

# DIAPHRAGM ACCUMULATORS

## MDA Series

### Diaphragm Accumulators



### Description

Diaphragm accumulators are a cost effective option for numerous functions involving energy storage, shock absorption or pulsation dampening in a hydraulic or fluid system. They are well suited for applications where smaller fluid volumes and flow rates are adequate and that require or involve:

- Compact design
- Low weight
- Flexible mounting positions
- Extremely quick shock response
- Low cost
- Low lubricity fluids, like water

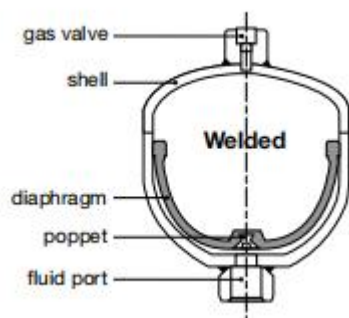
Diaphragm Accumulators have been successfully applied in both industrial and mobile applications for energy storage, maintaining pressure, leakage compensation, and vehicle hydraulic systems.

MILEHERTZ manufactures two types of diaphragm accumulators:

- Carbon steel diaphragm accumulator (Welded)
- Stainless steel diaphragm accumulator (Welded)

### Construction

The welded version has a shell that is electron-beam welded, and therefore cannot be repaired.



### Diaphragm 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

Diaphragm accumulators are designed to mount in any position. In systems where contamination is a problem, we recommend a vertical mount with the fluid port oriented downward.

### System Mounting

MILEHERTZ diaphragm accumulators are designed to be screwed directly onto the system. We also recommend the use of our mounting components, to minimize the risk of failure due to system vibrations.

### Applications

Several applications possible, e.g. in:

- Machines with hydraulic drives
- Presses
- Agricultural- and construction machines
- Modern industrial robots
- Gear Technology
- Braking Systems
- High-pressure cleaner
- Drive hydraulics
- Noise minimization
- Vibration reduction
- Axle suspension
- Driver's cabs

# DIAPHRAGM ACCUMULATORS

## Model Code

**MDA 330 - 0.75 - G1/2F - CN - W**

### Series

MDA XXX = Diaphragm Accumulator (XXX = series designation)

### Size (in Liters, see tables on dimension pages to follow)

|       |   |             |
|-------|---|-------------|
| 0.075 | = | 0.075Liters |
| 0.16  | = | 0.16Liters  |
| 0.25  | = | 0.25Liters  |
| 0.32  | = | 0.32Liters  |
| 0.5   | = | 0.5Liters   |
| 0.75  | = | 0.75Liters  |
| 1.0   | = | 1.0Liters   |
| 1.4   | = | 1.4Liters   |
| 2.0   | = | 2.0Liters   |
| 2.8   | = | 2.8Liters   |
| 3.5   | = | 3.5Liters   |

### Fluid Port Connection

#### Connect Size For Fluid Port

- M:Metric thread
- U:American thread
- G:Inch unsealed pipe thread
- N:American pipe thread

### Connection Type

- F:Female thread
- M:Male thread
- FM:Female and Male thread

### Material Code

#### Shell And Fluid Port

- C:Carbon steel
- S:Stainless steel

### Diaphragm

- N:NBR
- H:HNBR
- I:IIR
- E:EPDM
- F:FPM

| Compound | Basic Characteristic                        |
|----------|---|
| NBR      | Suitable for most hydraulic fluids          |
| HNBR     | Low temperature resistance, wear resistance |
| IIR      | Special for fire resistant hydraulic fluids |
| EPDM     | Corrosion resistance                        |
| FPM      | High temperature resistance                 |

