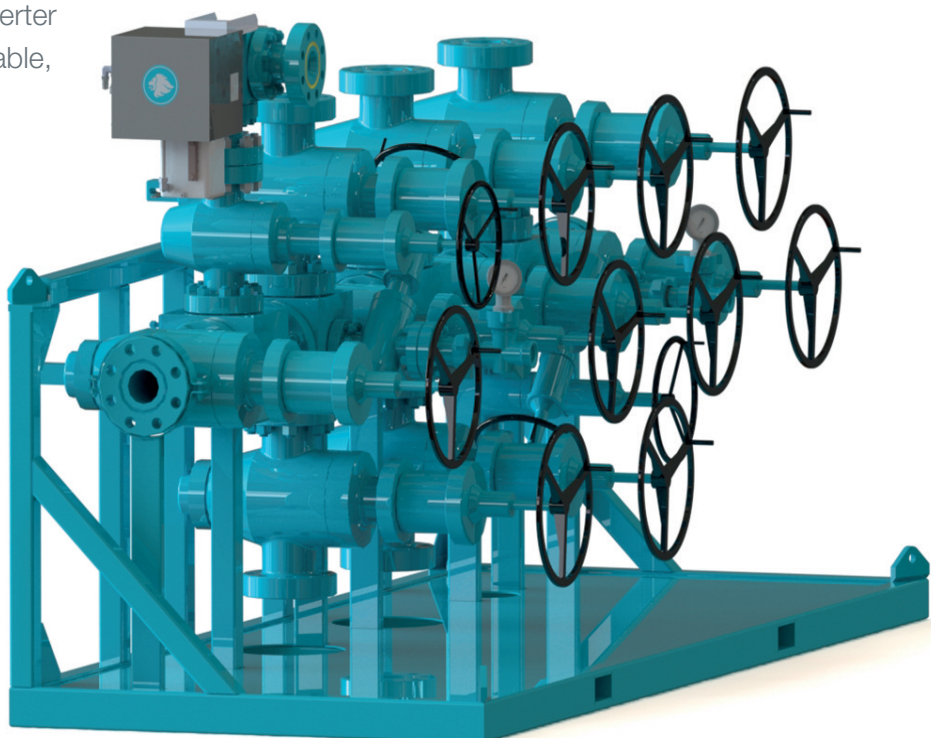


Diverter manifold

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 over 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. This provides additional control and safety within an integrated package.



Technical specifications:

API pressure ratings (PSI)	3,000 5,000 10,000 15,000
Manifold inlet/outlet sizing	2 1/16" - 7 1/16"
API temperature class	PX, -20° to 350°F (-29° to 177°C)
API material class	Up to EE-NL
API PR levels	1-2
API PS levels	1-3, 3G
H ₂ S service	Yes
H ₂ S service certifications	API 6A, Standard 53/NACE MR01-75 Additional certifications (ABS and DNV) available upon request
Inlays available	Inconel/SS, sealed areas, ring grooves or fully lined
Double block and bleed	For rerouting flow lines and servicing components
Skid grating	Option available
Visual/audible alarms	Option available

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 panels and HPUs, avoiding manually opening and closing valves. Automating the process is quicker, with no down time, and safer with 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 engineering solutions for 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 HMIs 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
- Real-time valve position and automatic valve control sequencing
- Remote speed adjusts for hydraulic controls of valves
- Certifications provided per the following jurisdiction ATEX, IECEx, ABS, DNV, NEC 505, CSA, 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, October 2008, Ch. 2, Sec. 2
- Hydraulic valve remote speed adjust control available

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)
- Monogrammed API 16C
- 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

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