

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Valve

with type designation(s)
Adjustable Choke Assembly

Issued to

**SPM Flow Control, Inc. DBA Weir Oil & Gas – Pressure
Pumping
Fort Worth TX, United States**

is found to comply with

**DNV-OS-E101 Drilling Plant October 2013
and DNV GL AS' understanding of the implementation and interpretation of:
PSA's "Regulations relating to design and outfitting of the facilities etc. in the petroleum
activities" (THE FACILITIES REGULATIONS), Last amended 16 December 2014, Ch.VIII**

Application :

See Page 2

**Compliance with quality control requirements specified in API 6A PSL 3 is mandatory if
product is intended for wellhead and christmas tree or well control systems
Compliance with quality control requirements specified in API 16C is mandatory if product is
intended for C&K applications.**

This Type Approval Certificate consists of 3 pages and replaces D-6100, issued on 2015-03-04.

This Certificate is valid until **2016-12-31**.

Issued at **Houston** on **2016-10-25**

DNV GL local station: **Approval CMC – Houston**

for **DNV GL**

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

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**Christian Nilsen
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.

Job Id:
Certificate No: **TAD00000HC**

Product description

2" 1502 FxM Adjustable Choke Assembly, P/N 2A18156-xx
2" 1502 MxF Positive Choke Assembly, P/N 2A18160
2" 1502 FxM Adjustable Choke Assembly –H2S, P/N 2A19461-xx
2" 1502 FxM Safety Collar, .75" Seat Adjustable Choke Assembly, P/N 2A38168

Application/Limitation

Design Parameter	Value	Equivalent
Minimum Design Temperature (Buna)	-30°C	-22 °F
Maximum Design Temperature (Buna)	110°C	230°F
Minimum Design Temperature (Viton)	-30°C	-22 °F
Maximum Design Temperature (Viton)	176°C	350°F
Minimum Design Temperature (P/N 2A38168)	-29°C	-20 °F
Maximum Working Pressure P/N 2A19461	689.4 bar	10,000 psi
Maximum Working Pressure P/N's 2A18156, 2A18160, & 2A38168	1,034 bar	15,000 psi
Service, P/N 2A19461	Sour, H ₂ S	
Service, P/N 2A18156, P/N 2A18160, & 2 A38168	Standard	

Compliance with quality control requirements specified in API 6A PSL 3 is mandatory if product is intended for wellhead and christmas tree or well control systems.

Compliance with quality control requirements specified in API 16C is mandatory if product is intended for C&K applications.

Type Approval documentation

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

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 Approval, DNVGL-CP-0338.

Other conditions/comments

- Valve bonnet must be certified separately.
- Union components certified in accordance with Type Approval D-5712.
- Some components on this re-issue are per the Amendment to D-5339, issued 25 February, 2015.
- Refer to DNVGL project PP151826-07.

END OF CERTIFICATE