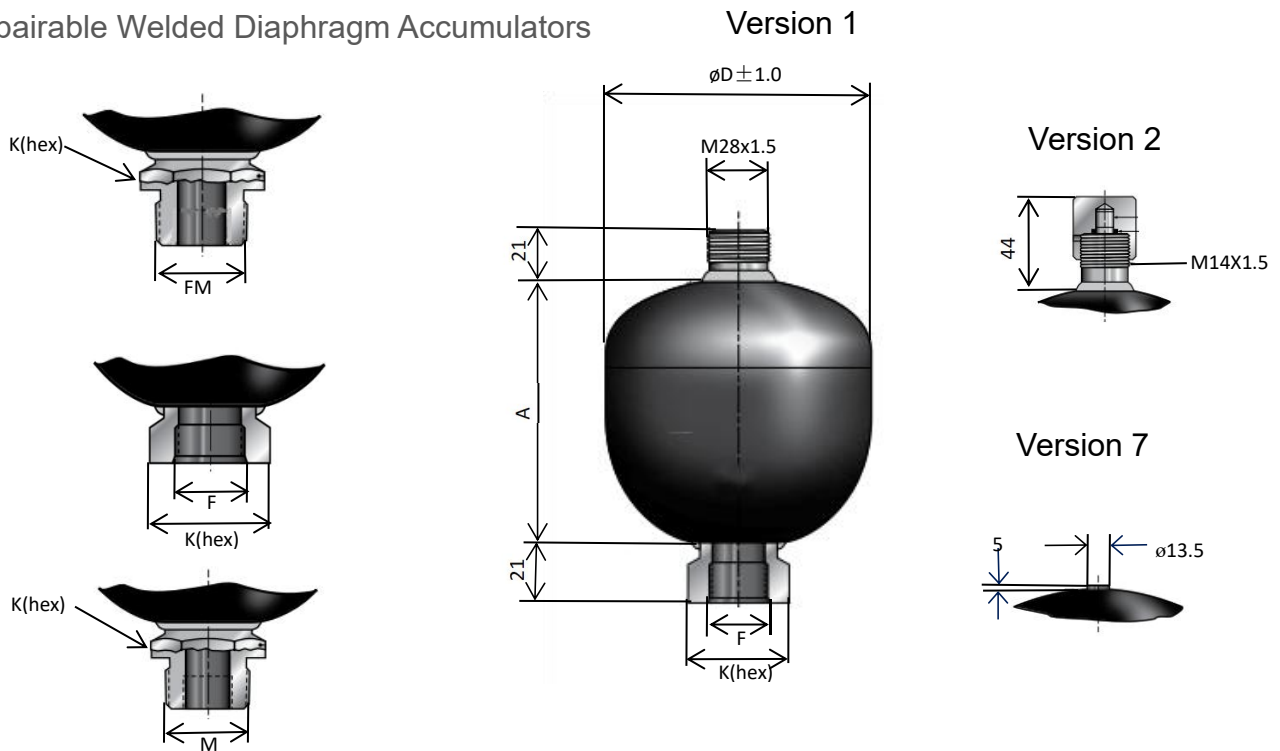
### Shell Construction and Gas Port Design

- W: Welded Construction, rechargeable MILEHERTZ Gas valve Version 1 (M 28x1.5)
- W2: Welded Construction, rechargeable MILEHERTZ Gas valve Version 2 (M 14x1.5)
- W7: Welded Construction, MILEHERTZ Gas valve Version 7

# DIAPHRAGM ACCUMULATORS

## Dimensions

### Non-Repairable Welded Diaphragm Accumulators



| Model | Max Working Pressure (BAR) | Max Working/Charging Pressure | Volume (L) | Weight (KG) | Diameter D(mm) | Main Height A(mm) | Common Fluid Connection Thread |               |               | Max Flow Rate L/min | SW (mm) |
|-------|----------------------------|-------------------------------|------------|-------------|----------------|-------------------|--------------------------------|---------------|---------------|---------------------|---------|
|       |                            |                               |            |             |                |                   | Metric                         | British       | US            |                     |         |
| MDA   | 100                        | 8:1                           | 0.075      | 1.0         | 66             | 72                | M14X1.5                        | G1/2          | 9/16-18 UNF   | 38                  | 32      |
|       |                            |                               | 0.16       | 1.2         | 75             | 82                |                                |               |               |                     |         |
|       |                            |                               | 0.25       | 1.8         | 89             | 93                |                                |               |               |                     |         |
|       |                            |                               | 0.32       | 2.1         | 95             | 99                |                                |               |               |                     |         |
|       |                            |                               | 0.5        | 2.9         | 111            | 113.8             |                                |               |               |                     |         |
|       |                            |                               | 0.75       | 4.2         | 125            | 128.5             |                                |               |               |                     |         |
|       | 210                        | 8:1                           | 1.0        | 5.4         | 142            | 140               | M18X1.5                        | G1/2          | 3/4-16 UNF    | 95                  | 32      |
|       |                            |                               | 1.4        | 8.0         | 157            | 169               |                                |               |               |                     |         |
|       |                            |                               | 2.0        | 10.0        | 173            | 193               |                                |               |               |                     |         |
|       | 250                        | 8:1                           | 2.5        | 10.6        | 173            | 201               | M22X1.5                        | G3/4          | 1 1/16 -12 UN | 150                 | 41      |
|       |                            |                               | 2.8        | 11.2        | 173            | 228               |                                |               |               |                     |         |
|       |                            |                               | 3.5        | 13.8        | 173            | 275.2             |                                |               |               |                     |         |
| 330   | 4:1                        | 2.5                           | 10.6       | 173         | 201            | M22X1.5           | G3/4                           | 1 1/16 -12 UN | 150           | 41                  |         |
|       |                            | 2.8                           | 11.2       | 173         | 228            |                   |                                |               |               |                     |         |
|       |                            | 3.5                           | 13.8       | 173         | 275.2          |                   |                                |               |               |                     |         |

