

BLADDER ACCUMULATORS



ASME+ CE
certification



Accumulators
Bladder Repair Kits
Shells & Accessories



Fluid System Energy Storage, Release
Surge, Pulsation **Solutions**

BLADDER ACCUMULATORS



Our standard bladder accumulator is designed for energy storage, pulsation dampening, shock absorption in the hydraulic system, consisting of a molded rubber bladder inside a forged steel shell with a nitrogen gas valve on one end and a fluid port at the other. All of our bladder accumulators are ASME code stamped and interchangeable with most of major brands on the market. The bladders, anti-extrusion rings, O-rings and seals are all made in USA. They are widely used in hydraulic power units, blowout preventer (BOP) systems, surge suppressions, pump pulsation controls, etc. with the following major features:

- Rapid response to pressure changes and work cycle
- Complete separation of gas and fluid
- Highly resistant to fluid contamination
- Low maintenance, trouble-free operation
- Readily available, low cost replacement parts
- Eliminates costly down time on expensive systems due to simple repair



Material Options:

Shell	<ul style="list-style-type: none"> • Carbon Steel Chrome-Molybdenum Alloy Steel (SA-372) All sizes comply with ASME materials specifications • Stainless Steel 316
Bladder	Standard Nitrile, Low Temp Nitrile, EPDM, Viton
Fluid Port	NPT, SAE, Metric Thread, Imperial Thread

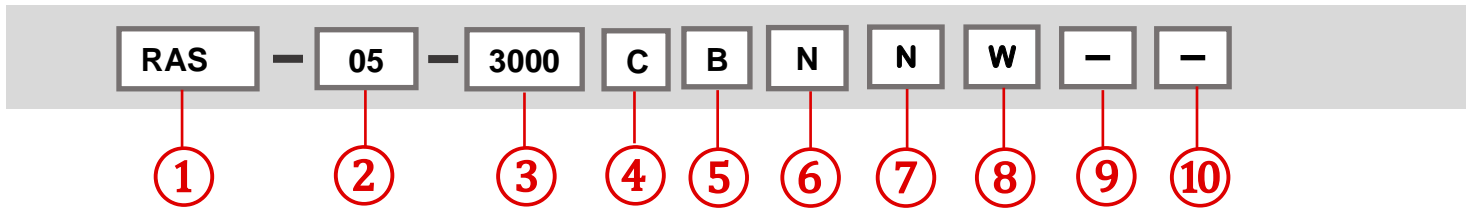
Custom Sizes are Available by Request

Please check www.reasontek.com for more details



Bladder Accumulator • Type RAS

Order Codes



① Series

Standard Bladder Accumulator **RAS**

② Sizes

Volume (Gal)	
1 Quart	001
1 Gallon	01
2.5 Gallon	02
5 Gallon	05
10 Gallon	10
11 Gallon	11
15 Gallon	15
Others	XX

③ Pressure Rating Standard

3000 PSI/ 207 Bar	3000
5000 PSI/ 345 Bar	5000
2000 PSI/ 138 Bar (for stainless steel shell)	2000
Others	XXXX

④ Shell Material

Carbon Steel	C
Stainless Steel 316	S

⑤ Type of Construction

Bottom Repairable	B
Top Repairable	T

⑥ Bladder Material

Nitrile (Buna-N)	N
Low Temp Nitrile	L
EPDM	E
Viton	V

⑦ Fluid Port

SAE Threaded	S
NPT	N

SAE Standard:

1 Quart	SAE #12
1 Gallon	SAE #20
2.5 to 15 Gallon	SAE #24

NPT Standard:

