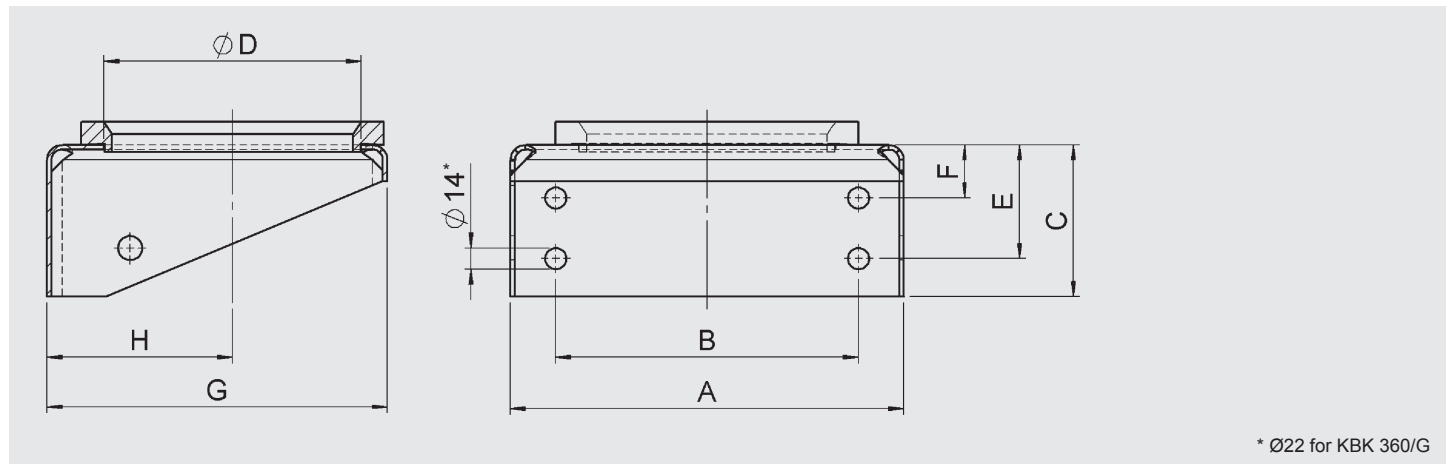
Clamp zinc-plated
Clamping band stainless steel
Insert PE

Designation	Part no.	A [mm]	B [mm]	C max [mm]	ØD (from - to) [mm]	H (from - to) [mm]	E [mm]	L [mm]	s [mm]	K max. [mm]	Weight [kg]
HSS 222/229	235224*	270	216	244	226	123	40	-	4	295	1.7
HSS 242	362712	268	216	265	242	136				305	1.7
HSS 286	237395	332	280	314	286	163				355	2.1
HSS 310	237389	332	280	333	310	170				380	2.1
HRRBS 17 B1L 406 PP ST M ZN B145 H525	3434519	540	440	450	410	220	60	-	30	-	6.15
HRVMS 3 R 268-279/276 ST	3559057	300	222	311	268 - 279	144.8 - 150.9	60	28	4	-	1.1

* alternative to Part no. 445048 and 445049

3.2. CONSOLES

3.2.1 KBK consoles for bladder accumulators and gas pressure vessels



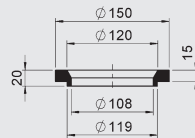
Designation	Part no.	A [mm]	B [mm]	C [mm]	ØD [mm]	E [mm]	F [mm]	G [mm]	H [mm]	Weight [kg]
KBK 167/G	2107989	260	200	100	120	75	35	225	92	2.5
KBK 222/G	2100651	260	200	100	170	75	35	225	123	2.4
KBK 360/G	2107990	390	270	240	211	180	60	390	195	20.1

Spare Parts

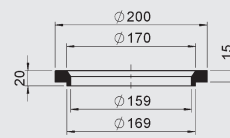
Designation	Part no.
KBK 167	238526
G 167	236997
KBK 222	3002160
G 222	236996
KBK 360	357959
G 360	355966