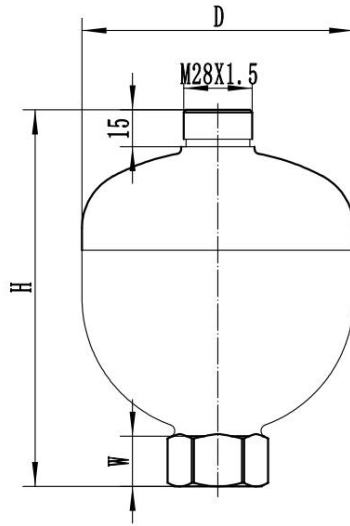
### Liquid end interface thread(Carbon steel Accumulators)

|        |             |  |  |              |
|--------|-------------|--|--|--------------|
| Common | British     | G1/4 Male/Female thread  | G1/2 Male/Female thread                    | Compound Pad |
|        |             | G3/8 Male/Female thread  | G3/4 Female thread                         |              |
|        | US          | 9/16-18UNF Male/Female thread  | 3/4-16UNF Male/Female thread               |              |
|        |             | 7/8-14UNF Male/Female thread   | 1 1/16-12UNF Female thread                 |              |
|        | Metric      | M14X1.5 Male/Female thread   | M18X1.5 Male/Female thread                 |              |
|        |             | M16X1.5 Male/Female thread   | M22X1.5 Male/Female thread                 |              |
|        | Combination | G1/2 Female thread AND M33X1.5 Male thread   | G3/4 Female thread AND M45X1.5 Male thread |              |
|        | Optional    | Metric (M) British (G) American Unified (UNF) American Pipe (NPT)<br>Internal and External Double Thread (G+M, M+M, UNF+M) |  |              |

Dimensions are general information only, all critical dimensions should be verified Dimensions are in millimeter and kilogram

# DIAPHRAGM ACCUMULATORS

## Stainless Steel Accumulators



| Model | Max Working Pressure (BAR) | Max Working/ Charging Pressure | Volume (L) | Weight (KG) | Diameter D(mm) | Overall Height H(mm) | Fluid Connection Thread (O-Ring ) | Max Flow Rate L/min | W (mm) | SW (mm) |
|-------|----------------------------|--------------------------------|------------|-------------|----------------|----------------------|-----------------------------------|---------------------|--------|---------|
| MDA   | 100                        | 8:1                            | 0.16       | 1.2         | 75             | 118                  | G1/2                              | 38                  | 17     | 36      |
|       |                            |                                | 0.32       | 2.1         | 95             | 137                  |                                   |                     |        |         |
|       |                            |                                | 0.5        | 2.9         | 111            | 152                  |                                   |                     |        |         |
|       | 210                        |                                | 0.75       | 4.2         | 125            | 166                  |                                   | 95                  |        |         |
|       |                            |                                | 1.0        | 5.4         | 142            | 181                  |                                   |                     |        |         |
|       |                            |                                | 1.4        | 8.0         | 157            | 210                  |                                   |                     |        |         |
|       | 250                        | 2.0                            | 10.0       | 173         | 231            | 231                  | G3/4                              | 150                 | 21     | 46      |
|       |                            |                                |            |             |                |                      |                                   |                     |        |         |
|       | 330                        | 4:1                            | 2.8        | 11.2        | 173            | 266                  | G3/4                              | 150                 | 21     | 46      |
|       |                            |                                |            |             |                |                      |                                   |                     |        |         |

## Diaphragm Spare Parts

| Part Number | item                                    | Part Number | item                            |
|-------------|---|-------------|---------------------------------|
| 001369      | Vent Screw M8, Version 1                | 014653      | Liquid end protective cap       |
| 053482      | Compound Pad(NBR and Carbon steel),M8   | 023541      | Liquid end Compound Pad/ O-Ring |
| 210430      | Plastic Valve Protection Cap, Version 1 | 254101      | Gas valve core (Version 4)      |
| 450130      | Metal Valve Protection Cap, Version 1   | 354021      | Valve seal cap (Version 4)      |
| 001475      | O-ring (28x1.9)                         |             |                                 |

