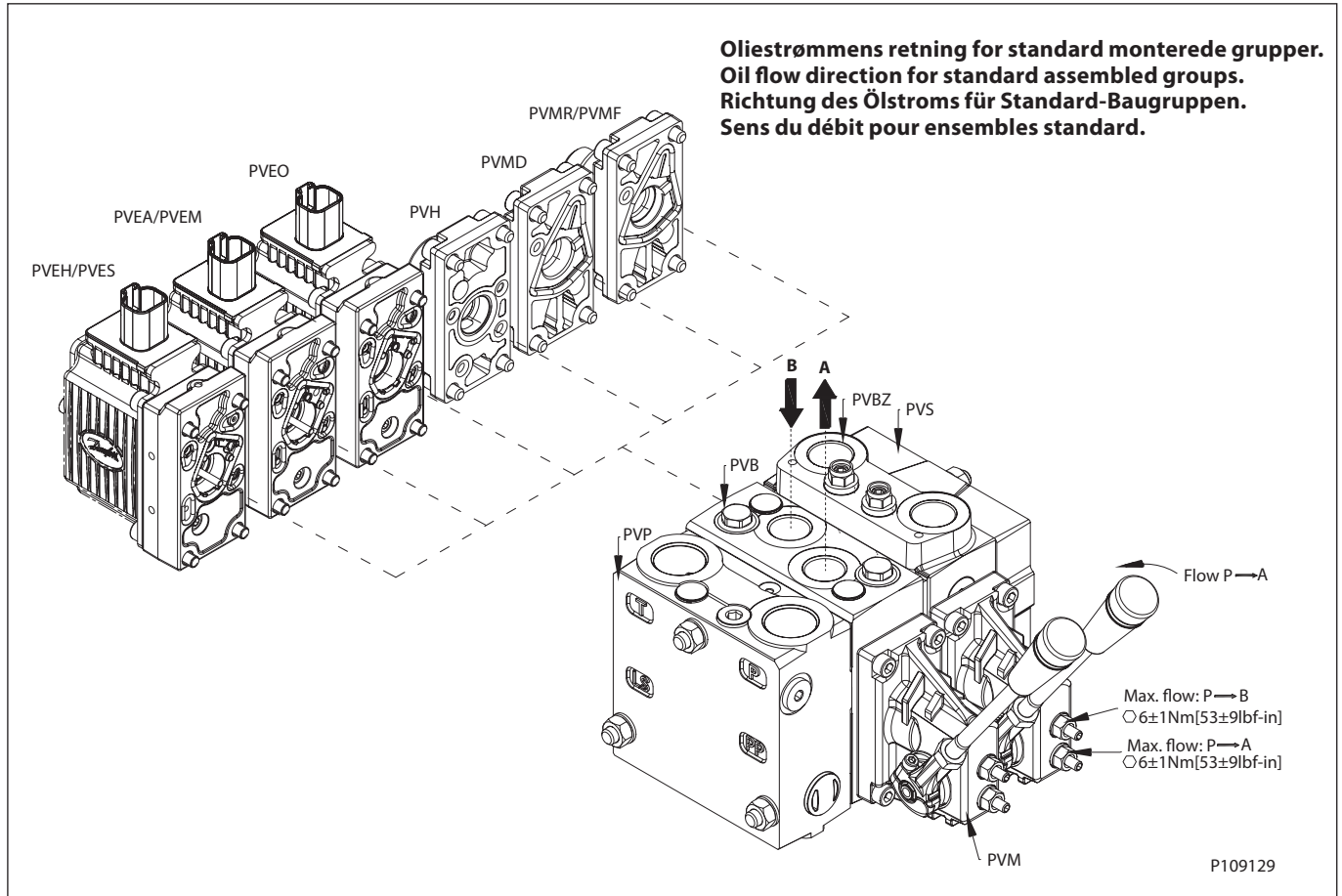
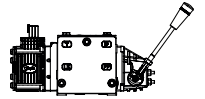
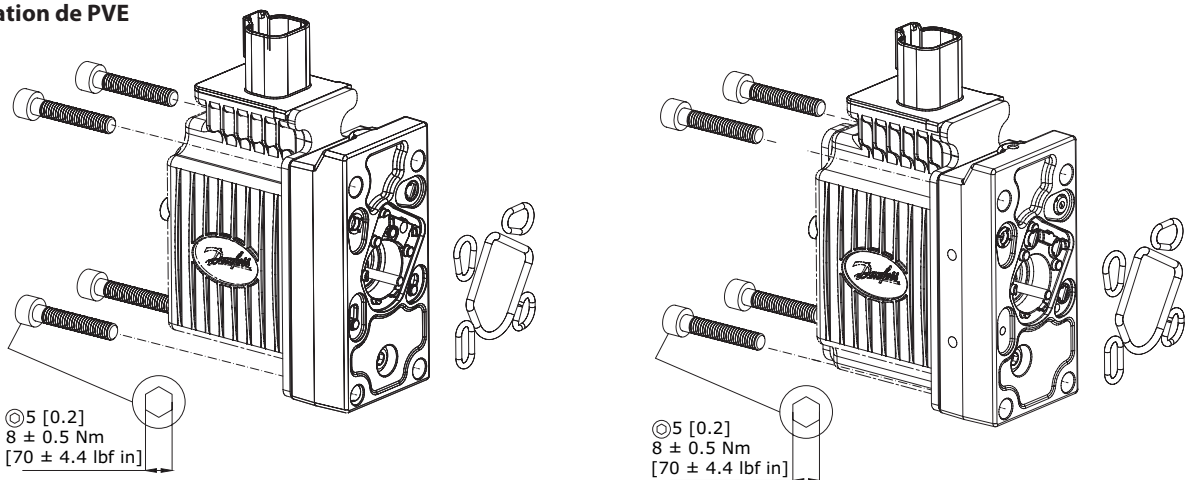


