



Electrohydraulic
Actuator Type
PVHC for PVG 32
and PVG 100

Technical
Information



Revision History

Table of Revisions

Date	Page	Changed	Rev
Apr 2009	all	First edition	AA
Apr 2010	12	Japan location	AB
Dec 2010	12	New back cover	AC

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Introduction

The PVHC is an electrical actuator module for main spool control in PVG 32 and PVG 100.

The actuator uses two current controlled proportional pressure-reducing valves.

PVHC does not use the known PVE internal closed loop control technology, and does therefore not offer any kind of fault monitoring system, neither active nor passive.

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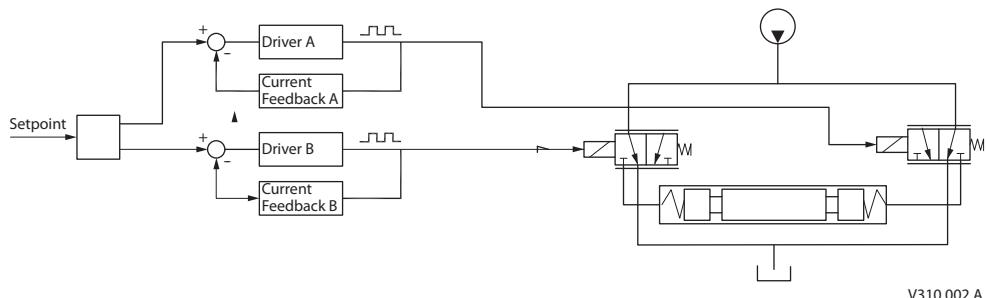
Function

With electrical proportional actuation, the main spool position is adjusted so that its position corresponds to an electrical control signal.

The control signal is converted into a hydraulic pressure signal that moves the main spool in the PVG.

This is done by means of two proportional pressure-reducing valves.

The electrical actuator can be controlled either by a current amplifier card, or directly from a programmable micro-controller.



Hydraulic Actuation

It is necessary to use the PVHC in combination with 25 bar [362.6 psi] pilot pressure, and standard FC spools fitted for hydraulic actuation. See PVG 32 Technical Information 520L0344 and PVG 100 Technical Information 520L0720.

Because of the 25 bar pilot pressure, it is not possible to combine PVHC with PVE on a PVG 32 or PVG 100 valve stack.

Features

- PWM current control signals.
- AMP JPT and Deutsch DT connector options.
- 12 V or 24 V supply options.
- Only to be used with 25 bar pilot pressure and hydraulic main spool.
- Possible to option mount the PVHC on PVG 32 and PVG 100.

Warning

⚠ Warning

All makes and all types of directional control valves – including proportional valves – can fail and cause serious damage. It is therefore important to analyse all aspects of the application.

Because the proportional valves are used in many different operation conditions and applications, the manufacturer of the application is responsible for making the final selection of the products – and assuring that all performance, safety and warning requirements of the application are met.

The process of choosing the control system – and safety level – could e.g. be governed by ISO 13849 (Safety related parts of control system).

Electrohydraulic Actuator Type PVHC for PVG 32 and PVG 100

Technical Information

Technical Data

Input-Output Relation

Temperature

Temperature range	
Ambient	-30°C to 80°C [-22 °F to 176°F]
Medium	-20°C to 80°C [-4 °F to 176°F]

Filtering

Filtering in the hydraulic system	Max. permissible degree of contamination (ISO 4406, 1999 version): 23/19/16
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Input control

Parameter	Control range	
	12 V	24 V
Controller output current range	0 - 1500 mA	0 - 750 mA
Pressure control range	5 to 15 bar [72.5 to 217.5 psi]	
Resistance	4.75 Ω ± 5%	20.8 Ω ± 5%

