DNV·GL

Certificate No:
TAD00000SB

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Accumulators

with type designation(s)
2000 psi WP Bladder Type Accumulator, Stainless Steel, 2.5-15 Gallon Capacity
2000 psi WP Bladder Type Accumulator, Stainless Steel, 2.5-15 Gallon Capacity, Top Repairable

Issued to
Accumulators, Inc.
Houston TX, United States

is found to comply with
DNVGL-OS-E101 – Drilling plant, Edition July 2015
DNVGL-SI-0166 - Verification for Compliance with Norwegian shelf regulations - Ch.2 Sec.7 DRILL(N), July 2015

Application :

See Page 2.

Issued at **Houston** on **2017-07-24**
This Certificate is valid until **2022-07-23**.
DNV GL local station: **Certification & Inspection Services**

Approval Engineer: **M. Kevin Mandeville Jr.**

for **DNV GL**

Meindert van Mierlo
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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Job Id: **262.1-026341-1**
Certificate No: **TAD00000SB**

The following design codes and standards were used as a reference:

EN 14359:2006 +A1:2010, *Gas-loaded Accumulators for Fluid Power Applications*, 2006 Edition with 2010 revisions
ASME *Boiler and Pressure Vessel Code*, Section VIII, Division 1, 2015 Edition
ASME B1.1, *Unified Inch Screw Threads (UN and UNR Thread Form)*, 2003 Edition
ASME B1.20.1, *Pipe Threads, General Purpose, NPT (Inch),* 1983 Edition
SAE-J518, "Hydraulic Flanged Tube/Pipe/Hose Connections, 4-Bolt Split Flange Type," June 1993 Edition

Product description

2.5 Gallon Capacity Accumulator, Model Nos. A2.52100(Y), A2.5TR2100(Y)
5.0 Gallon Capacity Accumulator, Model Nos. A52100(Y), A5TR2100(Y)
10.0 Gallon Capacity Accumulator, Model Nos. A102100(Y), A10TR2100(Y)
11.0 Gallon Capacity Accumulator, Model Nos. A112100(Y), A11TR2100(Y)
15.0 Gallon Capacity Accumulator, Model Nos. A152100(Y), A15TR2100(Y)
Where (Y) varies based on the port types

Application/Limitation

Design Parameter	Value	Equivalent
Max Internal Working Pressure	2,000 psi	137.8 bar
Max Internal Test Pressure	3,000 psi	206.8 bar
Min Design Temperature	-40 °F	-40°C
Max Design Temperature	200 °F	93°C
Corrosion Allowance	0in	0mm
Service	Standard	

Applicable Fluid Port Options

The following values for "Y" in the model numbers correspond to these associated fluid ports:

Y	Description	Y	Description
None	2" NPT	-13	1-1/2" Code 61 S.F. Long
-1	1-1/4" NPT	-14	1-1/2" Code 62 S.F.
-1.5	1-1/2" NPT	-15	1-1/2" Code 62 S.F. Long
-2	M50x1.5	-17	1-1/2" Code 61 S.F.
-3	1-7/8" SAE w/7/16" SAE Bleed	-18	1" Code 62 S.F.
-4	2" Code 61 S.F	-20	2" Code 61 S.F. w/ ¼" NPT Bleed
-6	1" NPT	-24	1-1/4" NPT w/ ¼" NPT Bleed
-7	2" BSPP	-27	1-7/8" SAE w/ 9/16" SAE Bleed
-8	1-7/8" SAE w/ ¼" NPT Bleed	-98	1.5" Subseal, Long
-9	1-5/16" SAE	-99	1.5" Subseal

Fluid Ports are approved in type approval TAD00000M4, valid until 2022-03-01.

Type Approval documentation

Tests carried out

Hydrostatic test carried out on 2017-06-05, on SN 1602637, witnessed by DNVGL surveyor under project A0413408.

Marking of product

For traceability, the following marking is to be carried out on each product:

1. Serial No.
2. Manufacturer's Name or Trademark
3. Additional marking at the manufacturer's discretion

Certificate Retention Survey

For retention of the Type Approval Certificate, DNV GL's surveyor shall perform a survey every second year in accordance with DNV GL's Class Programme for Type Approvals, DNVGL-CP-0338.

Other Conditions/Comments

1. DNVGL Ref. Project No. A0418915.
2. References are made to Type Approval Certificate TAD00000M4 for validity of several parts of the assemblies certified herein. If validity of TAD00000M4 is terminated, so too is this type approval.

END OF CERTIFICATE