

3.1.1 TECHNICAL DATA

MAX OPERATING PRESSURE (PS): 360 bar

PRESSURE TEST (PT): 1.43 x PS

NOMINAL CAPACITIES:

0.2 - 0.7 - 1 - 1.5 - 3 - 5 - 10 - 15 - 20 - 25 - 35 - 55 litres

WORKING TEMPERATURE: -40 ÷ +150 °C

COMPRESSION RATIO (Po : P2): max. 1 : 4

FLUID VISCOSITY RANGE: 10 ÷ 400 cSt

RECOMMENDED VISCOSITY: 36 cSt

FLUID CONTAMINATION DEGREE:

class 21/19/16 according to ISO 4406/99

BODY MATERIAL:

- carbon steel shell painted with rust inhibitor RAL 8012
- nickel coating 25 - 40 µ
- stainless steel AISI 316L
- internal and external coating with RILSAN th. 0.6 mm

VALVES MATERIAL:

- phosphated or galvanized carbon steel in compliance with Directive 2002/95/EC (RoHS) to resist to corrosion
- stainless steel AISI 316L
- nickel coating 25-40 µ

BLADDER MATERIAL:

- P = Nitrile rubber (NBR)
- F = Low temp. nitrile rubber
- H = Nitrile for hydrocarbons
- K = Hydrogenated nitrile (HNBR)
- B = Butyl (IIR)
- E = Ethylene-propylene (EPDM)
- N = Chloroprene (Neoprene)
- Y = Epichlorohydrin (ECO)
- V = Fluorocarbon (FPM)

See Table 3.1c and/or Chapter 1.5

FILLING VALVE CONNECTION:

- 5/8" UNF std
- 7/8" UNF
- 1/4" BSP

FLUID PORT CONNECTION: see 3.1dc - 3.1df -
3.1eb - 3.1ec - 3.1fb - 3.1fd

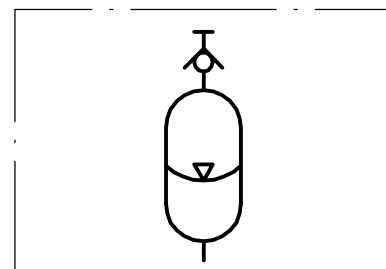
FLOW RATE: see Table 3.1db

WEIGHT: see Table 3.1db - 3.1df



3.1a

3.1.2 HYDRAULIC SYMBOL



3.1b

3.1.3 “AS and ASP” BLADDER ADVANTAGES

- dirt tolerant
- light weight
- compact
- simple construction
- quick response
- works well on water, low lubricity fluids
- quick, easy installation
- low cost

3.1.4 DESCRIPTION

Bladder-type accumulators consist of a seamless cylindrical pressure vessel made of high-tensile steel.

The accumulator is subdivided into a gas and fluid side by an elastic bladder mounted in the interior of the vessel.

The bladder is charged with nitrogen to the specified gas charge pressure P0 by means of gas valve.

When the fluid is pressed into the accumulator, the gas in the bladder is compressed and hence the pressure increased.

The gas volume reduces and on the fluid side, the fluid can flow into the accumulator. As soon as the pressure on the fluid side falls below the gas pressure, the accumulator is emptied.

Oil valve is provided in the oil port of the bladder-type accumulator and closes when the pressure on the gas side is higher than the one on the fluid side.

This prevents draining of the bladder into the oil channel and thus the bladder from being destroyed.

When the minimum operating pressure is reached, a small oil volume is to be maintained between the bladder and the fluid volume (approx. 10% of the nominal capacity of the hydraulic accumulator), in order that the bladder does not hit the valve during every expansion process.

Gas valve consists of external caps, sealing cap, filling valve, gas valve body and rubber coated washer. These parts can be replaced separately. The nameplate shows the technical data and features of the hydraulic accumulator.

3.1.5 EUROPE MARKET

All hydraulic accumulators are pressure vessels and are subject to the national regulations and directives valid at the place of installation. Bladder accumulator type AS, up to and including 1 litre, must not be CE marked.

Bladder accumulator type ASP, up to and including 1 litre and max. pressure less than 200 bar, must not be CE marked.

For bladder accumulator type AS, greater than 1 litre and, in the case of ASP, greater than 1 litre but with max. pressure higher than 200 bar every shipping batch is complete of a conformity declaration and instruction of use and maintenance and/or all documents requested.

All vessel categories (see Table 3.1e) must be protected by means of a pressure relief valve in accordance with Directive 97/23/EC.

3.1.6 ACCESSORIES

For support equipment, see Cap. 7

For gas side's safety equipment, see Cap. 8

For fluid side's safety equipment, see Cap. 9

For pre-loading and charging set, see Cap. 11

For other components, see Cap. 12

3.1.7 BLADDER-TEMPERATURE-LIQUID COMPATIBILITY

When selecting the accumulator variant, pay attention to the following non-binding notes with regard to hydraulic fluid, bladder material and the permissive temperature range. (see Section 1.5)

