

## PRODUCTS

### HPS - SERIES PISTON ACCUMULATORS

- CE approved to European directive PED 97/23/EC
- 250, 350 and 415 bar working pressures
- Capacity from 0,1 to 80 litres. Ask for bigger volumes
- Excellent gas sealing properties
- Suitable for heavy, dynamic load applications
- 3 operating temperature ranges



The HPS series is Hydroll Oy's range of hydropneumatic piston accumulators. Hydroll Oy's accumulators are manufactured in accordance with the latest European pressure equipment directives and standards. HPS piston accumulators are also available according to other design standards.

HPS accumulators have been divided by different types depending mainly on their desing.

HPS piston accumulators include two End flange fitted with O-ring and back up seal assembly. Piston: central two part seal and two guide ring assembly. Apart from what is said above the accumulators can be assembled using slightly different parts.

HPS series of piston accumulators are used for applications such as moving work vehicles, and for pressure maintenance and damping applications.

#### MATERIALS

Hydroll Oy uses only approved materials together with full traceability according to PED (97/23/EC).



#### MAXIMUM OPERATING TEMPERATURE RANGES



- A** Standard operating temperature range -25... +100°C
- B** Cold condition operating temperature range -40... +100°C
- C** Arctic operating temperature range -46... +80°C

#### TECHNICAL INFORMATION

HPS Series	Desing pressure	Capacity	L	OD	ID	Temp. ranges
10	250 bar	0,1-1,0 litre	176-634 mm	60 mm	50 mm	A, B and C
11	250, 350, 415 bar	0,4-80,0 litre	233-1917 mm	95-290 mm	80-250 mm	A, B and C
12	250 bar	0,4-10,0 litre	212-1437 mm	95, 120 mm	80, 100 mm	A and B
13	250 bar	0,4-1,0 litre	249-368 mm	110 mm	80 mm	A, B and C

#### CUSTOMIZATION

We customize or make changes to standard accumulators at customer's request. Please contact our office to discuss solutions to your requirements.

## PRODUCTS

### HPS TYPE 10 - PISTON ACCUMULATOR

The HPS 10 is the smallest series within the HPS range. Based on its small and lightweight size, it fits nicely for narrow installation places. Suitable for heavy-duty applications. HPS 10 has excellent gas sealing properties.

HPS 10 is available in 250, 350 and 415 bar pressures as standard and capacities 0,1 – 1,0 litres.

#### DESIGN

Carbon steel shell and components designed in accordance with PED (97/23/EC). One piece threaded end flange fitted with O-ring and back up seal assembly. Piston - central two part seal and two guide ring assembly. Fluid port - 3/4" Std. Other sizes available. Gas valve - M16 x 2 mm Std. with protective cap. Two component semigloss polyurethane paint finish Std.

#### FULL MATERIAL TRACEABILITY

EN10204 3.1 Chemical & mechanical test certificates for all pressurised parts.

#### SPECIFICATION

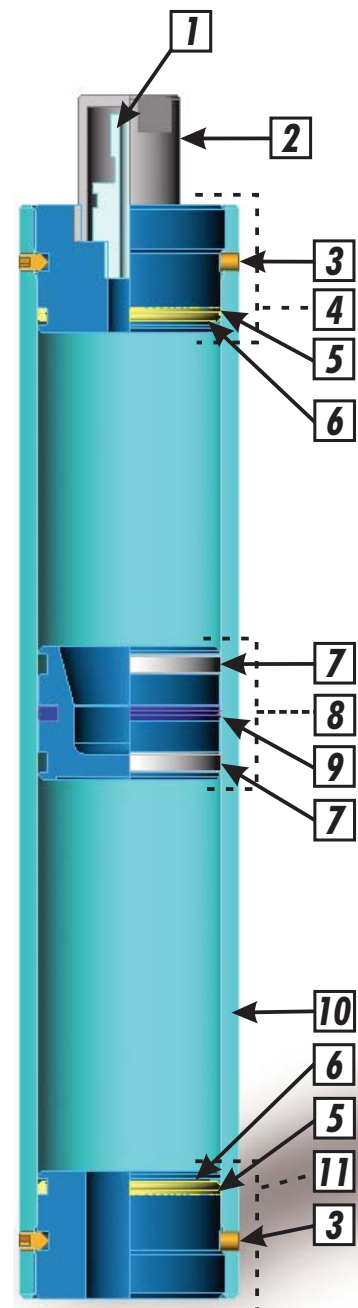
Product code	HPS10-XXX-XXX-
Capacity	0,1- 1,0 litre
ID [mm]	25, 50 mm
Max operating temperature	-25... +100 °C or 40... +100 °C
Max operating pressure	250, 350, 415 bar
Test pressure	358, 501, 594 bar
Design approval	According to SEP/PED (97/23/EC)
Fluid port	R 3/4
Gas valve	M16 x 2 mm