Installation Guide

Electrical Actuating Module PVE Series 7 for PVG 32 and PVG 100



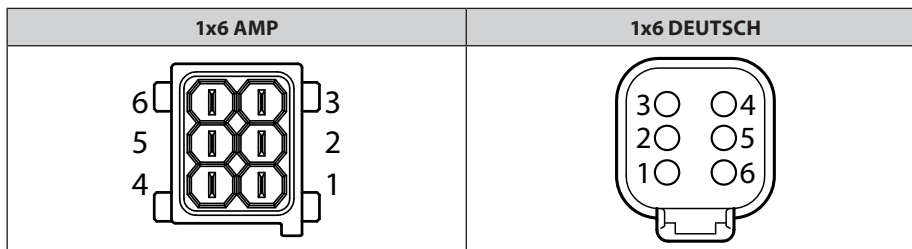
Montage af PVE Installation of PVE Montage von PVE Installation de PVE



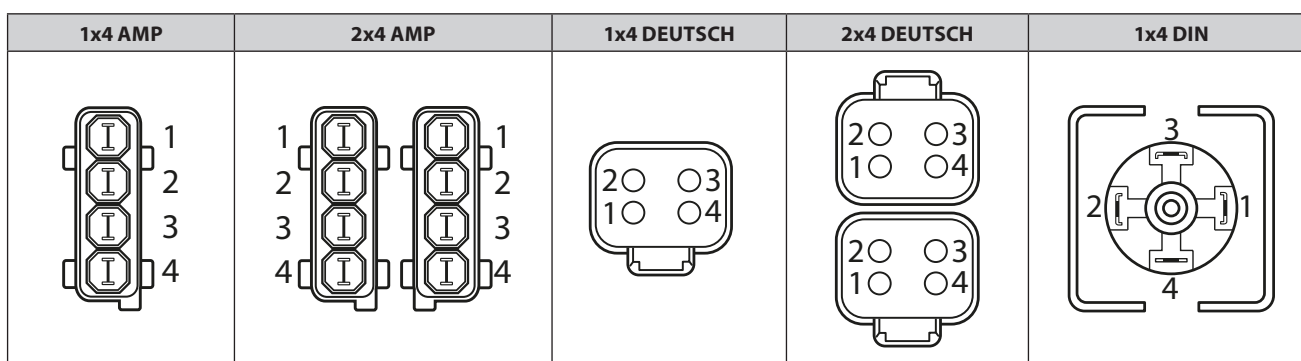
- Protect LVDT-pin if present
- Ensure O-rings are in place
- Ensure gasket when using AMP and DIN/Hirschmann connector
- Do not over torque

▲ Warning: PVEA is not compatible with PVG 100 High Flow.

PVE stik varianter
 PVE connector variants
 PVE Stecker varianten
 PVE variantes de connecteur



Pin		Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6
PVEH-FLA	1x6 AMP	U_s	U_{DC}	GND	Error	Float	
	1x6 DEUTSCH	U_s	Error	Float		GND	U_{DC}
PVES-SP	1x6 DEUTSCH	U_s	Error		SP	GND	U_{DC}
PVEP	1x6 DEUTSCH	PWM_A	Error	PWM_B	U_{DC}	GND	



