



Certificate No:
TAD00001E5

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Pressure Vessels

with type designation(s)

Model DR-130-10K-CS Maintenance Free Reactive Discharge Dampener, in 4 configurations

Issued to

**Performance Pulsation Control, Inc
Richardson, TX, USA**

is found to comply with

DNVGL-OS-E101 – Drilling facilities, Edition January 2018

Application :

See Page 2.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Issued at **Houston** on **2021-06-22**

This Certificate is valid until **2026-06-21**.

for **DNV**

DNV local station: **Certification & Inspection Services**

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

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**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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Form code: TA 251

Revision: 2021-03

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The following design codes/standards are used as a reference:

ASME Boiler and Pressure Vessel Code, Section VIII, Div. 1 & 2, 2019 Ed.

Product description

Pulsation Dampener, Model DR-130-10K-CS, Maintenance Free Reactive Discharge Dampener w/ 5-1/8" API 10,000# RTJ Studded Outlet at 60° Orientation, in four configurations

Application/Limitation

Design Parameter	Value	Equivalent
Configuration 1		
Maximum Allowable Working Pressure	10,000 psi	689 bar
Hydrostatic Test Pressure	14,250 psi	982 bar
Minimum Design Metal Temperature	-20°F	-29°C
Design Temperature	150°F	65.5°C
Corrosion Allowance	0.0 in	0.0 mm
Configuration 2		
Maximum Allowable Working Pressure	10,000 psi	689 bar
Hydrostatic Test Pressure	14,250 psi	982 bar
Minimum Design Metal Temperature	-50°F	-45.5°C
Design Temperature	200°F	93°C
Corrosion Allowance	0.118 in	3.0 mm
Configuration 3		
Maximum Allowable Working Pressure	10,000 psi	689 bar
Hydrostatic Test Pressure	14,250 psi	982 bar
Minimum Design Metal Temperature	-20°F	-29°C
Design Temperature	200°F	93°C
Corrosion Allowance	0.118 in	3.0 mm
Configuration 4		
Maximum Allowable Working Pressure	10,000 psi	689 bar
Hydrostatic Test Pressure	14,250 psi	982 bar
Minimum Design Metal Temperature	33°F	1°C
Design Temperature	200°F	93°C
Corrosion Allowance	0.0 in	0.0 mm
All Configuration		
Service	Standard	
ASME U Stamp	U2 Class 2	

Type Approval documentation

Fabrication Procedures

Procedures related to fabrication, NDE, and testing are to be reviewed and approved by the DNV GL surveyor.

Tests carried out

Testing carried out on the dampeners with serial numbers 46217-01 and 46217-02.

Marking of product

For traceability to this Type Approval Certificate the products are as a minimum to be marked as follows:

1. Serial Number & Part Number
2. Manufacturer's name and trademark
3. Additional marking at manufacturer's option

Periodical assessment

For retention of this Type Approval, DNV GL's surveyor shall perform a survey after 2 and 3.5 years, in accordance with DNV GL's Class Program for Type Approvals, DNVGL-CP-0338.

Additional Comments/Conditions

1. Heat Treating to be performed per ASME BPVC Section VIII, Div. 2 and DNVGL-OS-E101 Chapter 2, Section 8, requirements.
2. Hammer union subassembly to be received with a DNV Product Certificate. The hammer union design is not included in this type approval design review.
3. DNV Project Reference: A0968672

END OF CERTIFICATE