#### DESCRIPTION

1	Gas valve	7	Piston guide ring
2	Cover cap	8	Piston
3	Lock screw	9	Piston seal
4	End flange-gas	10	Cylinder tube
5	Support ring	11	End flange-fluid
6	O-ring seal		

#### APPLICATIONS



## PRODUCTS

### HPS TYPE 11 - PISTON ACCUMULATOR

The HPS 11 is suitable for use in heavy duty dynamic and static load situations and harsh weather conditions. Available in a wide range of diameters, capacities and pressure levels. Excellent gas sealing properties.

HPS 11 is available in 250, 350 and 415 bar as standard pressures and capacities 0,4–80 litres.

#### DESIGN

Carbon steel shell and components designed in accordance with PED (97/23/EC) approved by Lloyd's. Two piece threaded end flange fitted with Oring and back up seal assembly. Piston - central two part seal and two guide ring assembly. Fluid port - 3/4", 1", 1 1/2" & 2" Std. subject to internal diameter of unit. Other sizes available. Gas valve - M16 x 2 mm Std. with protective cap. Two component semigloss polyurethane paint finish Std.

#### FULL MATERIAL TRACEABILITY

EN10204 3.1 Chemical & mechanical test certificates for all pressurised parts

#### SPECIFICATION

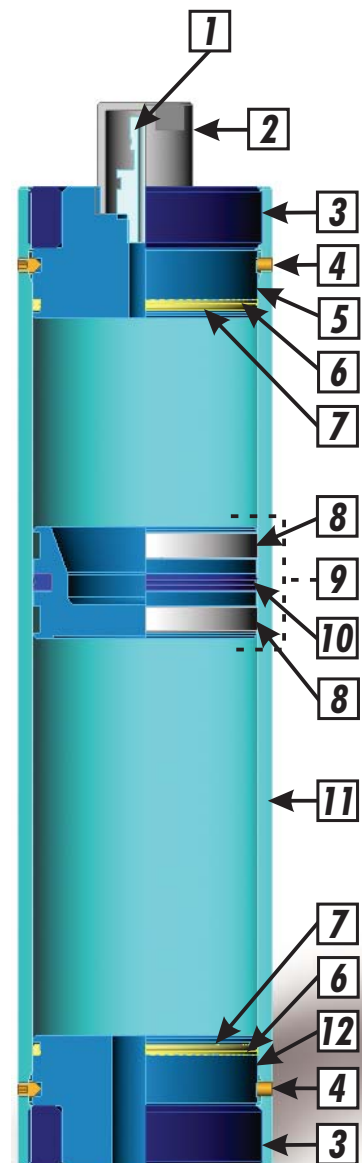
Product code	HPS11-XXX-XXX
Capacity	0,4- 80 litre
ID [mm]	80, 100, 140, 160, 180, 200 & 250 mm
Max operating temperature	-25... +100 °C or -40... +100 °C
Max operating pressure	250, 350, 415 bar
Test pressure	358, 501, 594 bar
Design approval	According to PED (97/23/EC)
Fluid port	R 3/4, 1, 1 1/2 & 2
Gas valve	M16 x 2 mm



#### DESCRIPTION

1 Gas valve	7 O-ring seal
2 Cover cap	8 Piston guide ring
3 Threaded locking ring	9 Piston
4 Lock screw	10 Piston seal
5 End flange-gas	11 Cylinder tube
6 Support ring	12 End flange-fluid

#### APPLICATIONS



For more information, visit the Hydroll Oy pages.  
[WWW.HYDROLL.COM](http://WWW.HYDROLL.COM)



## PRODUCTS

### HPS TYPE 12 - PISTON ACCUMULATOR

The HPS12 is an extremely strong and safe design. Suitable for heavy-duty static and dynamic load applications and harsh weather conditions.