Code letter	Polymer	ISO	Temperature range (°C)	Some of the liquids compatible with the polymer
P	Standard nitrile (Perburan)	NBR	-20 ÷ +80	Aliphatic hydrocarbons (propane, butane, gasoline, oils, mineral greases, diesel fuel, fuel oil, kerosene), mineral greases and oils, HFA - HFB - HFC fluids, many dilute acids, alkalis, saline solutions, water, water glycol.
F	Low temperature nitrile	NBR	-40 ÷ +70	The same as with standard nitrile + a number of different types of Freon. (This contains less acrylonitrile than the standard and is therefore more suitable for low temperatures, but its chemical resistance is slightly lower).
H	Nitrile for hydrocarbons	NBR	-10 ÷ +90	Regular and premium grade slightly aromatic gasoline (and all the liquids for standard nitrile).
K	Hydrogenated nitrile	HNBR	-30 ÷ +130	The same as with standard nitrile but with excellent performance at high and low temperatures.
B	Butyl	IIR	-30 ÷ +100	Hot water up to 100°C, glycol-based brake fluids, many acids and bases, salt solutions, polar solvents such as alcohols, ketones and esters, polyglycol-based hydraulic fluids (HFC fluids) and bases of esters of phosphoric acid (HFD-R fluids), silicone oils and greases, Skydol 500 and 7000, resistance to ozone, aging and weathering.
E	Ethylene-Propylene	EPDM	-30 ÷ +100	Hot water up to 100°C, glycol-based brake fluids, many organic and inorganic acids, detergents, solutions of sodium and potassium, phosphate ester-based hydraulic fluids, (HFD-R), silicone oils and greases, many polar solvents (alcohol, ketones, esters), Skydol 500 and 7000, resistance to ozone, aging and weathering.
N	Chloroprene (Neoprene)	CR	-30 ÷ +100	Mineral oils of paraffin, silicone oils and greases, water and aqueous solutions, refrigerants (ammonia, carbon dioxide, Freon), naphthenic mineral oils, low molecular aliphatic hydrocarbons (propane, butane, fuel), brake fluids based on glycol, better resistance to ozone, weathering and aging compared to NBR rubber.
Y	Epichloridrin	ECO	-30 ÷ +110	Mineral oils and greases, aliphatic hydrocarbons (propane, butane and gasoline), silicone oils and greases, water at room temperature, resistance to ozone, aging and weathering.
V	Fluorocarbon	FPM	-10 ÷ +150	Mineral oils and greases, non-flammable fluids of HFD group, silicone oils and greases, animal and vegetable oils and greases, aliphatic hydrocarbons (gasoline, butane, propane, natural gas), aromatics hydrocarbons (benzene, toluene), chlorinated hydrocarbons (Tetrachloroethylene, carbon tetrachloride), fuel (regular, super and containing methanol), excellent resistance to ozone, weathering and aging.

For other hydraulic fluid and/or temperatures, please consult us.

3.1c

3.1.8 ORDER CODE

1	2	3	4	5	6	7-8	9	10	11	12	13	14	15	16	
AS	25	P	360	C	R	G4	V	-	8	-	C	0	C	0	R250 / 30

<p>1 Series</p> <p>Bladder accumulator = AS Bladder accumulator for fluid gr. 1 (dangerous) = ASP</p>	<p>16 Precharge pressure (bar)</p> <p>Standard 30 bar = 0 ÷ 300 (< PS)</p>
<p>2 Nominal capacity</p> <p>0.2 lt = 0.2 0.7 lt = 0.7 1 lt = 1 1.5 lt = 1.5 3 lt = 3 5 lt = 5 10 lt = 10 15 lt = 15 20 lt = 20 25 lt = 25 35 lt = 35 55 lt = 55</p>	<p>15 Other variants</p> <p>See the table on front page</p>
<p>3 Bladder material</p> <p>Nitrile rubber (NBR) = P Nitrile for low temp. = F Nitril for hydrocarbons = H Hydrogenated nitrile (HNBR) = K Butyl (IIR) = B Ethylene-propylene (EPDM) = E Chloroprene (Neoprene) = N Epichlorohydrin (ECO) = Y Fluorocarbon (FPM) = V</p>	<p>14 Variants of gas side</p> <p>Standard = 0 Only cap in stainless steel = 1 Brass nameplate = 2 Other numbers/variants to be requested EPE</p>
<p>4 Max working pressure (PS)</p> <p>See the table on front page</p>	<p>13 Gas valve material</p> <p>Carbon steel = C Nickel coated carbon steel 25 μ = N Nickel coated carbon steel 40 μ = M Stainless steel = X</p>
<p>5 Body material</p> <p>Carbon steel = C Nickel coated carbon steel 25 μ = N Nickel coated carbon steel 40 μ = M Stainless steel = X Rilsan coating = V</p>	<p>12 Variants of fluid side</p> <p>Standard = 0 Adapter in stainless steel (R) = 1 Button and spring in stainless steel = 2 Other numbers/variants to be requested EPE</p>
<p>6 Fluid port connection</p> <p>See the table on front page</p>	<p>11 Fluid valve material</p> <p>Carbon steel = C Nickel coated carbon steel 25 μ = N Nickel coated carbon steel 40 μ = M Stainless steel = X</p>
<p>7-8 Dimension of the connection fluid or 7+8 table</p> <p>See the table on front page</p>	<p>10 Test and certification</p> <p>Factory testing = 0 TR (Russia) = 1 Australian Standard = 2 ML (China) = 3 RINA = 4 PED97/23/EC (for capacities greater than 1 l) = 8 ATEX 94/9EC = 9 DNV = 10 RTN Passport (Ukraine) = 11 Algeria passport = 12 Standard regulation (NR13) (Brazil) = 13 Tunisia passport = 14</p>
	<p>9 Type of filling valve</p> <p>Standard filling valve 5/8" UNF thread = V Standard filling valve with 5/8" UNF thread in stainless steel = VX Without filling valve (thread hole M12x1.5) = VO Brass filling valve 1/4" BSP = V2 Filling valve 7/8" UNF = V4</p>

