

**BoLe**  
专业铸造品质 诚信成就未来  
Professionalism Casts Quality Honesty Achieves Future  
**HYDRAULIC**



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泉州柏乐自动化工程有限公司  
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## 蓄能器工作原理/Principle of Accumulator

蓄能器是一种蓄积受压液体而设计的液压辅件，液体是不可压缩的，蓄能器利用气体的可压缩性来达到储存液体的目的，当压力升高时，油液进入蓄能器由此气体被压缩，当压力下降时，压缩气体膨胀，油液压入回路。

Accumulator is a hydraulic accessory designed to accumulate the pressured liquid. Fluids are practically incompressible and cannot therefore store pressure energy. In hydraulic accumulators the compressibility of gas is utilized for storing fluids. The accumulator draws in fluid when the pressure increases and the gas are compressed. When the pressure drops, the compressed gas expands and forces the stored fluid into the circuit.



### 一、蓄能器容量选择

#### 1、状态参数的定义

$P_0$  = 预充压力;  $V_0$  = 有效气体容积  
 $P_1$  = 最低工作压力;  $V_1$  = 在  $P_1$  时的气体容积  
 $P_2$  = 最高工作压力;  $V_2$  = 在  $P_2$  时的气体容积  
 $t_{min}$  = 最低工作温度;  $t_0$  = 预充气体温度;  
 $t_{max}$  = 最高工作温度;  $n$  = 多变指数

- ① 使用前的状态(氮气与液体未进入)。
- ② 胶囊内预先充有氮气，油阀是关闭的，防止胶囊脱离。
- ③ 达到最低工作压力时胶囊外和油阀之间应保留少量油液(约为蓄能器公称容量的10%)，不至于胶囊在每次膨胀过程中撞击阀，引起胶囊损坏。
- ④ 蓄能器处于最高工作压力。最低工作压力和最高工作压力时的容积变化量相当于有效的油液量。 $\Delta V = V_1 - V_2$

### 二、预充压力的选择

NXQ系列胶囊式蓄能器允许容积利用率为实际气体容量的75%。因此预充氮气压力和最高工作压力间的比例限于1:4，另外预充压力不得超过最低系统压力的90%。遵照这种规定可保证较长的胶囊使用寿命。其它压缩比可采用特别的措施达到。

为了充分的利用蓄能器的容量，建议使用下列数值。

蓄能:  $P_0 t_{max} = 0.9 \times P_1$       吸收冲击:  $P_0 t_{max} = (0.6-0.9) \times P_m$  ( $P_m$  = 自由流通的平均工作压力)

吸收脉动:  $P_0 t_{max} = 0.6 \times P_m$  ( $P_m$  = 平均工作压力) 或  $P_0 t_{max} = 0.8 \times P_1$  (在多种工作压力时)

预充压力的极限值:  $P_0 \leq 0.9 \times P_1$ , 允许的压缩比为  $P_2 : P_0 \leq 4 : 1$

### 三、蓄能器容量选择计算公式

蓄能器内的压缩和膨胀过程应遵循气体状态多变的规律。

理想的气体为:  $P_0 \times V_0^n = P_1 \times V_1^n = P_2 \times V_2^n$

其中要考虑多变指数“n”对气体特性随着时间的变化影响指数。

缓慢的膨胀和压缩过程的状态变化接近于等温，多变指数可为  $n=1$ ，

而快速的膨胀和压缩过程发生绝热的状态变化，多变指数  $n=1.4$

(适用于双原子气体的氮气)

计算公式:

$$\text{多变: } V_0 = \frac{\Delta V}{\left(\frac{P_2}{P_1}\right)^{\frac{n}{n-1}} - \left(\frac{P_1}{P_2}\right)^{\frac{n}{n-1}}} \quad \text{等温: } V_0 = \frac{\Delta V}{\frac{P_2}{P_1} - \frac{P_1}{P_2}}$$

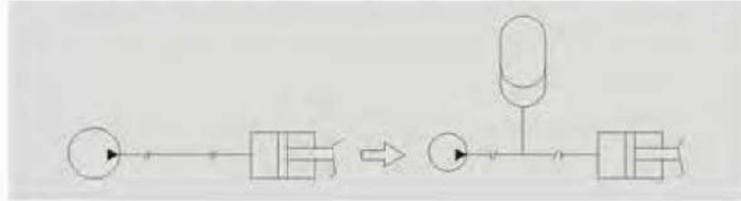


## 蓄能器的用途/Use Of Accumulator

### ❖ 一、储存能量/Energy Storage

蓄能器广泛应用在辅助能源。一方面储存由泵间歇输出的液压油，一方面对间歇负荷释放大于泵流量的流体。因此，有了蓄能器使泵等能实现装置小型化及节省能源。

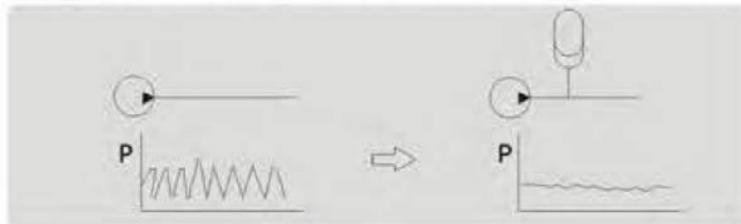
Accumulator is widely used in the auxiliary energy. It accumulates the oil intermittently outputted by pump while releases fluid more than the pump flux. Therefore, the accumulator helps the pump to be size-miniaturization and energy-saving.



### ❖ 二、吸收（消除）脉动/Pulsation Absorption(Elimination)

蓄能器能吸收由各种泵排出的压力流体产生的脉动，使液压管路不受到压力、噪音、振动等影响。

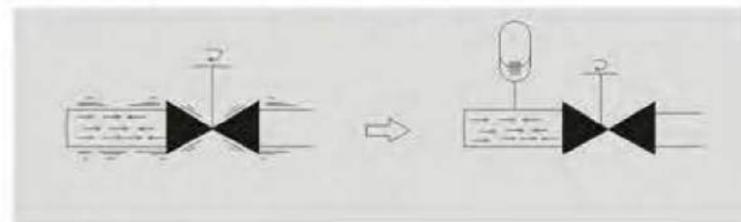
Accumulator absorbs pulsation created by pressure fluid that is released by various pump to protect the pipe from the infection of pressure, noise and vibration.



### ❖ 三、吸收（缓和）冲击/Impact Absorption(Decrease)

在液压回路中，由于急速开关或使负荷突然变化，从而在管路中发生冲击压力，成为噪音、管路破损等原因，设置蓄能器能吸收（缓和）冲击。

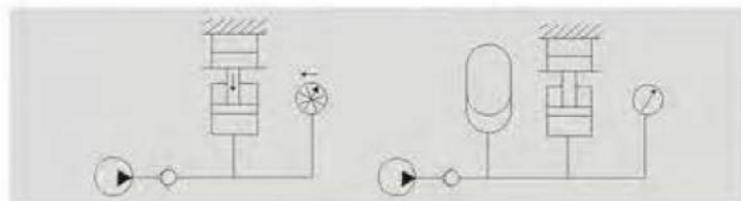
In hydraulic circuit, impact in the pipe caused by rapid switching or sudden changing of load brings noise and pipe damage. Accumulator is set to absorb (decrease) the impact.



### ❖ 四、补偿泄漏/Leakage Compensation

在压力控制回路和保持压力的工况中，为补偿内部泄漏、外部泄漏而引起压力降低。为保持恒定压力而使用蓄能器。

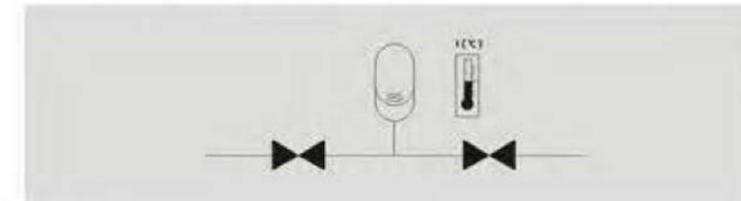
In pressure control circuit and condition of pressure maintaining, accumulator is set to maintain the pressure by compensating the pressure reduction caused by internal and external leakage.



### ❖ 五、补偿容积/Volume Compensation

在闭式回路中，由于温度变化而使液体的体积变化，内部压力上升、降低，安装蓄能器，可使压力的变动减少。从而保护阀门、垫片、压力表等不出故障。

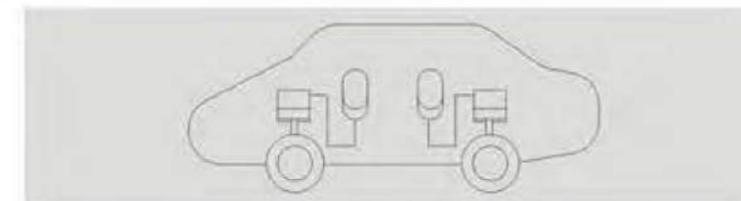
In closed circuit, internal pressure changes because variety in temperature results in variety of liquid volume. The accumulator reduces the change of pressure to protect valves, gaskets and pressure gauge from failure.



### ❖ 六、吸收振动/Vibration Absorption

液压系统的机械振动被蓄能器吸收，蓄能器内的气体起到弹簧作用，可衰减汽车等车辆的冲击与振动。

The accumulator absorbs the mechanical vibration for the gas in the accumulator works as spring to reduce the impact and vibration of vehicle.



### ❖ 七、平衡作用/Balance

蓄能器可以用作平衡器，用蓄能器的气体压力平稳地平衡产品、机械的重量和冲击。

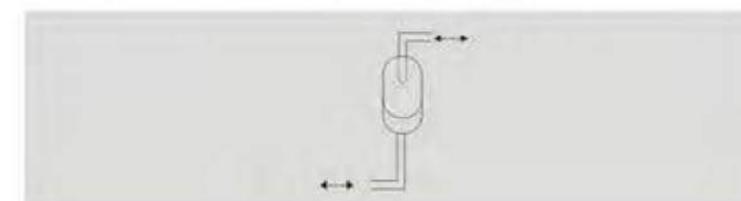
The accumulator can be used as balance for the gas pressure in accumulator stably balances the weight of product and machine and impact.



### ❖ 八、流体分隔器/Fluid separation

蓄能器一般分隔两种介质（液压用途时为：氮气和油）。然而，当不得不在两种不相溶的液体之间进行压力输送时，也可以使用蓄能器。

The accumulator generally separated the two medium (hydraulic purpose: nitrogen and oil). However, the accumulator can be also used to transmit pressure between two liquid which can be mixed.





## 不锈钢囊式蓄能器 SS Bladder accumulator

### ❖ 三、安装位置/Mounting Position

囊式蓄能器可以垂直、水平、和倾斜安装。选择倾斜和垂直的安装位置，把油阀安置在下面。请优先用下列的蓄能器安装位置：

Accumulators can be installed vertically, horizontally and obliquely. When vertically or obliquely installed, the oil valve must be at the bottom. In case of the applications listed below, particular positions are recommended.

功能作用/Function	安装位置/Installation requirements
储蓄能量/Energy storage	垂直/Vertical
吸收脉动/Pulse damping	垂直和水平/Horizontal and vertical
保压/Pressure maintaining	垂直和水平/Horizontal and vertical
补偿容量/Volume compensation	垂直/Vertical

#### 1. 固定方式/Type of Mounting:

蓄能器容量在1升以下可以直接安装在管路上；在震动强烈和1升以上容量情况下建议使用本企业制造的卡箍或整套蓄能器固定组件。

Accumulators which volume is less than 1L, can be installed directly in the pipeline. For strong vibrations and volumes above 1 L, fixed with bracket or accumulator mounting sets are recommended.

#### 2. 氮气的充装/Charging Nitrogen:

要使蓄能器工作，必须把氮气充入到胶囊里去。氮气的充装用充气（氮）工具进行，建议使用本企业制造的CQJ型充气工具，如氮气的压力不能满足（高压）蓄能器的要求，建议使用本企业制造的氮气增压装置-CDZ型充氮车（专利产品）。

Nitrogen must be charged into the bladder before the accumulator starts to work. Charging nitrogen must use charging tools-CQJ type charging tool. If nitrogen pressure does not meet the requirement of accumulator, please use chaori CDZ type nitrogen filling vehicle

#### 3. 注意事项/Caution:

蓄能器壳体上不得进行焊接和任何机械加工；蓄能器胶囊内只许充入氮气，不得使用氧气及其它可燃性和腐蚀性气体；蓄能器应安装在由溢流阀或其他安全阀的液压系统中。

Do not have welding or mechanical processing work on the accumulator shell; Only nitrogen are allowed. Use of Oxygen, combustie or corrosive gases is strictly prohibited. Accumulators should be mounted in the hydraulic systems which have overflow valves or safety valves.