HPS 12 is available in 250 bar pressure and capacities 0,4– 10 litres.

#### DESIGN

Carbon steel shell and components designed in accordance with PED (97/23/EC) approved by Lloyd's. Spring steel locking ring end flange fitted with O-ring and back up seal assembly. Piston - central two part seal and two guide ring assembly. Fluid port - 3/4", 1" & 1 1/2" Std. subject to internal diameter of unit. Other sizes available. Gas valve - M16 x 2 mm Std. with protective cap. Two component semigloss polyurethane paint finish Std.

#### SPECIFICATION

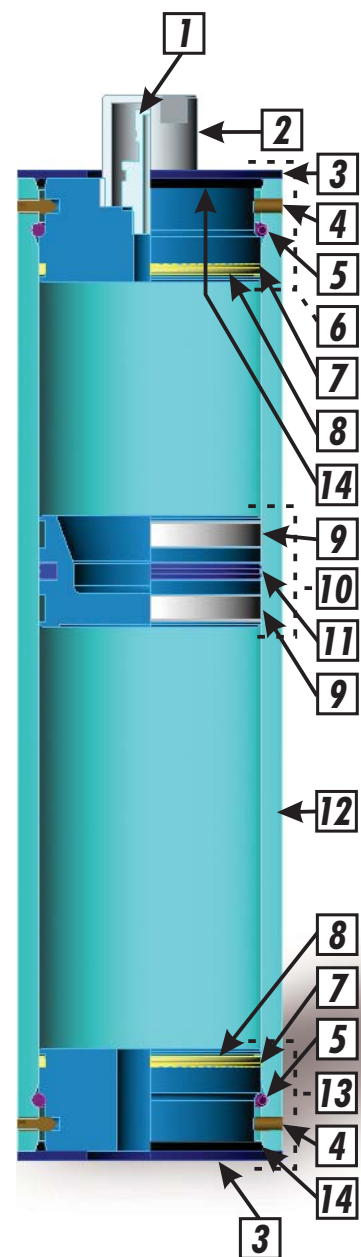
Product code	HPS12-XXX-XXX-
Capacity	0,4- 10 litre
ID [mm]	80, 100 mm
Max operating temperature	-25... +100 °C or -40... +100 °C
Max operating pressure	250 bar
Test pressure	358, 501, 594 bar
Design approval	According to SEP/PED (97/23/EC)
Fluid port	R 3/4, 1 & 1 1/2
Gas valve	M16 x 2 mm



#### DESCRIPTION

1 Gas valve	8 O-ring seal
2 Cover cap	9 Piston guide ring
3 Cover plate	10 Piston
4 Lock screw	11 Piston seal
5 Wire locking rings	12 Cylinder tube
6 Eng flange-gas	13 End flange-fluid
7 Support ring	14 Back up seal (O-ring seal)

#### APPLICATIONS



For more information, visit the Hydroll Oy pages.  
[WWW.HYDROLL.COM](http://WWW.HYDROLL.COM)

## PRODUCTS

### HPS TYPE 13 - PISTON ACCUMULATOR

HPS13 piston accumulator is designed for various applications in the forest vehicle industry. The HPS13 is designed to be of even stronger structure for high cyclic operations than other types.

HPS 13 is available in 250 bar pressure and capacities 0,4 - 1,5 litre.

#### DESIGN

Carbon steel shell and components designed in accordance with PED (97/23/EC). One piece External threaded support ring with mounted End Flange design. Fitted with O-ring and back up seal assembly. Piston – central two part seal and two guide ring assembly. Fluid port – internal 3/4" as standard. Other sizes available. Gas valve – M 16x 2 mm Std. with protective cap. Two component semigloss polyurethane paint finish Std.

#### FULL MATERIAL TRACEABILITY

EN10204 3.1 Chemical & mechanical test certificates for all pressurised parts.