Special variants upon request

4 Max working pressure (PS)		
Capacity litres	Carbon steel	Stainless steel
0,2 ÷ 3	360 (100 only for ASP type)	150 - 210 - 360
1 ÷ 3	343 (for Certification RINA [4])	-
5 ÷ 55	360 (100 only for ASP type: 210 only for the version with connection L or other pressure related to connections B or U)	80 - 150 - 210 -360
5 ÷ 55	343 (for Certification RINA [4])	-

6 Fluid port connection	
For AS0.7÷55	BSP ISO 228 with chamfer for OR (std) = A
For AS0.2	BSP ISO 228 (std) = G
For AS3+55	Metric = M
For AS0.7÷55	NPT-F = P
For AS3+55	internal thread SAE = S
For AS3+55	adapter for flange SAE 3000 Psi = L
For AS3+55	adapter for flange SAE 6000 Psi = H
For AS0.7÷55	flange ANSI = B
For AS0.7÷55	flange UNI - DIN = U
For AS0.7÷55	square flange = Q
For AS0.7÷55	adapter * = R

* assembled on the fluid valve connection type A

7 Dimension of the fluid connection	
For the type of connection:	
A (0.7÷1.5 l) ¾"	= 5
(3÷5 l) 1" ¼"	= 7
(10÷55 l) 2"	= 9
G (0.2 l) ½"	= 4
M (3÷5 l) 40x1.5	= 40/1.5
(10÷55 l) 50x1.5	= 50/1.5
P (0.7÷1.5 l) ¾"	= 5
(3÷5 l) 1" ¼"	= 7
(10÷55 l) 2"	= 9
S (0.7÷1.5 l) 1" 1/16 12UN	= 1 1/16-12
(3÷5 l) 1" 5/8 12UN	= 1 5/8-12
(10÷55 l) 1" 7/8 12UN	= 1 7/8-12
L (3÷5 l) 1" ¼ SAE3000	= 7
(10÷55 l) 1" ½ SAE 3000	= 8
2" SAE 3000	= 9
H (3÷5 l) 1" ¼ SAE6000	= 7
(10÷55 l) 1" ½ SAE 6000	= 8
2" SAE 6000	= 9
B (0.7÷55 l)	DIMENSION/RATING
Former. 1" ANSI 1500 = 1/1500 (Pmax = 250 bar)	
U (0.7÷55 l)	DN/PN
Former. DN50 PN100 = 50/100 (Pmax = 100 bar)	
Q (3÷5 l) 1" ¼	= 7
(10÷55 l) 2"	= 9
R (0.7÷55 l) Blind	= 0
R (0.7÷55 l) internal thread	= G*
BSP ISO 228	= P*
NPT-F	= N*
BSPT	
SAE	= S*
Metric	= M*

*Variant in table 8

15 Other variants	
Adapter + rupture disc set at xxx bar	= Rxxx
(see Section 8.2)	
Adapter + Safety valve, type VS224/TX set at xxx bar	= Gxxx
Adapter + Needle Valve of ¼" BSP	= EG2
Adapter + Stainless steel needle Valve of ¼" BSP	= EG2X
Adapter + excluding device with with full scale pressure gauge of xxx bar	= EMxxx
Adapter + excluding device of 90° with full scale pressure gauge of xxx bar	= ELMxxx
Flushing with degree of contamination ≤ x	= Fx
75-80 µ thick polyurethane paint with colour to be specified	= Wxxx
Off-shore paint with colour to be specified	= Zxxx
NORSOK System 1 paint with colour to be specified	= K1
NORSOK System 7 paint with colour to be specified	= K7
other variants upon request	

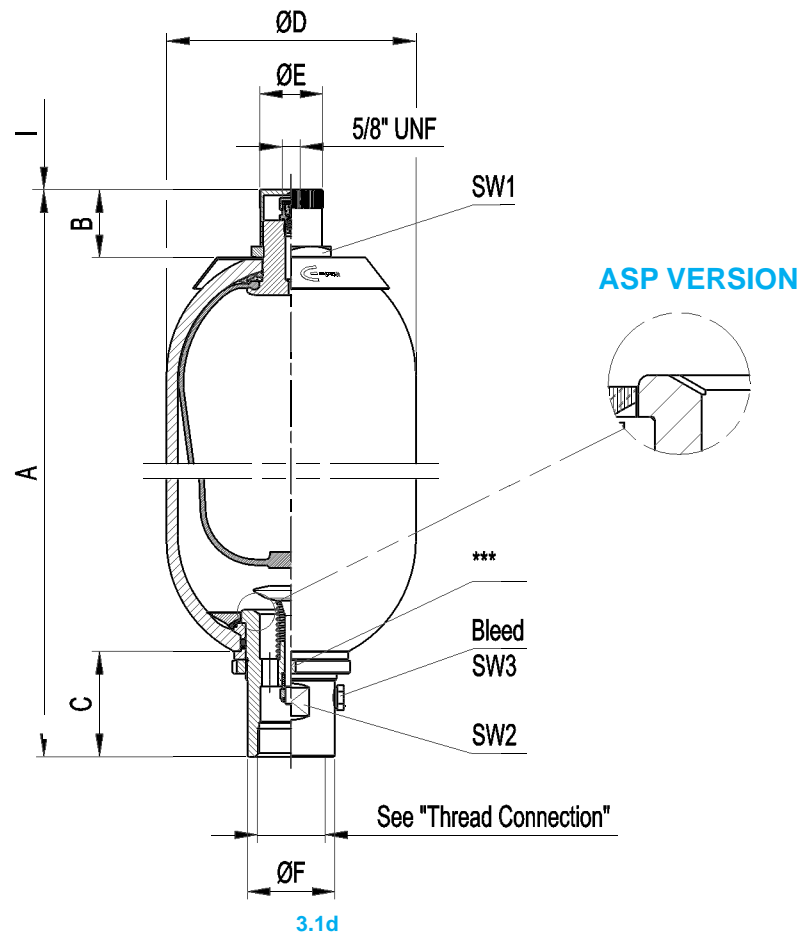
8 Dimension			
1/8"	= 1	4/4"	= 5
1/4"	= 2	1"	= 6
3/8"	= 3	1" ¼"	= 7
1/2"	= 4	1" ½"	= 8