# 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°C~+93°C

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

Stainless Steel Bladder Accumulator nominal pressure: ≤25Mpa

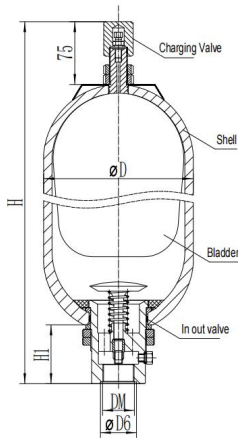
Stainless Steel Bladder Accumulator nominal volume: 0.4~100L

Charging Valve Port : M14X1.5

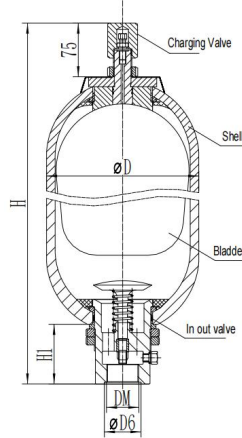
# National Standard Bladder Accumulator

## Dimensions

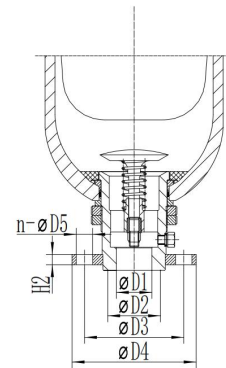
**NXQA accumulator**  
Thread connection



**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  |             |
|                 |                |                         |      |            |            |        |               |                      |     |     |       |                      |      |    |     |      |             |
| NXQ※-0.4※-L-※   | 10             | 1                       |      | 0.4        | 250        | M27×2  |               |                      |     |     |       | 32<br>(32×<br>3.1)   | 52   |    | 89  | 4.9  |             |
| NXQ※-0.63※-L-※  |                |                         |      | 0.63       | 320        |        |               |                      |     |     |       |                      |      |    |     | 5.6  |             |
| NXQ※-1※-L-※     |                |                         |      | 1          | 315        |        |               |                      |     |     |       |                      |      |    |     | 7.2  |             |
| NXQ※-1.6※-L/F-※ | 10             | 3.2 6                   |      | 1.6        | 355        | M42×2  | 42            | 50<br>(50×<br>3.1)   | 97  | 130 | 6-Φ17 | 50<br>(50×<br>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-※  | 10             | 6 10                    |      | 10         | 660        | M60×2  | 50            | 70<br>(70×<br>3.1)   | 125 | 160 | 6-Φ21 | 70<br>(70×<br>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-※  | 50             | 2040                    | 2065 | 118        |            |        |               |                      |     |     |       |                      |      |    |     |      |             |
| NXQ※-20※-L/F-※  | 20             | 10 15                   |      | 20         | 685        | M72×2  | 60            | 80<br>(80×<br>3.1)   | 150 | 200 | 6-Φ26 | 80<br>(80×<br>3.1)   | 110  | 40 | 299 | 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       | M80×3  | 80            | 95<br>(95×<br>3.1)   | 170 | 230 | 6-Φ26 | 90<br>(90×<br>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       | M100×3 | 80            | 115<br>(115<br>×3.1) | 220 | 255 | 8-Φ26 | 115<br>(115×<br>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/cm<sup>2</sup>

## 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

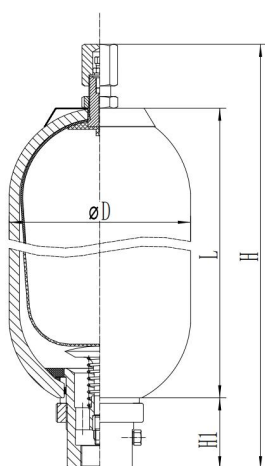
**Working medium:** \_\_\_\_\_

O:Hydraulic oil

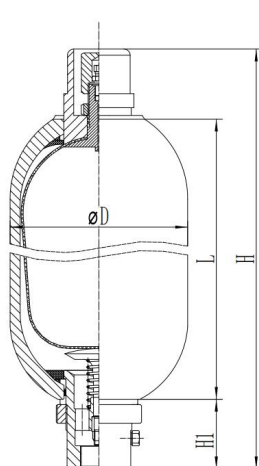
|                       |                                 |
|-----------------------|---------------------------------|
| Design pressure       | 3000psi(20.7Mpa)                |
|                       | 5000psi(34.5Mpa)                |
| Test pressure         | 3900psi(27Mpa)                  |
|                       | 6500psi(44.9Mpa)                |
| Medium                | Oil,N <sub>2</sub>              |
| 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)