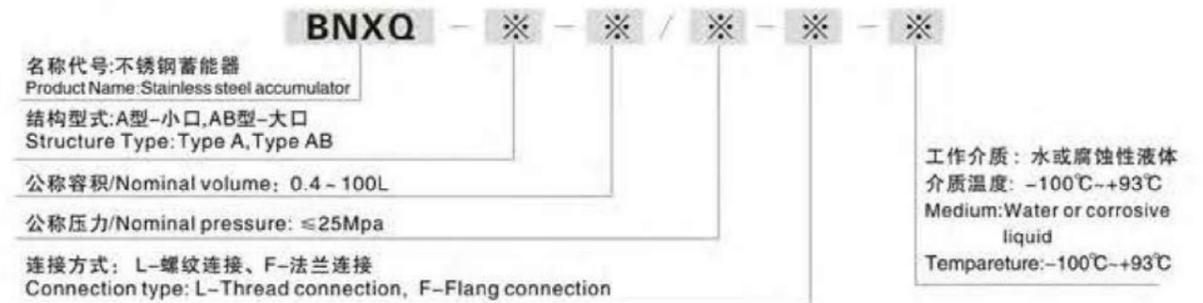
### ❖ 四、订货说明/Booking Note:

标准囊式蓄能器为：NXQA-40/31.5-F-Y。公称压力为31.5Mpa，公称容积为40L，连接形式为法兰连接以及液压油为工作介质的A型。

Standard bladder accumulator: NXQA-40/31.5-F-Y. Nominal pressure: 31.5MPa; Nominal volume: 40L; Connection Type: Flanged connection; Medium: Hydraulic liquid.



### ❖ 一、型号说明/Ordering Code

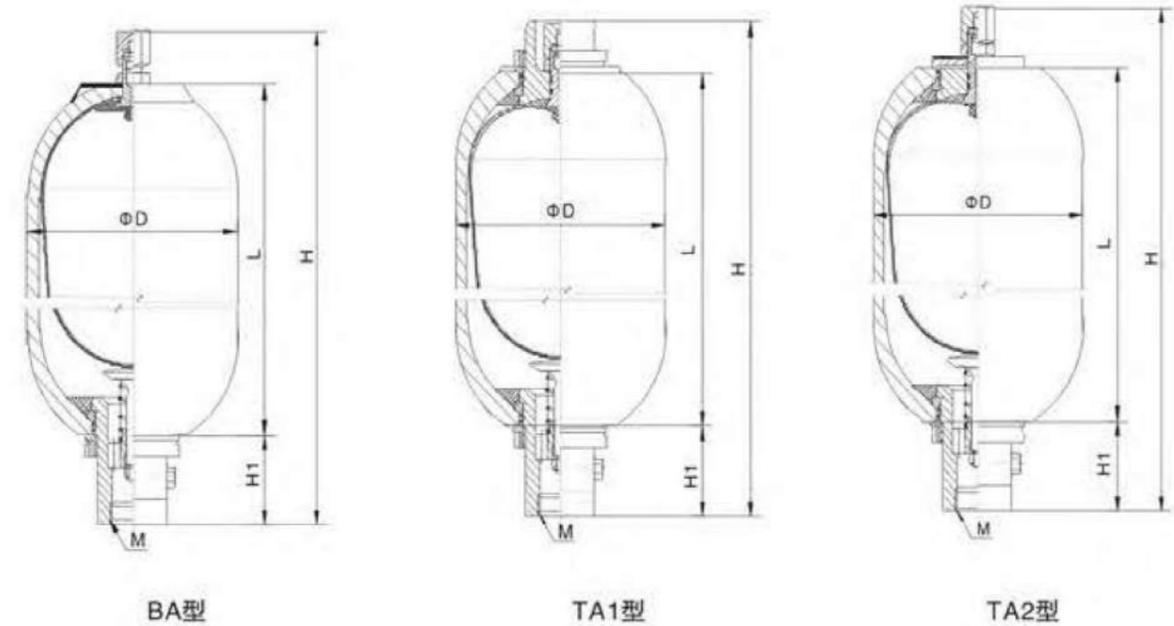


### ❖ 二、内部结构及外形尺寸参照国家标准囊式蓄能器/ Structure and Dimension according national standard bladder accumulator

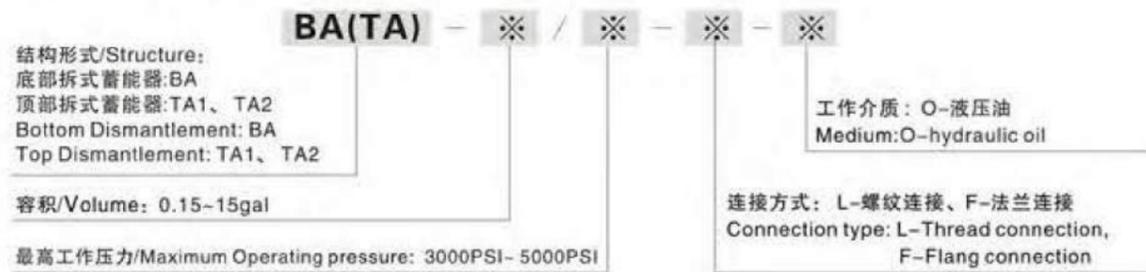
## ASME 规范囊式蓄能器 Bladder Accumulator (ASME)



### ❖ 二、内部结构及外形尺寸 Structure and Dimension



### ❖ 一、型号说明/Ordering Code



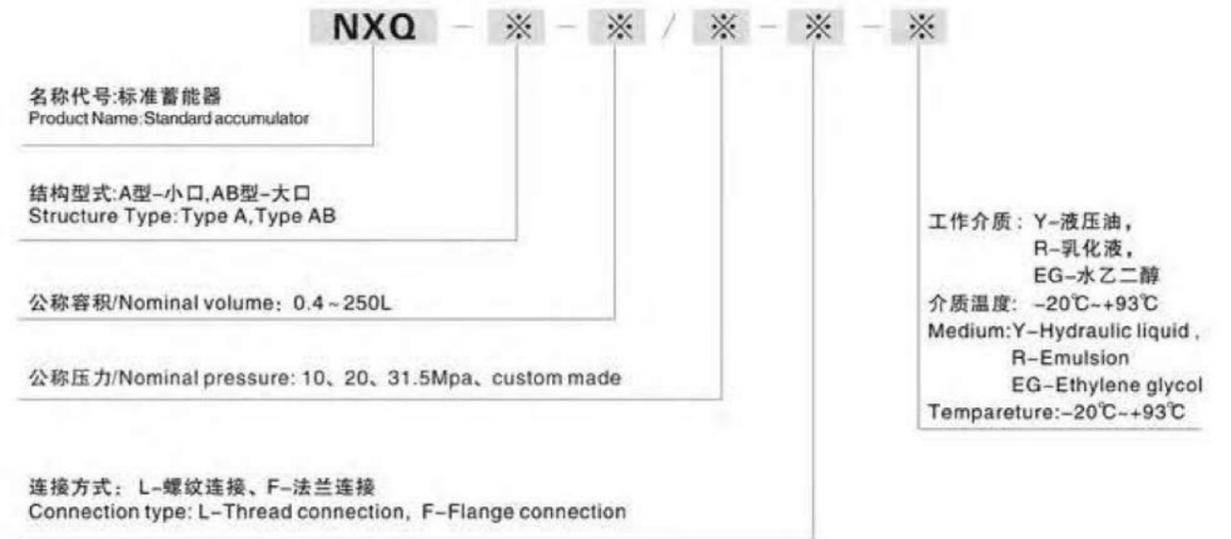
设计压力/Design pressure	20.7Mpa	3000psi
	34.5 Mpa	5000psi
试验压力/Test pressure	27 Mpa	3900psi
	44.9 Mpa	6500psi
工作介质/Medium	油、氮气	Oil、N <sub>2</sub>
工作温度/Operating temp	-20℃ ~ 70℃	-4F ~ 158F
充气压力范围/Charging pressure	小于最低工作压力90%	≤90% min
	大于最高工作压力25%	≥25% max
连接方式/Connection type	螺纹连接6L/S	Thread connection 6L/S
	法兰连接9L/S	Flang connection 9L/S
固定方式/Fixation	紧固环与支承座	Fastening ring&Supporting seat
安装方式/Installation	垂直安装	Vertically mounted

执行欧盟PED指令的囊式蓄能器  
PED type Bladder accumulator

型号 Model	容积 VOL		尺寸 Dimensions									净重/Netwt						
			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	74.8	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	81.60	2070	9	229	418	190								
BA (TA) -15/5000-※-※	15	60	78.35	1990	72.83	1850	9.65	245	436	198								



❖ 一、型号说明/Ordering Code



注: 1、BA: 为底部拆式蓄能器, TA: 为顶部拆式蓄能器。  
2、客户如需要加大流量或要求作顶部修理的其他型式尺寸的蓄能器可订购生产。  
Note: 1、BA:Bottom dismantlement TA: Top dismantlement.  
2、Special accumulators not in the list, with increased flowrate or top dismantlement can be ordered accordingly.

❖ 二、内部结构及外形尺寸 Structure and Dimension



❖ 三、型式和尺寸/Dimensions

规格 Size L升	公称压力 Pressure (MPa)	最大排 放流量 Max discharge flowrate		公称容量 Volume (L)	连接方式 Connection		基本尺寸 Dimension (mm)											重量 Weight (Kg)															
		L	F		L	F	H	DM	ΦD1	ΦD2	ΦD3	ΦD4	n-ΦD5	ΦD6	H1	H2	ΦD																
0.4	10	1		0.4	250	M27x2														3													
0.63				320											32 (32x3.1)	52			89	3.5													
1				315																	114	5.5											
1.6	20	6		1.6	355	370	M42x2	40	50 (50x3.1)	97	130	6-Φ17	50 (50x3.1)	66	25	152					12.5												
2.5				420	435																										15		
4				530	545																												18.5
6.3	31.5	10		6.3	700	715	M60x2	50	70 (70x3.1)	125	160	6-Φ22	70 (70x3.1)	85	32	219						25.5											
10				660	685																											41	
16				870	895																												
20	31.5	10		20	1000	1025	M60x2	50	70 (70x3.1)	125	160	6-Φ22	70 (70x3.1)	85	32	219							62										
25				1170	1195																												72
32				1410	1435																												
40	31.5	10		40	1690	1715	M60x2	50	70 (70x3.1)	125	160	6-Φ22	70 (70x3.1)	85	32	219							104										
50				2040	2065																												

规格 Size L升	公称压力 Pressure (MPa)	最大排 放流量 Max discharge flowrate		公称容量 Volume (L)	连接方式 Connection		基本尺寸 Dimension (mm)											重量 Weight (Kg)																					
		L	F		L	F	H	DM	ΦD1	ΦD2	ΦD3	ΦD4	n-ΦD5	ΦD6	H1	H2	ΦD																						
20	10	10	15	20	690	715	M72x2	60	80 (80x3.1)	150	200	6-Φ26	80 (80x3.1)	105	40	299							92																
25				780	810																														105				
40				1050	1080																																135		
50		1240	1270																																	148			
63		1470	1500																																		191		
80		1810	1840																																		241		
100	20	15	20	100	2190	2220	M80x3	80	95 (95x3.1)	170	230	6-Φ26	90 (90x3.1)	115	45	351								290															
63				1188	1203																																191		
80				1418	1433																																		228
100		1688	1703																																			270	
125		2008	2023																																			322	
160		2478	2493																																			397	
100	31.5	20	25	100	1315	1360	M100x3	80	115 (115x3.1)	220	255	8-Φ26	115 (115x5.7)	115	50	426								441															
160				1915	1960																																	552	
200				2315	2360																																		
250		2915	2960																																				786

注:

- 1.对表格以外的特殊规格或连接尺寸的蓄能器,可根据用户要求进行生产;
- 2.若对蓄能器螺纹有特殊要求时,请同本企业商洽;
- 3.客户如需要加大流量的可订购生产。

Note:

- 1.Contact us if special requirement is needed .
- 2.Design change is retained by our company and amendment is effected without further notice .