Dimension in inch - No. of pitch for inch

Diameter/pitch

Special variants on request

3.1.9 DIMENSIONS



Acc. type AS-ASP in carbon steel	Nominal gas volume litres	Effective gas volume litres	Working pressure bar	Ped. cat. fluids of group 2 AS	Ped. cat. fluids of group 1 ASP	Max.diff. pressure P2-P1 bar	Flow rate l/min	Max.comp. ratio P0/P2	A mm	B mm	C mm	ØD mm	ØE mm	ØF mm	I mm	SW 1 mm	SW 2 mm	SW 3 mm	Bleed	Acc. dry weight kg
AS/ASP 0,2	0,2	0,2	360	Art.3 (3)	III	100	160	1:4	252 ± 2	23	40	53	20	26	140	24	23	4*	M5	1,7
AS/ASP 0,7	0,7	0,65	360	Art.3 (3)	III	100	300	1:4	280 ± 1,5	47	52	90	25	36	140	32	32	4*	M5	4,2
AS/ASP 1	1	1	360	Art.3 (3)	III	100	300	1:4	296 ± 5	47	52	114	25	36	140	32	32	4*	M5	5,2
AS/ASP 1,5	1,5	1,5	360	II	III	100	300	1:4	355 ± 5	47	52	114	25	36	140	32	32	4*	M5	6,3
AS/ASP 3	3	2,95	360	III	IV	100	600	1:4	554 ± 8	47	65	114	25	53	140	32	50	4*	M5	11
AS/ASP 5	5	5	360	III	IV	100	600	1:4	458 ± 10	47	65	168	25	53	140	32	50	4*	M5	15
AS/ASP 10	10	9,1	360	IV	IV	100	1000	1:4	569 ± 10	60	101	220	60	77	140	70	70	19**	1/4" BSP	33
AS/ASP 15	15	14,5	360	IV	IV	100	1000	1:4	719 ± 10	60	101	220	60	77	140	70	70	19**	1/4" BSP	43
AS/ASP 20	20	18,2	360	IV	IV	100	1000	1:4	879 ± 10	60	101	220	60	77	140	70	70	19**	1/4" BSP	48
AS/ASP 25	25	23,5	360	IV	IV	100	1000	1:4	1044 ± 15	60	101	220	60	77	140	70	70	19**	1/4" BSP	59
AS/ASP 35	35	33,5	360	IV	IV	100	1000	1:4	1393 ± 15	60	101	220	60	77	140	70	70	19**	1/4" BSP	78
AS/ASP 55	55	50	360	IV	IV	100	1000	1:4	1904 ± 15	60	101	220	60	77	140	70	70	19**	1/4" BSP	108

* Allen wrench

** Ex. wrench

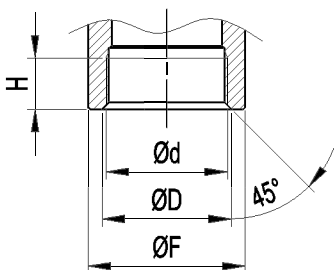
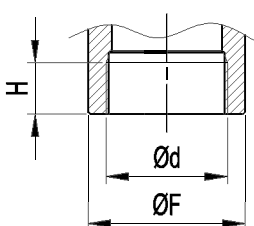
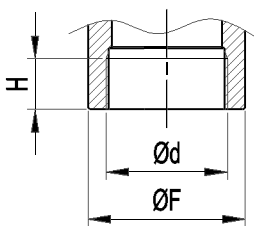
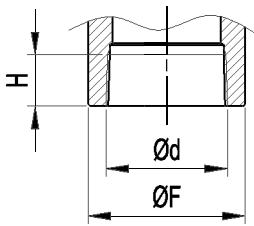
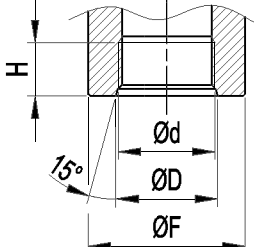
*** see chapter 3.1.12.2 table 3.1ab

3.1db

* The maximum differential pressure is the maximum allowable difference between the maximum pressure and the minimum working pressure (P2-P1) to have an infinite life cycle of the accumulator (greater than 2,000,000 cycles).

