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

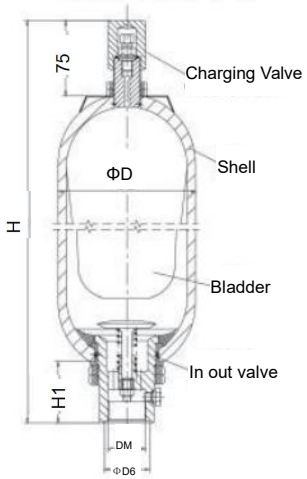
Stainless Steel Bladder Accumulator nominal volume: 0.4~100L

Charging Valve Port : M14X1.5

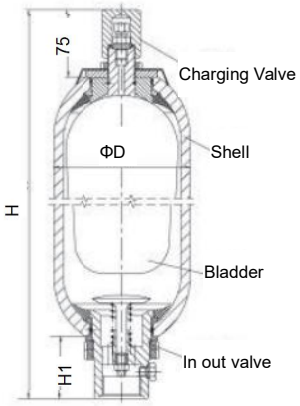
National Standard Bladder Accumulator

Dimensions

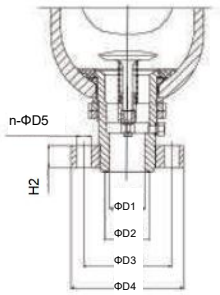
NXQA accumulator
Thread connection



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 (32×3.1)	52		89	3
NXQ※-0.63/※-L-※				0.63	320												3.5
NXQ※-1/※-L-※				1	315											114	5.5
NXQ※-1.6/※-L/F-※		3.2	6	1.6	355	370	M42×2	40	50 (50×3.1)	97	130	6-Φ17	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	6-Φ22	70 (70×3.1)	85	32	219	41
NXQ※-16/※-L/F-※				16	870	895											53
NXQ※-20/※-L/F-※				20	1000	1025											62
NXQ※-25/※-L/F-※				25	1170	1195											72
NXQ※-32/※-L/F-※				32	1410	1435											82
NXQ※-40/※-L/F-※				40	1690	1715											104
NXQ※-50/※-L/F-※				50	2040	2065											118
NXQ※-20/※-L/F-※	20	10	15	20	685	715	M72×2	60	80 (80×3.1)	150	200	6-Φ26	80 (80×3.1)	105	40	299	92
NXQ※-25/※-L/F-※				25	780	810											105
NXQ※-32/※-L/F-※				32	910	925											108
NXQ※-40/※-L/F-※				40	1050	1080											135
NXQ※-50/※-L/F-※				50	1240	1270											148
NXQ※-63/※-L/F-※				63	1470	1500											191
NXQ※-80/※-L/F-※				80	1810	1840											241
NXQ※-100/※-L/F-※				100	2190	2220											290
NXQ※-63/※-L/F-※	31.5	15	20	63	1188	1203	M80×3	80	95 (95×3.1)	170	230	6-Φ26	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	8-Φ26	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

BA(TA) 40 / 3000 - L - O

Structure:

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

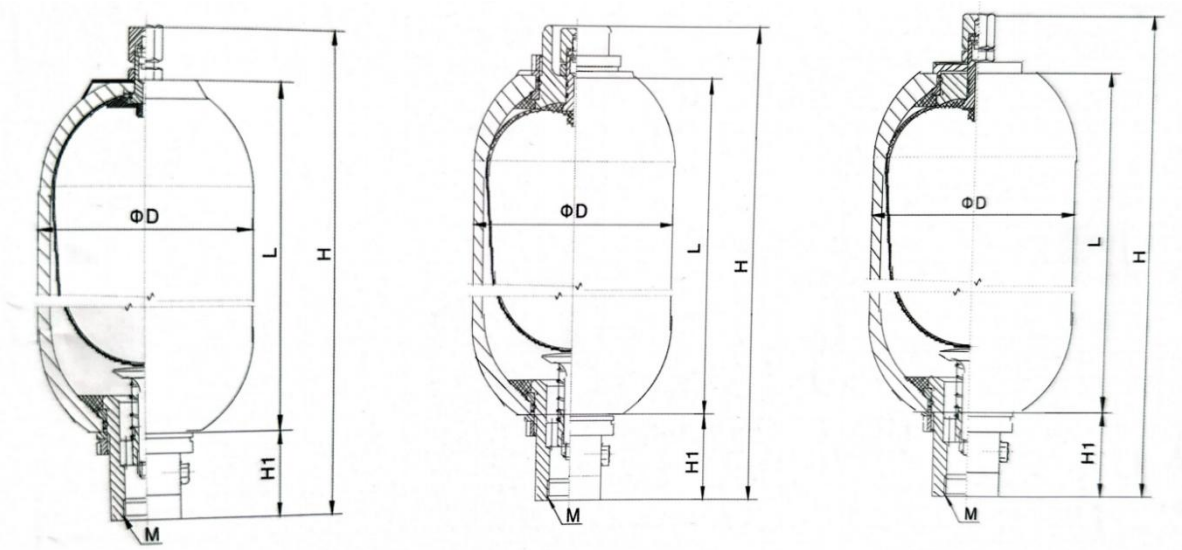
Working medium:

