DIAPHRAGM ACCUMULATORS EUROPEAN STANDARD RANGE

FOR INDUSTRIAL APPLICATIONS

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DIAPHRAGM ACCUMULATORS

VOLUMES FROM 0.07 TO 3.50 L

In Diaphragm Accumulators the hydraulic fluid is separated from the gas by a diaphragm. Designed for the most challenging applications that demand lightweight and high-strength performance, our Diaphragm Accumulators come in a variety of materials, seal types, and configurations. Our Diaphragm Accumulators offer exceptional functional reliability and durability, and expand versatile application areas with **volumes from 0.07 up to 350 liters**. Freudenberg meets your application challenges by providing accumulators that cover wide temperature ranges and deliver longer service life.

VALUES TO THE CUSTOMERS

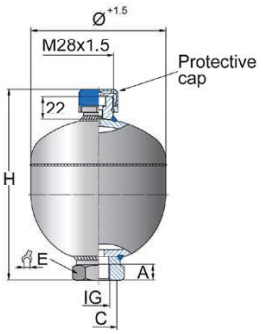
- Several installation positions possible
- Metal diaphragm clamping ring to avoid temperature damages
- In-house diaphragm development
- Durable poppet valve
- Application-optimized in-house development of rubber material and sealing solutions
- Standard product range available in stock and ready to ship
- Low permeation
- High bursting strength and high permissible dynamic loads on the accumulator
- Regular testing procedures to ensure and proof the products' high quality
- Customer-specific solutions
- Simple maintenance through to a refillable design

APPLICATION

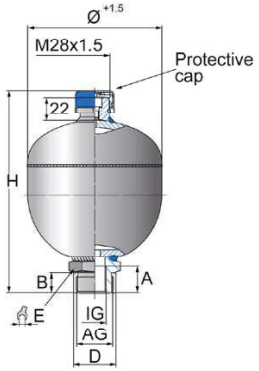
Fluid energy control system for:

- Industrial and mobile hydraulic systems
- Agricultural and construction equipment
- Factory automation and robotics
- Machine tools
- Power generation applications
- Automotive applications

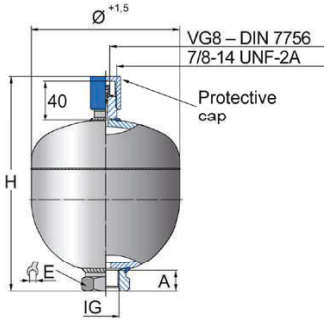
Gas Port A



Gas Port B



Gas Port C

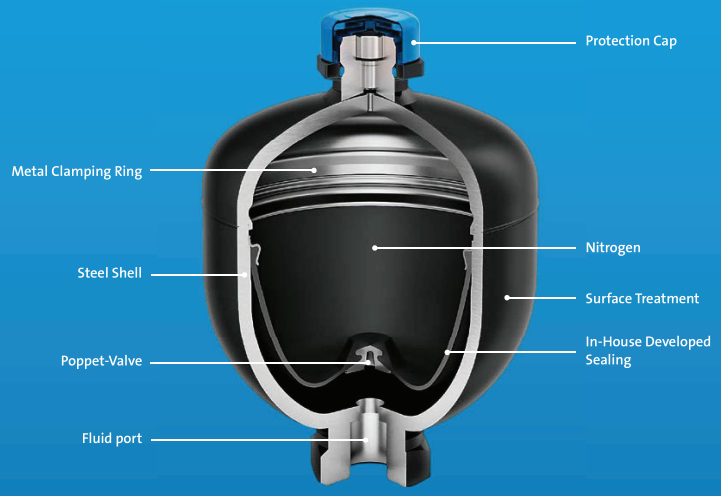


EUROPEAN STANDARD SERIES

With more than 60 years of accumulator experience we listed the mostly used diaphragm sizes and configurations. Further information and 3D models can also be found in our **e-Catalog:** https://ecatalog.fst.com/seals/all/accumulator/

Model Code[1] Explanation:

Working Pressure		Outer Ø	Gas Pre-Charge	Gas Port	
D01-	250-	0.07-	/ 64 SNUV	0.0 AOE	S P
Welded Version		Nominal Volume	Material Description	Fluid Port	Directive



