DNV

STATEMENT OF QUALIFIED TECHNOLOGY

Statement No:
10365043-2 Rev 0
Valid until: **2027-12-15**

This is to state:

that the technology designated **KB18C501 (18-3/4" 15M) K-BOS** has been qualified for its designated use with basis in DNV-RP-A203 /1/ as defined in /2/.

Owner:	Kinetic Pressure Control Limited
Description:	The K-BOS model KB18C501 is a 18-3/4" bore, 15,000 psi, electrically initiated, pyro-mechanical device which performs the shearing and sealing during completions or intervention well control operations with shearing capability detailed in section below for subsea and surface applications as further detailed in /3/.
Critical Parameters	(see table below)

System	Well Control System
Equipment	Shear RAM Mechanical Assemblies
Equipment Size	18-3/4" bore
Assembly Type	Shearing and Sealing Pyrotechnic Gate Valve
Rated Working Pressure (Wellbore and Post-fire Wellbore)	15,000 psi
API 16A Performance Requirement Level	PR1
Maximum Hydraulic System Pressure	5,000 psi
Maximum Rated Firing Chamber Pressure	13,333 psi
Maximum External Static Design Pressure	5,600 psi
Water Depth	12,000 ft
Metallic Material Temperature Range, API 16A	T-0/250
Non-metallic Sealing Material Temperature Rating, API 16A	
Low Temperature Limit	30°F(E)
Continuous Elevated Temperature Limit	240°F(D)
Extreme Temperature Limit	250°F(D)
API 16A Retained Fluid Rating	Fluid; gas, liquid, solids or mixture of all including sour gas service in accordance with NACE MR 0175

Shear capability

API 16A PR2 Requirement	Test Report	Shear Target	Kinetic Energy Margin of Safety
Heaviest WT	KB18C501-C-TR-20230118	9-1/2" - 214ppf - MYS 120ksi Drill Collar	1.4
Largest OD	KB18C501-C-TR-20231121	14" - 115ppf – C-110 Casing	6.5
Smallest OD & Side Load	KB18C501-C-TR-20230214	6-5/8" - 50.46ppf S-135 Heavy Wall Drill Pipe 12× 0.250" OD × 0.035" WT Data Cable 6× 0.250" OD × 0.065" WT Control Line 4× .250" OD × 0.070" WT Control Line 2× 0.250" OD Data Cable	4.9

Successful shearing and sealing tests detailed above were conducted by KPC and witnessed by DNV Maritime surveyor.

Involvement: DNV has been involved in the qualification process in accordance with /2/.

Limitations and Conditions:

(1) Assessment of electrical components integrated into the KB18C501 is not in the scope of this certificate.

(2) It is recommended for operator once per 6 months to conduct working pressure (pre-fire condition) open wellbore test to confirm seal integrity.

Reference documents:

/1/ DNV-RP-A203, Technology Qualification, September 2019
/2/ DNV-SE-0160, Technology Qualification Management and Verification, February 2018
/3/ Technology Qualification Report – KB18C501 18-15M K-BOS, DNV document #10365043-1 Rev. 0, December 2023
/4/ Qualification Basis for KB18C501, KB18C501-Z-QB-001 - Rev 0, December 2023
/5/ KB18C501 Qualification Test Program, KB18C501-Z-TG-001 - Rev 5, December 2023
/6/ API 16A, Specification for Drill-through Equipment, 2017 Edition 4

DNV shall not be held liable for undiscovered failure modes or causes or for missing qualification activities.

Issued at **Houston** on **2023-12-15**

Ye, Joanna Digitally signed by Ye, Joanna Date: 2023.12.15 14:07:43 -06'00'

for **DNV**

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Joanna Ye
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