#### SPECIFICATION

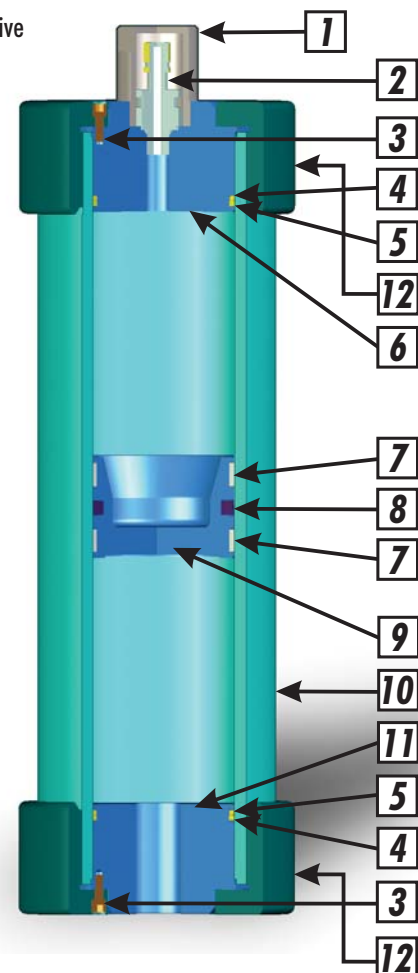
Product code	HPS13-XXX-XXX-
Capacity	0,4- 1,5 litre
ID [mm]	80 mm
Max operating temperature	-25... +100 °C or -40... +100 °C
Max operating pressure	250 bar
Test pressure	358 bar
Design approval	According to SEP/PED (97/23/EC)
Fluid port	R 3/4, 1 & 1 1/2
Gas valve	M16 x 2 mm



#### DESCRIPTION

1	Cover cap	7	Piston guide ring
2	Gas valve	8	Piston seal
3	Lock screw	9	Piston
4	Support ring	10	Cylinder tube
5	O-ring seal	11	Eng flange-fluid
6	Eng flange-gas	12	Locking ring

#### APPLICATIONS



For more information, visit the Hydroll Oy pages.  
[WWW.HYDROLL.COM](http://WWW.HYDROLL.COM)

## PRODUCTS

### HPS TYPE 14 - PISTON ACCUMULATOR

The HPS 14 series is designed to satisfy demands when a little volume of fluid has to be handled by an accumulator, within low costs. The structure of HPS 14 is simple and cost sparing but yet strong.

HPS 14 is available in 250 bar pressure as standard and capacities 0,1-1,0 litres.

#### DESIGN

Carbon steel shell components designed in accordance with PED (97/23/EC).

Assembly by compression, one piece end flange, fitted with O-ring and back up seal.

Piston central two part seal and two guide ring assembly. Fluid port - 1/2" std. Gas valve M16 x 2 mm std with protective cap. Two component semigloss polyurethane paint finish std.

#### FULL MATERIAL TRACEABILITY

EN 10204 3.1 Chemical and mechanical test certificates for all pressurized parts.

#### SPECIFICATION

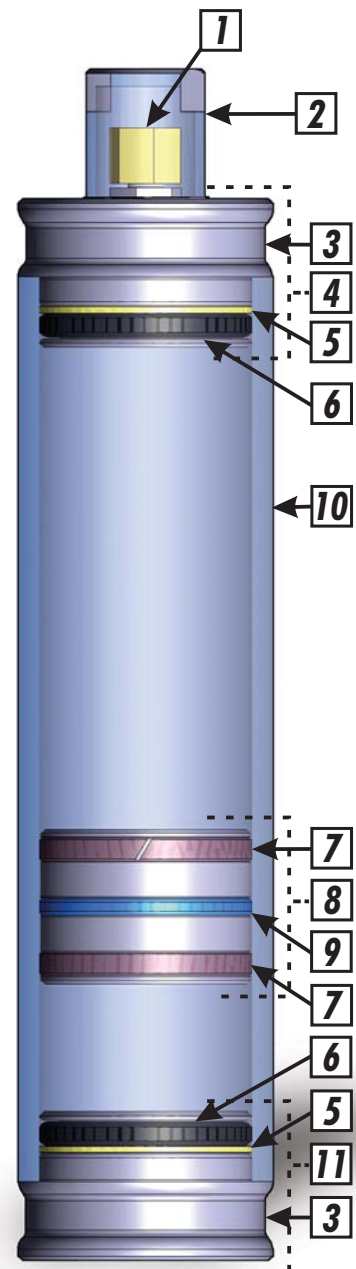
Product code	HPS14-XXX-XXX-
Capacity	0,1- 1,0 litre
ID [mm]	50 mm
Max operating temperature	-25... +100 °C or 40... +100 °C
Max operating pressure	250 bar
Test pressure	358 bar
Design approval	According to SEP/PED (97/23/EC)
Fluid port	R 1/2
Gas valve	M16 x 2 mm