1 Quart	3/4"
1 Gallon	1-1/4"
2.5 to 15 Gallon	2"

⑧ Service

Standard, oil	Omit
Water	W

⑨ Coating

Black Primer Exterior	Omit
Epoxy Coat Interior	1
Others	2

⑩ Certificate

Standard ASME	Omit
SELO	S
CE	C
Others	X



Gas Valve, 3,000 PSI

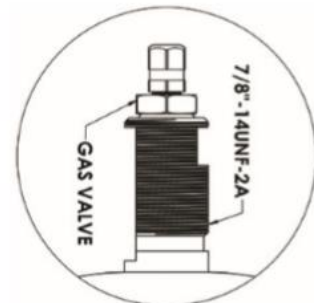


Gas Valve, 5,000 PSI

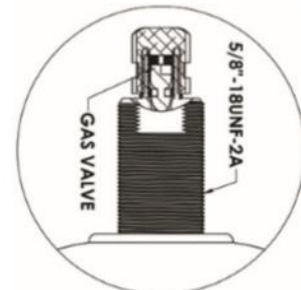
Stem Detail 5000 PSI



Stem Detail 3000 PSI



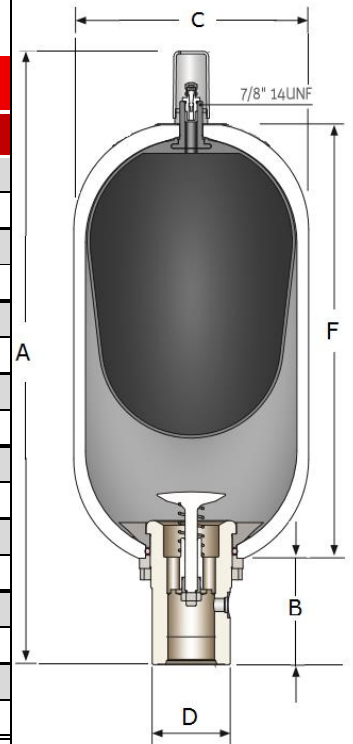
3000 PSI



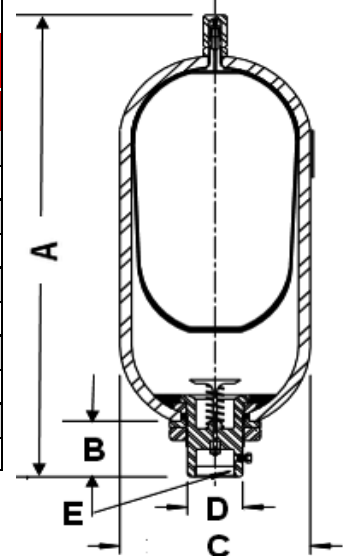
BLADDER ACCUMULATORS

1 QT-15 GAL 3000/6000 PSI, Bottom Repairable

Bladder Accumulator- Bottom Repairable 3000 psi (207 Bar)								
Size		Dimensions In. (mm)				Port Thread E		Weight
Gal.	Liters	A	B	C	D	SAE	NPT	Lbs. (Kg)
1 PT.	0.5	10.75	2.00	4.50	1.62	SAE#12	3/4"	8 (3.6)
		(273)	(51)	(114)	(41)	1-1/16-12		
1 QT.	1	11.12	2.00	4.50	1.62	SAE#12	3/4"	10 (4.5)
		(282)	(51)	(114)	(41)	1-1/16-12		
1	4	17.00	3.50	6.75	2.37	SAE#20	1-1/4"	34 (15)
		(432)	(89)	(171)	(60)	1-5/8-12		
2.5	10	21.38	3.62	9.06	3.00	SAE#24	2"	80 (36)
		(543)	(92)	(230)	(76)	1-7/8-12		
5	20	33.38	3.62	9.06	3.00	SAE#24	2"	120 (55)
		(848)	(92)	(230)	(76)	1-7/8-12		
10	37	54.38	3.62	9.06	3.00	SAE#24	2"	220 (100)
		(1382)	(92)	(230)	(76)	1-7/8-12		
11	42	59.88	3.62	9.06	3.00	SAE#24	2"	240 (109)
		(1520)	(92)	(230)	(76)	1-7/8-12		
15	57	77.88	3.62	9.06	3.00	SAE#24	2"	305 (139)
		(1978)	(92)	(230)	(76)	1-7/8-12		