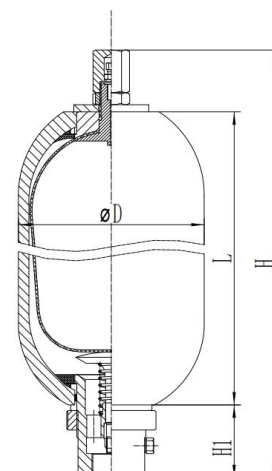
## Dimensions



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

### 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

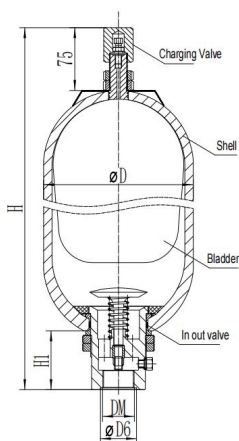
R:Emulsion

EG:Ethylene glycol

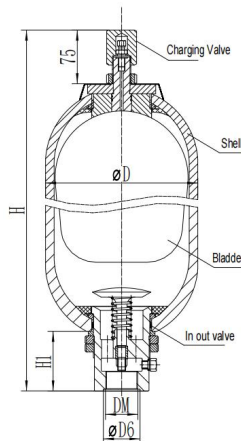
National Standard Bladder Accumulator working temperature:-20°C~+93°C

# PED type Bladder Accumulator

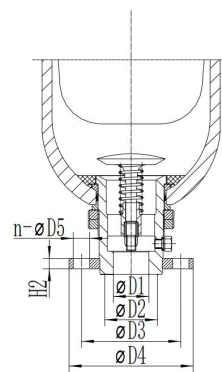
## Dimensions



**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-ØD5            | ΦD6            | H1             | H2  | Φ D |             |     |       |    |                |     |     |       |                |     |    |     |
|       |                |                         |      |            |            |        |               |                  |                |                |       |                  |                |                |     |     |             | H   |       |    |                |     |     |       |                |     |    |     |
| 0.4   | 10             | 1                       |      | 0.4        | 250        | M27×2  |               |                  |                |                |       | 32<br>(32×3.1)   | 52             |                | 89  | 4.9 |             |     |       |    |                |     |     |       |                |     |    |     |
| 0.63  |                |                         |      | 0.63       | 320        |        |               |                  |                |                |       |                  |                |                |     |     | 114         | 7.2 |       |    |                |     |     |       |                |     |    |     |
| 1     |                |                         |      | 1          | 315        |        |               |                  |                |                |       |                  |                |                |     |     |             |     |       |    |                |     |     |       |                |     |    |     |
| 1.6   |                | 3.2                     | 6    | 1.6        | 355        | 370    | M42×2         | 42               | 50<br>(50×3.1) | 97             | 130   | 6-Φ17            | 50<br>(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<br>(70×3.1) | 125            | 160   | 6-Φ22            | 70<br>(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<br>(80×3.1) | 150 | 200 | 6-Φ26 | 80<br>(80×3.1) | 105 | 40 | 299 |
| 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<br>(95×3.1) | 170   | 230              | 6-Φ26          | 90<br>(90×3.1) | 115 | 45  | 351         | 191 |       |    |                |     |     |       |                |     |    |     |
| 80    |                |                         | 80   |            |            | 1418   | 1433          |                  |                |                |       |                  |                |                |     |     |             | 228 |       |    |                |     |     |       |                |     |    |     |
| 100   |                |                         | 100  | 1688       | 1703       | 270    |               |                  |                |                |       |                  |                |                |     |     |             |     |       |    |                |     |     |       |                |     |    |     |
| 125   |                |                         | 125  | 2008       | 2023       | 322    |               |                  |                |                |       |                  |                |                |     |     |             |     |       |    |                |     |     |       |                |     |    |     |
| 160   | 20             | 25                      | 160  | 2478       | 2493       | M100×3 | 80            | 115<br>(115×3.1) | 220            | 255            | 8-Φ26 | 115<br>(115×5.7) | 115            | 50             | 426 | 397 |             |     |       |    |                |     |     |       |                |     |    |     |
| 100   |                |                         | 100  | 1315       | 1360       |        |               |                  |                |                |       |                  |                |                |     | 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.