STANDARD SERIES CONFIGURATIONS

Diaphragm Material Further material or design options are available on request	Permissible Operating Temperature[2]
Acrylnitril-butadiene-rubber (NBR)[1]	- 20 °C to + 80 °C
Epiclorhydrin rubber (ECO)[1]	- 40 °C to + 80 °C
Butyl rubber (CIIR)	- 40 °C to + 120 °C
Viton® (FKM)	- 20 °C to + 150 °C

FLOW RATE

Nominal Volume	Recommended Flow Rate in All Operating Conditions[4] [l/min]	Achievable Flow Rate [l/min]
0.07 - 0.16	10	38
0.32 - 1.4	40	95
2.00 - 3.50	60	95

Housing Material[2]	Surface Treatment	Suggested Oil Type	Gas	Port		Installation Position	Directives	Documents PED documents included
				Female Thread	Male Thread			
Steel	UV lacquer or 2K-Epoxy resin varnish in black with long corrosion resistance	Mineral based oil of PED fluid group 2	Nitrogen	G ½ G¾ M18x1.5 M22x1.5 ¾-16 UNF-2B	M14x1.5 M16x1.5 M28x1.51 M33x1.5 ⅞-14UNF 2A	Different positions possible	PED[3]	· Declaration of Conformity/ Manufacturer Certification · User Manual

EXAMPLE RFQ

Model Code	Fluid Port	Gas Pre-Charge Pressure [bar]	Operating Fluid / Temperature Range / Gas Port
D01-210-0.75-/121SEUV0.0AOFSP	G ½	20.00	Standard

[1] Standard range
[2] Dependent on the application limits of the steel housing and diaphragm material
[3] Further directives on request
[4] Flow rates in relation to pressure drops in specific applications can be higher

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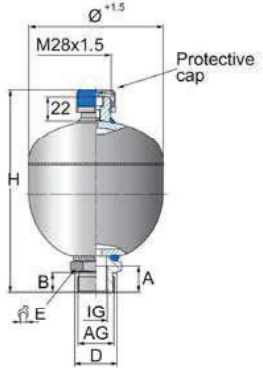
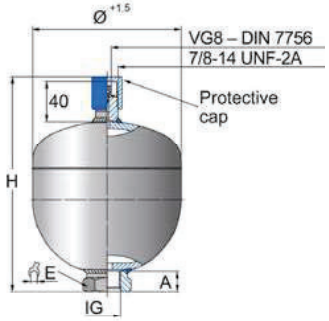
Gas Port A

Gas Port B



Gas Port C

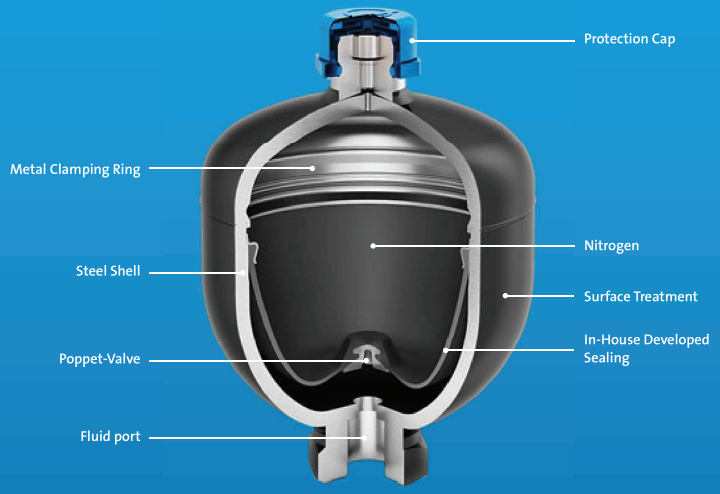


EUROPEAN STANDARD SERIES

With more than 60 years of accumulator experience we listed the mostly used diaphragm sizes and configurations. Further information and 3D models can also be found in our **e-Catalog:** https://ecatalog.fst.com/seals/all/accumulator/

Model Code[1] Explanation:

Working Pressure		Outer Ø		Gas Pre-Charge	Gas Port	
D01-	250-	0.07-	/ 64	SNUV	0.0	AQE	S	P
Welded Version		Nominal Volume		Material Description		Fluid Port		Directive



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				Female Thread	Male Thread			
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EXAMPLE RFQ

