



Piston Accumulators Series SK280

1. DESCRIPTION

1.1. FUNCTION

Fluids are practically incompressible and cannot therefore store pressure energy.

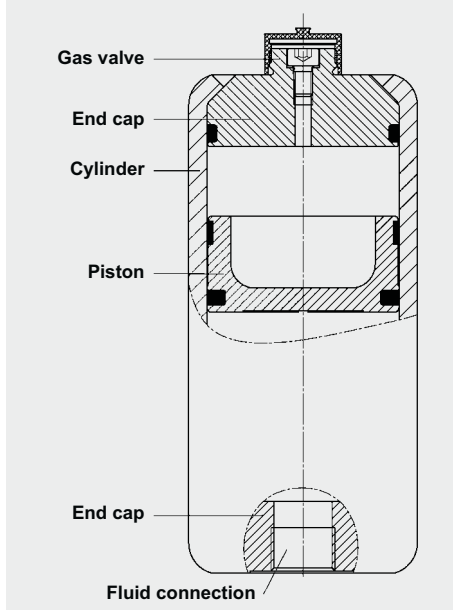
The compressibility of a gas (nitrogen) is utilised in hydro-pneumatic accumulators for storing fluids. HYDAC piston accumulators are based on this principle.

A piston accumulator consists of a fluid section and a gas section with the piston acting as the gas-proof screen. The gas section is pre-charged with nitrogen.

The fluid section is connected to the hydraulic circuit so that the piston accumulator draws in fluid when the pressure increases and the gas is compressed.

When the pressure drops, the compressed gas expands and forces the stored fluid into the circuit.

1.2. CONSTRUCTION



HYDAC piston accumulators consist of:

- A cylinder with very finely machined internal surface.
- End caps on the gas side and the oil side. Sealed with O-rings.
- A floating steel or aluminium piston.
- A sealing system adapted to the particular application. The piston floats on two guide rings which prevent metal-to-metal contact between the piston and the accumulator wall. Suitable materials are also available for low temperature applications.

1.3. TYPE OF MOUNTING

HYDAC can provide suitable accumulator clamps for the piston accumulator series SK280. The table at Point 3 lists the appropriate clamps for each individual diameter. In order to prevent deformation of the cylinder, we recommend that the accumulators are mounted using two clamps, one at each end cap.

1.4. ADVANTAGES OF THE SK280

- Optimized production process saving material and manufacturing costs
- Reduced weight series
- Reduced installation space
- Standard gas valve M28x1.5 integrated into end cap (non-refillable version possible)
- Subjected to long-term test (function and strength tests)

1.5. DESIGN PRESSURE:

- Standard 280 bar
- Manufactured and tested to PED 97/23/EC
- Higher pressures on request

1.6. SEALING SYSTEM

- Piston type 3, NBR/PUR
- Temperature range: -30 °C ... +80 °C
- Others on request.

1.7. COMMISSIONING

Please read the operating manual!

- Piston Accumulators No. 3.301.CE

For further information, please turn to the section:

- Piston Accumulators No. 3.301

2. SPECIFICATIONS

2.1. MODEL CODE

(also order example)

SK280 - 1 / 3218 U - 280 AAD VB - 05 030

Series _____

Nominal volume [l] _____

Material and piston code _____

Piston type _____
(Piston type 3)

Material: piston _____
2 = carbon steel

Material: cylinder and end caps _____
1 = carbon steel

Material: seals including piston seals _____
8 = NBR/PUR (polyurethane)

Certification code _____
U = PED 97/23/EC

Permitted operating pressure [bar] _____

Fluid connection _____

AAD = Threaded connection to ISO 228
Size G 1/2

AAE = Threaded connection to ISO 228
Size G 3/4

AAF = Threaded connection to ISO 228
Size G 1

ACE = Threaded connection to SAE J 514
Size 9/16-18 UNF, SAE #6

ACF = Threaded connection to SAE J 514
Size 3/4-16 UNF, SAE #8

ACH = Threaded connection to SAE J 514
Size 1 1/16-12 UN, SAE #12

ACK = Threaded connection to SAE J 514
Size 1 5/16-12 UN, SAE #16

Gas side connection or gas valve _____

VB = Gas valve type M28x1.5/M8 integrated into gas side end cap
000 = non-refillable version (see drawing at Point 3.1.) on request