# Piston Accumulator



## Description

Piston accumulators are hydraulic components used to store energy in a hydraulic system. They function by using a piston to separate two fluids: typically, a hydraulic fluid and a compressible gas (such as nitrogen).

Functions of piston accumulators include:

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

In summary, piston accumulators are crucial for optimizing the performance and efficiency of hydraulic systems by storing and regulating energy, reducing pressure fluctuations, and enhancing overall system stability.

Advantages:

- **Efficient Energy Storage:** They can store a significant amount of energy in a relatively small volume.
- **Improved System Performance:** By stabilizing pressure and absorbing shocks, they contribute to smoother operation and reduced wear on other system components.
- **Reduced Pump Wear:** By providing supplemental pressure and energy, they can reduce the load on hydraulic pumps.

## 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

MILEHERTZ piston accumulators operate in any position. Vertical installation is preferable with the gas side at the top, to prevent contaminant particles from the fluid settling on the piston seals. For hydraulic accumulators with certain piston position indicators, vertical installation is essential.

## System Mounting

MILEHERTZ piston 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:

- **Pressure Stabilization:** They help maintain consistent pressure in hydraulic systems, compensating for pressure fluctuations.
- **Energy Storage:** They store energy that can be used to absorb shocks or sudden demands in the system.
- **Shock Absorption:** They can dampen pressure spikes and reduce the impact of sudden changes in system load.
- **Leak Compensation:** They help compensate for fluid leaks or losses in the system by providing a reserve of hydraulic fluid.

## Piston Accumulator

### Model Code

HXQ / L / 20 - 10 - Y

**Product Name:** \_\_\_\_\_

HXQ:Piston Accumulator

**Connection Type:** \_\_\_\_\_

L: Thread connection

F: Flange connection

**Nominal Volume:** \_\_\_\_\_

0.22 = 0.22Liters

0.49 = 0.49Liters

1 = 1Liters

2 = 2Liters

2.5 = 2.5Liters

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

200 = 200Liters

250 = 250Liters

300 = 300Liters

350 = 350Liters

**Nominal Pressure:** \_\_\_\_\_

10: 10Mpa

20: 20Mpa

31.5: 31.5Mpa

Custom made(10~99Mpa)