Model Code	Fluid Port	Gas Pre-Charge Pressure [bar]	Operating Fluid / Temperature Range / Gas Port
D01-210-0.75-/121SEUV0.0AOFSP	G ½	20.00	Standard

[1] Standard range
[2] Dependent on the application limits of the steel housing and diaphragm material
[3] Further directives on request
[4] Flow rates in relation to pressure drops in specific applications can be higher

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STANDARD SERIES CONFIGURATIONS PART 2

Volume	Permanent Working Pressure [bar]	Model Code with a gas pre-charge of 0 bar [5]	Drawing Number	Ø +/- 1.5 [mm]	Oil Port			Permanent Pressure Ratio	Height H [mm]	Diaphragm Material[2]	Temperature [°C]		A	B	C	D
					Female Thread IG	Male Thread AG	Wrench Size E				Min.	Max.				
1.0	210.00	D01-210-1.00-/136SNUV0.0AOFSP	100-1315-083-611	136.20	G1/2	none	SW 41	1:8	187.00	NBR	-20.00	80.00	17.00		34.00	
	210.00	D01-210-1.00-/136SEUV0.0AOFSP	100-1315-083-641	136.20	G1/2	none	SW 41	1:8	187.00	ECO	-40.00	80.00	17.00		34.00	
	210.00	D01-210-1.00-/136SNUV0.0AAFSP	100-1315-113-611	136.20	G1/2	M33x1.5	SW 41	1:8	198.00	NBR	-20.00	80.00	24.00	18.00		39.00
	210.00	D01-210-1.00-/136SEUV0.0AAFSP	100-1315-113-641	136.20	G1/2	M33x1.5	SW 41	1:8	198.00	ECO	-40.00	80.00	24.00	18.00		39.00
	250.00	D01-250-1.00-/137SNUV0.0AAFSP	100-1315-103-611	137.00	G1/2	M33x1.5	SW 41	1:8	199.00	NBR	-20.00	80.00	24.00	18.00		39.00
	250.00	D01-250-1.00-/137SEUV0.0AAFSP	100-1315-103-641	137.00	G1/2	M33x1.5	SW 41	1:8	199.00	ECO	-40.00	80.00	24.00	18.00		39.00
	350.00	D01-350-1.00-/128SNUV0.0AAFSP	100-1315-053-711	128.50	G1/2	M33x1.5	SW 41	1:4	217.00	NBR	-20.00	80.00	24.00	18.00		39.00
	350.00	D01-350-1.00-/128SEUV0.0AAFSP	100-1315-053-741	128.50	G1/2	M33x1.5	SW 41	1:4	217.00	ECO	-40.00	80.00	24.00	18.00		39.00
	350.00	D01-350-1.00-/128SNUV0.0AOFSP	100-1315-043-711	128.50	G1/2	none	SW 41	1:4	206.00	NBR	-20.00	80.00	17.00		34.00	
	350.00	D01-350-1.00-/128SEUV0.0AOFSP	100-1315-043-741	128.50	G1/2	none	SW 41	1:4	205.00	ECO	-40.00	80.00	17.00		34.00	
	250.00	D01-250-1.00-/137SNUV0.0AOFSP	100-1315-093-611	137.00	G1/2	none	SW 41	1:8	188.00	NBR	-20.00	80.00	14.00		34.00	
	250.00	D01-250-1.00-/137SEUV0.0AOFSP	100-1315-093-641	137.00	G1/2	none	SW 41	1:8	188.00	ECO	-40.00	80.00	14.00		34.00	
1.4	210.00	D01-210-1.40-/147SNUV0.0AAFSP	140-1315-153-611	147.30	G1/2	M33x1.5	SW 41	1:8	209.00	NBR	-20.00	80.00	24.00	18.00		39.00
	250.00	D01-250-1.40-/152SEUV0.0AAFSP	140-1315-122-641	152.00	G1/2	M33x1.5	SW 41	1:8	213.00	ECO	-40.00	80.00	24.00	18.00		39.00
	350.00	D01-350-1.40-/156SNIC0.0AAFSP	140-1315-022-711	156.00	G1/2	M33x1.5	SW 41	1:8	212.00	NBR	-20.00	80.00	24.00	18.00		39.00
