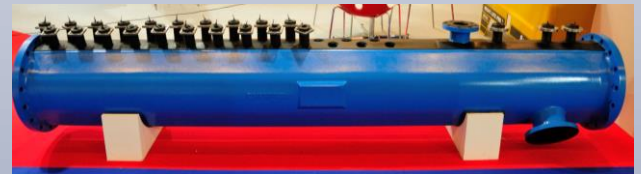
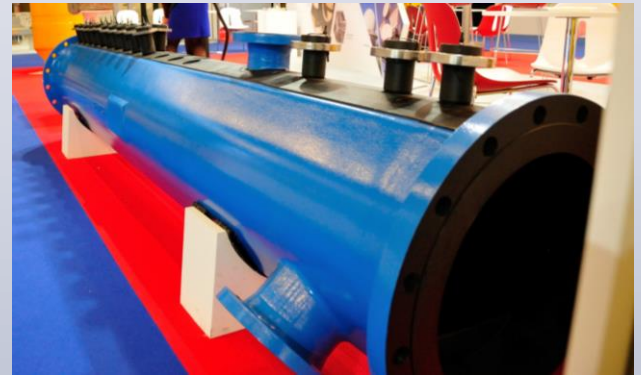




Prince/ChemTech DCPD Membrane Cell Discharge Manifold Headers

DCPD (*Telene®) Material Advantages

- Rapid-Injection Molded (RIM)
- High-temperature and corrosion-resistant
- Highly-durable, impermeable thermoset plastic
- Highly electrically-insulating
- Very low thermal creep under pressure
- Service Temperature: -40 / +110 °C (-40 / +230 °F)
- Each DPCD part must be molded to its unique dimension and shape; only high quantities of a product justify the high cost of the mold investment.
- Improvements in the mold quality, polymers, and catalysts in the molding process, has mitigated the material void issue that occurred decades ago.
- **Warranty Offered by ChemTech**
 - Industry-leading warranty period of **36 months from installation date, or 40 months from shipment date, whichever comes first** – proving confidence that Prince has in this product's performance. Please consult Prince for warranty details.
- **Proven Success in Other Chlor-Alkali Applications**
 - DCPD has been used for >20 years in chlorine electrolyzers, replacing important parts previously made in metals, rubber-lined steel, or plastic.
 - Typical Service life: >10 years – performance references are available; please consult Prince for details.
 - Typical examples are: Diaphragm Cell Heads and Mercury Cell End-Boxes



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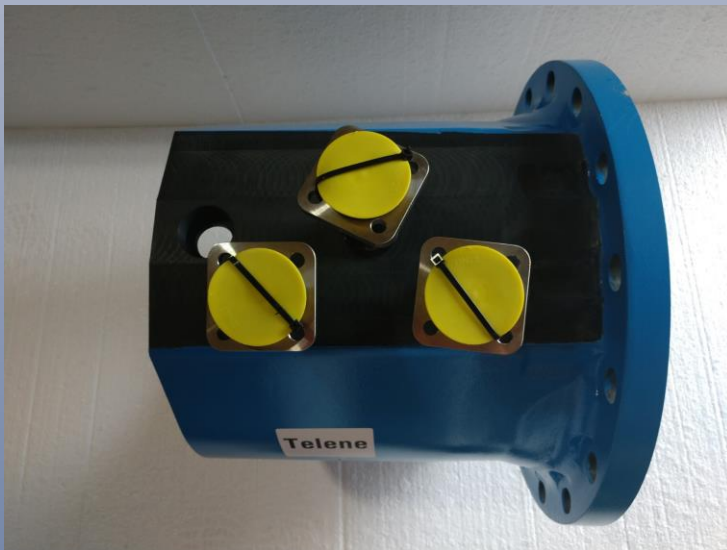
Prince DCPD Membrane Cell Discharge Manifold Headers

Available Process Piping:

DN-400 ($\approx 16''$) *Straight* sections of pipe, without bossed extra-thick wall, are also available. There are various means to reliably join flanges to these DCPD pipe sections. Please consult Prince for details.



Prince DCPD Manifold Header Design Advantages



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Prince DCPD Membrane Cell Discharge Manifold Headers

Prince DCPD Manifold Header Design Advantages

- Existing Header Size Available: DN-400 (≈16")
- Users of these headers had also tested plastic, dual-laminate, and FRP headers; the DCPD is preferred.
- **Extra-thick wall on top of header**, for deeper nozzle socket, for improved reliable sealing
 - The nozzles, the weakest part in the header assembly, are connected by threading in the upper part of the header **where the wall thickness is >30 mm**. The sealing of the nozzles is accomplished with a cavity at the nozzle base, and a peroxide-cured EPDM O-ring compressed to seal reliably within it.



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Prince DCPD Membrane Cell Discharge Manifold Headers

- **The main flanges are molded in one piece with the pipe;** there is no discontinuity between them. The nozzles are fabricated in black PVDF (see photo), P-72, or PP, and are attached to the header by threading. This reliable design allows easy replacement in case of accidental nozzle breakage. **Larger nozzles (3"- 6"), per the photo on the right, are molded in one piece with the main header pipe;** therefore there is no discontinuity between them.



- Threaded nozzles are molded separately with a high thickness, in order to ensure rigidity and impact-resistance.
- Each section of the DCPD Header is flanged on either end, with length up to 3.5 m (11.5'); header series are easy to assemble/disassemble.
 - Dimensions and details of the two terminal header sections are the same for each header's length. The *intermediate header section* may change in order to ensure the length and number of nozzles required. See next page for details.
- Reparability
 - DCPD cannot be welded, as it is a *thermoset* plastic. If pinhole leaks arise, it is fixed through a threaded-tap DPCD plug; this solution has proven reliability.
- Titanium or SS Hardware are available.

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Prince DCPD Membrane Cell Discharge Manifold Headers

DN-400 Uhde-style Anodic and Cathodic Headers

Two sections of typical lengths: 9 and 8.25 meters

Terminal Headers (9 m length):

- 98 ea. nozzles DN-25 (1") with SS square flanges, 80x80 mm
- 1 ea. nozzle DN-150 (6") (Bypass)
- 5 ea. nozzles DN-25 (1") (TT, TI, SC, spare)
- 1 ea. nozzle DN 50 (2") (PT)

Intermediate Headers (8.25 m length):

- 90 ea. nozzles DN-25 with SS square flanges, 80x80 mm
- 1 ea. nozzle DN-25 (N2 vent)
- 1 ea. blind flange DN-400



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