**Working Medium:** \_\_\_\_\_

Y: Hydraulic oil

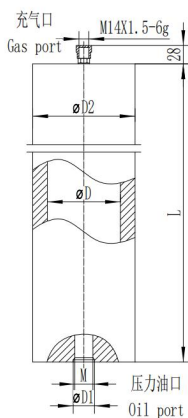
R: Emulsion

Q: Others

Charging Valve Port : M14X1.5

# Piston Accumulator

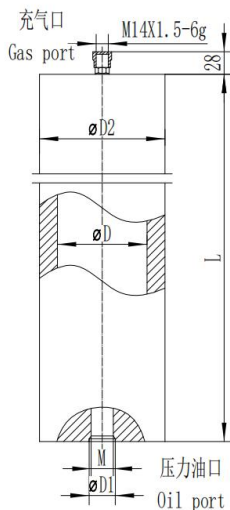
## Dimensions



| Model            | Nominal Pressure(MPa) | Volume(L) | Dimensions(mm) |         |      |     |       | Weight(kg) |       |       |      |
|------------------|-----------------------|-----------|----------------|---------|------|-----|-------|------------|-------|-------|------|
|                  |                       |           | ΦD             | M       | ΦD1  | ΦD2 | L     |            |       |       |      |
| HXQ-※-0.22/※-※-※ | 10~99                 | 0.22      | 63             | M22×1.5 | 35   | 83  | 225   | 7.1        |       |       |      |
| HXQ-※-0.49/※-※-※ |                       | 0.49      |                |         |      |     | 310   | 8.5        |       |       |      |
| HXQ-※-1/※-※-※    |                       | 1         |                |         |      |     | 470   | 11.5       |       |       |      |
| HXQ-※-2/※-※-※    |                       | 2         |                |         |      |     | 795   | 17.5       |       |       |      |
| HXQ-※-1/※-※-※    | 10~35                 | 1         | 80             | M27X2   |      | 108 | 380   | 22         |       |       |      |
| HXQ-※-2/※-※-※    |                       | 2         |                |         |      |     | 580   | 28         |       |       |      |
| HXQ-※-2.5/※-※-※  | 10~99                 | 2.5       | 100            |         |      |     | 127   | 510        | 31    |       |      |
| HXQ-※-3.5/※-※-※  | 10~35                 | 3.5       |                |         |      |     |       | 640        | 36    |       |      |
| HXQ-※-5/※-※-※    |                       | 5         |                |         | 830  |     |       | 44         |       |       |      |
| HXQ-※-6/※-※-※    |                       | 6         |                |         | 955  |     |       | 49         |       |       |      |
| HXQ-※-7.5/※-※-※  |                       | 7         |                |         | 1145 |     | 57    |            |       |       |      |
| HXQ-※-2/※-※-※    | 10~35                 | 2         |                |         | 125  |     | M42X2 | 50         | 163   | 390   | 44.5 |
| HXQ-※-4/※-※-※    |                       | 4         |                |         |      |     |       |            |       | 555   | 55.5 |
| HXQ-※-5/※-※-※    |                       | 6         |                |         |      |     |       |            |       | 635   | 61   |
| HXQ-※-6/※-※-※    |                       | 6         | 715            | 66.5    |      |     |       |            |       |       |      |
| HXQ-※-6/※-※-※    |                       | 150       | 6              |         |      |     |       | 600        | 86    |       |      |
| HXQ-※-8/※-※-※    |                       |           | 8              |         |      |     |       | 715        | 97    |       |      |
| HXQ-※-10/※-※-※   |                       |           | 10             |         |      |     |       | 830        | 107.5 |       |      |
| HXQ-※-12/※-※-※   |                       |           | 12             |         |      |     |       | 940        | 118   |       |      |
| HXQ-※-10/※-※-※   | 10~35                 | 10        | 180            |         |      | 219 | 670   | 90.5       |       |       |      |
| HXQ-※-16/※-※-※   |                       | 16        |                |         |      |     | 910   | 114        |       |       |      |
| HXQ-※-25/※-※-※   |                       | 25        |                |         |      |     | 1250  | 146        |       |       |      |
| HXQ-※-32/※-※-※   |                       | 32        |                |         |      |     | 1540  | 174        |       |       |      |
| HXQ-※-35/※-※-※   |                       | 35        |                |         |      |     | 1655  | 198        |       |       |      |
| HXQ-※-40/※-※-※   |                       | 40        |                |         |      |     | 1850  | 218        |       |       |      |
| HXQ-※-45/※-※-※   |                       | 45        |                |         |      |     | 2050  | 238        |       |       |      |
| HXQ-※-50/※-※-※   |                       | 50        |                |         |      |     | 2245  | 258        |       |       |      |
| HXQ-※-25/※-※-※   | 20                    | 25        | 195            | M60X2   | 70   |     | 1116  | 121.5      |       |       |      |
| HXQ-※-30/※-※-※   |                       | 30        |                |         |      |     | 1285  | 131.5      |       |       |      |
| HXQ-※-40/※-※-※   |                       | 40        |                |         |      |     | 1620  | 151.5      |       |       |      |
| HXQ-※-50/※-※-※   |                       | 50        |                |         |      |     | 1955  | 172.5      |       |       |      |
| HXQ-※-40/※-※-※   | 10~35                 | 40        | 200            |         |      |     |       | 245        | 1615  | 280.5 |      |
| HXQ-※-45/※-※-※   |                       | 45        |                |         |      |     |       |            | 1770  | 301.5 |      |
| HXQ-※-50/※-※-※   |                       | 50        |                |         |      |     |       |            | 1930  | 322.5 |      |
| HXQ-※-60/※-※-※   |                       | 60        |                |         |      |     |       |            | 2250  | 365.5 |      |
| HXQ-※-20/※-※-※   | 10~35                 | 20        | 220            |         |      | 267 | 850   | 192        |       |       |      |
| HXQ-※-32/※-※-※   |                       | 32        |                |         |      |     | 1165  | 250        |       |       |      |
| HXQ-※-40/※-※-※   |                       | 40        |                |         |      |     | 1380  | 267        |       |       |      |
| HXQ-※-50/※-※-※   |                       | 50        |                |         |      |     | 1640  | 323        |       |       |      |
| HXQ-※-60/※-※-※   |                       | 60        |                |         |      |     | 1905  | 341        |       |       |      |
| HXQ-※-70/※-※-※   |                       | 80        |                |         |      |     | 2430  | 443        |       |       |      |