Rubber support ring

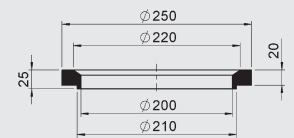
G 167



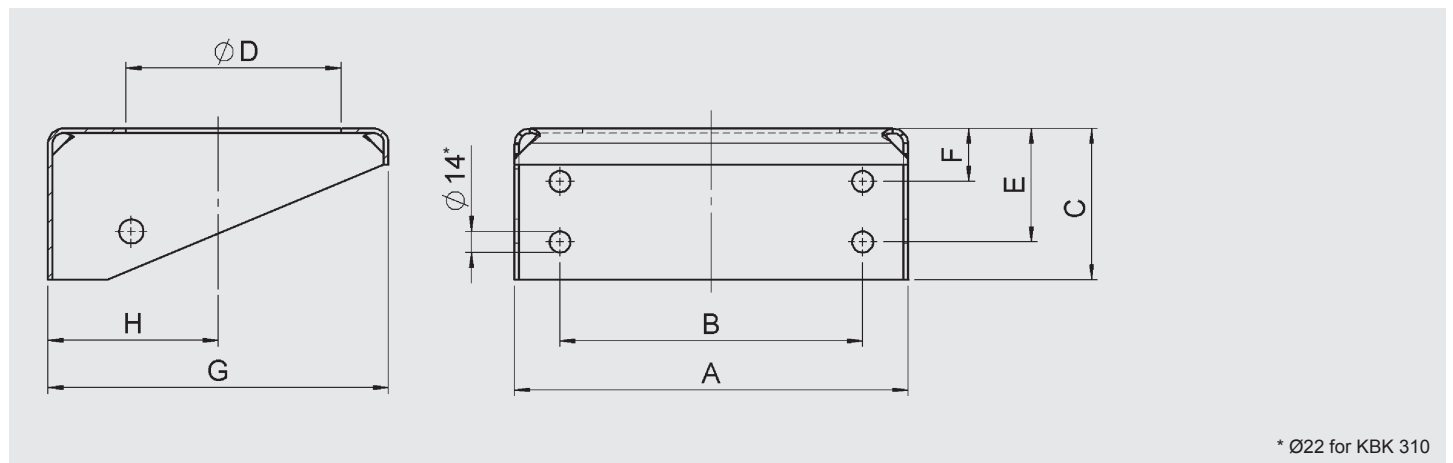
G 222



G 360

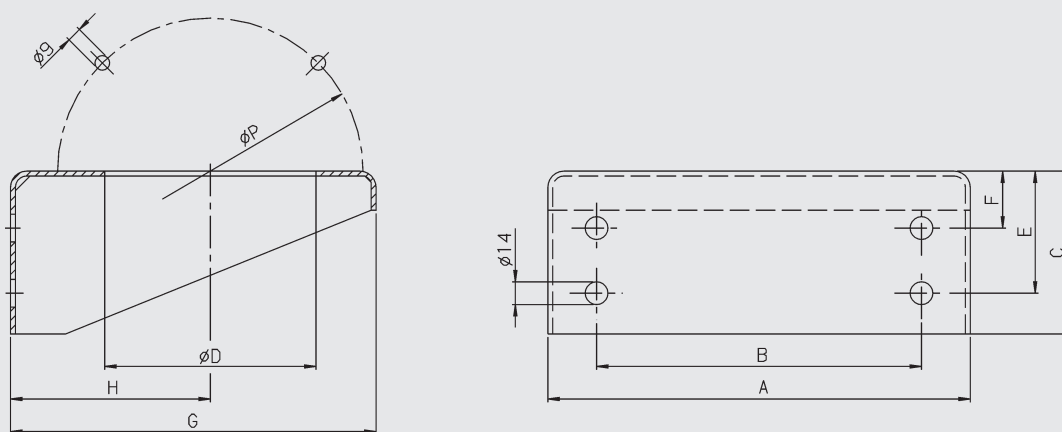


3.2.2 KBK consoles for piston accumulators



Designation	Part no.	A [mm]	B [mm]	C [mm]	ØD [mm]	E [mm]	F [mm]	G [mm]	H [mm]	Weight [kg]
KBK 126	290530	175	100	60	65	36	-	150	77	1.1
KBK 219	238042	270	180	100	135	80	40	250	123	6.5
KBK 310	238043	330	220	200	190	140	60	340	170	18.3