Pin		Pin 1	Pin 2	Pin 3	Pin 4	
PVEO PVEO-R	1x4 AMP	$U_{DC,A}$	$U_{DC,B}$	GND	GND	
	1x4 DEUTSCH	$U_{DC,A}$	GND	GND	$U_{DC,B}$	
	1x4 DIN	$U_{DC,A}$	$U_{DC,B}$		GND	
PVEM PVEM-FLB	1x4 DIN	U_{DC}	U_s	Error	GND	
PVEA PVEH PVEH-FLB PVEH-S PVEH-U	1x4 AMP	U_s	U_{DC}	GND	Error	
	1x4 DEUTSCH	U_s	Error	GND	U_{DC}	
	1x4 DIN	U_{DC}	U_s	Error	GND	
PVEO-DI	2x4 AMP	A	$U_{DC,A}$	$U_{DC,B}$	GND	GND
		B	DI-B	DI-A	GND	U_{DC2}
PVEA-DI PVEH-DI	2x4 AMP	A	U_s	U_{DC}	GND	Error
		B	DI-B	DI-A	GND	U_{DC2}
	2x4 DEUTSCH	A	U_s	Error	GND	U_{DC}
		B	U_{DC2}	GND	DI-A	DI-B
PVED-CC	2x4 AMP	A/B	CAN_L	U_{DC}	GND	CAN_H
	2x4 DEUTSCH	A/B	CAN_H	CAN_L	U_{DC}	GND

PVE driftsbetingelser
 PVE operating conditions
 PVE Betriebsbedingungen
 PVE conditions de fonctionnement

PVEO/PVEH/PVES Operating Conditions		
Pilot Pressure	Nominal	13.5 bar [196 psi]
	Minimum	10.0 bar [145 psi]
	Maximum	15.0 bar [220 psi]
Storage Temp.	Ambient	-50°C → 90°C [-58°F → 194°F]
Operating Temp.	Ambient	-40°C → 90°C [-40°F → 194°F]
Oil Viscosity	Operating range	12 → 75 cSt [65 → 347 SUS]
	Minimum	4 cSt [39 SUS]
	Maximum	460 cSt [2128 SUS]
Oil Cleanliness	Maximum	18/16/13 (acc. to ISO 4406)

**PVE kontrol specifikationer
PVE control specifications
PVE Steuerungsspezifikationen
PVE spécifications de contrôle**

PVEO Control Specification			
Supply Voltage (U_{DC})	Rated	12 V_{DC}	24 V_{DC}
	Range	11 → 15 V_{DC}	22 → 30 V_{DC}
	Max. ripple	5 %	

PVEM Control Specification		
Supply Voltage (U_{DC})	Rated/Range	11 → 32 V_{DC}
	Max. ripple	5%
Signal Voltage (U_s)	Neutral	$U_s = 0.5 \cdot U_{DC}$
	Q: P → A	$U_s = (0.5 \rightarrow 0.25) \cdot U_{DC}$
	Q: P → B	$U_s = (0.5 \rightarrow 0.75) \cdot U_{DC}$
Signal Voltage PWM (U_s)	neutral	$U_s = 50\%$ DUT
	Q: P → A	$U_s = 50\% \rightarrow 25\%$ DUT
	Q: P → B	$U_s = 50\% \rightarrow 75\%$ DUT
PWM Frequency (U_s)	Recommended	> 200 Hz
Input Impedance	Rated	12 k Ω
Input Capacitance	Rated	100 nF

PVEA/PVEH/PVES Control Specification		
Supply Voltage (U_{DC})	Rated/Range	11 → 32 V_{DC}
	Max. ripple	5%
Signal Voltage (U_s)	Neutral	$U_s = 0.5 \cdot U_{DC}$
	Q: P → A	$U_s = (0.5 \rightarrow 0.25) \cdot U_{DC}$
	Q: P → B	$U_s = (0.5 \rightarrow 0.75) \cdot U_{DC}$
Signal Voltage PWM (U_s)	neutral	$U_s = 50\%$ DUT
	Q: P → A	$U_s = 50\% \rightarrow 25\%$ DUT
	Q: P → B	$U_s = 50\% \rightarrow 75\%$ DUT
PWM Frequency (U_s)	Recommended	> 1000 Hz
Input Impedance	Rated	12 k Ω
Input Capacitance	Rated	100 nF

**PVE stik varianter
PVE connector variants
PVE Stecker varianten
PVE variantes de connecteur**

PVEO LED Characteristics		
Color	LED view	Function
Green		Power ON

PVEM/PVEA/PVEH/PVES LED Characteristics		
Color	LED view	Function
Green		Operating
Green @ 1.5 Hz		Neutral - Power Save
Red		Internal fault
Red @ 1.5 Hz		External or Float fault

PVEH-U/PVES-U LED Characteristics		
Color	LED view	Function
Green		Operating
Green @ 1.5 Hz		Neutral - Power Save
Red		Internal fault
Red @ 1.5 Hz		External or Float fault
Yellow		Disable Mode

PVG - Udluftning

Hvis gruppen er monteret vertikalt, anbefales det at udluftte ved justereskruer.