Bladder Accumulator- Bottom Repairable 6000 psi (413 Bar)								
Size		Dimensions In. (mm)				Port Thread E		Weight
Gal.	Liters	A	B	C	D	SAE	NPT	Lbs. (Kg)
1	4	17.25	3.25	7.14	2.25	SAE#20	1-1/4"	50 (23)
		(438)	(83)	(181)	(57)	1-5/8-12		
2.5	10	22.55	3.88	9.63	3.00	SAE#24	2"	120 (55)
		(573)	(99)	(245)	(76)	1-7/8-12		
5	20	34.80	3.88	9.63	3.00	SAE#24	2"	200 (91)
		(884)	(99)	(245)	(76)	1-7/8-12		
10	37	54.38	3.88	9.63	3.00	SAE#24	2"	335 (152)
		(1382)	(99)	(245)	(76)	1-7/8-12		
15	57	77.88	3.88	9.63	3.00	SAE#24	2"	485 (220)
		(1978)	(99)	(245)	(76)	1-7/8-12		



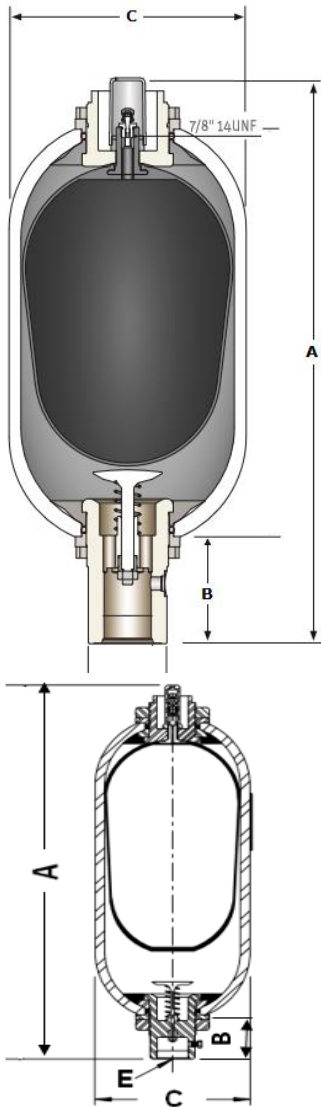
- ASME Coded, U Stamped, NB Registered; Other International Certifications Available by Request;
- Standard Carbon Steel with Protective Coating Options;
- Also Available in Stainless Steel, up to 1,500 psi;
- ASME Flange Fluid Port Option Available and Made to Order;
- Custom Design Available by Request;

Visit www.reasontek.com for more details



BLADDER ACCUMULATORS

2.5-15 GAL 3000/6000 PSI, Top Repairable



Bladder Accumulator- Bottom Repairable 3000 psi (207 Bar)								
Size		Dimensions In. (mm)				Port Thread E		Weight
Gal.	Liters	A	B	C	D	SAE	NPT	Lbs. (Kg)
2.5	10	20.50	3.62	9.06	3.00	SAE#24	2"	80
		(521)	(92)	(230)	(76)	1-7/8-12		(36)
5	20	32.75	3.62	9.06	3.00	SAE#24	2"	120
		(832)	(92)	(230)	(76)	1-7/8-12		(55)
10	37	53.25	3.62	9.06	3.00	SAE#24	2"	220
		(1353)	(92)	(230)	(76)	1-7/8-12		(100)
11	42	59.00	3.62	9.06	3.00	SAE#24	2"	240
		(1499)	(92)	(230)	(76)	1-7/8-12		(109)
15	57	77.38	3.62	9.06	3.00	SAE#24	2"	305
		(1965)	(92)	(230)	(76)	1-7/8-12		(139)

Bladder Accumulator- Bottom Repairable 6000 psi (413 Bar)								
Size		Dimensions In. (mm)				Port Thread E		Weight
Gal.	Liters	A	B	C	D	SAE	NPT	Lbs. (Kg)
2.5	10	21.68	3.88	9.63	3.00	SAE#24	2"	120
		(551)	(99)	(245)	(76)	1-7/8-12		(55)
5	20	33.92	3.88	9.63	3.00	SAE#24	2"	220
		(862)	(99)	(245)	(76)	1-7/8-12		(100)
10	37	54.42	3.88	9.63	3.00	SAE#24	2"	335
		(1382)	(99)	(245)	(76)	1-7/8-12		(152)
15	57	75.92	3.88	9.63	3.00	SAE#24	2"	485
		(1928)	(99)	(245)	(76)	1-7/8-12		(220)

