

Bladder Accumulator



Description

Bladder accumulators are hydraulic devices used to store hydraulic fluid under pressure. They consist of a cylindrical shell typically made of steel, with a rubber bladder inside. The bladder divides the interior of the accumulator into two chambers: one containing hydraulic fluid and the other containing a compressible gas (usually nitrogen).

Functions of bladder accumulators include:

- Energy Storage
- Pulsation
- Impact Absorption(Decrease)
- Leakage Compensation
- Volume Compensation
- Vibration Absorption
- Balance
- Fluid Separation

Bladder accumulators are commonly used in various industrial and mobile hydraulic applications where smooth operation, shock absorption, and energy storage are crucial. They come in different sizes and pressure ratings to match specific system requirements.

MILEHERTZ manufactures three types of bladder accumulators:

- National bladder standard accumulator(GB/T20663)
- Bladder accumulator(ASME)
- PED type bladder accumulator

Bladder Materials

Not all fluids are compatible with every elastomer at all temperatures, therefore, MILEHERTZ offers the following materials:

- NBR (*Standard Nitrile*)
- HNBR (*Low Temperature Nitrile*)
- IIR (*Butyl*)
- FPM (*Fluoroelastomer*)
- EPDM
- others (available upon request)

Corrosion Protection

For use with certain aggressive or corrosive fluids, or in a corrosive environment, MILEHERTZ offers protective coatings and corrosive resistant materials (*i.e. stainless steel*) for the parts that interface with the fluid or are exposed to the hostile environment.

Mounting Position

Bladder accumulators are designed to install vertically, horizontally and obliquely. When vertically or obliquely installed, the oil valve must be at the bottom. If the installation position is horizontal or at a slant, the effective fluid volume and the maximum permitted flow rate of the operating fluid are reduced. When used for different application, particular positions are recommended:

- Energy storage : Vertical
- Pulse damping : Horizontal or vertical
- Pressure maintaining : Horizontal or vertical
- Volume compensation : Vertical

System Mounting

MILEHERTZ bladder accumulators are designed to be screwed directly onto the system(less than 1L).For strong vibrations and volumes above 1L, fixed with bracket or accumulator mounting sets are recommended to minimize the risk of failure due to system vibrations.

Applications

Several applications possible, e.g. in:

- Energy storage
- Emergency operation
- Force equilibrium
- Leakage compensation
- Volume compensation
- Shock absorption
- Vehicle suspension
- Pulsation damping

National Standard Bladder Accumulator

Model Code

NXQ A - 40 / 31.5 - F - Y

Product Name:

NXQ:National Standard Bladder Accumulator

BNXQ:Stainless Steel Bladder Accumulator

Structure Type:

A:Type A,

AB:Type AB

Nominal Volume:

0.4 = 0.4Liters

0.63 = 0.63Liters

1 = 1Liters

1.6 = 1.6Liters

2.5 = 2.5Liters

...see tables on following pages for complete list of sizes, and which versions they are available in

125 = 125Liters

160 = 160Liters

200 = 200Liters

250 = 250Liters

Nominal Pressure:

10: 10Mpa

20: 20Mpa

31.5: 31.5Mpa

Custom made

Connection Type:

L: Thread connection

F: Flange connection

Working Medium:

Y: Hydraulic oil

R: Emulsion

EG: Ethylene glycol

S: Water or corrosive liquid

National Standard Bladder Accumulator working temperature: -20℃~+93℃

Stainless Steel Bladder Accumulator working temperature: -40℃~+93℃

Stainless Steel Bladder Accumulator nominal pressure: ≤25Mpa

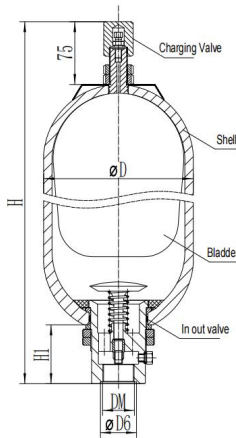
Stainless Steel Bladder Accumulator nominal volume: 0.4~100L