❖ 四、订货说明/Booking Note:

公称压力为31.5Mpa,公称容积为10L,连接形式为法兰连接F,以液压油为工作介质的SB型标准器标记为:  
BASB-10/31.5-F-Y

Nominal working Pressure 31.5Mpa,Nominal Volume 10L,Flange connection,Hydraulic oil,SB type Standard  
Accumulator,the is BASB-10/31.5-F-Y

## 非隔离式蓄能器 (CQP系列储气瓶) CQP Nitrogen tank(Gas bottle)

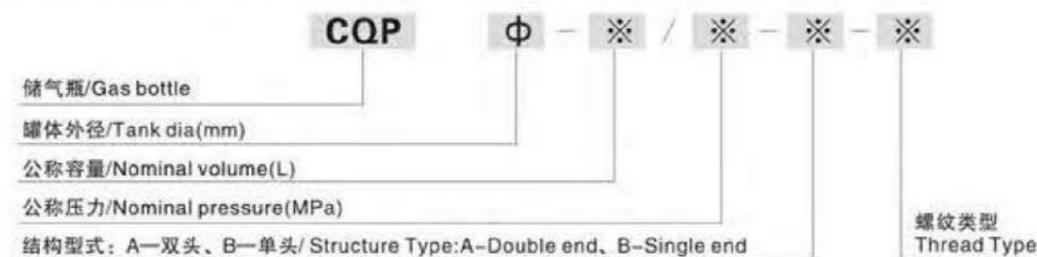
### ❖ 一、概述/General Description

储气瓶是以储气方式储存能量。作为气体动力源，或作为非隔离蓄能器，在液压、气动系统中起储能和稳定压力等作用。具有容量大、功率损耗少、体积小等优点。本公司生产的储气瓶采用无缝钢管热旋压成形工艺，具有安全可靠、外形美观、性能稳定的特点。已广泛应用于机械工业和军工行业等领域之中。

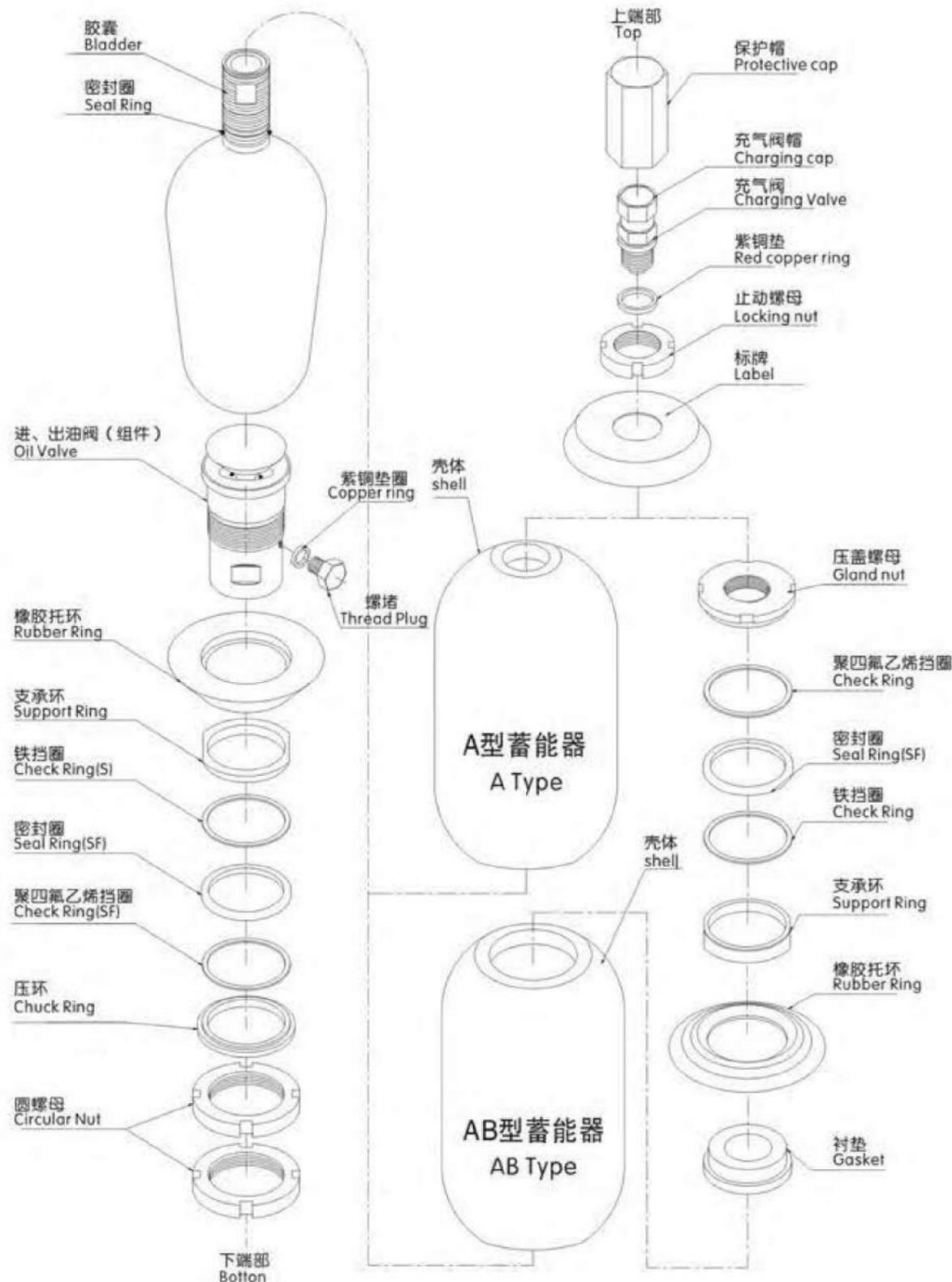
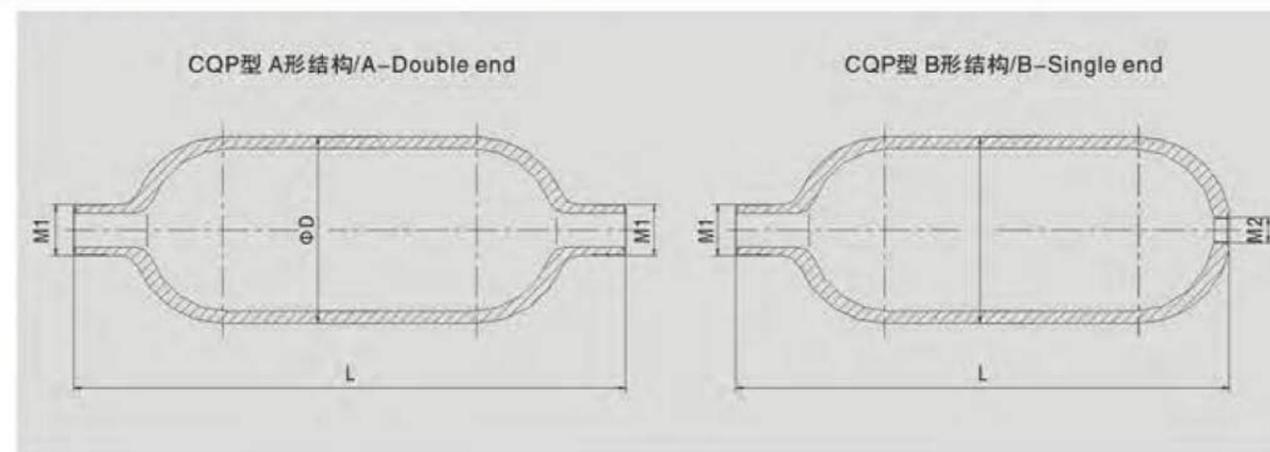
The gas container stores energy. In hydraulic and pneumatic systems, it can store energy and stabilize pressure. It has the advantage of big volume, small power and compact size. The gas containers adopt seamless steel tube thermal stretch spinning technique and have the advantages of high reliability, pretty appearance, and steady capability and so on. They have been widely used in mechanical industry and military industry.



### ❖ 二、型号说明/Ordering Code



### ❖ 三、外形尺寸及规格/Dimensions and Sizes



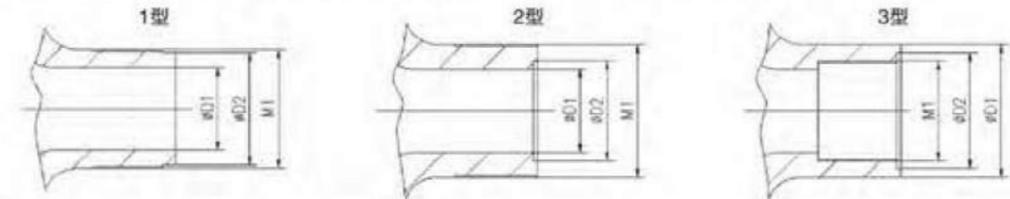
❖ 四、外形尺寸/Dimensions

型号 Model	外径/Outer diameter ΦD (mm)	公称压力 Nominal Pressure (MPa)	公称容量 Nominal Volume (L)	基本尺寸 Dimensions (mm)		连接螺纹 Connection thread		重量(Kg) Weight	
				A型	B型	M1	M2	A型	B型
CQPΦ-10/14-※	219	14	10	570	510	1型 M1=M60×2 φD1=φ40 φD2=φ55	M30x1.5-6H (O型圈 φ38×3.1)	44	41
CQPΦ-16/14-※			16	760	700			59	56
CQPΦ-25/14-※			25	1090	1030			82	79
CQPΦ-32/14-※			32	1330	1280			98	95
CQPΦ-40/14-※			40	1610	1550			118	115
CQPΦ-10/20-※			10	570	570			38	36
CQPΦ-16/20-※		16	760	760	51	49			
CQPΦ-25/20-※		25	1090	1030	70	68			
CQPΦ-32/20-※		32	1330	1280	84	82			
CQPΦ-40/20-※		40	1610	1550	101	99			
CQPΦ-10/31.5-※		10	570	570	44	41			
CQPΦ-16/31.5-※		16	760	760	59	56			
CQPΦ-25/31.5-※		25	1090	1030	82	79			
CQPΦ-32/31.5-※		32	1330	1280	98	95			
CQPΦ-40/31.5-※		40	1610	1550	118	115			
CQPΦ-40/14-※		299	14	40	990	930	1型 M1=M72×2 φD1=φ50 φD2=φ68	M42x2-6H (O型圈 φ50×3.1)	130
CQPΦ-50/14-※	50			1170	1110	154			151
CQPΦ-63/14-※	63			1410	1350	184			181
CQPΦ-72/14-※	72			1580	1520	205			202
CQPΦ-80/14-※	80			1710	1650	224			221
CQPΦ-100/14-※	100			2090	2030	268			271
CQPΦ-40/20-※	40		990	930	87	85			
CQPΦ-50/20-※	50		1170	1110	103	101			
CQPΦ-63/20-※	63		1410	1350	123	121			
CQPΦ-72/20-※	72		1580	1520	137	135			
CQPΦ-80/20-※	80		1710	1650	150	148			
CQPΦ-100/20-※	100		2090	2030	170	172			
CQPΦ-40/31.5-※	40		990	930	130	127			
CQPΦ-50/31.5-※	50		1170	1110	154	151			
CQPΦ-63/31.5-※	63		1410	1350	184	181			
CQPΦ-72/31.5-※	72		1580	1520	205	202			
CQPΦ-80/31.5-※	80	1710	1650	224	221				
CQPΦ-100/31.5-※	100	2090	2030	281	284				

型号 Model	外径/Outer diameter ΦD (mm)	公称压力 Nominal Pressure (MPa)	公称容量 Nominal Volume (L)	基本尺寸 Dimensions (mm)		连接螺纹 Connection thread		重量(Kg) Weight	
				A型	B型	M1	M2	A型	B型
CQPΦ-63/20-※	351	20	63	1100	1040	1型 M1=M115×2 φD1=φ75 φD2=φ111	M42x2-6H (O型圈 φ50×3.1)	149	145
CQPΦ-80/20-※			80	1320	1260			178	174
CQPΦ-100/20-※			100	1580	1520			216	212
CQPΦ-125/20-※			125	1910	1850			256	252
CQPΦ-150/20-※			150	2240	2180			199	295
CQPΦ-180/20-※			180	2640	2580			352	348
CQPΦ-200/20-※		200	2900	2840	386	382			
CQPΦ-63/32-※		63	1100	1040	183	178			
CQPΦ-80/32-※		80	1320	1260	219	215			
CQPΦ-100/32-※		100	1580	1520	262	257			
CQPΦ-125/32-※		125	1910	1850	316	311			
CQPΦ-150/32-※		150	2240	2180	369	364			
CQPΦ-180/32-※		180	2640	2580	435	430			
CQPΦ-200/32-※		200	2900	2840	477	472			

注:  
1.对表格以外的特殊规格或连接尺寸的储气瓶,可根据用户要求进行生产;  
2.外径不大于426mm,压力不大于31.5MPa,本企业均可生产。  
3.若对储气瓶或螺纹有特殊要求时,请同本企业商洽。

Note:  
1.Contact us if special requirement is needed .  
2.Design change is retained by our company and amendment is effected without further notice .