- ASME Coded, U Stamped, NB Registered; Other International Certifications Available by Request;
- Standard Carbon Steel with Protective Coating Options;
- Also Available in Stainless Steel, up to 1,500 psi;
- ASME Flange Fluid Port Option Available and Made to Order;
- Custom Design Available by Request;



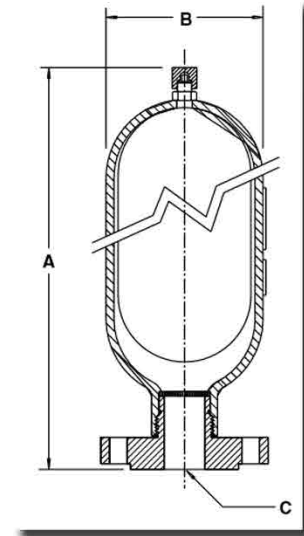
Visit www.reasontek.com for more details

Bottom Repairable Surge Suppressors

Low Pressure 275psi/400 psi

FEATURES:

- Special Cost Saving Design for Low Pressure Lube Oil, Water Applications;
- Shell assembly: Carbon steel, epoxy coated internally, Stainless steel 316;
- Other wetted parts: 300 series stainless steel;
- Nominal Pressure: 275psi, 400psi;
- Bladder material: Nitrile (NBR, Buna-N), Other compounds available;
- ASME Coded per Section VIII, Div. 1, U-Stamped, National Board Registered;
- Standard ANSI Flanges;



Nominal Size. Gal.	"A" in. Approx.	"B" Dia. In.	"C" Fluid Port Flange	Est. Dry Weight	Model Number	
					Surge Suppressor	Repair Kit
2.5	17.5	9.04	3"-150# (3"-300#)	50lbs	RAL0201F1 (RAL0201F2)	RKL0201F1 (RKL0201F2)
5	29.25	9.04	3"-150# (3"-300#)	86lbs	RAL0501F1 (RAL0501F2)	RKL0501F1 (RKL0501F2)
10	50	9.04	3"-150# (3"-300#)	140lbs	RAL1001F1 (RAL1001F2)	RKL1001F1 (RKL1001F2)
15	74	9.04	3"-150# (3"-300#)	202lbs	RAL1501F1 (RAL1501F2)	RKL1501F1 (RKL1501F2)

Custom Sizes Are Available by Request

Pre-charge Instructions

The Accumulators, Surge Suppressors and Pulsation Dampeners shipped from the factory of Reasontek are only pre-charged to 20 psi with dry Nitrogen gas. This pre-charge protects the bladders from getting damaged during shipping. After installation of the unit, the bladder inside the unit needs to be properly pre-charged with dry Nitrogen gas to 70-80% of the working pressure of the pipeline. The precharging is accomplished before the fluid starts pumping in the pipeline.

For newly installed units, the pre-charge should be monitored every two weeks. There should be no fluid pumping through the pipeline during this process. If the pre-charge has dropped, then more Nitrogen gas should be pumped into the bladder to raise the pre-charge in the bladder to the recommended pressure. When there is no loss of pre-charge noticed, the pre-charge should be monitored every four weeks. **Caution: Do not use Oxygen or air to pre-charge the bladder. Use only Nitrogen for pre-charging.**

Accumulator Repair Kits

High Quality Materials



DESCRIPTION:

Interchangeable bladder repair kits for bladder accumulator maintenance, including **Bladder, Valve Seal Cap, Seal Kit, Gas Valve with Valve Stem**. Various rubber materials to select for different fluid media and temperature requirements.

Our bladder repair kits are interchangeable with most US brands.

All rubber materials, seals and gas valves are made in USA.