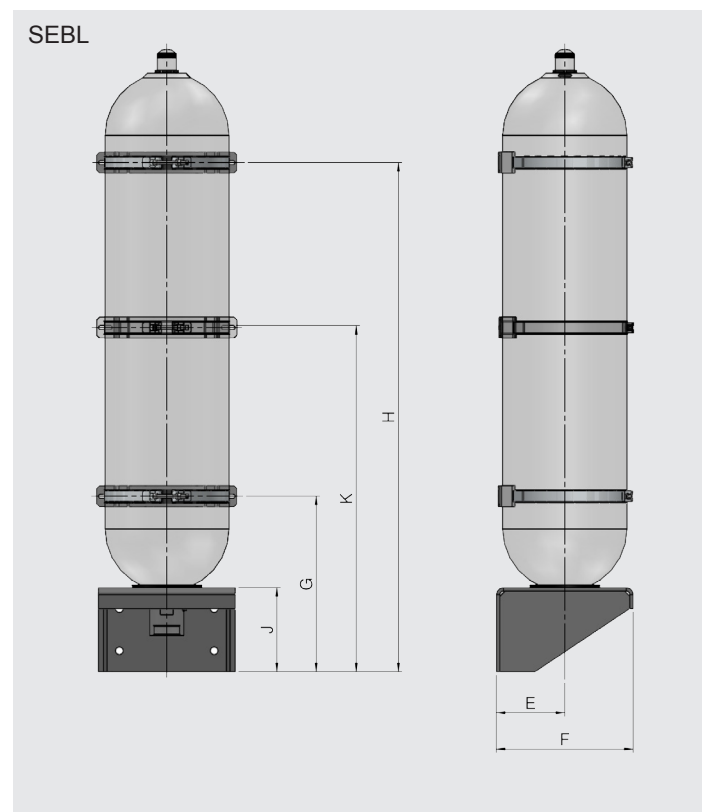
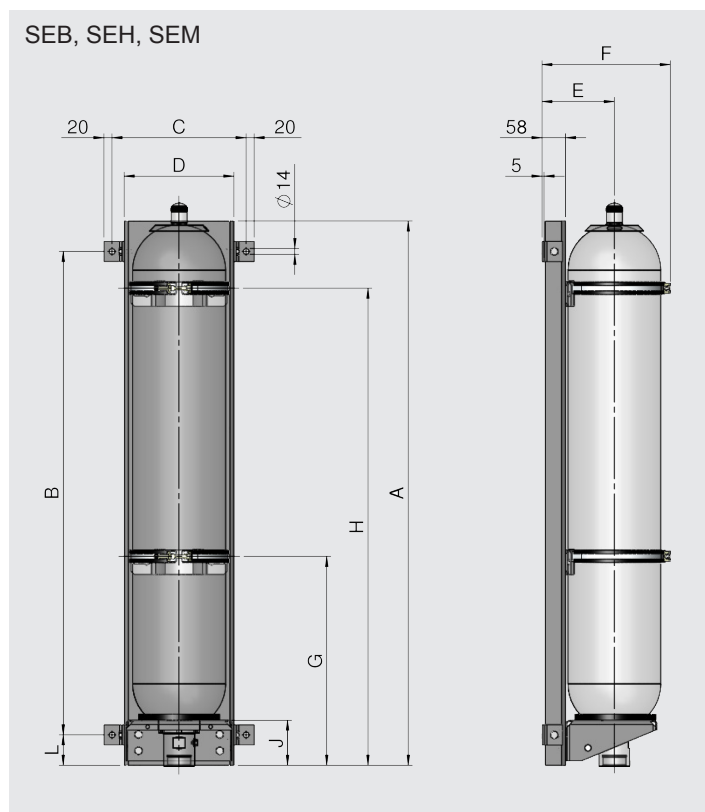
3.2.3 KMS consoles for screw-type diaphragm accumulators



The screw-type diaphragm accumulators have threaded bores M8 in the lock nut for fixing to the KMS console.

Designation	Part no.	A [mm]	B [mm]	C [mm]	ØD [mm]	ØP [mm]	E [mm]	F [mm]	G [mm]	H [mm]	ØI [mm]	Weight [kg]
KMS 210	358989	260	200	100	170	180	75	35	225	123	14	2.4
KMS 220	359922				170	188						
KMS 280	359925	330	220	200	215	230	140	60	340	170	22	18.3
KMS 310	359927				245	265						