❖ 五、注意事项/Matters needing attention

- 1.储气瓶不得采用焊接或铆接方法固定。
  - 2.储气瓶安装后应检查接口处是否漏气。
  - 3.储气瓶使用后,应按规定定期进行检查。
  - 4.储气瓶严禁使用氧气及易燃、易爆气体。
- 1.Gas container should not be fixed by welding type or riveting type.
  - 2.Be sure that there is no gas leakage after installed.
  - 3.The gas bottle should carry on the inspection regularly according to the stipulation.
  - 4.The oxygen gas and other tinery and explosive gases are forbidden.

❖ 六、订货说明/Booking Note

- 1.订货时须写明型号代号全称,如:工作压力为20MPa,公称容量16L,直径为Φ219结构形式为双头的储气瓶:  
CQP219-16/20-A
- 1.Full type code is needed when booking.For example: the gas bottle of operating pressure:31.5MPa,nominal volume: 16L,diameter:219mm,structure type: double end.CQP219-16/20-A

## 活塞式蓄能器/Piston accumulator

### ❖ 一、概述/General Description

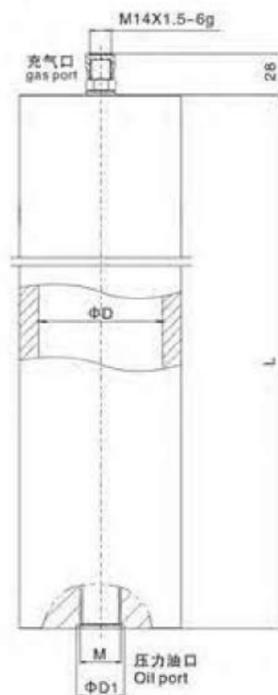
HXQ系列活塞式蓄能器，由本公司自行研究设计制造，产品规格齐全，可根据用户不同要求设计制造。本产品有结构新颖，密封性能好，无泄漏，耐高压，使用寿命长等特点。

HXQ series piston type accumulator, designed by our factory, with complete product specifications, we can design according customer request. Piston accumulator advantage with good sealing, no leakage, high temperature resistance, long service life.

### ❖ 二、型号说明/Ordering Code



### ❖ 三、内部结构及外形尺寸 Structure and Dimension



型号/Model	公称压力 Nominal P MPa	公称容积 Nominal V L	基本尺寸Dimensions (mm)				重量/Weight (Kg)
			$\Phi D$	M	$\Phi D1$	L $\pm 3$	
HXQ-※-0.22/※-※-63	10-99	0.22	63	M22X1.5	35	225	9.5
HXQ-※-0.49/※-※-63		0.49				310	10.9
HXQ-※-1/※-※-63		1				470	13.8
HXQ-※-2/※-※-63		2				800	19.8
HXQ-※-0.49/※-※-65		0.49	65	M27X1.5	35	280	-
HXQ-※-1/※-※-65		1				430	-
HXQ-※-1/※-※-80		1				380	19.4
HXQ-※-2/※-※-80		2				580	24.3
HXQ-※-2.5/※-※-100		2.5	100	M42X2	50	530	36.5
HXQ-※-3.5/※-※-100		3.5				660	41.4
HXQ-※-5/※-※-100	5	850				48.6	
HXQ-※-6/※-※-100	6	975				53.4	
HXQ-※-7.5/※-※-100	7.5	1170	60.7				
HXQ-※-2/※-※-125	2	10-42	125	M42X2	50	350	35
HXQ-※-4/※-※-125	4					465	
HXQ-※-5/※-※-125	5					590	50
HXQ-※-10/※-※-180	10					10-42	180
HXQ-※-16/※-※-180	16	890	140.4				
HXQ-※-20/※-※-180	20	1050	155.8				
HXQ-※-25/※-※-180	25	1250	175				
HXQ-※-32/※-※-180	32	1520	200.9				
HXQ-※-35/※-※-180	35	1645	213.9				
HXQ-※-39/※-※-180	39	1800	227.7				
HXQ-※-45/※-※-180	45	2030	249.8				
HXQ-※-50/※-※-180	50	2235	270				
HXQ-※-8/※-※-195	8	20	195	M60X2	70		
HXQ-※-10/※-※-195	10					615	-
HXQ-※-20/※-※-195	20					950	-
HXQ-※-32/※-※-195	32					1350	-
HXQ-※-40/※-※-195	40					1620	-
HXQ-※-50/※-※-195	50					1955	-
HXQ-※-20/※-※-220	20	10-42	220	M60X2	70	850	179
HXQ-※-32/※-※-220	32					1165	223
HXQ-※-40/※-※-220	40					1380	253
HXQ-※-50/※-※-220	50					1640	290
HXQ-※-60/※-※-220	60					1905	327
HXQ-※-80/※-※-220	80					2430	400
HXQ-※-40/※-※-250	40	10-42	250	M60X2	70	1205	299
HXQ-※-50/※-※-250	50					1410	334
HXQ-※-60/※-※-250	60					1615	368
HXQ-※-80/※-※-250	80					2020	435
HXQ-※-100/※-※-250	100					2430	503
HXQ-※-120/※-※-250	120					2840	572

型号/Model	公称压力 Nominal.P MPa	公称容积 Nominal.V L	基本尺寸Dimensions(mm)				重量/Weight (Kg)
			ΦD	M	ΦD1	L±3	
HXQ-※-100/※-※-350	10~42	100	350	M72X2	80	1560	836
HXQ-※-120/※-※-350		120				1770	912
HXQ-※-130/※-※-350		130				1870	948
HXQ-※-150/※-※-350		150				2080	1025
HXQ-※-200/※-※-350		200				2600	1113
HXQ-※-215/※-※-350		215				2755	1171
HXQ-※-130/※-※-400	10~42	130	400	M72X2	80	1620	1136
HXQ-※-150/※-※-400		150				1780	1206
HXQ-※-180/※-※-400		180				2020	1310
HXQ-※-200/※-※-400		200				2180	1379
HXQ-※-250/※-※-400		250				2570	1548
HXQ-※-300/※-※-400		300				2965	1823
HXQ-※-350/※-※-400		350				3370	1896

#### ❖ 四、订货说明/Booking Note

1. 活塞式蓄能器为:HXQ-L-50/20-Y-250, 表示公称容积为50L,公称压力为20MPa,螺纹连接且油端为M72x2,工作介质为液压油,缸径为Φ250.
2. 本企业对上述产品拥有设计更改权,对修改不另行通知!
1. Piston accumulator:HXQ-L-50/20-Y-250, Nominal volume is 50L,Nominal pressure is 20Mpa thread connection. Medium is Hydraulic liquid,bore is Φ250.
2. Design change is retained by our company and amendment is effected without further notice.

#### ❖ 五、特殊订购/Special order

除以上结构尺寸外,用户如对ΦD(缸径),压力,连接方式(F),工作介质,工作温度,进气端和出油端提出特殊要求,请与本企业商洽.  
Contant us if special requiemnt is needed,custon made are welcome.

## 管路式蓄能器—专利产品/ Pipeline Accumulator

### ❖ 一、概述/General Description

GLXQ系列管路蓄能器是在液压装置、精密测量和控制装置的管路中起到减少振动、消除噪音的理想元件。其优点是:随管路串联安装、结构简单,并适合在要求较高的液压装置、精密测量和控制装置中应用。

Pipeline accumulator of GLXQ series is the ideal component to reduce the vibration and abate noise in the pipe of hydraulic devices, precision measurement and control device. It holds merits of series-wound installation with pipe and simpleness in structure.



### ❖ 二、型号说明/Ordering Code

**GLXQ** - ※ / ※ - **F** **Y**

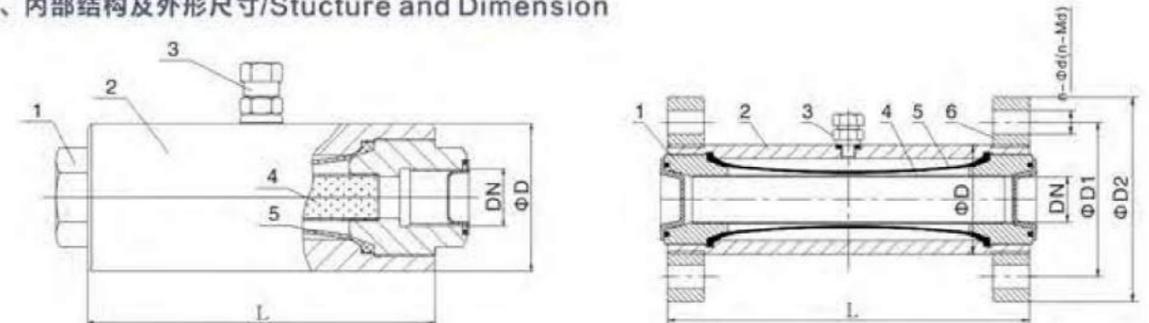
名称代号:管路式蓄能器  
Product Name: Pipeline Accumulator

公称容积/Nominal volume: 0.16L, 0.32L, 0.63L, 1.6L  
公称压力/Nominal pressure: 10, 20Mpa

连接方式: L-螺纹连接、F-法兰连接  
Connection type: L-Threaded connection, F-Flanged connection

工作介质: Y-液压油, R-乳化油/Medium: Y-Hydraulic liquid, R-emulsion

### ❖ 三、内部结构及外形尺寸/Structure and Dimension



1. 管接头/Pipe joints 2. 壳体/Shell 3. 充气阀/Charging Valve 4. 内管/Inner Pipe 5. 管状胶囊/Tubular Bladder 6. 法兰/Flange

型号/Model	通径DN mm	管长/Tube L (mm)	外径/Outer ΦD mm	连接尺寸 Connection size	法兰/Flange		
					ΦD1	ΦD2	n-φd (n-M)
GLXQ-0.16/※-L-※		166	70	M27X2			
GLXQ-0.32/※-F-※	Φ27	212	86		112	157	4-M18
GLXQ-0.63/※-F-※	Φ40	238	99		125	170	4-M20
GLXQ-1.6/※-F-※	Φ50	400	120		170	225	6-φ26

### ❖ 四、订货说明/Booking Note

1. 订货时须写明型号代号全称,如:工作压力20MPa,公称容积0.16L,工作介质为矿物油,连接方式为螺纹连接的管路蓄能器。  
如: GLXQ-0.16/20-L-Y
2. 若对管路蓄能器有连接螺纹等特殊要求时, 请同本企业商洽。
3. 本企业保留设计更改权, 对修改不另行通知。
1. Full type code is needed when booking. For example: pipeline accumulator of operating pressure:20MPa,nominal volume: 0.1L, medium:hydraulic liquid,threaded connelction. GLXQ-0.16/20-L-Y
2. Contact us if special requirement is needed
3. Design change is retained by our company and amendment is effected without further notice.

## 隔膜式蓄能器/Diaphragm Accumulator



### 一、概述/General Description

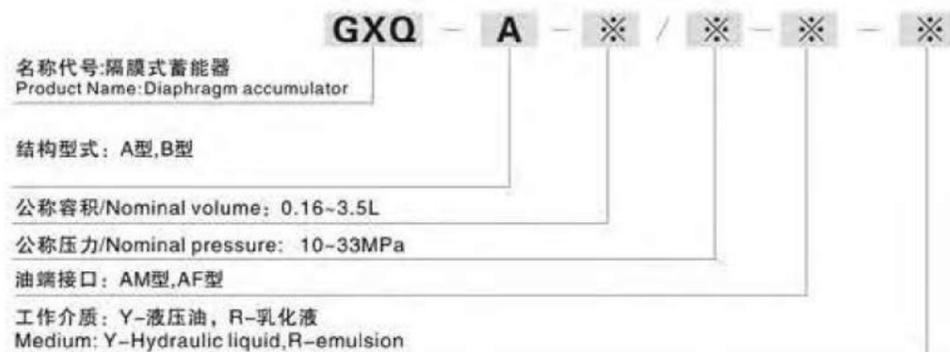
GXQ系列隔膜式蓄能器用于吸收脉动,吸收冲击,补偿泄漏。  
GXQ series diaphragm accumulator is for absorbing pulsation, impact and compensation leaks

