



EUROPEAN UNION RECOGNISED ORGANISATION (EU RO) MUTUAL RECOGNITION TYPE APPROVAL CERTIFICATE

Certificate No:
MRP0000009

In accordance with Article 10.1 of EU Regulation 391/2009

This Certificate is issued to

HydraSpecma AB
Landvetter, Västra Götalands län, Sweden

for

Mechanical Joints

with type designation(s)

Slip type slip on joint with type designation P2L QC

The product is found to comply with

EU RO Mutual Recognition Technical Requirements for Mechanical Joints

Intended service

see page 2

Temperature range **-40°C to +120°C**

Max. working press. **9 bar**

Sizes **5/16"**

This is to certify:

that the Product referred to herein has been inspected for the Manufacturer, pursuant to the relevant requirements of the European Union Recognised Organisation Mutual Recognition procedure, required by Article 10.1 of EU Regulation 391/2009, and has been found in accordance with those requirements.

This Certificate is valid until .

Issued at **Høvik** on

DNV local unit: **Denmark CMC**

for **DNV**

Approval Engineer: **Maheshraja Venkatesan**

.....
Bosman van der Merwe
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.

Product description

Slip type slip on joint with type designation P2L QC ø7.89-5/16"

Material of construction:

<u>Part</u>	<u>Material grade</u>
Body	: SUS 304L
Locker	: SUS 301
Plunger	: PPA GF35
Wave spring	: Stainless steel 17-7PH/C
Retaining ring	: SUS 304
Spacer	: SUS 304
O-ring	: EPDM

Manufactured by

Araymond North America, LLC.
2350 Austin Avenue Suite 100 Rochester Hills, WI 48309, USA

Application/Limitation

Mechanical joints covered by this certificate are approved to be used in hose assemblies with fire sleeves for SCR (class III piping) systems containing urea fluid on a Diesel engine.

Pressure ratings:

Size	Type slip	
	Model	design pressure (bar)
5/16"	P2L QC	9

Temperature ratings:

Seal material	Design temperature range
EPDM	-40°C to +120°C

Materials chosen for the specific system shall be suitable for the intended medium and environmental conditions. Couplings with EPDM sealings shall not be used in hydrocarbon applications.

At elevated temperatures, the maximum working pressure should be reduced with the following factors:

Temperature (°C)	20	50	100	120
Stainless Steel	1	0.95	0.85	0.82

The approval is only valid when the couplings are assembled with tubing of correct temperature and tolerances as recommended by the manufacturer.

Type Approval documentation

Tests carried out

Tightness test, Burst pressure test, Vacuum test, Fire endurance test in 'wet' condition.

Marking of product

For traceability to this Type Approval each mechanical joint is to be marked at least with the following particulars:

- Manufacturer's name or trademark
- Type designation
- Size
- Max. working pressure or pressure class

Periodical assessment

This certificate is only valid if required periodical assessments are carried out with satisfactory results.

For retention of the Type Approval, a DNV Surveyor shall perform periodical assessment every year to verify that the conditions for the approval are complied with. Reference is made to DNV-CP-0338.

To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>.

Generic Statement for EU RO MR Type Approval Certificate

When a product is presented with this EU RO MR Type Approval Certificate for given application, its acceptability with regards to the limitations stated in the certificate conditions defined in 1b, 1c and 1d of the applied Technical Requirement will be evaluated by the EU RO in charge of classing the ship or being in charge of the unit/system certification.

In accordance with Article 10 of Regulation (EC) No 391/2009 of the European Parliament and of the Council of 23 April 2009 "on common rules and standards for ship inspection and survey organizations", the following organizations, recognized by the EU on this date, have agreed on the technical and procedural conditions under which they will mutually recognize this certificate:

- American Bureau of Shipping (ABS);
- Bureau Veritas (BV);
- China Classification Society (CCS);
- Croatian Register of Shipping (CRS);
- DNV;
- Indian Register of Shipping (IRS);
- Korean Register (KR);
- Lloyd's Register Group Ltd. (LR);
- Nippon Kaiji Kyokai General Incorporated Foundation (ClassNK);
- Polish Register of Shipping (PRS);
- RINA Services S.p.A. (RINA);
- Russian Maritime Register of Shipping (RS).

The scheme for the mutual recognition of class certificates for materials, equipment and components laid down by Article 10(1) of Regulation (EC) No 391/2009 is only enforceable within the Union in respect of ships flying the flag of a Member State. As far as foreign vessels are concerned, the acceptance of relevant certificates remains at the discretion of relevant non-EU flag States in the exercise of their exclusive jurisdiction, notably under the United Nations Convention on the Law of the Sea (UNCLOS). (In accordance with COMMISSION IMPLEMENTING REGULATION (EU) No 1355/2014 amending Regulation (EC) No 391/2009 - recital (25)).