Oil viscosity

Oil viscosity	Range: 12 - 75 mm ² /s [65 - 350 SUS] Min.: 4 mm ² /s [40 SUS] Max.: 400 mm ² /s [2130 SUS]
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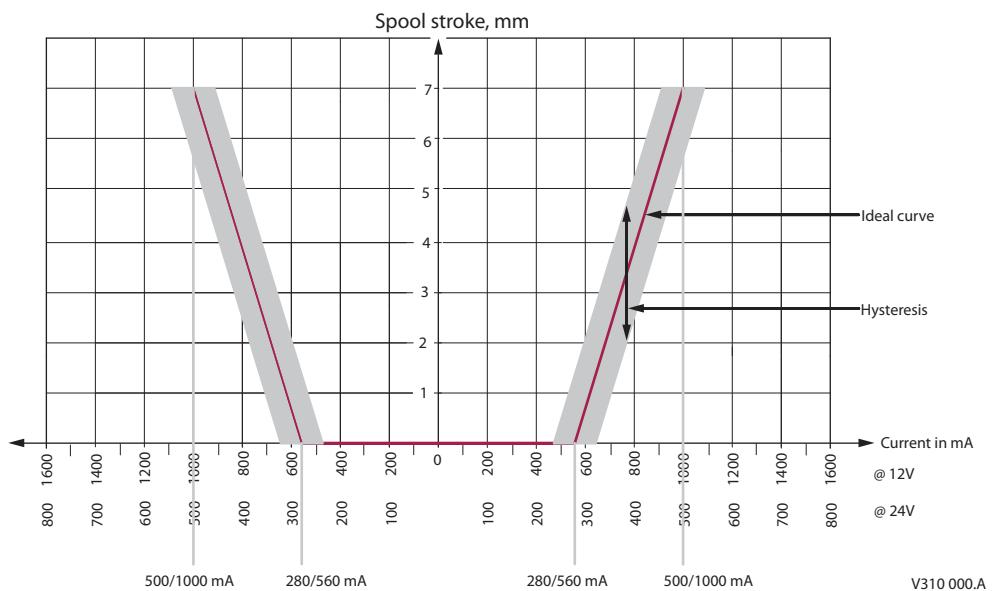
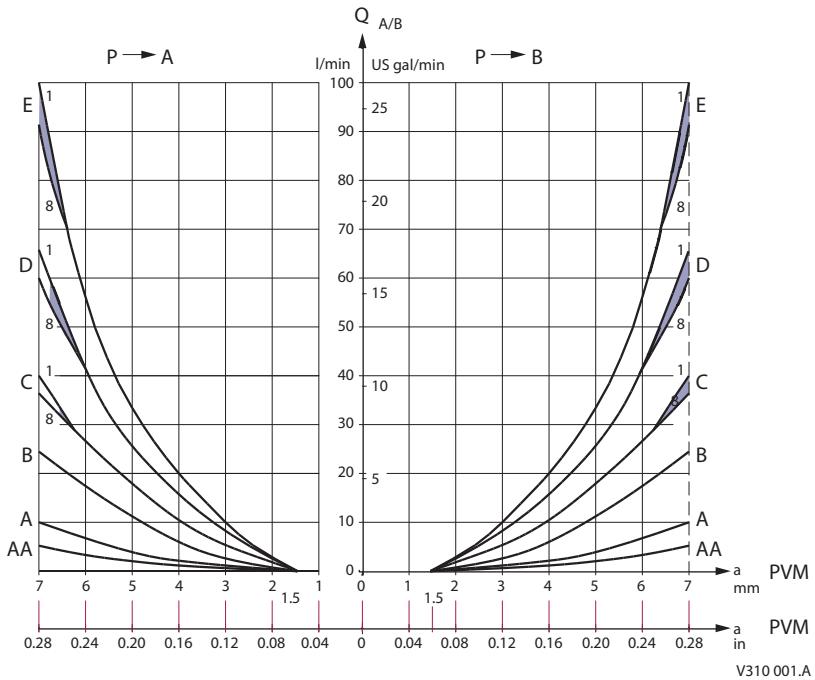
Enclosure

Connector type	Protection class
Deutsch DT	IP 67
AMP JPT 12/24 V	IP 66

Pilot pressure

Pilot pressure (over tank)*	Nom: 25 bar [363 psi] Min: 21 bar [305 psi] Max: 25 bar [363 psi]
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* Designed to be used with hydraulic activated spools.



The ideal curve is determined by the main spool neutral spring. The hysteresis is affected by viscosity, friction, flow forces, dither frequency and modulation frequency.

The PVHC is produced in an environment using mineral based hydraulic oil.

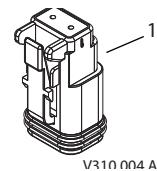
Electrohydraulic Actuator Type PVHC for PVG 32 and PVG 100