### 二、内部结构/Structure

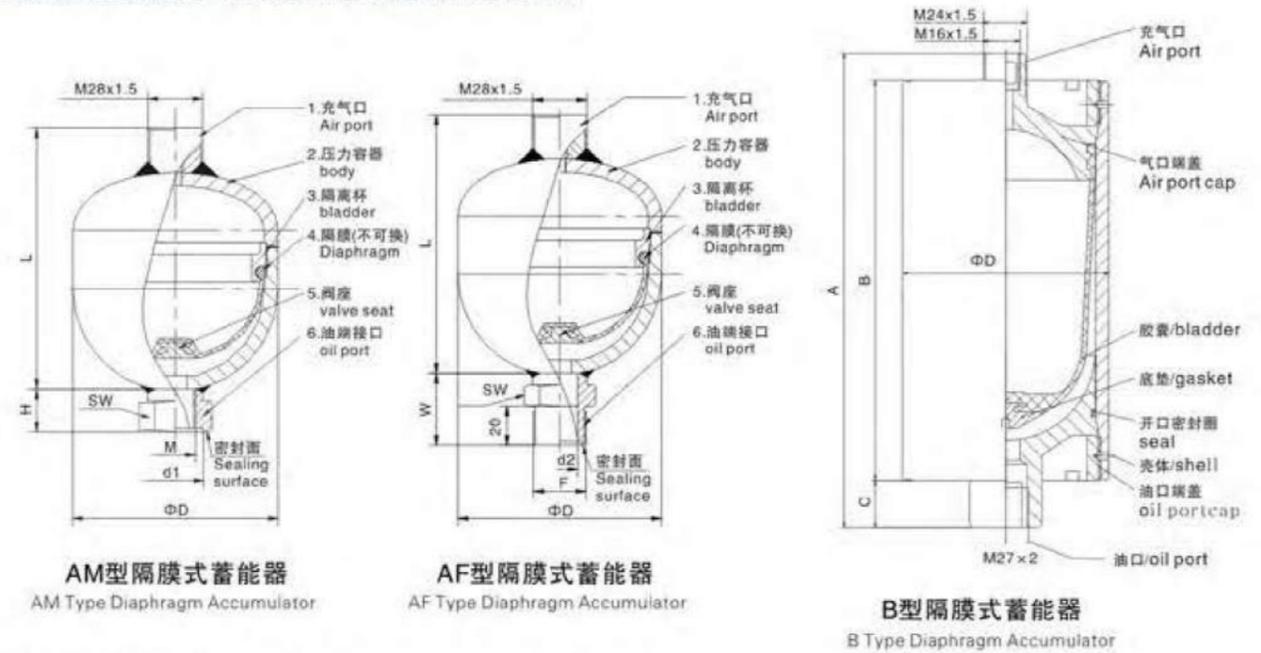
隔膜式蓄能器有二种型式: 焊接式和螺纹式  
A型焊接式  
焊接的压力容器, 气端可用本公司生产的GCQJ  
充气工具充气,油端连接可有多种型式。  
柔性隔膜(不可更换), 用于隔离油液和气体。  
设置在隔膜底部的阀座。  
B型螺纹式:  
带充气接口上端盖  
带油液接口下端盖  
螺纹连接的壳体  
可更换的柔性隔膜(胶囊),用于隔离油液和气体  
设置在隔膜底部的阀座  
压紧螺母, 用于压紧上下端盖

There are two types: the diaphragm accumulator welding type and screw type  
Welding Type A:  
Welding of pressure vessels, use chaori GCQJ charging, oil has been  
Connected to a variety of types.  
The flexible diaphragm (not change), is used to isolate the oil and gas.  
Set the diaphragm at the bottom of the seat.  
Thread type B:  
End cover on inflatable interface  
With the oil interface lower cover  
Threaded casing  
Replaceable flexible diaphragm (capsule), is used to isolate the oil and gas  
Set the diaphragm at the bottom of the seat  
Gland nuts, used for compress end cover

### 三、型号说明/Ordering Code



### 四、内部结构及外形尺寸/Structure and Dimension



### 1.A型隔膜式蓄能器/A Type diaphragm Accumulator

型号/ Model	公称容积 Nominal volume L	工作压力 Nominal pressure MPa	ΦD mm	L mm	H mm	油端接口				W mm	SW
						AM/d1			AF		
						公制/Metric	英制/Inch	美制/Ansi	F/d2		
GXQ-A	0.16	10	74	105	21	M14x1.5/M18x2.4	G1/2 /M28x3.1	SAE#6	M18x1.5	36	32
	0.25		84	110							
	0.32		93	118							
	0.5		105	135							
	0.6	21	115	147	25	M18x1.5 /M22x24	SAE#8	M33x1.5/ G1/2	42	36	
	0.75		121	147							
	1		136	163							
	1.4		150	181							
2	33	170/173	198	30	M22x1.5 /M30x3.1	G3/4 /M32x3.1	M45x1.5/ G3/4	41/46			
2.8		170/173	252								

### 2.B型隔膜式蓄能器/B Type diaphragm Accumulator

型号/ Model	公称容积 Nominal volume L	工作压力 Nominal pressure MPa	基本尺寸Dimension(mm)			
			A	B	C	ΦD
GXQ-B-1/10-※	1	10	262	220	26	114

### 五、订货说明/Booking Note

1. 订货时须写明型号代号全称, 如: 工作压力33Mpa, 公称容量1L, 结构形式为AF型, 工作介质液压油的隔膜式蓄能器: GXQ-A-1/33-AF-Y。
  2. 若对隔膜式蓄能器有接口尺寸等特殊要求时, 请同本企业商洽。
  3. 本企业保留设计更改权, 对修改不另行通知。
1. Full type code is needed when booking. For example: Nominal Pressure 33MPa, Nominal volume is 1L, Thread type AF, Hydraulic liquid, GXQ-A-1/33-AF-Y
  2. Contact us if special requirement is needed
  3. Design change is retained by our company and amendment is effected without further notice.

## 囊式蓄能器站/Bladder accumulator station

### ❖ 一、概述/General Description

朝日液压公司可提供一系列完整的囊式蓄能器站，囊式蓄能器站包括了固定支架、囊式蓄能器、控制阀组、球阀、进出油管、回油管等。  
Chaori hydraulic corporation offers series of full bladder type accumulator station which include fixed bolster, bladder type accumulator, control valve group, ball valve, pipeline, oil return pipe, etc.

### ❖ 二、型号说明/Ordering Code

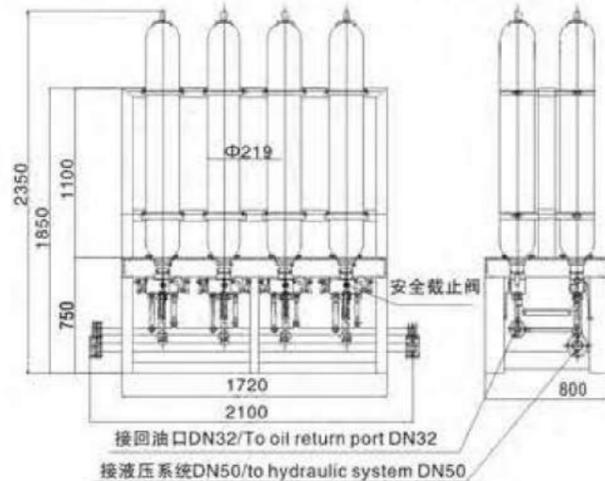


### ❖ 三、内部结构及外形尺寸/Structure and Dimension

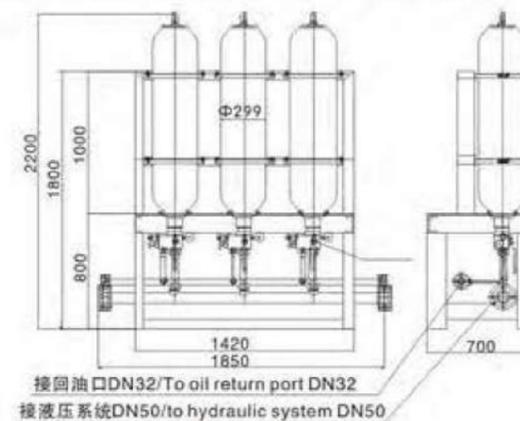
囊式蓄能器站--示例1 技术数据3个皮囊式蓄能器, 每个容量为40L, 带有安全截止阀  
Bladder Accumulator Station for example 1 Specification: 3 bladder accumulators, each 40L, With safety shutoff valve



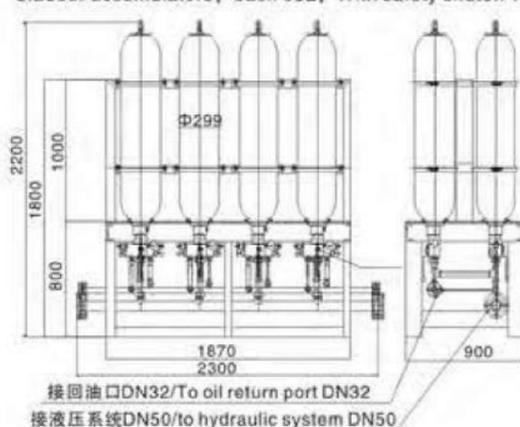
囊式蓄能器站--示例2 技术数据8个皮囊式蓄能器, 每个容量为40L, 带有安全截止阀  
Bladder Accumulator Station for example 2 Specification: 8 bladder accumulators, each 40L, With safety shutoff valve



囊式蓄能器站--示例3 技术数据3个囊式蓄能器, 每个容量为63L, 带有安全截止阀  
Bladder Accumulator Station for example 3 Specification: 3 bladder accumulators, each 63L, With safety shutoff valve



囊式蓄能器站--示例4 技术数据8个囊式蓄能器, 每个容量为63L, 带有安全截止阀  
Bladder Accumulator Station for example 4 Specification: 8 bladder accumulators, each 63L, With safety shutoff valve



### ❖ 四、订货说明/Booking Note

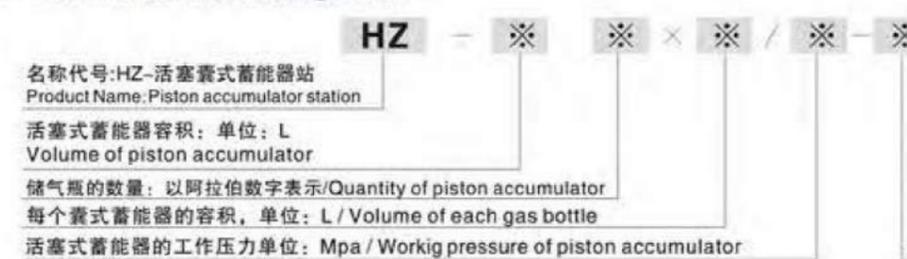
1. 订货时须写明皮囊式蓄能器的容积, 所配置的部件名称及要求/Full type code is needed when booking.
2. 若对皮囊式蓄能器站有特殊要求时, 请向本企业商洽/Contact us if special requirement is needed.
3. 本企业保留设计更改权, 对修改不另行通知/Design change is retained by our company and amendment is effected without further notice.

## 活塞式蓄能器站及氮气瓶组/Piston accumulator station and nitrogen cylinder group

### ❖ 一、概述/General Description

朝日液压公司可提供一系列完整的活塞式蓄能器站, 活塞式蓄能器站包括了固定支架、活塞式蓄能器、控制阀组、球阀、气体安全阀、储气瓶组等。  
Chaori hydraulic corporation offers series of full piston accumulator station, which include fixed bolster, piston accumulator, control valve group, ball valve, gas protection valve, nitrogen cylinder group, etc.

### ❖ 二、型号说明/Ordering Code

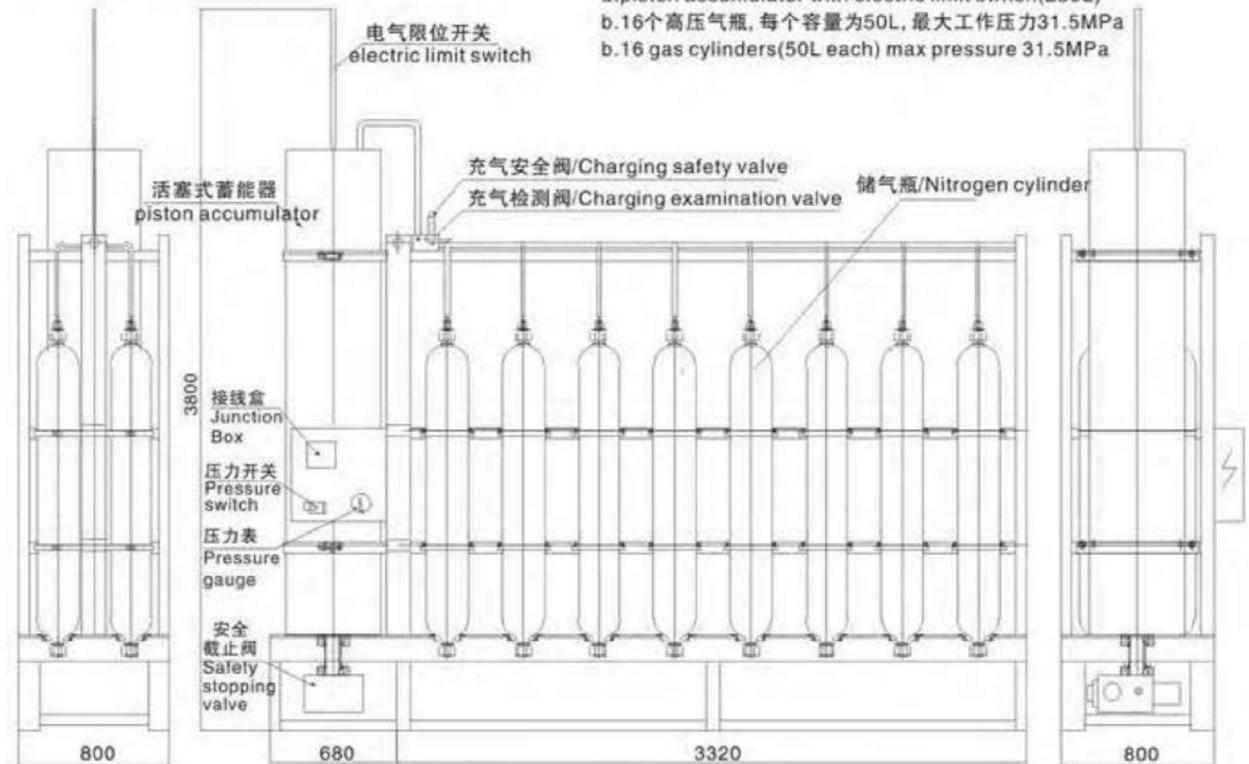


工作介质: Y-液压油, R-乳化液  
Medium: Y-Hydraulic liquid, R-emulsion

### ❖ 三、内部结构及外形尺寸/Structure and Dimension

活塞式蓄能器站--示例/  
Piston Accumulator Station

技术数据/Technical data:  
a. 1个带电限位开关的活塞式蓄能器(250L)  
a. piston accumulator with electric limit switch(250L)  
b. 16个高压气瓶, 每个容量为50L, 最大工作压力31.5MPa  
b. 16 gas cylinders(50L each) max pressure 31.5MPa



