HydraForce has released valves with an integral sensing option capable of transmitting an on or off signal. These valves are designed with parts commonality in mind which allows these sensing options to be easily applied to numerous valves, and keeps the sensing option cost-effective. This new sensing solution was designed for interchangeable use with any existing HydraForce cartridge valve, is compatible with manual override options, and uses an industry standard cavity.

Among the many uses for this sensing solution are monitoring of lifting and lowering functions, machine state, multiple steering modes, and to enable dual redundancy operation of hydraulic press and other industrial equipment.

The innovative sensing option design consists of assembling a common solenoid valve pole tube and hydraulic valve assembly on the opposite ends of a coupling tube, which contains an elongated plunger. The new coupling tube, sensor and sensor housing are designed such that they are usable in valves of different types and sizes ranging from 10 to 16 sizes. These new components are connected to Hall Effect sensor element which monitors and transmits the appropriate voltage signal when the valve is actuated or in the neutral position. The sensing element chosen was a Hall Effect sensor which is known for its proven reliability in the field.

An additional benefit of the coupling tube containing the sensing element is that this enables the use of a manual override. This is an option that had previously not been available in an integral sensing valve. Poppet style valves incorporate a special poppet with elongated hydraulic overlap during transition; this ensures faulty detection does not occur in the case of leakage. Both Deutsch and M-12 connection options are available for connecting the sensing element into your wiring harness, allowing for easy system integration in both industrial and mobile applications.

These valves feature a CE-Rated sensing element, and are therefore suitable for global application. These sensing options were designed with manufacturers laboring to meet the following specifications; 2006/42/EC: Machinery CE Marking, EN693:2001 Machine Tools, Safety Hydraulic Presses, EN12622: Safety of Machine Tools, Hydraulic Press Brakes, ISO13849: Safety of machinery -- Safety-related parts of control systems (part of the EN15000 spec). The items we supply are components and do not have a complete function of their own, and are to be fitted by our customers to their products, in accordance with the EC, EN, or ISO Directives. We have tested, and are continuing to carry out EMC tests which are intended to give assurance that the products supplied by us are, in isolation, capable of passing EMC tests.

It must be emphasized that when components and assemblies are fitted with their respective control equipment and wiring, the Electromagnetic Emission Signature as a whole will potentially be significantly changed and must therefore be subject to the customers own EMC tests and overall safety assessments in accordance with the relevant directive(s).

continued on next page
Valves with Integral Position Sensing

Solenoid Valves with Integral Position Sensing
Now Available:

SV10-P20A  SV12-P20A
SV10-P21A  SV12-P21A
SV10-P22A  SV12-P22A
SV10-P23A  SV12-P23A
SV58-P20A

Solenoid Valves with Integral Position Sensing
in Development:

SV10-P24A  SV10-P25A  SV10-P28A  SV10-P29A  SV10-P31A  SV10-P33A  SV10-P40A
SV10-P21A  SV10-P43A  SV10-P44A  SV10-P45A
SV12-P28A
SV12-P29A
SV38-P20A  SV38-P21A  SV38-P22A  SV38-P23A

<table>
<thead>
<tr>
<th>Features</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE Rated Sensor</td>
<td>Suitable for global OEM application</td>
</tr>
<tr>
<td>Cost Effective.</td>
<td>Our common parts approach assures that our sensor option is cost effective.</td>
</tr>
<tr>
<td>Ease of sensor replacement.</td>
<td>Our Field Serviceable sensor eliminates exposure to internal components.</td>
</tr>
<tr>
<td>Hall Effect sensing technology.</td>
<td>Field proven technology for durability and accuracy throughout the life of the machine.</td>
</tr>
<tr>
<td>Industry common cavity.</td>
<td>Easy manifold machining using standard tooling and set-up configurations.</td>
</tr>
<tr>
<td>Poppet-style construction.</td>
<td>For use in load-holding applications.</td>
</tr>
<tr>
<td>Manual-override options available.</td>
<td>Our unique design is the only integral sensing option compatible with a manual override in the cartridge valve market today.</td>
</tr>
<tr>
<td>Optional waterproof E-Coils rated up to IP69K.</td>
<td>Reliability in the harshest, most severe operating conditions.</td>
</tr>
<tr>
<td>Hardened seat for long life and low leakage.</td>
<td>Reliable operation in mobile machinery application conditions.</td>
</tr>
<tr>
<td>5-year limited warranty. See full warranty statement in the catalog or website.</td>
<td>Confidence, with the backing of the industry's leading manufacturer of hydraulic cartridge valves.</td>
</tr>
<tr>
<td>Tested to 1 million cycles at max. rated flow and pressure.</td>
<td>Long life without wear or decreased performance over time.</td>
</tr>
</tbody>
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Valves with Integral Position Sensing

TO ORDER

When ordering valves with a sensor option, there are several new model fields to be aware of…

The P in the model code specifies the position sensor option

The A indicates that the sensor option results in a performance variation

SV10-(P)20(A) - - - - Sensor Option: See page 3.010.1

Position Indicator

Option

Porting

Seals

Voltage Std. Coil

Sensor Type

(Blank) None

3 Dual Output, N.C./N.O.

Sensor/Connector

(Blank) None

N Neutral Sense/DT04-4P

M Neutral Sense/M12-4P

Coil Termination E-Coil D-Coil

The sensor type refers to the electrical output of the sensor

The sensor/connector indicates the sensor types available and the type of connector
Valves with Integral Position Sensing

10-size valve with sensor valve option height comparison

For accurate dimensions of all sensing valve options, please see the sensor valve option page:
www.hydraforce.com/Electro/Sensor_Valves_html/3-010-1_Sensor_Options.htm

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