SPECS:

ITEM	Accumulator Repair Kit
TYPE	Hydraulic Bladder
FLUID VOLUME (GAL.)	1G, 2.5G, 5G, 10G, 11G, 12.5G, 15G, 16.5G (custom sizes are available)
MATERIAL	Standard Nitrile, Low Temp Nitrile, Hydrin, Others
TEMP. RANGE	-40 °F to 230 °F
PRESSURE RANGE	3,000 psi, 5,000 psi
WEIGHT	1-13lbs



ORDERING CODE:



ANTI-EXTRUSION RINGS NOT INCLUDED, ORDER SEPARATELY

Series	STD. Size	Rubber Material
RK-	1Q -1 Quart	01 -Buna-Nitrile (Std.) 02 - Low Temp Nitrile (Std.) 04 -Hydrin (optional) 06 -Butyl (optional) 08 -EPR (optional) 28 -Viton (optional)
	01 -1 Gallon	
	02 -2.5 Gallon	
	05 -5 Gallon	
	10 -10 Gallon	
	11 - 11 Gallon	
	125 -12.5 Gallon	
	15 -15 Gallon	
	165 -16.5 Gallon	

STD. 3,000 PSI BLADDER SPECIFICATIONS					
SIZE (MODEL NO.)	PART NO.	L (IN.)	STD. THREAD OD	WEIGHT (LBS)	
1 QUART (RK-1Q-01)	R702928	5.5	5/8"-18 UNF	1	
1 GALLON (RK-01-01)	R702956	8	7/8"-14 UNF	1	
2.5 GALLON (RK-02-01)	R702970	11.5	7/8"-14 UNF	3	
5 GALLON (RK-05-01)	R702984	23	7/8"-14 UNF	5	
10 GALLON (RK-10-01)	R702998	43.5	7/8"-14 UNF	7	
11 GALLON (RK-11-01)	R703012	46	7/8"-14 UNF	8	
12.5 GALLON (RK-125-01)	R703020	52	SAE16 1 5/16"-12	10	
15 GALLON (RK-15-01)	R703026	68	7/8"-14 UNF	12	
16.5 GALLON (RK-165-01)	R703034	73	SAE16 1 5/16"-12	13	
Custom bladders are available by request; Check our accumulator specifications for the installation dimension details and applications.					

COMPETITORS CROSSOVER:

Our bladder accumulators and repair kits are directly interchangeable with most of other brands on the market, including Parker, Greer, Oil Air, Olaer, Hydac, Tobul, Accumulators, etc.

Standard 3,000 psi, Oil Service, Buna-N, SAE Thread

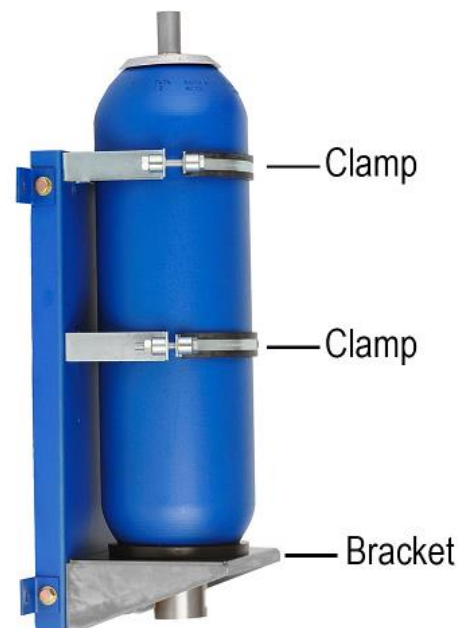
Size	Reasontek	Greer	Parker	Oil Air	Accumulators	Hydac
1 QT	R702928	702928	N/A	A1QT-300	AI-1QT-3KT	2054034
1 GAL	R702956	702956	0850693010	A1-300	AI-1-3KT	2054035
2.5 GAL	R702970	702970	0850693025	A-2.5-2-300	AI-2.5-3KT	2054036
5 GAL	R702984	702984	0850693050	A-5-2-300	AI-5-3KT	2054037
10 GAL	R702998	702998	0850693100	A-10-2-300	AI-10-3KT	2054038
11 GAL	R703012	703012	0850693110	A-11-2-300	AI-11-3KT	N/A
12.5 GAL	R703020	N/A	N/A	N/A	N/A	N/A
15 GAL	R703026	703026	0850693150	A-15-2-300	AI-15-3KT	2054039
16.5 GAL	R703034	N/A	N/A	N/A	N/A	N/A