Bemærk: Ved PVEA kan det, pga.dens hydrauliske opbygning, være påkrævet at foretage udluftning.

PVG - Bleeding

If the group is installed vertically, it is recommended to bleed it at the adjusting screws.

Note: Because of the hydraulic build-up of PVEA, it may be necessary to bleed it.

PVG - Entlüftung

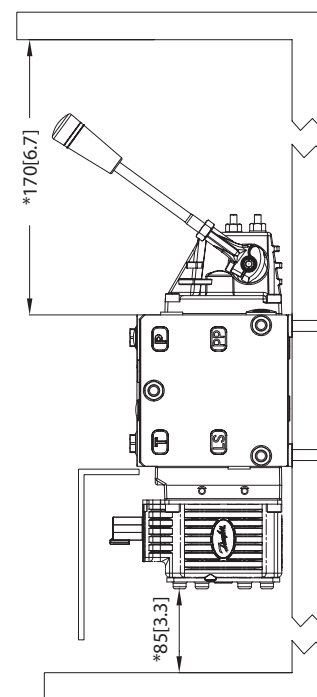
Wenn die Gruppe vertikal montiert ist, empfehlen wir an den Justierschrauben zu entlüften.

Beachte: Wegen des hydraulischen Aufbaus von PVEA kann eine Entlüftung erforderlich sein.

PVG - Purge

Si l'ensemble est monté verticalement, il est recommandé de le purger au moyen des vis d'ajustage.

Nb! En raison du système hydraulique des PVEAs il peut s'avérer nécessaire de purger.



P109122

Beskyttelse

Det anbefales, at PVE'en på særligt udsatte steder beskyttes i form af en afskærmning eller lignende.

Protection

In particularly exposed applications protection in the form of screening is recommended.

Schutzart

Es ist empfehlenswert, der PVE in besonders ausgesetzten Einsatzbereichen mit einer Abschirmung oder dergleichen zu schützen.

Protection

Dans les zones particulièrement exposées, il est cependant conseillé de protéger le PVE à l'aide d'un écran ou d'un dispositif similaire.

▲ Warning

Alle mærker og typer af retningsventiler – også proportional ventiler – kan svigte og forårsage alvorlig skade.

Det er derfor vigtigt at analysere maskinen i alle enkeltheder.

Da proportionalventiler anvendes under mange forskellige driftsbetingelser og i mange forskellige maskiner, er det alene maskinproducentens ansvar at træffe det endelige produktvalg og sikre at samtlige maskinens krav til ydelse, sikkerhed og advarsler er opfyldt.

Ved valg af reguleringssystem – og sikkerhedsniveau – kan man f.eks. støtte sig til EN954-1 (sikkerhedsrelaterede bestanddele i reguleringssystemet).

▲ Warning

All marks and all types of directional control valves – inclusive 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 alone 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 EN 954-1 (Safety related parts of control system). See also Technical information for PVE series 7.

▲ Warnung

Alle Fabrikate und Typen von Wegeventilen – einschließlich Proportionalventile – können versagen und schlimme Unfälle verursachen. Es ist daher wichtig, die Anwendung in allen Details zu analysieren.

Weil Proportionalventile unter vielen unterschiedlichen Arbeitsbedingungen und in vielen verschiedenen Anwendungen benutzt werden, trägt allein der Maschinenhersteller die Verantwortung für seine endgültige Wahl von Produkt, und er ist ebenfalls dafür verantwortlich, dass alle Leistungs-, Sicherheits- und Warnungsanforderungen an seine Maschine erfüllt sind. Zur Wahl vom Reglersystem und Sicherheitsniveau kann man sich z.B. auf EN954-1 stützen.

▲ Avertissement

Tous les distributeurs - y compris les distributeurs proportionnels - peuvent tomber en panne et entraîner de sérieux dommages. C'est la raison pour laquelle il est important d'analyser chaque aspect de l'application.

Les vannes proportionnelles étant utilisées dans de nombreuses conditions d'exploitation et applications différentes, le fabricant de l'application porte l'entière responsabilité de la sélection finale des produits et du respect des exigences en matière de rendement, de sécurité et d'avertissement.

Le choix du système de commande – et du niveau de sécurité – peut être fait par exemple sur la base de la norme EN 954-1 (parties du système de commande relatives à la sécurité). Se reporter également à Information technique pour PVE série 7.