#### DESCRIPTION

- |                           |                     |
|---------------------------|---------------------|
| 1 Gas valve               | 7 Piston guide ring |
| 2 Cover cap               | 8 Piston            |
| 3 Assembly by compression | 9 Piston seal       |
| 4 End flange-gas          | 10 Cylinder tube    |
| 5 Support ring            | 11 End flange-fluid |
| 6 O-ring seal             |                     |

#### APPLICATIONS





## PRODUCTS

### HPD - SERIES DOUBLE PISTON ACCUMULATORS

- CE approved to European standard PED 97/23/EC
- 250 bar working pressure
- Capacity from 0,4 to 1 litre. Ask for bigger volumes.
- Considerable space and cost saving advantages.
- 3 operating temperature ranges
- The HPD design is patented by Hydroll Oy.



The HPD series are Hydroll Oy's patented range of hydropneumatic double piston accumulators. Hydroll Oy's accumulators are manufactured in accordance with the latest European pressure equipment directives and standards. HPD double piston accumulators are also available according to other design standards.

HPD accumulators have been divided by different types depending mainly on their desing.

The design of HPD double piston accumulators has combined two accumulators into one product. The HPD double piston accumulator has a fluid connection in both end flanges and the gas is contained between two pistons within the one unit.

HPD series of double piston accumulators are designed for heavy duty working conditions.

#### MATERIALS

Hydroll Oy uses only approved materials together with full traceability according to SEP/PED (97/23/EC).



#### MAXIMUM OPERATING TEMPERATURE RANGES

- A** Standard operating temperature range -25... +100°C
- B** Cold condition operating temperature range -40... +100°C
- C** Arctic operating temperature range -46... +80°C

#### TECHNICAL INFORMATION

HPD Series	Design pressure	Capacity	L	OD	ID	Temp. ranges
20	250 bar	0,4-1,0 litre	360 - 660 mm	60 mm	50 mm	A, B and C
22	250 bar	0,4-3,0 litre	244 - 761 mm	95 mm	80 mm	A and B
23	250 bar	0,4-1,0 litre	288 - 408 mm	110 mm	80 mm	A, B and C

#### CUSTOMIZATION

We customize or make changes to standard accumulators at customer's request. Please contact our office to discuss solutions to your requirements.

## PRODUCTS

### HPD TYPE 20 - DOUBLE PISTON ACCUMULATOR

The HPD 20 is the smallest series within the HPD double accumulator range. The product has considerable space and cost saving advantages. Small, lightweight unit for narrow installation locations. Excellent gas sealing properties. Suitable for heavy-duty applications.

HPD 20 is available in 250 bar pressure and capacities 0,4–1,0 litres.

#### DESIGN

Carbon steel shell and components designed in accordance with PED (97/23/EC) approved by Lloyd's. One piece threaded end flange fitted with O-ring and back up seal assembly. Piston - central two part seal and two guide ring assembly. Fluid port - 3/4" Std. Other sizes available. Gas valve - NPTF 1/8" Std. with protective cap. Two component semigloss polyurethane paint finish Std.

#### FULL MATERIAL TRACEABILITY

EN10024 3.1B Chemical & mechanical test certificates for all pressurised parts.