Mounting Brackets for Accumulators, Cylinders and Filter Housings

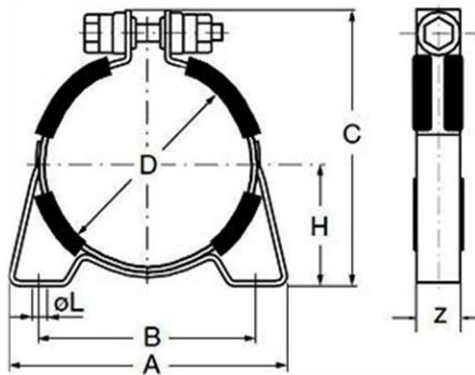
Our accumulator mounting clamps and brackets are designed to provide simple and secure mounting for accumulators, cylinders and filter housings.

Special features:

- Rubber cushioning to reduce vibration and noise.
- Compensation for thermal expansion and contraction.
- Exclusively designed for all types of accumulators, cylinders and filter housings.
- Clear Zinc plated to resist corrosion.
- Special sizes, designs and materials (including stainless steel) available upon request.



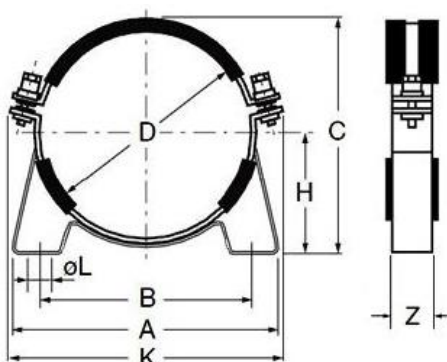
Single Bolt Clamp



Mounting Brackets, Single Bolt Clamp

Model	A in. (mm)	B in. (mm)	C in. (mm)	D (Dia.) in. (mm)	H in. (mm)	L (Slot) in. (mm)	Width Z in. (mm)	Wt. lbs. (kg)
RMS-45	5.26 (134)	3.94 (100)	6.68 (170)	4.51 (115)	2.87 (73)	.38 x .50 (9.7 x 12.7)	1.25 (32)	1.8 (.82)
RMS-50	6.89 (175)	5.35 (136)	7.12 (181)	4.96 (126)	3.03 (77)	.38 x .50 (9.7 x 12.7)	1.25 (32)	1.8 (.82)
RMS-57	6.63 (168)	5.35 (136)	7.75 (197)	5.75 (146)	3.50 (89)	.38 x .50 (9.7 x 12.7)	1.25 (32)	2.0 (.91)
RMS-66	7.50 (191)	6.02 (153)	9.00 (229)	6.75 (171)	3.94 (100)	.38 x .50 (9.7 x 12.7)	1.25 (32)	2.3 (1.0)
RMS-70	8.18 (208)	6.31 (160)	9.38 (238)	7.12 (189)	4.18 (106)	.38 x .50 (9.7 x 12.7)	1.25 (32)	2.2 (1.0)
RMS-87	10.12 (257)	8.50 (216)	11.38 (289)	9.12 (232)	5.00 (127)	.38 x .50 (9.7 x 12.7)	1.25 (32)	2.8 (1.3)

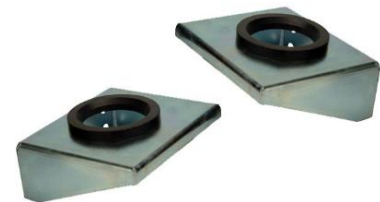
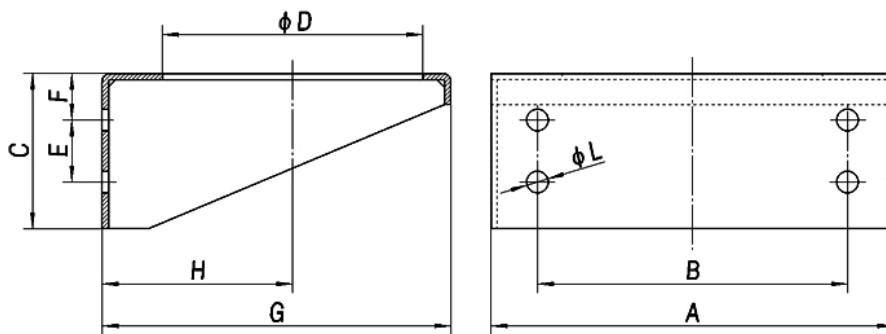
Double Bolt Clamp