Charging Valve Port : M14X1.5

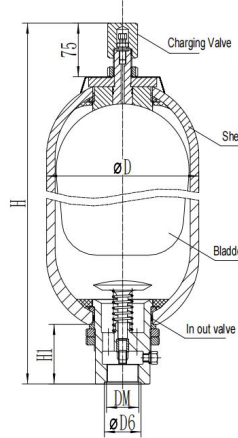
National Standard Bladder Accumulator

Dimensions

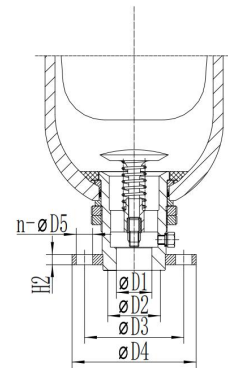
NXQA accumulator
Thread connection



NXQAB accumulator
Thread connection



NXQ accumulator
Flange connection



Model	Pressure (MPa)	Max discharge flow rate		Volume (L)	Connection		Dimension(mm)										Weight (kg)	
		L	F		L	F	DM	ΦD1	ΦD2	ΦD3	ΦD4	n-D5	ΦD6	H1	H2	Φ D		
																		H
NXQ※-0.4/※-L-※	10	1		0.4	250		M27×2						32	52		89	4.9	
NXQ※-0.63/※-L-※				0.63	320													5.6
NXQ※-1/※-L-※				1	315											114	7.2	
NXQ※-1.6/※-L/F-※		3.2	6	1.6	355	370	M42×2	42	50 (50× 3.1)	97	130	6Φ17	50 (50× 3.1)	66	25	152	12.5	
NXQ※-2.5/※-L/F-※				2.5	420	435											15	
NXQ※-4/※-L/F-※				4	530	545											18.5	
NXQ※-6.3/※-L/F-※				6.3	700	715											25.5	
NXQ※-10/※-L/F-※		6	10	10	660	685	M60×2	50	70 (70× 3.1)	125	160	6Φ21	70 (70× 3.1)	90.5	32	219	38.5	
NXQ※-16/※-L/F-※				16	870	895											50.5	
NXQ※-20/※-L/F-※				20	1000	1025											58	
NXQ※-25/※-L/F-※				25	1170	1195											68	
NXQ※-32/※-L/F-※				32	1410	1435											82	
NXQ※-40/※-L/F-※				40	1690	1715											98	
NXQ※-50/※-L/F-※		20	10	50	2040	2065	M72×2	60	80 (80× 3.1)	150	200	6Φ26	80 (80× 3.1)	110	40	299	118	
NXQ※-20/※-L/F-※				20	685	700											80	
NXQ※-25/※-L/F-※				25	780	795											92	
NXQ※-32/※-L/F-※				32	910	925											108	
NXQ※-40/※-L/F-※				40	1050	1065											125	
NXQ※-50/※-L/F-※	50			1240	1255	148												
NXQ※-63/※-L/F-※	63			1470	1485	176												
NXQ※-80/※-L/F-※	80			1810	1825	218												
NXQ※-100/※-L/F-※	100			2190	2205	266												
NXQ※-63/※-L/F-※	31.5	15	20	63	1188	1203	M80×3	80	95 (95× 3.1)	170	230	6Φ26	90 (90× 3.1)	115	45	351	191	
NXQ※-80/※-L/F-※				80	1418	1433											228	
NXQ※-100/※-L/F-※				100	1688	1703											270	
NXQ※-125/※-L/F-※				125	2008	2023											322	
NXQ※-160/※-L/F-※				160	2478	2493											397	
NXQ※-100/※-L/F-※	20	25	100	1315	1360	M100×3	80	115 (115 ×3.1)	220	255	8Φ26	115 (115× 5.7)	115	50	426	441		
NXQ※-160/※-L/F-※			160	1915	1960											552		
NXQ※-200/※-L/F-※			200	2315	2360											663		
NXQ※-250/※-L/F-※			250	2915	2960											786		

Note: The number in bracket is the size of O-seal ring which meets GB/1235-76, 1Mpa=10bar=10.2kg/cm²

Bladder Accumulator(ASME)

Model Code

Structure: _____

BA(TA) 40 / 3000 - L - O

BA:Bottom Dismantlement
TA1/TA2:Top Dismantlement

Volume: _____

0.15 = 0.15gal
0.25 = 0.25gal
0.6 = 0.6gal
1 = 1gal
2.5 = 2.5gal
5 = 5gal
8 = 8gal
10 = 10gal
11 = 11gal
14 = 14gal
15 = 15gal