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
Charging pressure	≤90%min
	≥25%max
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**

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″	8.8	4
BA-0.25/3000-※-※	0.25	1	12.6	320	7.48	190	2	51	4.5	114	3/4″	10.8	4.9
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						154	70
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						275	125
BA(TA)-15/3000-※-※	15	60	80.31	2040	74.80	1900						293	133
BA-0.15/5000-※-※	0.15	0.6	12.99	330	7.87	200	2	51	3.5	89	3/4″	10	4.5
BA-0.25/5000-※-※	0.25	1	12.99	330	7.87	200	2	51	4.5	114	3/4″	12	5.4
BA-0.6/5000-※-※	0.6	2.5	17.32	440	11.81	300	2.6	66	6	152	1 1/4″	35	16
BA-1.0/5000-※-※	1	4	21.65	550	16.14	410	2.6	66	6	152	1 1/4″	45	21
BA(TA)-2.5/5000-※-※	2.5	10	23.23	590	17.76	450	3.5	89	9	229	2”	112	51
BA(TA)-2.5/5000-※-※	2.5	10	21.26	540	15.75	400			9.65	245		112	51
BA(TA)-5/5000-※-※	5	20	35.83	910	30.31	770			9	229		174	79
BA(TA)-5/5000-※-※	5	20	32.68	830	27.17	690			9.65	245		176	80
BA(TA)-8/5000-※-※	8	32	51.57	1310	46.06	1170			9	229		249	113
BA(TA)-8/5000-※-※	8	32	46.46	1180	40.94	1040			9.65	245		253	115
BA(TA)-10/5000-※-※	10	40	61.42	1560	55.91	1420			9	229		295	134
BA(TA)-10/5000-※-※	10	40	55.12	1400	49.61	1260			9.65	245		304	138
BA(TA)-11/5000-※-※	11	44	66.54	1690	61.02	1550			9	229		319	145
BA(TA)-11/5000-※-※	11	44	59.84	1520	54.33	1380			9.65	245		330	150
BA(TA)-14/5000-※-※	14	56	81.89	2080	76.38	1940			9	229		394	179
BA(TA)-14/5000-※-※	14	56	73.62	1870	68.11	1730			9.65	245		370	186
BA(TA)-15/5000-※-※	15	60	87.01	2210	81.50	2070			9	229		418	190
BA(TA)-15/5000-※-※	15	60	78.35	1990	72.83	1850			9.65	245		436	198

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

Model Code

NXQ A - 40 / 31.5 - F - Y

Product Name:

NXQ:Standard 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

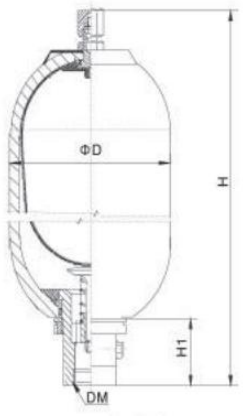
R:Emulsion

EG:Ethylene glycol

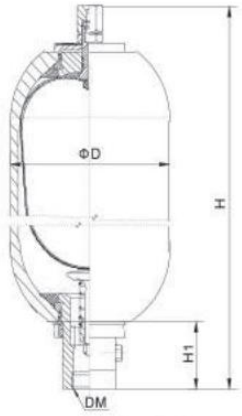
National Standard Bladder Accumulator working temperature:-20℃~+93℃

PED type Bladder Accumulator

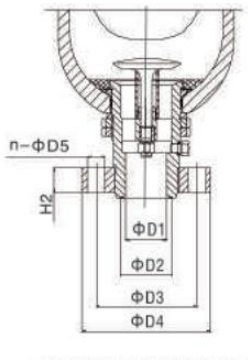
Dimensions



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	
					H												
0.4	10	1		0.4	250		M27×2						32 (32×3.1)	52		89	3
0.63				0.63	320												3.5
1				1	315											114	5.5
1.6		3.2	6	1.6	355	370	M42×2	40	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	41
16				16	870	895											53
20				20	1000	1025											62
25				25	1170	1195											72
32				32	1410	1435											82
40				40	1690	1715											104
50				50	2040	2065											118
20	20	10	15	20	690	715	M72×2	60	80 (80×3.1)	150	200	6-Φ26	80 (80×3.1)	105	40	299	92
25				25	780	810											105
40				40	1050	1080											135
50				50	1240	1270											148
63				63	1470	1500											191
80				80	1810	1840											241
100				100	2190	2220											290
63	31.5	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		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.