	350.00	D01-350-1.40-/156SEIC0.0AAFSP	140-1315-022-741	156.00	G1/2	M33x1.5	SW 41	1:8	212.00	ECO	-40.00	80.00	24.00	18.00		39.00
	250.00	D01-250-1.40-/152SNUV0.0AAFSP	140-1315-122-611	152.00	G1/2	M33x1.5	SW 41	1:8	213.00	NBR	-20.00	80.00	24.00	18.00	39.00	
	210.00	D01-210-1.40-/147SEUV0.0AOFSP	140-1315-143-641	147.30	G1/2	none	SW 41	1:8	198.00	ECO	-40.00	80.00	17.00		34.00	
	210.00	D01-210-1.40-/147SNUV0.0AOFSP	140-1315-143-611	147.30	G1/2	none	SW 41	1:8	198.00	NBR	-20.00	80.00	17.00		34.00	
	350.00	D01-350-1.40-/156SEIC0.0AOFSP	140-1315-012-741	156.00	G1/2	none	SW 41	1:8	201.00	ECO	-40.00	80.00	17.00		34.00	
	250.00	D01-250-1.40-/152SNUV0.0AOFSP	140-1315-112-611	152.00	G1/2	none	SW 41	1:8	202.00	NBR	-20.00	80.00	17.00		34.00	
	250.00	D01-250-1.40-/152SEUV0.0AOFSP	140-1315-112-641	152.00	G1/2	none	SW 41	1:8	202.00	ECO	-40.00	80.00	17.00		34.00	
2	100.00	D01-100-2.00-/144SNIC0.0AAFSP	200-1315-023-411	144.70	G1/2	M33x1.5	SW 41	1:6	254.00	NBR	-20.00	80.00	24.00	18.00		39.00
	100.00	D01-100-2.00-/144SEIC0.0AAFSP	200-1315-023-441	144.70	G1/2	M33x1.5	SW 41	1:6	254.00	ECO	-40.00	80.00	24.00	18.00		39.00
	250.00	D01-250-2.00-/156SNIC0.0AAFSP	200-1315-162-611	156.00	G1/2	M33x1.5	SW 41	1:6	266.00	NBR	-20.00	80.00	24.00	18.00		39.00
	250.00	D01-250-2.00-/156SEIC0.0AAFSP	200-1315-162-641	156.00	G1/2	M33x1.5	SW 41	1:6	266.00	ECO	-40.00	80.00	24.00	18.00		39.00
	250.00	D01-250-2.00-/156SNIC0.0COFSP	200-1315-142-611	156.00	G3/4	none	SW 41	1:6	255.00	NBR	-20.00	80.00	16.00		33.00	
	250.00	D01-250-2.00-/156SEIC0.0COFSP	200-1315-142-641	156.00	G3/4	none	SW 41	1:6	255.00	ECO	-40.00	80.00	16.00		33.00	
	250.00	D01-250-2.00-/156SNIC0.0AOFSP	200-1315-132-611	156.00	G1/2	none	SW 41	1:6	255.00	NBR	-20.00	80.00	17.00		34.00	
	250.00	D01-250-2.00-/156SEIC0.0AOFSP	200-1315-132-641	156.00	G1/2	none	SW 41	1:6	255.00	ECO	-40.00	80.00	17.00		34.00	
	250.00	D01-250-2.00-/169SNIC0.0CDGSP	200-1315-212-611	169.00	G3/4	M45x1.5	SW 50	1:6	241.00	NBR	-20.00	80.00	16.00	20.00	34.00	49.00
	350.00	D01-350-2.00-/156SNIC0.0AOFSP	200-1315-032-711	156.00	G1/2	none	SW 41	1:6	255.00	NBR	-20.00	80.00	17.00		34.00	
	350.00	D01-350-2.00-/156SEIC0.0COFSP	200-1315-042-741	156.00	G3/4	none	SW 41	1:6	255.00	ECO	-40.00	80.00	16.00		33.00	
	350.00	D01-350-2.00-/156SNIC0.0COFSP	200-1315-042-711	156.00	G3/4	none	SW 41	1:6	255.00	NBR	-20.00	80.00	16.00		33.00	
	350.00	D01-350-2.00-/156SEIC0.0CDGSP	200-1315-072-741	156.00	G3/4	M45x1.5	SW 50	1:6	273.00	ECO	-40.00	80.00	16.00	20.00	34.00	49.00
	350.00	D01-350-2.00-/156SNIC0.0CDGSP	200-1315-072-711	156.00	G3/4	M45x1.5	SW 50	1:6	273.00	NBR	-20.00	80.00	16.00	20.00	34.00	49.00
	350.00	D01-350-2.00-/156SEIC0.0AAFSP	200-1315-062-741	156.00	G1/2	M33x1.5	SW 41	1:6	266.00	ECO	-40.00	80.00	24.00	18.00		39.00