### ❖ 四、订货说明/Booking Note

1. 订货时须写明活塞式蓄能器的容积, 所配置的部件名称及要求/Full type code is needed when booking
2. 若对活塞式蓄能器站及储气瓶组有特殊要求时, 请向本企业商洽/Contact us if special requirement is needed
3. 本企业保留设计更改权, 对修改不另行通知  
Design change is retained by our company and amendment is effected without further notice

## CDZ-Y<sub>1</sub>型充氮车 (氮气增压装置) — 专利产品

### CDZ-Y1 N<sub>2</sub> Charging Vehicle(N<sub>2</sub> Pressurization)—Patent product

#### ❖ 一、概述/General Description

CDZ-Y<sub>1</sub>型充氮车适用于NXQ系列液压囊式蓄能器、活塞式蓄能器、隔膜式蓄能器(包括进口蓄能器)及其它高压容器充装、增压氮气的专用增压装置,其最高增压氮气压力为42MPa。

CDZ-Y<sub>1</sub> Nitrogen Charging Vehicle works as a special N<sub>2</sub> pressurizer and charging device of hydraulic accumulator, piston accumulator, diaphragm accumulator and other high-pressure vessel of NXQ series. Max N<sub>2</sub> pressure is 42MPa.

#### ❖ 二、型号说明/Ordering Code

**CDZ - ※ Y1**

名称代号:充氮车  
Product Name: Nitrogen charging vehicle

公称压力/Nominal pressure: 25、35、42Mpa

换向方式: 液压先导式/Reversing type: Hydraulic Pilot

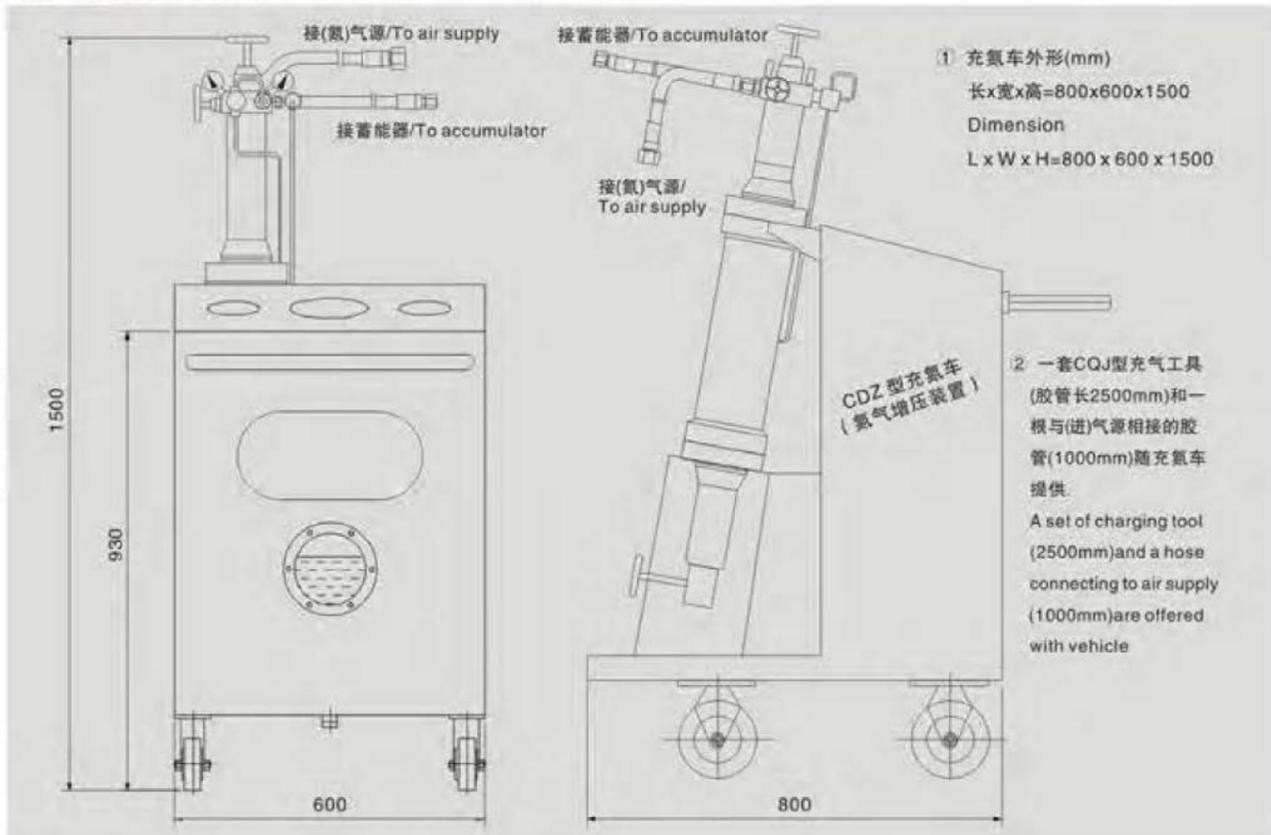


#### ❖ 三、工作原理/Operating Principle

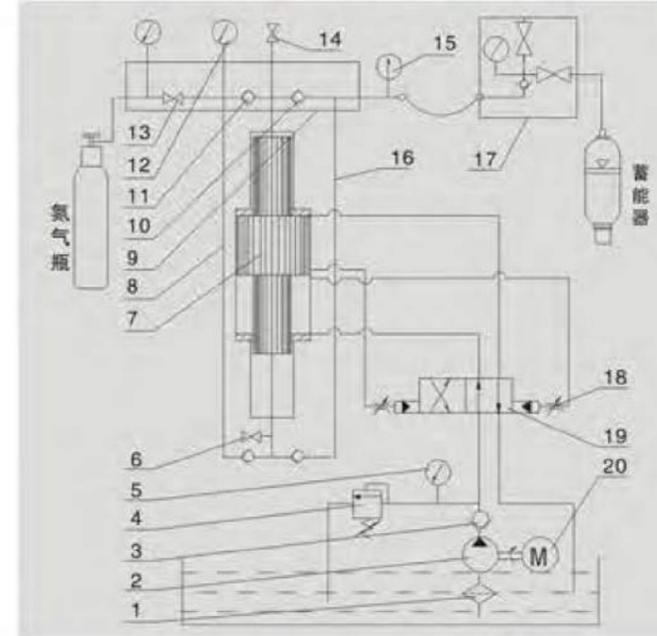
本型充氮车由液压装置、气路装置和电路装置等组成,当压力流体通过换向阀进入增压器时,推动活塞作向上(下)运动,使进入到上(下)增压器的氮气增压,且经单向阀充入蓄能器(或高压容器)内,活塞如此上下往复运动,使氮气增压到所需要的工作压力(42MPa以内)。

The Nitrogen Charging Vehicle consists of hydraulic device, gas device and electric device. The pressure fluid flows into the pressurizer through reversal valve to push the piston move upward (downward) to pressurize the N<sub>2</sub> in the pressurizer and then flow into the accumulator (or high-pressure Vessel) through holding valve. N<sub>2</sub> is pressurized to the operating pressure by the reciprocating movement of piston. (Less than 42 Mpa)

#### ❖ 四、内部结构及外形尺寸/Structure and Dimension



#### ❖ 五、CDZ-Y1充氮车液压结构原理图/CDZ-Y1 nitrogen charging vehicle drawing



- |            |                                |
|------------|--------------------------------|
| 1. 滤油器     | 1. Oil purifier                |
| 2. 油泵      | 2. Oil Pump                    |
| 3. 直通单向阀   | 3. Straight way check valve    |
| 4. 溢流阀     | 4. Overflow valve              |
| 5. 油压表     | 5. Oil pressure gauge          |
| 6. 下放气阀    | 6. Bottom deflating valve      |
| 7. 双向增压装置  | 7. Two-way booster             |
| 8. 进气管     | 8. Gas Inlet                   |
| 9. 总气阀体装置  | 9. main gas check              |
| 10. 进气阀    | 10. Air Intake valve           |
| 11. 排气阀    | 11. Air Vent valve             |
| 12. 气压表    | 12. Gas pressure gauge         |
| 13. 进气开关   | 13. Gas Inlet switch           |
| 14. 上放气阀   | 14. Exhaust valve              |
| 15. 电接点压力表 | 15. Electro pressure gauge     |
| 16. 排气管    | 16. Exhaust pipe               |
| 17. 充气工具   | 17. Gas charging tool          |
| 18. 截止型节流阀 | 18. Isolating throttling valve |
| 19. 液控换向阀  | 19. Pilot direction valve      |
| 20. 电动机    | 20. Motor                      |

#### ❖ 六、技术规格/Technical Parameter

型号 Model	输入压力P <sub>1</sub> (MPa)	最高输入压力 Max P <sub>1</sub> (MPa)	油泵/Pump		增压器/Pressurizer		重量 Weight (kg)
			压力/Pressure (MPa)	流量/Flux (L)	增压比 Rate	增压次数 Times/min	
CDZ-25Y1	3-13.5	25	7	16	1:6	8	285
CDZ-35Y1	3-13.5	35	7	16	1:6	8	285
CDZ-42Y1	3-13.5	42	7	16	1:7	8	285

#### ❖ 七、典型应用/Typical Application

1. 气体增压: 如蓄能器、飞机轮胎、高压容器、电讯电缆等充装、增压(氮气)或惰性气体。
  2. 管道压力测试工具的泄漏测试: 例如航空航天、油田、炼化、汽车、仪器等测试气(氮)体或惰性气体。
  3. 气(氮)体加注: 如化学过程、塑胶过程
  4. 将气体回收: 如将残留在氮气瓶中的气体或惰性气体回收至高压容器中, 便于以后使用。
  5. 高压气体的输出与充填: 如氮气、惰性气体等。
1. Gas Pressurization: charge or pressurize accumulator, aero tire, and high-pressure vessel, telecommunication cable with N<sub>2</sub> or inert gases.
  2. Pipe pressure test: N<sub>2</sub> or inert gases in aerospace, oil field, refining, automobile, instruction.
  3. Gas replenishment: chemical processes, plastic processes.
  4. Gas Reuse: recover the gas or inert gas left in the nitrogen cylinder to high-pressure vessel for further usage.
  5. Gas output and charging: N<sub>2</sub>, inert gases

#### ❖ 八、订货说明/Booking Note

1. 订货时须写明型号代号全称, 如: 工作压力为25Mpa, 换向方式为液控先导式的充氮车: CDZ-25Y1
  2. 如对充氮车还有特殊要求时, 请向本企业商洽。
  3. 本企业保留设计更改权, 对修改不另行通知。
1. Full type code is needed when booking. For example: Nitrogen charging vehicle of operating pressure: 25MPa, reversing type, hydraulic pilot: CDZ-25Y1.
  2. Contact US if special requirement is needed.
  3. Design change is retained by our company and amendment is effected without further notice.