Mounting Brackets, Double Bolt Clamp

Model	A in. (mm)	B in. (mm)	C in. (mm)	D (Dia.) in. (mm)	H in. (mm)	K in. (mm)	L in. (mm)	Width in. (mm)	Wt. lbs. (kg)
RMD-81	10.24 (260)	8.19 (208)	9.06 (230)	8.11 (206)	4.65 (118)	10.83 (275)	.59 (15)	1.50 (38)	3.2 (1.5)
RMD-84	10.63 (270)	8.50 (216)	9.37 (238)	8.39 (213)	4.84 (123)	11.22 (285)	.59 (15)	1.50 (38)	3.5 (1.6)
RMD-86	10.55 (268)	8.50 (216)	9.53 (242)	8.63 (219)	4.84 (123)	11.22 (285)	.59 (15)	1.50 (38)	3.4 (1.5)
RMD-89	10.00 (254)	8.50 (216)	9.89 (251)	9.12 (232)	4.95 (126)	12.48 (317)	.59 (15)	1.50 (38)	3.4 (1.5)
RMD-99	10.40 (264)	8.50 (216)	10.50 (267)	9.75 (248)	5.31 (135)	12.99 (330)	.59 (15)	1.50 (38)	3.4 (1.5)
RMD-113	13.07 (332)	11.02 (280)	12.40 (315)	11.26 (286)	6.42 (163)	13.98 (355)	.59 (15)	1.50 (38)	4.1 (1.8)
RMD-122	13.07 (332)	11.02 (280)	13.15 (334)	12.21 (310)	6.69 (170)	14.96 (380)	.59 (15)	1.50 (38)	4.4 (2.0)
RMD-141	16.81 (424)	14.37 (365)	15.08 (383)	14.13 (359)	7.68 (195)	16.69 (424)	.59 (15)	1.50 (38)	5.5 (2.4)

Base Bracket (with Rubber Ring)



Base Bracket (with Rubber Ring)										
Model	A in. (mm)	B in. (mm)	C in. (mm)	D Dia. in. (mm)	E in. (mm)	F in. (mm)	G in. (mm)	H in. (mm)	L Dia. in. (mm)	Wt. lbs. (kg)
RBB-47	10.24 (260)	7.87 (200)	3.94 (100)	4.72 (120)	2.95 (75)	1.38 (35)	8.86 (225)	3.94 (100)	.67 (17)	5.1 (2.3)
RBB-53	10.63 (270)	7.09 (180)	3.94 (100)	5.31 (135)	3.15 (80)	1.57 (40)	9.84 (250)	4.84 (123)	.67 (17)	5.3 (2.4)
RBB-67	10.24 (260)	7.88 (200)	3.94 (100)	6.69 (170)	2.95 (75)	1.38 (35)	8.86 (225)	4.84 (123)	.67 (17)	4.5 (2.0)
RBB-69	10.20 (259)	7.80 (198)	3.90 (99)	6.69 (170)	2.70 (75)	1.00 (25)	9.00 (228)	5.10 (129)	.75 (19)	4.6 (2.1)
RBB-75	12.99 (330)	8.66 (220)	7.87 (200)	7.48 (190)	5.51 (140)	2.36 (60)	13.39 (340)	6.69 (170)	.87 (22)	12.3 (5.6)
RBB-83	15.35 (390)	10.63 (270)	9.45 (240)	8.31 (211)	7.09 (180)	2.36 (60)	15.35 (390)	7.68 (195)	.87 (22)	16.9 (7.7)