	350.00	D01-350-2.00-/156SNIC0.0AAFSP	200-1315-062-711	156.00	G1/2	M33x1.5	SW 41	1:6	266.00	NBR	-20.00	80.00	24.00	18.00		39.00
2.8	250.00	D01-250-2.80-/169SEIC0.0CDGSP	280-1315-022-641	169.00	G3/4	M45x1.5	SW 50	1:6	289.00	ECO	-40.00	80.00	16.00	20.00	34.00	49.00
	250.00	D01-250-2.80-/169SNIC0.0CDGSP	280-1315-022-611	169.00	G3/4	M45x1.5	SW 50	1:6	284.00	NBR	-20.00	80.00	16.00	20.00	34.00	49.00
	250.00	D01-250-2.80-/169SNIC0.0COF S P	280-1315-032-611	169.00	G3/4	none	SW 41	1:6	270.00	NBR	-20.00	80.00	16.00		33.00	
	250.00	D01-250-2.80-/169SEIC0.0COFSP	280-1315-032-641	169.00	G3/4	none	SW 41	1:6	270.00	ECO	-40.00	80.00	16.00		33.00	
	350.00	D01-350-2.80-/180SNIC0.0CDHSP	280-1315-032-711	180.00	G3/4	M45x1.5	SW 55	1:6	288.00	NBR	-20.00	80.00	16.00	20.00	34.00	53.00
	350.00	D01-350-2.80-/180SEIC0.0CDHSP	280-1315-032-741	180.00	G3/4	M45x1.5	SW 55	1:6	288.00	ECO	-40.00	80.00	16.00	20.00	34.00	53.00
	350.00	D01-350-2.80-/180SNIC0.0COHSP	280-1315-042-711	180.00	G3/4	none	SW 55	1:6	267.00	NBR	-20.00	80.00	16.00		34.00	
	350.00	D01-350-2.80-/180SEIC0.0COHSP	280-1315-042-741	180.00	G3/4	none	SW 55	1:6	267.00	ECO	-40.00	80.00	16.00		34.00	
3.5	250.00	D01-250-3.50-/169SNIC0.0COFSP	350-1315-072-611	169.00	G3/4	none	SW 41	1:4	316.00	NBR	-20.00	80.00	16.00		33.00	
	250.00	D01-250-3.50-/169SEIC0.0COFSP	350-1315-072-641	169.00	G3/4	none	SW 41	1:4	316.00	ECO	-40.00	80.00	16.00		33.00	
	250.00	D01-250-3.50-/169SNIC0.0CDGSP	350-1315-062-611	169.00	G3/4	M45x1.5	SW 50	1:4	336.00	NBR	-20.00	80.00	16.00	20.00		49.00
	250.00	D01-250-3.50-/169SEIC0.0CDGSP	350-1315-062-641	169.00	G3/4	M45x1.5	SW 50	1:4	336.00	ECO	-40.00	80.00	16.00	20.00		

[5] Catalog articles do contain a gas pre-charge of 0 bar. Please specify the gas fill pressure, if departing from 0 bar, when placing the order. The Article short description and SAP number will then be adapted.

A Female thread screw-in depth oil side
B External thread screw-in depth oil side
C Liquid connection female thread sealing surface
D Liquid connection external thread sealing surface

71 EN 000 0.0 20.01 bur.abt

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FREUDENBERG ACCUMULATOR PARTNER

With a broad product range and a global support network of experts, Freudenberg is your single source for accumulators. We drive innovation with research, development and production teams integrated across our global operations to meet the demands of global and local markets.

Our preferred partners provide you with products and knowledge expertly, reliably and quickly – close to the customer worldwide.

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