Technical Information

Connections

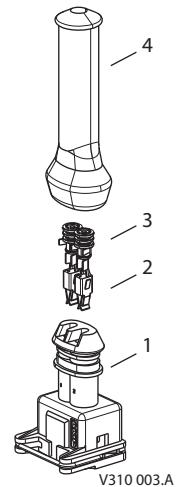
Connection for Deutsch Version

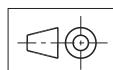
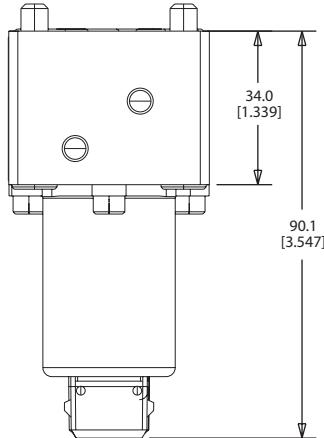
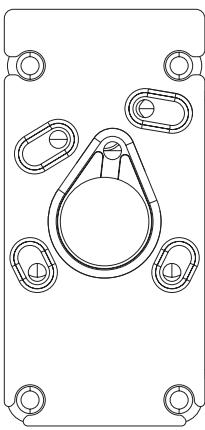
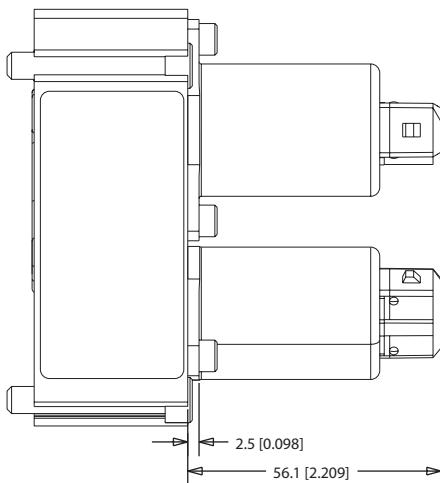
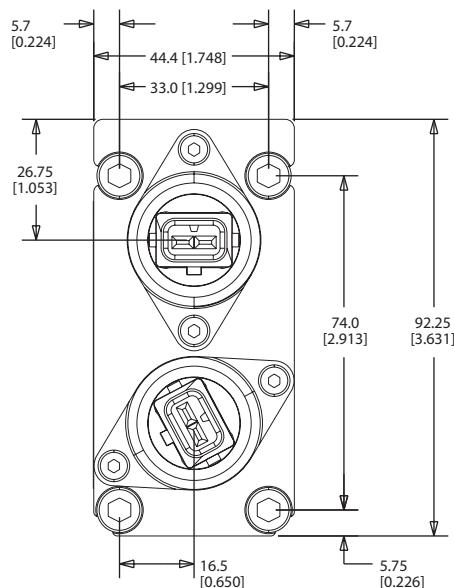
Pos.	Description	Qty	Deutsch code numbers
1	Housing	1	DT06-2S
1	Lock Part	1	W2S
1	Pin Contact	2	0462-201-16141 when SOC 16-18 AWG*
		2	0462-209-16141 when SOC 14-16 AWG*



Connection for AMP Version

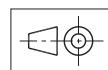
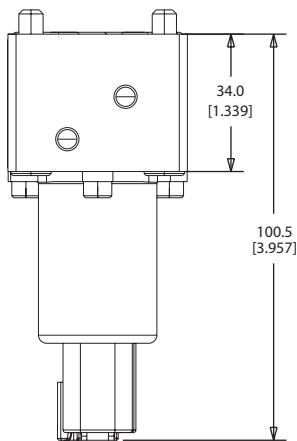
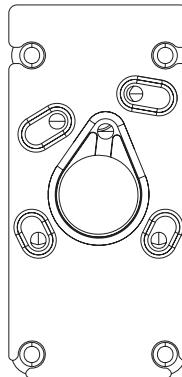
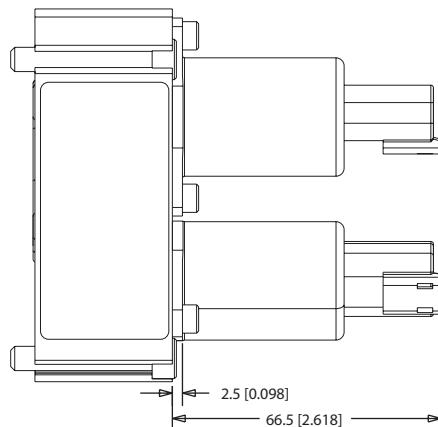
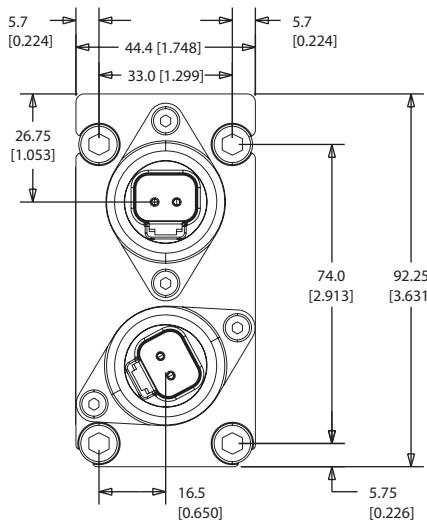
Pos.	Description	Qty	AMP code numbers
1	Connector	1	282189-1
2	Contacts	2	929930-3
3	Contacts	2	828905-1
4	Superseal	1	880810-1



Dimensions for AMP
Version


P301 123

Dimensions for Deutsch Version



P301 124

**Code Numbers for use on
 PVG 32 and PVG 100**

PVHC for PVG 32 and PVG 100

	AMP Connector		Deutsch Connector	
	12 V	24 V	12 V	24 V
PVHC	11061228	11061227	11061229	11061230



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