Expro can custom-design diverter manifolds to allow a manageable, safe and efficient means to configure multiple operations from a single location.

Our diverter manifolds can be integrated with managed pressure drilling packages, configured to a wide range of individual client requirements. Diverting oil or gas without flow interruption, whilst accommodating up to 20 hydraulic valves, can also be achieved during complex operations or within challenging footprint constraints with Expro’s solution-based approach.

Expro can also provide pressure relief valves and chokes, which can be integrated with our diverter manifold, providing additional control and safety.

### Technical specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>API pressure ratings (PSI)</td>
<td>3,000 5,000 10,000 15,000</td>
</tr>
<tr>
<td>Manifold inlet/outlet sizing</td>
<td>2½&quot; - 7½&quot;</td>
</tr>
<tr>
<td>API temperature class</td>
<td>PX, -20° to 350°F (-29° to 177°C)</td>
</tr>
<tr>
<td>API Material Class</td>
<td>Up to EE-NL</td>
</tr>
<tr>
<td>API PR levels</td>
<td>1 – 2</td>
</tr>
<tr>
<td>API PS levels</td>
<td>1 – 3, 3G</td>
</tr>
<tr>
<td>H2S service</td>
<td>Yes</td>
</tr>
<tr>
<td>H2S service certifications</td>
<td>API 6A, Standard 53/NACE MR01-75</td>
</tr>
<tr>
<td>Inlays available</td>
<td>Inconel/SS, sealed areas, ring grooves or fully lined</td>
</tr>
<tr>
<td>Double block and bleed</td>
<td>For rerouting flow lines and servicing components</td>
</tr>
<tr>
<td>Skid grating</td>
<td>Options available</td>
</tr>
<tr>
<td>Visual/audible alarms</td>
<td>Options available</td>
</tr>
</tbody>
</table>
A complete package offering

Expro can customise full managed pressure drilling for your operations.

There are many advantages of integrating the diverter manifold via our HMI panel and HPU, avoiding manually opening and closing valves. Automating the process is quicker as there is no down time, and it is safer as there is no confusion over opened/closed valves in error. Predefined valve positions can be programmed so that a touch of a button can safely and quickly change between different rig operations. There are various packages, which can include HMI and/or HPU.

Human-machine interface (HMI) features & benefits

- Standard and customised to client request for other applications including:
  - Pressure relief valve control systems, commonly used for mud pump protection
  - Managed pressure drilling control systems
  - Well control system
  - Hydraulic valve manifold control systems
- Multiple HMI can be synchronized, with each HMI having multiple screens to display different components simultaneously – screens can be installed in any location to optimise rig floor space
- Joystick or switches for valve operation
- Realtime valve position and position control monitoring
- Remote speed adjusts for hydraulic control of valves
- Certifications provided per the following jurisdiction ATEX, IECEx, ABS, DNV, NEC, CEC, and additional certifications available upon request
- Communication to third party systems with user requested communication protocols (e.g. PROFIBUS etc)
- System built-in safety alarms, data logging and password protection available
- All alarms meet offshore safety standard DNV-OS-D202
- Hydraulic valve remote speed adjust control available
- Can control electrical on hydraulic gate valves, ball valves etc.
Hydraulic power unit (HPU) features & benefits

- Flow rates and accumulators designed for application
- Suitable for Zone 1 locations (other options and certifications available on request)
- Remote panel or local panel operation of various hydraulic valves and chokes
- Valve actuation can be controlled manually by lever push buttons or by HMI screen
- Digital gauge, hydraulic gauge and HMI pressure display available
- Junction box, cabling, hydraulic connections and hoses selected for application
- Valve position feedback monitoring available via led display or HMI
- Manifold piping and instrumentation diagrams displayed on panel face or HMI panel with control and feedback available
- Valve speed adjust control available
- HMI Integration and HPU
- Electric or air driven pumps

For further information, please call +1 281 977 2600 or email expro.powerchokes@exprogroup.com