

Liqui-Cel® 10 x 28 Membrane Contactors Meet PED Requirements and are CE Marked

The Pressure Equipment Directive (PED) 97/23/EC was put into place to protect the citizens of the EU and to standardize the requirements for pressure vessels entering the EU member countries.

The PED requires manufacturers of certain pressure equipment to comply with design, testing, manufacturing, and labeling protocols in order to be able to ship into any European Member Country after May 29, 2002. The PED applies to products with a pressure rating > 0.5 bar (7.25 psig). Some products with higher pressure ratings are exempt from the PED if their liquid volumes are small because pressure and volume together determine what hazard classification a product falls in.

There are four hazard classifications that pressure devices can fall in where a CE Mark would be required. They are Category I through IV where Category IV is considered the most dangerous. Liqui-Cel MiniModules®, 2-inch, 4-inch, and 6-inch contactors do not fall within a hazard classification that requires a CE Mark because their liquid volumes are low. These devices fall below hazard classification I and are labeled "Manufactured with Sound Engineering Practice."

The 10-inch contactors however do carry a Hazard classification I and do require the CE Mark. To maintain our current published pressure limits on our 10-inch devices, they would have to carry a category II hazard classification.

We have chosen to limit the pressure ratings of 10-inch products going into the EU to keep our products in hazard classification I. This decision was made due to the additional costs that a manufacturer has to incur for hazard classifications greater than I. For example, hazard classifications greater than I require a third party, certified by the EU, to oversee the manufacturing of the vessel.

Based on our typical applications, we decided the additional cost was not justified due to the minimal impact of limiting our pressure rating in the EU. Basically, the pressure ratings are unchanged for non-dangerous liquids such as

water. We reduced pressure ratings for applications using dangerous liquids by 0.34 bar (5 psi). The table below summarizes the pressure ratings in the EU Member States and the Rest of the World for 10-inch contactors.

10 x 28 PRESSURE RATING SUMMARY				
Product	Rest of World – All Applications			
	Membrane PP	Housing/ Liquid Side	Housing/ Gas Side	
10 x 28 with 316L SS Housing	8.3 bar 8.4 Kg/cm ² 120 psi	10.3 bar 10.5 Kg/cm ² 150 psi	9.0 bar 9.1 Kg/cm ² 130 psi	
10 x 28 with FRP Housing	8.3 bar 8.4 Kg/cm ² 120 psi	10.3 bar 10.5 Kg/cm ² 150 psi	6.2 bar 6.3 Kg/cm ² 90 psi	
Product	European Union Member States			
	Dangerous Liquid M/H*	Non-Dangerous Liquid M/H*	Dangerous Gas M/G*	Non-Dangerous Gas M/G*
10 x 28 with 316L SS Housing	8.3/10 bar 120/145 psi	8.3/10.3 bar 120/150 psi	8.3/4.7 bar 120/68 psi	8.3/9.0 bar 120/130 psi
10 x 28 with FRP Housing	8.3/10 bar 120/145 psi	8.3/10.3 bar 120/150 psi	8.3/4.7 bar 120/68 psi	8.3/6.2 bar 120/90 psi
*M = Membrane, H = Housing Liquid Pressure, G = Gas Side Pressure				

We have completed all paperwork and testing required by the EU to place the CE Mark on our 10-inch products. All 10-inch Contactors will now carry the CE Mark regardless of where they are being shipped. This allows any OEM to build a system around our contactors and easily ship it into the EU.

As always, feel free to contact your Membrana representative if you have additional questions.

This product is to be used only by persons familiar with its use. It must be maintained within the stated limitations. All sales are subject to Seller's terms and conditions. Purchaser assumes all responsibility for the suitability and fitness for use as well as for the protection of the environment and for health and safety involving this product. Seller reserves the right to modify this document without prior notice. Check with your representative to verify the latest update. To the best of our knowledge the information contained herein is accurate. However, neither Seller nor any of its affiliates assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of the suitability of any material and whether there is any infringement of patents, trademarks, or copyrights is the sole responsibility of the user. Users of any substance should satisfy themselves by independent investigation that the material can be used safely. We may have described certain hazards, but we cannot guarantee that these are the only hazards that exist.

Liqui-Cel, Celgard, SuperPhobic and MiniModule are registered trademarks and NB is a trademark of Membrana-Charlotte, A division of Celgard, LLC and nothing herein shall be construed as a recommendation or license to use any information that conflicts with any patent, trademark or copyright of Seller or others.

©2007 Membrana - Charlotte A Division of Celgard, LLC

(TB29Rev3_10-05)

Membrana - Charlotte
A Division of Celgard, LLC
13800 South Lakes Drive
Charlotte, North Carolina 28273
USA
Phone: (704) 587 8888
Fax: (704) 587 8585

Membrana GmbH
Oehder Strasse 28
42289 Wuppertal
Germany
Phone: +49 6126 2260 - 41
Fax: +49 202 6099 - 750

Japan Office
Shinjuku Mitsui Building, 27F
1-1, Nishishinjuku 2-chome
Shinjuku-ku, Tokyo 163-0427
Japan
Phone: 81 3 5324 3361
Fax: 81 3 5324 3369

MEMBRANA
Underlining Performance
www.membrana.com
www.liqui-cel.com

A **POLYPORE** Company