## CDZ-D1型充氮小车 (氮气增压装置) — 专利产品 CDZ-D1 N<sub>2</sub> Charging Vehicle(N<sub>2</sub> Pressurization)-Patented product

### ❖ 一、概述/General Description

CDZ-D1型充氮小车适用于NXQ系列囊式蓄能器、活塞式蓄能器、液阻隔膜式蓄能器(包括进口蓄能器)及其它高压容器充装、增压氮气的专用增压装置。

CDZ-D1 Mini Nitrogen Charging Vehicle works as a special N<sub>2</sub> supercharging device and charging device of hydraulic bag accumulator, piston accumulator, diaphragm accumulator and other high-pressure vessel of NXQ series. Max N<sub>2</sub> pressure is 42MPa.

### ❖ 二、型号说明/Ordering Code

名称代号: 充氮小车 Product Name: Nitrogen Charging Vehicle	<b>CDZ</b>	<b>-</b>	<b>25</b>	<b>D1</b>	<b>2.5L</b>
压力等级/Nominal Pressure: 25、35MPa					
换向方式: 电磁换向式 Reversing Type: Electromagnetic Directional Type					
充气容积/Inflatable Volume: 1.6L、2.5L、4L					

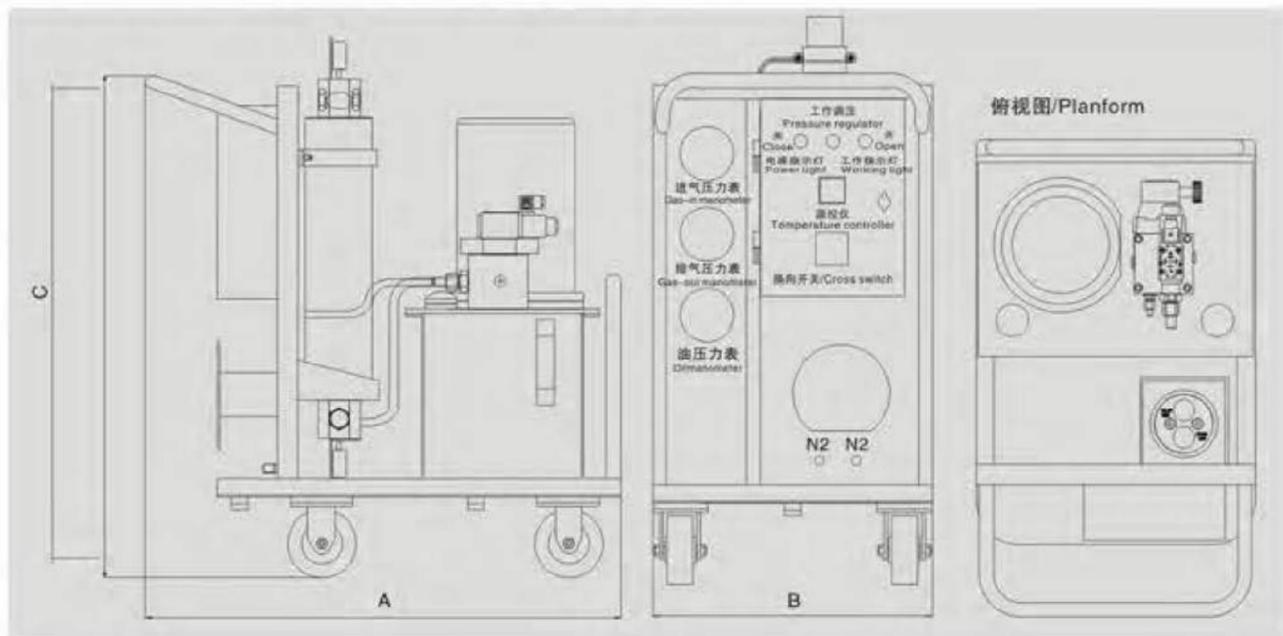


### ❖ 三、工作原理/Operating Principle

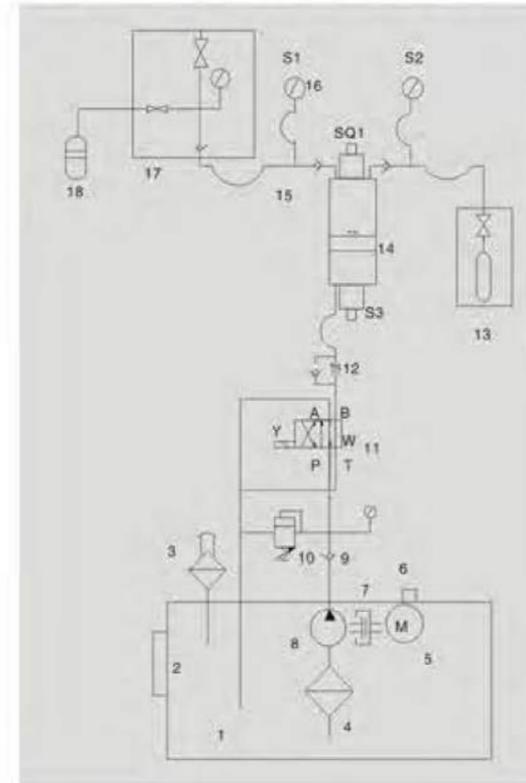
本型充氮车由液压系统、气路系统和电路系统等组成,当压力油液通过电磁换向阀进入增压缸内,推动活塞运动时,进入到增压缸内的氮气开始增压且经单向阀、充气工具入蓄能器(或高压容器内)。并通过限位开关的作用,使活塞作上下反复运动,使氮气增压到所需的工作压力时,即自行停机。

The Nitrogen Charging Vehicle consists of hydraulic system, gas system and electric system. The pressure fluid flows into the pressure cylinder through solenoid directional valve to push the piston move upward/downward to pressurize the N<sub>2</sub> in the pressure cylinder and then flow into the accumulator (or high-pressure vessel) through holding valve and charging tool. N<sub>2</sub> is pressurized to the operating pressure by the reciprocating movement of piston under the effect of limit switch. After that turned off itself.

### ❖ 四、内部结构及外形尺寸/Structure and Dimension



### ❖ 五、结构原理图/Structure Drawing



- |             |                                  |
|-------------|----------------------------------|
| 1. 油箱       | 1. oil box                       |
| 2. 液位计      | 2. Liquid indicator              |
| 3. 空气滤清器    | 3. air cleaner                   |
| 4. 滤油器      | 4. Oil filter                    |
| 5. 电动机      | 5. motor                         |
| 6. 油温控制器    | 6. oil temperature controller    |
| 7. 联轴器      | 7. shaft coupling                |
| 8. 油泵       | 8. oil pump                      |
| 9. 单向阀      | 9. Check valve                   |
| 10. 溢流阀     | 10. overflow valve               |
| 11. 电磁换向阀   | 11. Solenoid directional valve   |
| 12. 节流阀     | 12. throttling valve             |
| 13. 氮气瓶     | 13. N <sub>2</sub> cylinder      |
| 14. 增压装置    | 14. pressurization device        |
| 15. 单向阀     | 15. Check valve                  |
| 16. 电接点压力表  | 16. electro pressure gauge       |
| 17. 充(氮)气工具 | 17. N <sub>2</sub> charging tool |
| 18. 蓄能器     | 18. Accumulator                  |

### ❖ 六、技术参数/Technical Parameter

型号 Model	输入压力 Pin (MPa)	最高输入压力 Max Pin (MPa)	油泵/Pump		充气装置 容积 Volume (L)	电源 Power	A (mm)	B (mm)	C (mm)	重量 Weight (kg)
			压力(MPa) Pressure	流量/Flux (L)						
CDZ-25D1-1.6L	3~13.5	25	31.5		1.6	3相 380V 50Hz	890	520	950	240
CDZ-25D1-2.5L				7.5	2.5		890	520	950	245
CDZ-25D1-4.0L				15	4		1200	640	1200	300
CDZ-35D1-1.6L	35	50	50	1.6	890		460	950	240	
CDZ-35D1-2.5L				5.37	2.5		890	520	950	245
CDZ-35D1-4.0L				10.74	4.0		1200	640	1200	300

### ❖ 七、订货说明/Booking Note

- 1、订货时须写明型号代号全称,如:工作压力为25Mpa,充气装置容量为2.5L,电磁换向式的充氮小车: CDZ-25D1-2.5L
  - 2、若对充氮小车还有特殊要求时,请向本企业商洽。
  - 3、本企业保留设计更改权,对修改不另行通知。
1. Full type code is needed when booking. For example: Nitrogen charging vehicle of operating pressure: 25MPa, air supply volume 2.5L, reversing type, electromagnetic directional type: CDZ-25D1-2.5L.
  2. Contact us if special requirement is needed.
  3. Design change is retained by our company and amendment is effected without further notice.

## CDZs-D1型充氮小车(氮气增压装置)—专利产品 CDZs-D1 N<sub>2</sub> Charging Vehicle(N<sub>2</sub> Pressurization)--Patented product

### ❖ 一、概述/General Description

CDZs-D1型充氮小车适用于NXQ系列囊式蓄能器、活塞式蓄能器、隔膜式蓄能器(包括进口蓄能器)及其它高压容器充装、增压氮气的专用增压装置。

CDZs-D1 Mini Nitrogen Charging Vehicle works as a special N<sub>2</sub> supercharging device and charging device of hydraulic bag accumulator, piston accumulator, diaphragm accumulator and other high—pressure vessel of NXQ series. Max N<sub>2</sub> pressure is 42MPa.

### ❖ 二、型号说明/Ordering Code

名称代号:充氮小车数量 Product Name: Nitrogen Charging Vehicle	※	D1	※L
压力等级/Nominal Pressure: 25、35MPa			
换向方式: 电磁换向式 Reversing Type: Electromagnetic Directional Type			
充气容积/Inflatable Volume: 1.6L、2.5L、4L			

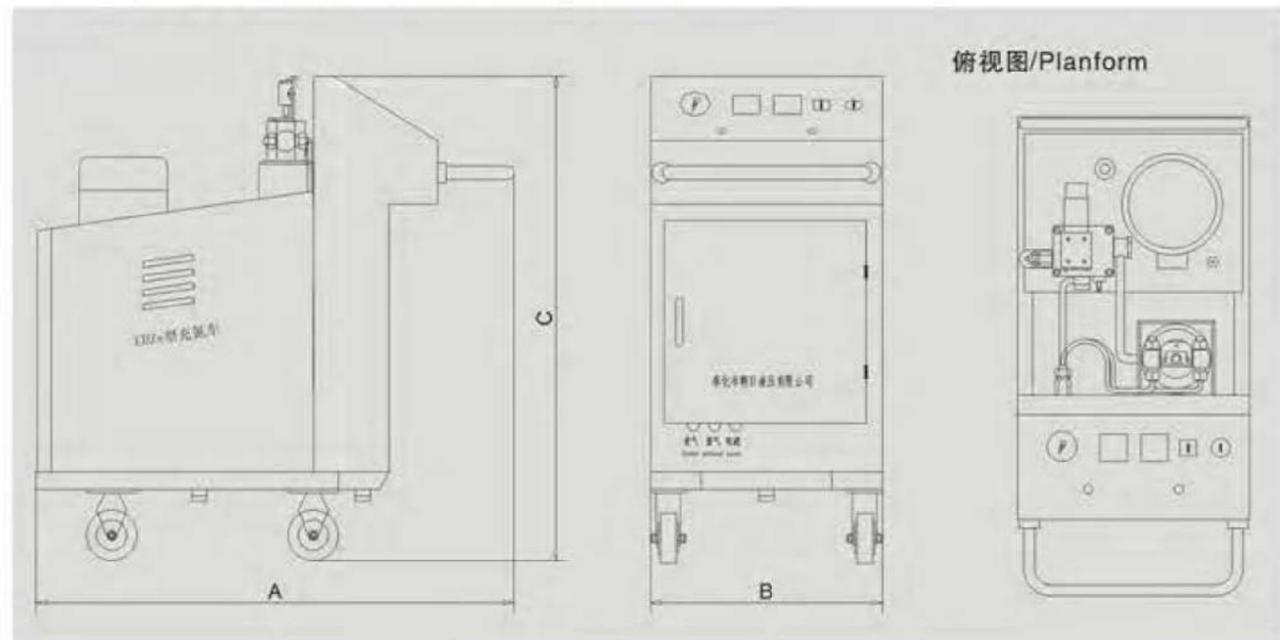


### ❖ 三、工作原理/Operating Principle

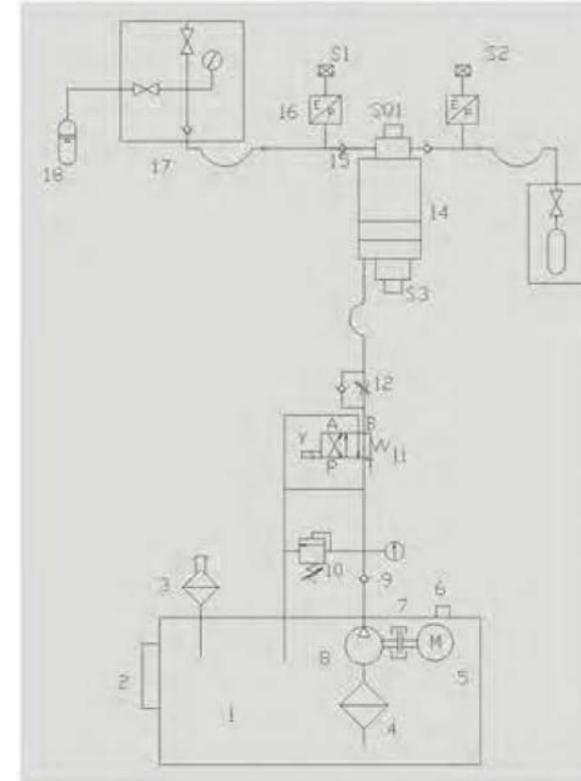
本型充氮车由液压系统、气路系统和电路系统等组成,当压力油液通过电磁换向阀进入增压缸内,推动活塞运动时,进入到增压缸内的氮气开始增压且经单向阀、充气工具入蓄能器(或高压容器内)。并通过限位开关的作用,使活塞作上下反复运动,使氮气增压到所需的工作压力时,即自行停机。

The Nitrogen Charging Vehicle consists of hydraulic system, gas system and electric system. The pressure fluid flows into the pressure cylinder through solenoid directional valve to push the piston move upward (downward) to pressurize the N<sub>2</sub> in the pressure cylinder and then flow into the accumulator (or high—pressure Vessel) through holding valve and charging tool. N<sub>2</sub> is pressurized to the operating pressure by the reciprocating movement of piston under the effect of limit switch. After that turned off itself.