# Piston Accumulator

## Dimensions



| 型号              | 公称压力(MPa) | 公称容积<br>(L) | 基本尺寸(mm) |       |     |      |       | 重量(kg) |       |      |       |      |      |      |      |
|-----------------|-----------|-------------|----------|-------|-----|------|-------|--------|-------|------|-------|------|------|------|------|
|                 |           |             | ΦD       | M     | ΦD1 | ΦD2  | L     |        |       |      |       |      |      |      |      |
| HXQ-※-40/※-※-※  | 10~35     | 40          | 250      | M72X2 | 80  | 299  | 1025  | 229    |       |      |       |      |      |      |      |
| HXQ-※-50/※-※-※  |           | 50          |          |       |     |      | 1410  | 263    |       |      |       |      |      |      |      |
| HXQ-※-60/※-※-※  |           | 60          |          |       |     |      | 1615  | 297    |       |      |       |      |      |      |      |
| HXQ-※-80/※-※-※  |           | 80          |          |       |     |      | 2020  | 364    |       |      |       |      |      |      |      |
| HXQ-※-100/※-※-※ |           | 100         |          |       |     |      | 2430  | 432    |       |      |       |      |      |      |      |
| HXQ-※-120/※-※-※ |           | 120         |          |       |     |      | 2840  | 500    |       |      |       |      |      |      |      |
| HXQ-※-60/※-※-※  |           | 60          | 60       |       |     | 310  | M72X2 | 80     | 377   | 1245 | 482   |      |      |      |      |
| HXQ-※-70/※-※-※  |           | 70          | 70       |       |     |      |       |        |       | 1380 | 525   |      |      |      |      |
| HXQ-※-80/※-※-※  |           | 80          | 80       |       |     |      |       |        |       | 1510 | 563   |      |      |      |      |
| HXQ-※-90/※-※-※  |           | 90          | 90       |       |     |      |       |        |       | 1645 | 605   |      |      |      |      |
| HXQ-※-100/※-※-※ |           | 100         | 100      |       |     |      |       |        |       | 1775 | 645   |      |      |      |      |
| HXQ-※-110/※-※-※ |           | 110         | 110      |       |     |      |       |        |       | 1910 | 686   |      |      |      |      |
| HXQ-※-120/※-※-※ |           | 120         | 120      |       |     |      |       |        |       | 2040 | 726   |      |      |      |      |
| HXQ-※-130/※-※-※ |           | 130         | 130      |       |     |      |       |        |       | 2175 | 770   |      |      |      |      |
| HXQ-※-140/※-※-※ |           | 140         | 140      |       |     |      |       |        |       | 2305 | 810   |      |      |      |      |
| HXQ-※-150/※-※-※ |           | 150         | 150      |       |     |      |       |        |       | 2440 | 850   |      |      |      |      |
| HXQ-※-160/※-※-※ |           | 160         | 160      |       |     | 2570 |       |        | 890   |      |       |      |      |      |      |
| HXQ-※-100/※-※-※ |           | 100         | 100      |       |     | 350  |       |        | M72X2 | 80   | 406   | 1560 | 730  |      |      |
| HXQ-※-120/※-※-※ |           | 120         | 120      |       |     |      |       |        |       |      |       | 1770 | 788  |      |      |
| HXQ-※-130/※-※-※ |           | 130         | 130      |       |     |      |       |        |       |      |       | 1870 | 817  |      |      |
| HXQ-※-150/※-※-※ |           | 150         | 150      |       |     |      |       |        |       |      |       | 2080 | 876  |      |      |
| HXQ-※-200/※-※-※ |           | 200         | 200      |       |     |      |       |        |       |      |       | 2600 | 1023 |      |      |
| HXQ-※-215/※-※-※ |           | 215         | 215      |       |     |      |       |        |       |      |       | 2755 | 1067 |      |      |
| HXQ-※-130/※-※-※ |           | 130         | 130      |       |     | 400  |       |        |       |      | M72X2 | 80   | 500  | 1620 | 1345 |
| HXQ-※-150/※-※-※ |           | 150         | 150      |       |     |      |       |        |       |      |       |      |      | 1780 | 1343 |
| HXQ-※-180/※-※-※ |           | 180         | 180      |       |     |      |       |        |       |      |       |      |      | 2020 | 1566 |
| HXQ-※-200/※-※-※ |           | 200         | 200      |       |     |      |       |        |       |      |       |      |      | 2180 | 1656 |
| HXQ-※-250/※-※-※ |           | 250         | 250      |       |     |      |       |        |       |      |       |      |      | 2570 | 1872 |
| HXQ-※-350/※-※-※ |           | 350         | 350      |       |     |      |       |        |       |      |       |      |      | 3370 | 2316 |

注意：1Mpa=10bar=10.2kg/cm<sup>2</sup>。