Utilizing creative and innovative manifold designs, and cartridges with our unique floating style construction, Sun Custom Valvepaks offer significant advantages over others:

- Compound angle drilling for extremely compact designs.
- Construction plugs are eliminated or dramatically reduced.
- Larger and more efficient flow paths.
- Higher installation torque levels for better cartridge retention.

All Sun cartridges are rated to 5000 psi/350 bar operating pressure.

Manifold Bodies:
- Grade 6061-T6 Aluminum: 3000 psi/210 bar material pressure rating
- Grade 65-45-12 Ductile Iron: 5000 psi/350 bar material pressure rating

Order Custom Valvepaks in any arrangement, or standard manifolds in a variety of mounting configurations. Sun’s worldwide manufacturing operations are dedicated to on-time delivery, to an international network of distributors.
Custom manifold assemblies, or "valvepaks", are comprised of standard screw-in valves housed in a specially-designed manifold body. Compared to more conventional systems using line-mount or sandwich-mount components, Sun’s custom manifolds offer many benefits to customers.

**Traditional Line-mount Components:**
- Incorporate hose assemblies and/or tubing, which require special installation tools and expertise.
- Require extensive assembly labor.
- Numerous potential leak points at each connection.
- Take up space and add weight.
- Many individual parts and components to order.

**Custom Manifold Assembly:**
- Dramatically reduced labor costs.
- Space savings.
- Fewer hoses, fittings, and potential leak points.
- Improved appearance.
- Easier maintenance.
- Designed to meet exact customer requirements.
- Simplified ordering.

Sun Custom Valvepaks offer even more advantages:
- Extremely compact design.
- Construction plugs are eliminated or reduced.
- Large flow paths, minimizing pressure drop.
- Economical, even in small production quantities.

**Sun offers distinct advantages in cavity and manifold design.**

**Superior cavity design** and unique floating style cartridge construction offer the manifold designer a number of benefits:
- Generous cavity porting areas, allowing much larger drill diameters within the manifold body.
- Free-floating cartridge subassembly is forgiving of cavity manufacturing variances, and significantly reduces torque sensitivity for better cartridge retention.
- Porting consistency, for maximum design flexibility and minimized tooling requirements.

Sun has 5-axis, compound angle drilling capability. This gives the designer numerous advantages:
- The manifold body is physically much smaller and more compact and therefore more economical.
- Construction drillings and plugs are eliminated or minimized, offering fewer potential leak points.
- There are more direct flow paths which, along with the large diameter drillings allowed by the Sun cartridge cavity, provide extremely low pressure drops within the assembly.

**Comparison of two manifolds with identical circuitry:**

**ISO7789 and SAE-10 Cavities versus Sun Cavities**

Sun Custom Valvepaks offer even more advantages:
- Smaller Size:
  - ISO / SAE 2 Port Cavity: 125 cubic inches (5 x 5 x 5 inches)
  - Sun’s 2 Port Cavity: 64 cubic inches (4 x 4 x 4 inches)
  - 17 plugs vs. 0 plugs

  **Fewer Potential Leakage Points:** (plugged ports shown in blue)

- Lower Cost:
  - ISO / SAE 2 Port Cavity: $260.00
  - Sun’s 2 Port Cavity: $150.00
Compare the look and features of two methods of installing the same hydraulic circuit and components.

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