** Flow rate measured using mineral oil with viscosity of 36 cSt at 50°C and ΔP = 5 bar

3.1.9.1 STANDARD THREAD CONNECTIONS

Dimensions	Connection Type	Accumulator type	Complete spare valve order code	Ød	ØD mm	ØF mm	H mm
	A BSP ISO 228 with chamfer for OR	AS/ASP 0,2	-	-	-	-	-
		AS/ASP 0,7	V 2023-A5-**/*	3/4" BSP	28,8	36	19
		AS/ASP 1	V 2024-A5-**/*				
		AS/ASP 1,5					
		AS/ASP 3	V 2025-A7-**/*	1" 1/4 BSP	46	53	25
		AS/ASP 5	V 2044-A7-**/*				
		AS/ASP 10 ÷ 55	V 2064-A9- **/*	2" BSP	63,35	77	28
	G BSP ISO 228	AS/ASP 0,2	V 2004-G4-**/*	1/2" BSP	-	26	15
		AS/ASP 0,7	-	-	-	-	
		AS/ASP 1	-	-	-	-	
		AS/ASP 1,5	-	-	-	-	
		AS/ASP 3	-	-	-	-	
		AS/ASP 5	-	-	-	-	
		AS/ASP 10 ÷ 55	-	-	-	-	
	M Metric	AS/ASP 0,2	-	-	-	-	
		AS/ASP 0,7					
		AS/ASP 1					
		AS/ASP 1,5					
		AS/ASP 3	V 2025-M40x1.5-**/*	M40x1,5	-	53	25
		AS/ASP 5	V 2044-M40/1.5-**/*				
		AS/ASP 10 ÷ 55	V 2064-M50/1.5-**/*	M50x1,5	-	77	28
	P NPT-F	AS/ASP 0,2	-	-	-	-	
		AS/ASP 0,7					V 2023-P5-**/*
		AS/ASP 1					V 2024-P5-**/*
		AS/ASP 1,5					
		AS/ASP 3	V 2025-P7-**/*	1" 1/4 NPT-F	-	53	Thread plug gage
		AS/ASP 5	V 2044-P7-**/*	2" NPT-F	-	77	
		AS/ASP 10 ÷ 55	V 2064-A9- **/*				
	S SAE thread	AS/ASP 0,2	-	-	-	-	
		AS/ASP 0,7					V 2023-S1 /16-12-**/*
		AS/ASP 1					V 2024-S1 /16-12-**/*
		AS/ASP 1,5					
		AS/ASP 3	V 2025-S1 5/8-12-**/*	1" 5/8 12 UN	43,5	53	23
		AS/ASP 5	V 2044-S1 5/8-12-**/*				
		AS/ASP 10 ÷ 55	V 2064-S1 7/8-12-**/*	1" 7/8 12 UN	49,84	77	26

