ALPHANUMERIC SPECIFICATION - DISCRIPTION /
DESIGNATION / ORDERING CODE / DRAWING NUMBER /
MODEL CODE / "CALL-OUT"

See NOTE at foot.

Lt = Liters Br = bar **EXAMPLE 1 :-** *IND 316L 186 70Lt 200Br EPDM 2"NP 004 GBD / 15*

EXAMPLE 1 :- For S. North Sea gas fields pump control

TYPE | METAL | ID mm | LITERS Vol. | MAWP bar | SEAL Material | FLUID CONNECT. | N_2 PRE- FILL CNCT. | OPTIONAL EXTRAS | OPTIONAL EXTRAS

Hydrotrole Accumulator Type

PISTON TYPES

PISTOFRAM - Ultra response, High flow rate	PFM
INDACC - Volume indicating, & pump controller	IND
MAGDACC - Proximity switch Volume indicating	MGD

MATERIALS, METAL

Dual certified Stainless Steel	316L SS
Duplex Stainless (2205, F-51, UNS S31803)	DSS
Super Duplex Stainless (2507, UNS S 32750).	SDSS
High Tensile 17-4PH H1150	17-4
Carbon Steel SA 106 Gr. B/C Or DOM	CST
EN 24T heat treated bore billet	**24T**
Aluminium	**Ali**
Other	**Oth**

Internal Diameter and
Liter VOLUMES
Bars PRESSURES MAWP

PISTON TYPES

Details - ID & Area, Volume, Pressure w / Norm. Mtls.

Internal Nominal Diameter "ID" mm

50	75	82.5	100	125	150	186	200

Liter VOLUMES Standards

0.25			3.0			30.0	40.0
0.50	0.50		5.0	5.0		50.0	
	0.75		7.5	10		70.0	80.0
	1.0	1.0		12.5			100.0
	1.25	1.5			15.0		(Larger
		2.0			20.0		diameters
		3.0			30.0		are specials)

Area cm^2							
19.6	44.18	53.46	78.54	122.7	176.7	271.7	314.1

Bars PRESSURES MAWP— Normal materials

10	35	70	140	200	275	350	520	660	870
Non Metal	Ali	D.O.M.	106	316	DSS	SDSS	24T	17/4	17/4

MEMBRANES and SEALS
Standard - ex inventory / **Stock**

Butadine Acrylo Nitrile	"NBR"
Ethylene Propylene Ter-Polymer	"EPDM"
FLUOREL 3M co Floro-elastomers	"FKM"

Specials to order :-
"FFKM", "PIB" , "EP", "EPR", "ECO",
"CSPE", "NR","CR", "MQ, VMQ,
PVMQ, FVMQ," "T Also ST".
Etcetera
Please see :- http://www.hydraulic-accumulators.com/elastomeravailibility.aspx.htm

CONECTIONS
HYDRAULIC NPT, BSP, 4 Bolt,
AutoClav, GrayLock etc, Single Connection = "10"

NITROGEN
Pre-Fill "Precharge"
Stainless 1/2" x 20 TPI UNF 2 B & 0.305"
32TPI aka "Schrader" thread Part Nbr. 9019c
1/4" BSP M x 1/4" BSP male with tire type "pin valve" Part Nbr. 004
Gas Gauge "GG"
For BACK UP BOTTLES BUB

OPTIONS
Gas Burst Disk (With Br. Rating) GBD
Nitrogen Gauge (Br.Full scale reading) NG
Integral N_2 end, Gauge control cock 003
End Stop *(For Integral added N_2 Volume)* ES
Sub-Base & connection orientation 10, 11,12, 14, 20
Code requested:- A = ASME, or PED = P
Others, please state (see CODE below)
For Horizontal installation HI

EXAMPLE 2 :- PFM SDSS 100 3.0Lt 900Br FKM 0.5"Fnpt 9019c

TYPE
METAL
ID
LITERS
MAWP
SEAL Material
FLUID CONNECTION
N_2 PRE- FILL CONECT.
OPTIONAL EXTRAS

FOR ALL "BLADDER" Gas Bag TYPES :-
LIQUIFLEX with Seamless one piece moldings LIF
HYDRACC With Seamed - fabricated membrane HDR
Slim line
Standard
Miniature and Ultra Pressure
PLEASE GO TO :- http://www.flow-smooth.com/fluid-power-accumulators/liquiflex.php

EXAMPLE 2 :- PFM SDSS 100 3.0Lt 900Br FKM 0.5" AutoClave 9019c
For Well Dynamics Texas.

Another EXAMPLE :- MGD/125/8.0Lt/200Br/NBR/0.5"x0.5"/11/003/GBD(305Br)/NG(210Br)
For Norwegian Offshore oil platform valve actuator emergency shutdown power.

CODES :- Units are designed and built under Liquid Dynamics International Ltd. ISO 9001-2008 certification GB 18545 under the EU Pressure Equipment Directive. And are also available in accordance with ASME VIII Div.1 or BS/ EN 5500, and other codes as required. With full traceability of all materials and their constituent parts.

Note: PED requires the application fo "safety coeficients" - WHICH HAVE NEITHER AGREED NOR PUBLISHED: ISO, PED and CE mark cerification is hence somewhat "suspect".

NOTE Never use other than "OFN" Oxygen Free NITROGEN for cushion PPRE-FILL aka "precharge" . On no account should AIR nor OXYGEN be used. If you do not use NITROGEN there is extreme danger of lethal explosion. NEVER attempt disassembly or service without first de-pressurization, of oil and nitrogen. ***HYDROTROLE*** Accumulators in standard trim are for clean well filtered systems.

SELECTION Always,select an accumulator volume that is at least double the volume to be stored. Quick calc. min.size needed $\simeq \frac{Vol\ to\ Store \cdot Max\ P}{Max\ P - Min\ P} \times 1.15$

Standard design TEMPERATURE, negative 10C MDMT, to + 80C.
Normal installation is vertical - please state if horizontal is required.

SHUT DOWN SEALING.

HYDROTROLE Accumulators have a positive seal at both oil and nitogen side end of stroke. This prevents a differential presure across the dynamic seals, so they are set for minimum hysterisis "tick slip".