Maximum Operating pressure: _____

3000: 3000psi
5000: 5000psi

Connection type: _____

L: Thread connection
F:Flange connection

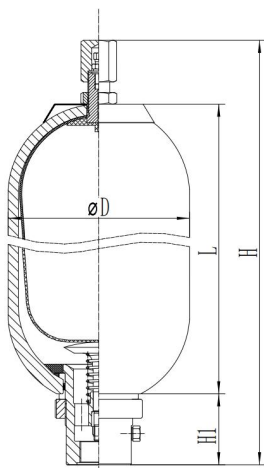
Working medium: _____

O:Hydraulic oil

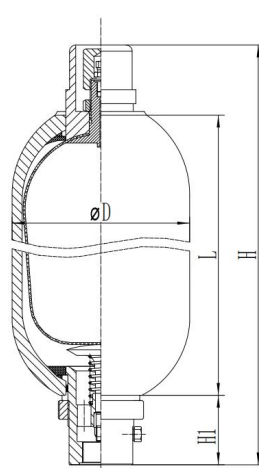
Design pressure	3000psi(20.7Mpa)
	5000psi(34.5Mpa)
Test pressure	3900psi(27Mpa)
	6500psi(44.9Mpa)
Medium	Oil,N ₂
Operating temperature	-4F~158F(-20℃~70℃)
Charging pressure	60~90%
Connection type	Thread connection
	Flange connection
Fixation	Fastening ring& Supporting seat
Installation	Vertically mounted
Charging Valve Port	M14X1.5

Bladder Accumulator(ASME)

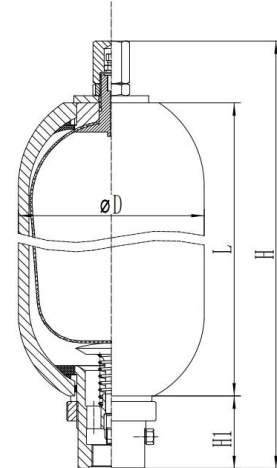
Dimensions



Type BA



Type TA1



Type TA2

3000psi

Model	Volume		Dimensions									Weight	
			H		L		H1		D		M		
	gal	L	in	mm	in	mm	in	mm	in	mm	NPT	IB	kg
BA-0.15/3000-※-※	0.15	0.6	12.6	320	7.48	190	2	51	3.5	89	3/4"	12.4	5.6
BA-0.25/3000-※-※	0.25	1	12.6	320	7.48	190			4.5	114	3/4"	17.6	8
BA-0.6/3000-※-※	0.6	2.5	16.54	420	11.02	280	2.6	66	6	152	1 1/4"	30	14
BA-1.0/3000-※-※	1	4	20.87	530	15.35	390						40	18
BA(TA)-2.5/3000-※-※	2.5	10	21.56	550	16.14	410	3.5	89	9	229	2"	81	37
BA(TA)-5/3000-※-※	5	20	33.46	850	27.95	710						125	57
BA(TA)-8/3000-※-※	8	32	47.64	1210	42.13	1070						176	80
BA(TA)-10/3000-※-※	10	40	56.70	1440	51.18	1300						209	95
BA(TA)-11/3000-※-※	11	44	61.42	1560	55.9	1420						227	103
BA(TA)-14/3000-※-※	14	56	75.60	1920	70.08	1780						288	130
BA(TA)-15/3000-※-※	15	60	80.31	2040	74.8	1900						303	138

5000psi

Model	Volume		Dimensions									Weight	
			H		L		H1		D		M		
	gal	L	in	mm	in	mm	in	mm	in	mm	G	IB	kg
BA(TA)-2.5/5000-※-※	2.5	10	21.26	540	15.75	400	3.5	89	9.65	245	2"	139	63
BA(TA)-5/5000-※-※	5	20	32.68	830	27.17	690						203	92
BA(TA)-8/5000-※-※	8	32	46.46	1180	40.94	1040						280	127
BA(TA)-10/5000-※-※	10	40	55.12	1400	49.61	1260						329	149
BA(TA)-11/5000-※-※	11	44	59.84	1520	54.33	1380						355	161
BA(TA)-14/5000-※-※	14	56	73.62	1870	68.11	1730						432	196
BA(TA)-15/5000-※-※	15	60	78.35	1990	72.83	1850						460	209

Note:

1. BA:Bottom dismantlement TA:Top dismantlement
2. Special accumulators not in the list, with increased flow rate or top dismantlement can be ordered accordingly.