3.3. ACCUMULATOR SET FOR BLADDER ACCUMULATORS

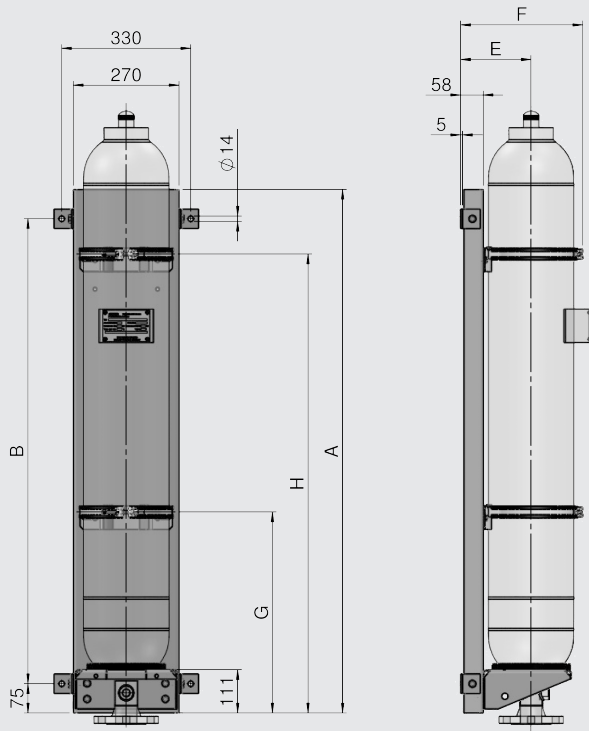


Designation	Part no.	Vol. [l]	A [mm]	B [mm]	C [mm]	D [mm]	E max. [mm]	F max. [mm]	G [mm]	H [mm]	K [mm]	L [mm]	J [mm]
SEB/SEBL for SB330/440													
SEB 2.5	290787	2.5	460	310	198	138	134	209	220	410		75	–
SEB 4	238403	4	410	320						270		45	95
SEB 6	2115851	6	570	420			154	285		415			
SEB 10 slimline version	4189835		1340	1190					500	1160			
SEB 10	238407	10	580		330	270				330		75	111
SEB 13-20	240598	13 20	570	420			185	318		500			
SEB 32	238409	32	1340	1190						1160			
SEB 50	240599	50								930			
SEBL 60-80	3605561	60 80					195	390	500	1200			240
SEBL 100-130	372132	100 130								1450	950		
										1750	1100		
SEH for SB500/550/600													
SEH 2.5	2105194	2.5	460	310	198	138	136	215	220	410			–
SEH 5	2105195	5	750	600						650			
SEH 10	378952	10	570	420						330		75	
SEH 20	298181	20			330	270	197	326		500			111
SEH 32	298182	32	1340	1190									
SEH 50	298183	50							500	1160			
SEM for SB40													
SEM 2.5	3007402	2.5	460	310	198	138	123	194	220	410			–
SEM 5	3007423	5	750	600						650			
SEM 10	3007424	10	570	420						330		75	
SEM 20	3007425	20			330	270	179	307		500			111
SEM 32	3007426	32	1340	1190									
SEM 50	3007427	50							500	1160			

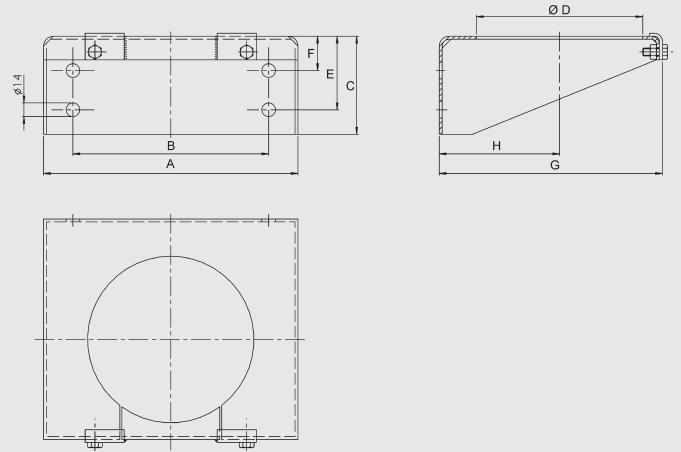
Accumulator set SEB is also available with an SAF and SB330 as a compact unit (ACCUSET SB330).
See catalogue section:

- ACCUSET SB
No. 3.503

SEHB



KHF 210



Designation	Part no.	Vol. [l]	A [mm]	B [mm]	C [mm]	ØD [mm]	E max. [mm]	F max. [mm]	G [mm]	H [mm]	L [mm]	J [mm]	Weight [kg]
Accumulator set SEHB for SB35HB													
SEHB 20	3007431	20	570	420	—	—	184	312	—	500	75	111	—
SEHB 32	3007432	32	1340	1190	—	—	—	—	500	1160	—	—	—
SEHB 50	3007433	50	—	—	—	—	—	—	—	—	—	—	—
Console KHF													
KHF 210	239965	—	260	200	100	170	75	35	230	123	—	—	2

The accumulator sets SEHF/SEHB are supplied with console KHF 210/G which can be opened at the front for easier mounting of the bladder accumulator.

6. NOTE

The information in this brochure relates to the operating conditions and applications described.

For applications and operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

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