* Gasket material

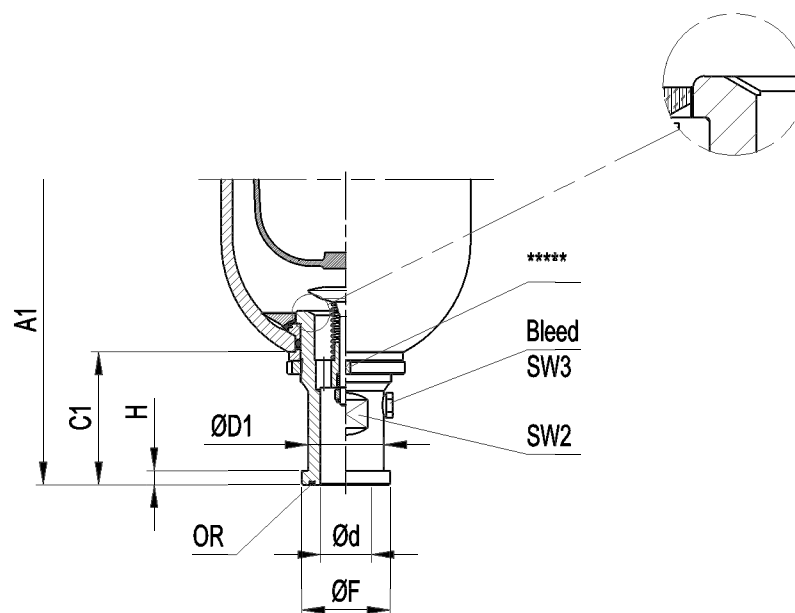
** Component material

For "ASP" version valve order code become V xxxxP - thread version

3.1dc

3.1.9.2 ADAPTER FOR FLANGE SAE 3000/6000 PSI (L/H)

ASP VERSION



3.1de

Acc. type AS-ASP in carbon steel	Dim.	A1 mm	C1 mm	SW2 mm	SW3 mm	Bleed	Ød mm	SAE 3000 (L)				SAE6000 (H)				OR (Included)	Acc. dry weight kg
								Spare valve order code	ØD1 mm	ØF mm	H mm	Spare valve order code	ØD1 mm	ØF mm	H mm		
AS / ASP 0,2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AS / ASP 0,7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AS / ASP 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AS / ASP 1,5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AS / ASP 3	1"	589 ± 8	100	38	4****	M5	-	-	-	-	-	V 2025-H6-***	38	47,6	9,5	0010R4131-*	11
	1 1/4"	578 ± 8	89	38	4****	M5	31	V 2025-L7-***	43	50,8	8	V 2025-H7-***	44	53,3	10,3	0010R4150-*	
AS / ASP 5	1"	493 ± 10	100	38	4****	M5	-	-	-	-	-	V 2044-H6-***	38	47,6	9,5	0010R4131-*	15
	1 1/4"	482 ± 10	89	38	4****	M5	31	V 2044-L7-***	43	50,8	8	V 2044-H7-***	44	53,3	10,3	0010R4150-*	
AS / ASP 10	1 1/2"	583 ± 10	115	42	19****	1/4"	32	V 2064-L8-***	50	60,3	8	V 2064-H8-***	51	63,5	12,5	0010R4187-*	33
	2"			55		BSP	45	V 2064-L9-***	62	71,5	9,5	V 2064-H9-***	67	77,6		0010R4225-*	
AS / ASP 15	1 1/2"	733 ± 10	115	42	19****	1/4"	32	V 2064-L8-***	50	60,3	8	V 2064-H8-***	51	63,5	12,5	0010R4187-*	43
	2"			55		BSP	45	V 2064-L9-***	62	71,5	9,5	V 2064-H9-***	67	77,6		0010R4225-*	
AS / ASP 20	1 1/2"	893 ± 10	115	42	19****	1/4"	32	V 2064-L8-***	50	60,3	8	V 2064-H8-***	51	63,5	12,5	0010R4187-*	48
	2"			55		BSP	45	V 2064-L9-***	62	71,5	9,5	V 2064-H9-***	67	77,6		0010R4225-*	
AS / ASP 25	1 1/2"	1058 ± 15	115	42	19****	1/4"	32	V 2064-L8-***	50	60,3	8	V 2064-H8-***	51	63,5	12,5	0010R4187-*	59
	2"			55		BSP	45	V 2064-L9-***	62	71,5	9,5	V 2064-H9-***	67	77,6		0010R4225-*	
AS / ASP 35	1 1/2"	1408 ± 15	115	42	19****	1/4"	32	V 2064-L8-***	50	60,3	8	V 2064-H8-***	51	63,5	12,5	0010R4187-*	78
	2"			55		BSP	45	V 2064-L9-***	62	71,5	9,5	V 2064-H9-***	67	77,6		0010R4225-*	
AS / ASP 55	1 1/2"	1918 ± 15	115	42	19****	1/4"	32	V 2064-L8-***	50	60,3	8	V 2064-H8-***	51	63,5	12,5	0010R4187-*	108
	2"			55		BSP	45	V 2064-L9-***	62	71,5	9,5	V 2064-H9-***	67	77,6		0010R4225-*	

* Gasket material ** Component material *** Allen wrench **** Ex. Wrench ***** see chapter 3.1.12.2 table 3.1ab

For "ASP" version valve order code become V xxxxP - thread version

3.1df

3.1.9.3 FLANGE CONNECTION TYPE ANSI / UNI DIN (B/U)

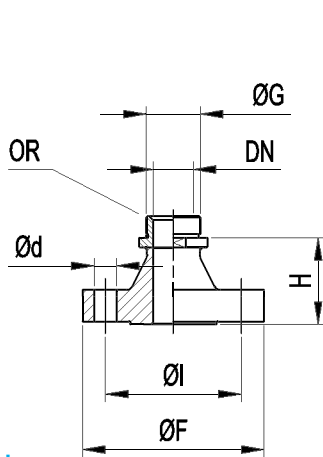


Fig. I

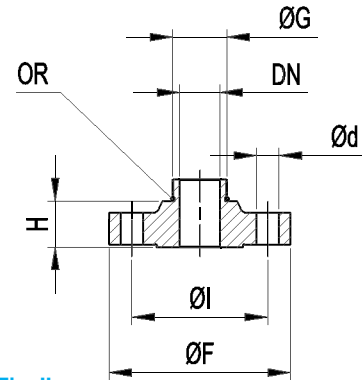
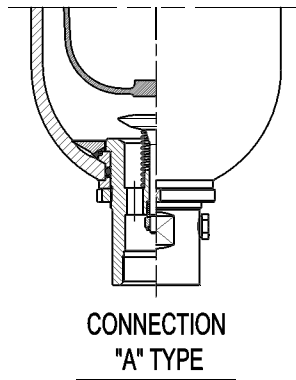


Fig. II

3.1ea

U (UNI-DIN)	Accumulator type	Spare flange order code	Ref. Directive		DN mm	PN bar	Fig.	Ø F mm	Ø I mm	Ø d mm	N° Holes	H mm	G BSP	OR (Included)
			UNI	DIN										
	AS / ASP 0,7 - 1 - 1,5	F 2205 - ** / *	2284	2635	20	40	II	105	75	14	4	23	3/4"	0010R2093-*
		F 2206 - ** / *	6086	2628		250		135	95	18	4	45		
	AS / ASP 3 - 5	F 2211 - ** / *	2284	2635	25	40	I	115	85	14	4	51	1 1/4"	0010R3150-*
		F 2212 - ** / *	6086	2628		250		150	105	22	4	76		
		F 2215 - ** / *	2284	2635	32	40	II	140	100	18	4	22		
		F 2216 - ** / *	6086	2628		250		165	120	22	4	55		
	AS / ASP 10 ÷ 55	F 2221 - ** / *	2282	2633	25	16	I	115	85	14	4	49	2"	0010R3218-*
		F 2222 - ** / *	2284	2635		40		115	85	14	4	51		
		F 2223 - ** / *	6086	2628		250		150	105	22	4	76		
		F 2227 - ** / *	2284	2635	40	40	I	150	110	18	4	56		
		F 2228 - ** / *	6086	2628		250		185	135	25	4	91		
		F 2231 - ** / *	2282	2633	50	16	II	165	125	18	4	23		
		F 2232 - ** / *	2285	2636		64		185	135	22	4	40		
		F 2233 - ** / *	6086	2628		250		200	150	25	8	61		