Mounting Brackets Compatibility

For 3000 PSI Bladder Accumulators				
Accumulator Size	Nominal Dia. in. (mm)	Clamp Model	Qty.	Base Bracket Model
1 quart	4.5 (114)	RMS-45	1	None
2-quart	4.5 (114)	RMS-45	1	None
1 gallon	6.7 (170)	RMS-66	1	RBB-47
2-1/2-gallon	9.1 (231)	RMD-89	1	RBB-67
5-gallon	9.1 (231)	RMD-89	2	RBB-67
10-gallon	9.1 (231)	RMD-89	2	RBB-67
15-gallon	9.1 (231)	RMD-89	3	RBB-67
25-gallon	14.25 (362)	RMD-141	3	RBB-83
40-gallon	14.25 (362)	RMD-141	3	RBB-83
For 5000 PSI Bladder Accumulators				
Accumulator Size	Nominal Dia. in. (mm)	Clamp Model	Qty.	Base Bracket Model
1 quart	4.82 (122)	RMS-50	1	None
1 gallon	7.12 (181)	RMS-70	1	RBB-47
2-1/2-gallon	9.75 (248)	RMD-99	1	RBB-69
5-gallon	9.75 (248)	RMD-99	2	RBB-69
10-gallon	9.75 (248)	RMD-99	2	RBB-69
15-gallon	9.75 (248)	RMD-99	3	RBB-69

REASONTEK CORPORATION
565 W. LAMBERT RD. #D
BREA, CA 92821

PHONE: 323-800-6566; FAX: 714-592-7723
EMAIL: SALES@REASONTEK.COM
WWW.REASONTEK.COM



ADD: 565 W. Lambert Rd. #D, Brea, CA 92821
Phone: 1-323-800-6566; Fax: 1-714-582-2981
Email: sales@reasontek.com;
Web: <http://www.reasontek.com>

Accumulator Sizing Request

Please select from the following applications and fill out (type or print) the information required. We'll help you calculate the proper accumulator size you need.

Auxiliary Power Source

The most common application of hydraulic accumulators is as an auxiliary power source. In this application, the accumulator stores the hydraulic fluid delivered by the pump during a portion of the work cycle; then, releases this stored fluid on demand to complete the cycle, thereby functioning as a secondary source of power and assisting the pump.

System maximum pressure, P_2 : _____

System minimum pressure, P_3 : _____

Pre-charge pressure of the accumulator, P_1 : _____

The volume of the fluid required to the system (from the accumulator), V_x : _____

Pump Pulsation Dampener

Pressure pulsations are frequently caused by the reciprocating action of piston-type pumps which produce periodic pressure and flow variations at their discharge ports. Installing proper accumulators in the pumping equipment to reduce pulsations can greatly minimize the incidence of failure of vibration sensitive instruments, as well as damage of to pipelines, couplings and valves.

Pump displacement, V_1 ; or Bore size of the cylinder and length of stroke: _____

System mean pressure, P_2 : _____

Permissible fluctuation (5% by default), %: _____

Pump Type, select one:

- Simplex Single-Acting
- Simplex Double-Acting
- Duplex Single-Acting
- Duplex Double-Acting
- Triplex Single-Acting
- Triplex Double-Acting

Hydraulic Surge Suppressor

Hydraulic line shock, or “water hammer” as it’s commonly called, is caused by the sudden stoppage or fast deceleration of fluid flowing in a pipe line that results from the quick closure of a valve in the line. The installation of a properly sized accumulator close to the source of shock can eliminate or significantly minimize the shock and vibration in the system.

I.D. of pipe (specify if different pipes), D: _____

Length of pipe line (with each I.D.), L: _____

Flow Rate, Q: _____

System pressure at normal flow rate: P_1 : _____

Maximum allowable shock pressure: P_2 : _____

Fluid Media: _____

Others in Comments

REASONTEK CORPORATION
565 W. LAMBERT RD. #D,
BREA, CA 92821

PHONE: 323-800-6566; FAX: 714-592-7723
sales@reasontek.com • www.reasontek.com