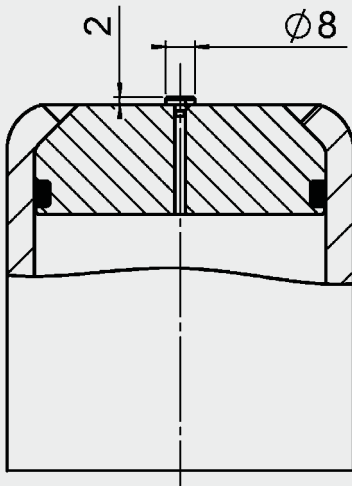
Piston diameter _____
05 = 50 mm

Pre-charge pressure p_0 [bar] at 20 °C must be stated separately, if required! _____

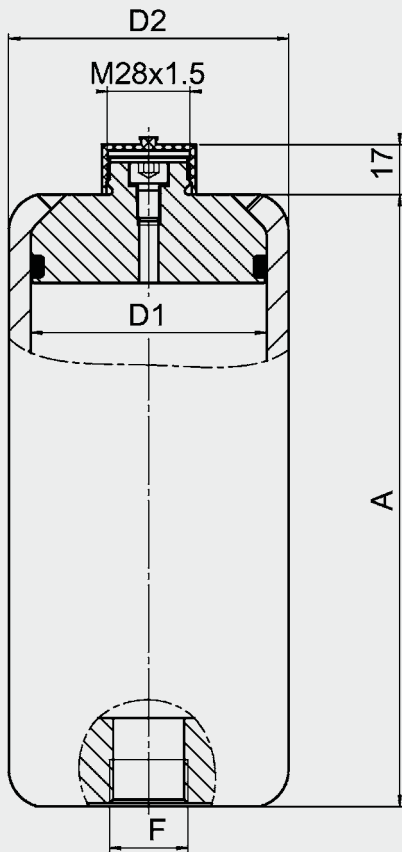
Special sizes and special versions on request.

3. DIMENSIONS

3.1. VERSION -000- (non refillable)



3.2. TYPE -VB- (refillable)



Nominal volume [l]	D1 [mm]	D2 [mm]	A ±3 [mm]	F to ISO 228	F to SAE J 514	Weight [kg]	Mounting clamps ¹⁾	
0.16	50	60	160	G 1/2	9/16-18UNF	2	3018442 HRGKSM 0 R 58-61/62 ST	
0.32			240			2.5		
0.5			335			3.1		
0.75			460			4		
1			590			4.8		
0.32	60	70	205		G 3/4	3/4-16UNF	3	3018444 HRGKSM 0 R 70-73/73 ST
0.5			265				3.5	
0.75			355				4.2	
1			445				5.1	
1.5			620				6.4	
2			800	7.8				
0.5	80	95	210	G 1		1 1/16-12UN	6.5	444995 HRGKSM 0 R 92-95/96 ST
0.75			260				7.2	
1			310				8	
1.5			410				9.5	
2			510		11.5			
2.5			605		13			
3			705		14.5			
3.5			805		16			
4	905	17.5						
0.75	100	120	235		G 1	1 5/16-12UN	11.7	444505 HRGKSM 1 R 119-127/124 ST
1			265	12.5				
1.5			330	14.3				
2			395	16				
3			520	19.5				
4			650	23				
5			775	26.3				
6	900	30						

¹⁾ Clamps must be mounted near the end caps in order to prevent deformation of the cylinder

4. NOTE

The information in this brochure relates to the operating conditions and applications described. For applications and operating conditions not described, please contact the relevant technical department. Subject to technical modifications.

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