* Gasket material

** Flange material

Others size on request

3.1eb

B (ANSI)	Accumulator type	Spare flange order code	Ref. Directive	DN inch	PN lbs	Fig.	Ø F mm	Ø I mm	Ø d mm	N° Holes	H mm	G BSP	OR (Included)
F 2208 - ** / *	B16.5	1500	130	88,9	22,5	4	59						
	AS / ASP 3 - 5	F 2213 - ** / *	B16.5	1"	300	I	123,5	88,9	22,5	4	73	1 1/4"	0010R3150-*
		F 2214 - ** / *	B16.5		1500		149,5	101,6	25,4	4	90		
		F 2217 - ** / *	B16.5	1 1/4"	300	II	133,3	98,4	19	4	44		
		F 2218 - ** / *	B16.5		1500		159	111,1	25,4	4	58		
	AS / ASP 10 ÷ 55	F 2225 - ** / *	B16.5	1"	300	I	123,5	88,9	19	4	73	2"	0010R3218-*
		F 2226 - ** / *	B16.5		1500		149,5	101,6	25,4	4	90		
		F 2229 - ** / *	B16.5	1 1/2"	300	I	155,6	114,3	22,2	4	79		
		F 2230 - ** / *	B16.5		1500		178	123,8	28,5	4	100		
		F 2235 - ** / *	B16.5	2"	400	II	165	127	19	8	55		
		F 2236 - ** / *	B16.5		1500		216	165,1	25,4	8	83		

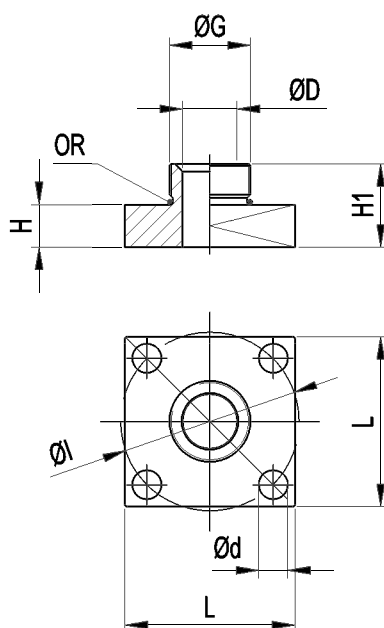
* Gasket material

** Flange material

Others size on request

3.1ec

3.1.9.4 SQUARE FLANGE CONNECTION



3.1fa

Accumulator type	Spare square flange order code	α G BSP	Ø D mm	L mm	Ø I mm	H mm	Ø d mm	H 1 mm	Weight Kg	OR (Included)
AS / ASP 3 - 5	F 2454 A7 - ** / *	1" 1/4 BSP	26	100	105	25	17.5	49	0,8	0010R3150 - *
AS / ASP 10 ÷ 55	F 2455 A9 - ** / *	2" BSP	32						0,9	0010R3218 - *

* Gasket material ** Square flange material Weigth indicated only for blind version

3.1fb

3.1.9.5 ADAPTERS

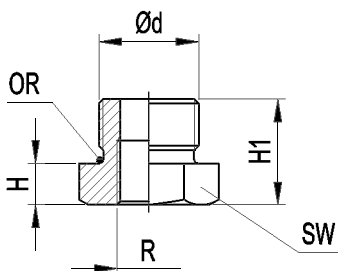


Fig. I

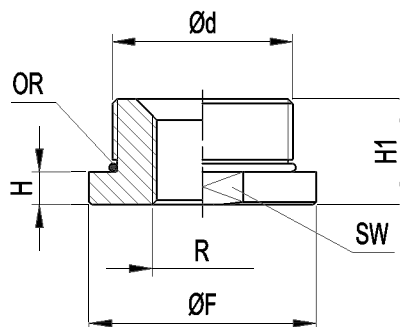


Fig. II

3.1fc

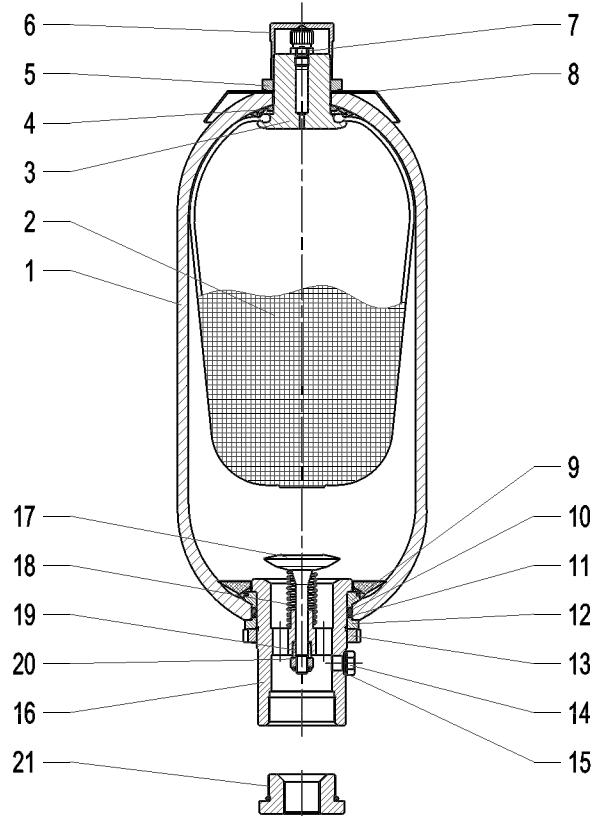
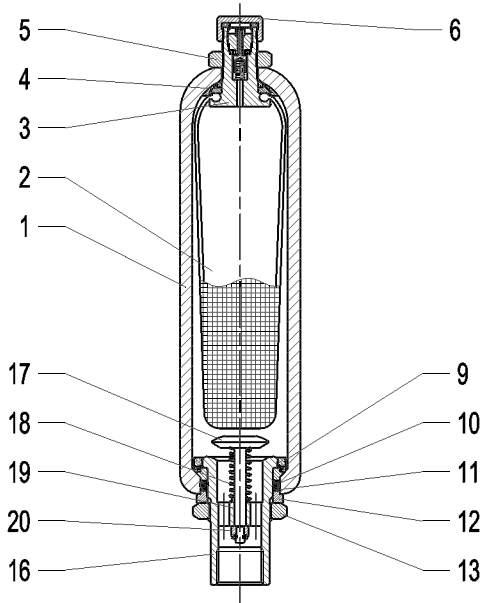
Accumulator type	Order code	Ød Acc. connection	R**** Out connections (0 = blind)	Fig.	SW mm	Ø F mm	H mm	H1 mm	OR (Included)	Weight Kg
AS / ASP 0,7 - 1 - 1,5	R - A5*** - ** / *	3/4" BSP	1/8" ÷ 3/8" BSP - NPT - BSPT	I	32	-	11	28	0010R2093 - *	0,14
			1/2" BSP - NPT - BSPT	I			28	45		0,27
AS / ASP 3 - 5	R - A7*** - ** / *	1" 1/4 BSP	1/8" ÷ 1" BSP - NPT - BSPT	II	48	53	11	32	0010R3150 - *	0,41
AS / ASP 10 ÷ 55	R - A9*** - ** / *	2" BSP	1/8" ÷ 1" 1/2 BSP - NPT - BSPT	II	70	75	11	35	0010R3218 - *	0,86