### ❖ 四、内部结构及外形尺寸/Structure and Dimension



### ❖ 五、结构原理图/Structure Drawing



- |            |                                  |
|------------|----------------------------------|
| 1、油箱       | 1. oil box                       |
| 2、液位计      | 2. Liquid indicator              |
| 3、空气滤清器    | 3. air cleaner                   |
| 4、滤油器      | 4. Oil filter                    |
| 5、电动机      | 5. motor                         |
| 6、油温控制器    | 6. oil temperature controller    |
| 7、联轴器      | 7. shaft coupling                |
| 8、油泵       | 8. oil pump                      |
| 9、单向阀      | 9. Check valve                   |
| 10、溢流阀     | 10. overflow valve               |
| 11、电磁换向阀   | 11. Solenoid directional valve   |
| 12、节流阀     | 12. throttling valve             |
| 13、氮气瓶     | 13. N <sub>2</sub> cylinder      |
| 14、增压装置    | 14. pressurization device        |
| 15、单向阀     | 15. Check valve                  |
| 16、压力传感器   | 16. electro pressure gauge       |
| 17、充(氮)气装置 | 17. N <sub>2</sub> charging tool |
| 18、蓄能器     | 18. Accumulator                  |

### ❖ 六、技术参数/Technical Parameter

型号 Model	输入压力 Input (MPa)	最高输入压力 Max Input (MPa)	油泵/Pump		充气装置容积 Volume (L)	电源 Power	A (mm)	B (mm)	C (mm)	重量 Weight (kg)
			压力(MPa) Pressure	流量/Flux (L)						
CDZs-25D1-1.6L	3~13.5	25	31.5	3.75	1.6	3相 380V 50Hz	890	520	950	240
CDZs-25D1-2.5L				7.5	2.5		1190	600	950	245
CDZs-25D1-4.0L				15	4		1200	640	1200	300
CDZs-35D1-1.6L				35	50		2.68	1.6	890	520
CDZs-35D1-2.5L	5.37	2.5	1190				500	950	245	
CDZs-35D1-4.0L	10.74	4.0	1200				640	1200	300	

### ❖ 七、订货说明/Booking Note

- 1、订货时须写明型号代号全称,如:工作压力为25MPa,充气装置容积为2.5L,电磁换向式的充氮小车:CDZs-25D1-2.5L.
  - 2、若对充氮小车还有特殊要求时,请向本企业商洽。
  - 3、本企业保留设计更改权,对修改不另行通知。
1. Full type code is needed when booking. For example: Nitrogen charging vehicle of operating pressure: 25MPa, air supply volume 2.5L, reversing type, electromagnetic directional type: CDZ-25D1-2.5L.
  2. Contact us if special requirement is needed.
  3. Design change is retained by our company and amendment is effected without further notice.

## QF-CR系列蓄能器用气体安全阀 QF-CR Gas safety Valve for Accumulator

### ❖ 一、概述/General Description

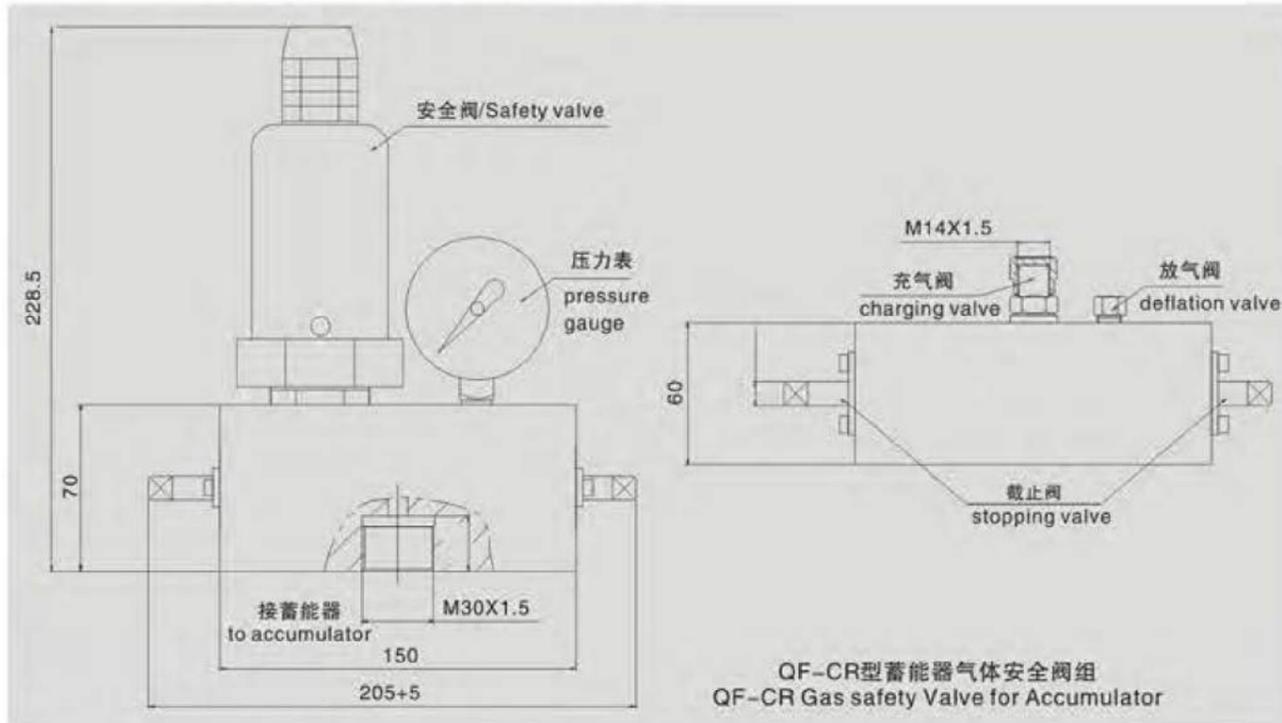
QF-CR系列蓄能器用气体安全阀是用来给蓄能器充气、放气、检测气体压力外，主要是采用防止蓄能器超压。

QF-CR gas safety valve charge, deflate, test gas pressure for accumulator and prevent accumulator from over-pressure as well.

### ❖ 二、型号说明/Ordering Code



### ❖ 三、内部结构及外形尺寸/Structure and Dimension



### ❖ 四、订货说明/Booking Note

1. 订货时须写明型号代号全称，如：设定工作压力为31.5Mpa，气体安全阀：QF-CR-31.5。
2. 若对气体安全阀有特殊要求时，请向本企业商洽。
3. 本企业保留设计更改权，对修改不另行通知。

1. Full type code is needed when booking. For example: Gas safety Valve of operating pressure 31.5MPa; QF-CR-31.5.
2. Contact us if special requirement is needed.
3. Design change is retained by our company and amendment is effected without further notice

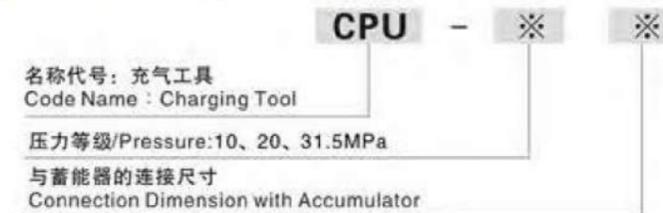
## CPU箱式充气(氮)工具 / CPU Box Type N<sub>2</sub> Charging Tool

### ❖ 一、概述/General Description

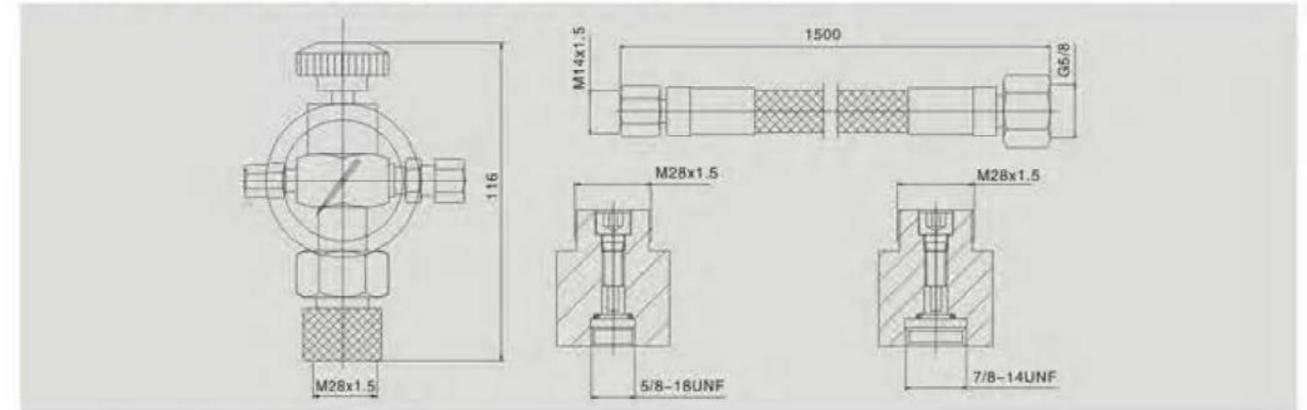
CPU型箱式充气工具由铝合金工具箱、带有压力表的的多功能充气阀体、防震不锈钢压力表、1.5米长的微型高压软管、维修蓄能器用的勾形扳手、给国内外蓄能器充气互换的接头等。

CPU Box Type Charging Tool consists of A-alloy toolbox, multifunctional charging valve with pressure gauge, anti-seismic stainless steel pressure gauge, high-pressure hose of 1.5m length, claw wrench for accumulator maintenance, exchange joint for foreign series etc.

### ❖ 二、型号说明/Ordering Code



### ❖ 三、内部结构及外形尺寸/Structure and Dimension



### ❖ 四、技术参数/Technical Parameter

型号 Model	公称压力 Nom. pressure (Mpa)	防震压力表 Anti-seismic pressure gauge		胶管规格 Hose specification (内径 x 长度) (Inner diameter x length)	与蓄能器连接尺寸/To accumulator (mm)	应用蓄能器 Applied accumulator
		刻度等级 Scale (Mpa)	精度等级 Precision (Mpa)			
CPU-16	10	0-16	1.5	Φ4x1.5m	M27x1.5	隔膜式蓄能器 Diaphragm accumulator
CPU-25	20	0-25			M14x1.5	国标蓄能器/National standard accumulator
					5/16"-32UNF	囊式、活塞式蓄能器 Bladder accumulator and piston accumulator
CPU-40	31.5	0-40	7/8"-14UNF			

### ❖ 五、订货说明/Booking Note

1. 订货时须写明型号代号全称，如：工作压力为20Mpa<PN≤31.5Mpa的箱式充气工具:CPU-40接口螺纹7/8"-14UNF(标准胶管长度为1500mm)
1. Full type code is needed when booking. For example: Box type charging tool of operating pressure 20MPa < PN ≤ 31.5MPa; CPU-40
2. 如对充气工具还有特殊要求时，请向本企业商洽/Contact us if special requirement is needed
3. 本企业保留设计更改权，对修改不另行通知  
Design change is retained by our company and amendment is effected without further notice