#### SPECIFICATION

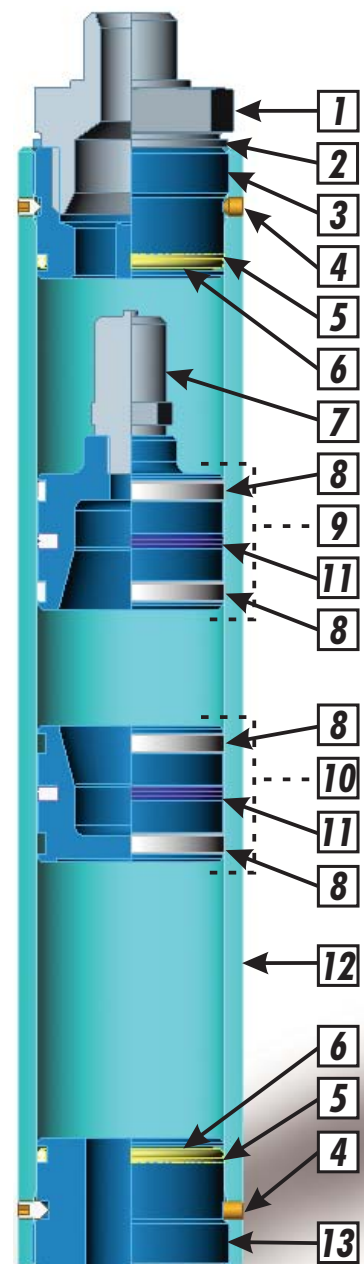
Product code	HPD20-XXX-XXX-
Capacity	0,4 - 1,0 litre
ID [mm]	50 mm
Max operating temperature	Ranges A, B or C (page 10)
Max operating pressure	250 bar
Test pressure	358 bar
Design approval	According to SEP/PED (97/23/EC)
Fluid port	R 3/4
Gas valve	M16 x 2 mm



#### DESCRIPTION

- |                    |                          |
|--------------------|--------------------------|
| 1 Adapter          | 7 Gas valve              |
| 2 Seal Usit        | 8 Piston guide ring      |
| 3 End flange-fluid | 9 Charging piston        |
| 4 Lock screw       | 10 Piston                |
| 5 Support ring     | 11 Piston seal           |
| 6 O-ring seal      | 12 Cylinder tube         |
|                    | 13 End flange-gas charge |

#### APPLICATIONS



For more information, visit the Hydroll Oy pages.  
[WWW.HYDROLL.COM](http://WWW.HYDROLL.COM)



## PRODUCTS

### HPD TYPE 22 - DOUBLE PISTON ACCUMULATOR

Suitable for heavy-duty dynamic load and harsh weather conditions. Extremely strong and safe design. The product has considerable space and cost saving advantages.

HPD 22 is available in 250 pressure and capacities 0,4 – 3 litres. Internal diameter is 80mm. Other sizes available.

#### DESIGN

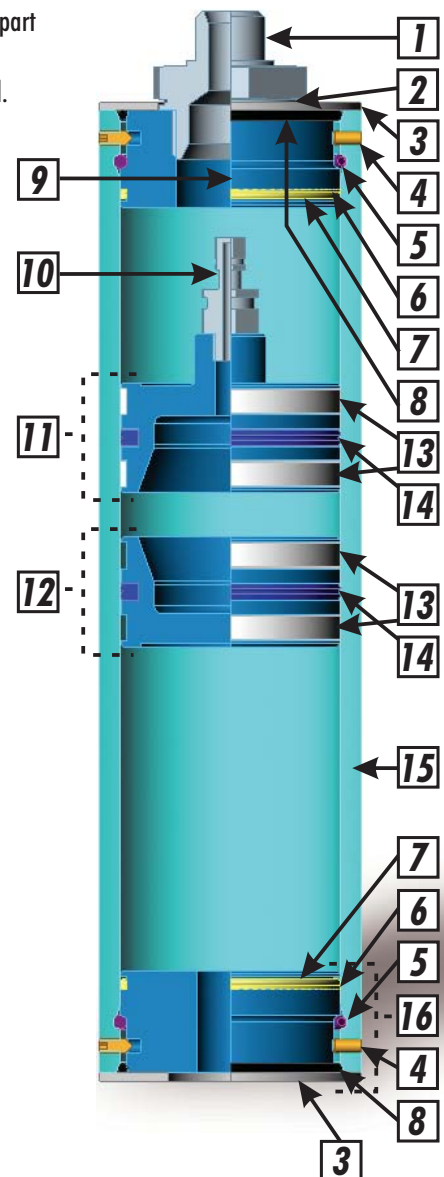
Carbon steel shell and components designed in accordance with PED (97/23/EC). Spring steel locking ring end flange fitted with O-ring and back up seal assembly. Piston - central two part seal and two guide ring assembly. Fluid port - 3/4" Std. Other sizes available. Gas valve - NPTF 1/8 Std. with protective cap. Two component semigloss polyurethane paint finish Std.