* Gasket material ** Adapter material *** See chapter 3.1.8 table 7 - 8 Weigth indicated only for blind version

**** R Out connections type "S" and "M" thread on request

3.1fd

3.1.10. SPARE PARTS CODE (STANDARD VERSION)



3.1ga

Item	Description	Q.ty	Type						
			AS / ASP 0,2	AS / ASP 0,7	AS / ASP 1 - 1,5	AS / ASP 3	AS / ASP 5	AS / ASP 10 ÷ 55	
1	Accumulator shell	1	Not supplied as spare part						
2	Bladder	1	S 0.2* - 0	S0.7* - 0	S1* - 0 / S1.5* - 0	S3* - 0	S5* - 0	S10 ÷ 55* - 0	
3	Gas valve body	1	B10026 - **	B10107 - **			B10202 - **	B10333 - **	
4	Rubber-coated washer	1	B10024 - ** / *	B10104 - ** / *	B10106 - ** / *		B10205 - ** / *	B10334 - ** / *	
5	Gas valve looknut	1	B10023 - **			B10109 - **		B10302 - **	
6	Protection cap	1	B10337 / 00 - ** - *			B10103 - **		B10301 - **	
7	Gas-fill valve	1	V 2001 - ** / *						
8	Name plate	1	-			D10300A-A		D10300C-A	D10300E-A
9	Retaining ring	1	B10035 - ** / *	B10123 - ** / *	B10127 - ** / *	B10146 - ** / *	B10222 - ** / *	B10317 - ** / *	
10	"O" ring	1	0010R4112 - *	0010R4150 - *		0010R0159 - *	0010R6212 - *	0010R0181 - *	
11	Supporting ring	1	B10038-T	B10133-T		B10150-T	B10227-T	B10320-T	
12	Space ring	1	B10037 - **	B10120 - **		B10223 - **		B10319 - **	
13	Fluid port ring nut	1	B10039 - **	B10122 - **		B10217 - **		B10321 - **	
14	Bleed screw	1	-			B10128 - **		B10316A - **	
15	Seal ring	1	-			B10129 - R		0010T14-1/4 - *	
16	Fluid port body std. version	1	B10031 - *** - **		B10115 - *** - **		B10144 - *** - **		B10311 - *** - **
	Fluid port body "P" version		B10031P - *** - **		B10115P - *** - **		B10144P - *** - **		B10311P - *** - **
17	Poppet	1	B10028 - **	B10111 - **		B10221 - **		B10310 - **	
18	Spring	1	B10029 - **	B10112 - **		B10149 - **		B10322 - **	
19	Brake bushing	1	-			B10113 - **		B10314 - **	
20	Selflocking nut	1	B10033 - **	B10116 - **		B10211 - **		B10315 - **	
21	Adapter	1	See chapter 3.1.9.5 ADAPTER						
	Standard gas valve ass. (parts 3 ÷ 7)	1	V 2002 - ** / *	V 2021 - ** / *	V 2022 - ** / *		V 2042 - ** / *	V 2062 - ** / *	
	Standard fluid port ass. (parts 9 ÷ 20)***	1	V 2004 - *** - ** / *	V 2023 - *** - ** / *	V 2024 - *** - ** / *	V 2025 - *** - ** / *	V 2044 - *** - ** / *	V 2064 - *** - ** / *	
	Gasket sets	1	B2010* { 0010R2050* B10341-P B10342-P 0010R4112* B10038-T	B2030* { 0010R2050* B10341-P B10342-P 0010R4150* B10133-T B10129-R 0010R2093*	B2031* { 0010R2050* B10341-P B10342-P 0010R0159* B10150-T B10129-R 0010R3150*	B2050* { 0010R2050* B10341-P B10342-P 0010R6212* B10227-T B10129-R 0010R3150*	B2080* { 0010R2050* B10341-P B10342-P 0010R0181* B10320-T 0010T14-1/4* 0010R3218*		

* Gasket material

** Component material

*** See chapter 3.2.8 table 6 - 7

**** For "ASP" version valve order code become V xxxxP - thread version

3.1gb