PED type Bladder Accumulator

NXQ A - 40 / 31.5 - F - Y

NXQ:Standard Bladder Accumulator

A:Type A,
AB:Type AB

0.4	=	0.4Liters
0.63	=	0.63Liters
1	=	1Liters
1.6	=	1.6Liters
2.5	=	2.5Liters

...see tables on following pages for complete list of sizes, and which versions they are available in

125	=	125Liters
160	=	160Liters
200	=	200Liters
250	=	250Liters

10: 10Mpa
20: 20Mpa
31.5: 31.5Mpa
Custom made

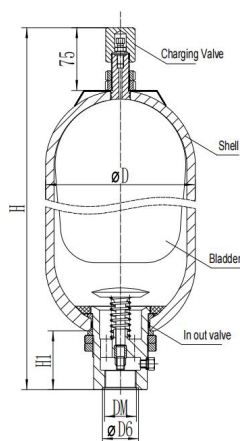
L: Thread connection
F: Flange connection

Y:Hydraulic oil
R:Emulsion
EG:Ethylene glycol

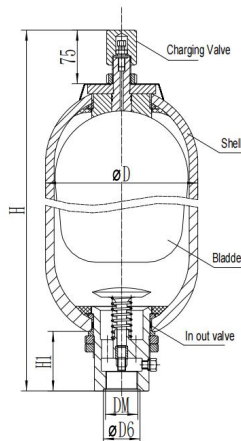
National Standard Bladder Accumulator working temperature:-20℃~+93℃

PED type Bladder Accumulator

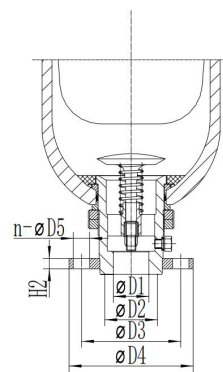
Dimensions



Standard



Top repairable



Accumulator flange connection

Model	Pressure (MPa)	Max discharge flow rate		Volume (L)	Connection		Dimension(mm)										Weight (kg)
		L	F		L	F	DM	ΦD1	ΦD2	ΦD3	ΦD4	n-D5	ΦD6	H1	H2	Φ D	
0.4	10	1		0.4	250		M27×2						32 (32×3.1)	52		89	4.9
0.63				0.63	320												5.6
1				1	315												7.2
1.6		3.2	6	1.6	355	370	M42×2	42	50 (50× 3.1)	97	130	6-Φ17	50 (50×3.1)	66	25	152	12.5
2.5				2.5	420	435											15
4				4	530	545											18.5
6.3				6.3	700	715											25.5
10		6	10	10	660	685	M60×2	50	70 (70× 3.1)	125	160	6-Φ22	70 (70×3.1)	85	32	219	38.5
16				16	870	895											50.5
20				20	1000	1025											58
25				25	1170	1195											68
32				32	1410	1435											82
40				40	1690	1715											98
50	50			2040	2065	118											
20	10	15	20	685	700	M72×2	60	80 (80× 3.1)	150	200	6-Φ26	80 (80×3.1)	105	40	299	80	
25			25	780	795											92	
32			32	910	925											108	
40			40	1050	1065											125	
50			50	1240	1255											148	
63			63	1470	1485											176	
80			80	1810	1825											218	
100			100	2190	2205											266	
63	15	20	63	1188	1203	M80×3	80	95 (95× 3.1)	170	230	6-Φ26	90 (90×3.1)	115	45	351	191	
80			80	1418	1433											228	
100			100	1688	1703											270	
125			125	2008	2023											322	
160			160	2478	2493											397	
100	31.5	20	25	100	1315	1360	M100×3	80	115 (115× 3.1)	220	255	8-Φ26	115 (115×5.7)	115	50	426	441
160				160	1915	1960											552
200				200	2315	2360											663
250				250	2915	2960											786

Note:

1.Contact us if special requirement is needed.

2.Design change is retained by our company and amendment is effected without further notice.