#### FULL MATERIAL TRACEABILITY

EN10204 3.1 Chemical & mechanical test certificates for all pressurised parts

#### SPECIFICATION

Product code	HPD22-XXX-XXX-
Capacity	0,4 - 3,0 litre
ID [mm]	80 mm
Max operating temperature	-25... +100 °C or -40... +100 °C
Max operating pressure	250 bar
Test pressure	358 bar
Design approval	According to SEP/PED (97/23/EC)
Fluid port	R 3/4
Gas valve	M16 x 2 mm



#### DESCRIPTION

1 Adapter	9 End-flange fluid
2 Seal Usit	10 Gas valve
3 Cover plate	11 Charging piston
4 Lock screw	12 Piston
5 Lock ring	13 Piston guide ring
6 Support ring	14 Piston seal
7 O-ring seal	15 Cylinder tube
8 Back up seal (O-ring seal)	16 End flange-fluid



For more information, visit the Hydroll Oy pages.  
[WWW.HYDROLL.COM](http://WWW.HYDROLL.COM)

## PRODUCTS

### HPD TYPE 23 - DOUBLE PISTON ACCUMULATOR

The HPD23 double piston accumulator is designed in view of various applications in bulk material loading industries. The HPD23 is designed to be even of stronger structure for high cyclic operations than other types.

HPD23 is available in 250 bar pressure and capacities 0,4 - 1,5 litre. Internal diameters 80mm.

#### DESIGN

Carbon steel shell and components designed in accordance with PED (97/23/EC). One piece External threaded support ring with mounted End Flange design. Fitted with O-ring and back up seal assembly. Piston – central two part seal and two guide ring assembly. Fluid port – internal 3/4" as standard. Other sizes available. Gas valve – M 16x 2 mm Std. with protective cap. Two component semigloss polyurethane paint finish Std.

#### FULL MATERIAL TRACEABILITY

EN10204 3.1 Chemical & mechanical test certificates for all pressurised parts.

#### SPECIFICATION

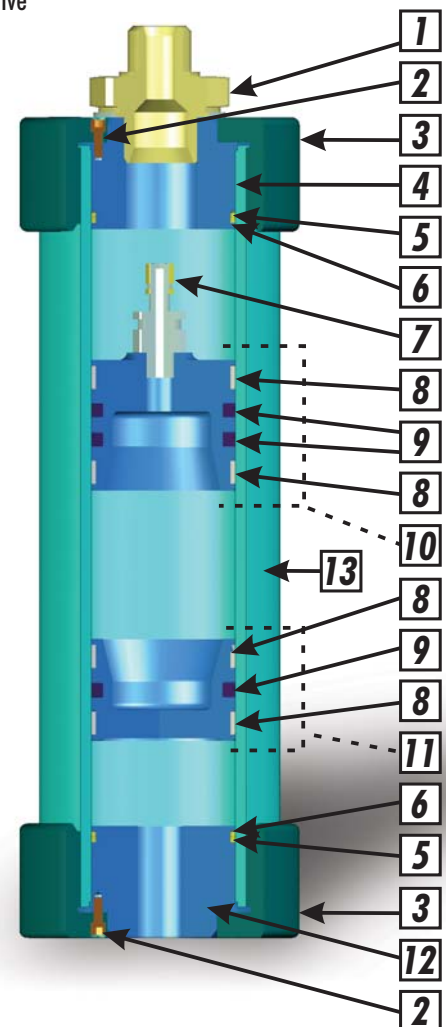
Product code	HPD23-XXX-XXX-
Capacity	0,4 - 1,5 litre
ID [mm]	80 mm
Max operating temperature	Ranges A, B or C (page 10)
Max operating pressure	250 bar
Test pressure	358 bar
Design approval	According to SEP/PED (97/23/EC)
Fluid port	R 3/4
Gas valve	M16 x 2 mm



#### DESCRIPTION

1 Adapter	8 Piston guide ring
2 Lock screw	9 Piston seal
3 Locking ring	10 Piston gas-charge
4 End flange-gas	11 Piston
5 Support ring	12 End flange-fluid
6 O-ring seal	13 Cylinder tube
7 Gas valve	

#### APPLICATIONS



For more information, visit the Hydroll Oy pages.  
[WWW.HYDROLL.COM](http://WWW.HYDROLL.COM)