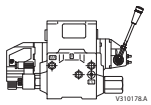
Installation Guide

Proportional Valve PVG 120



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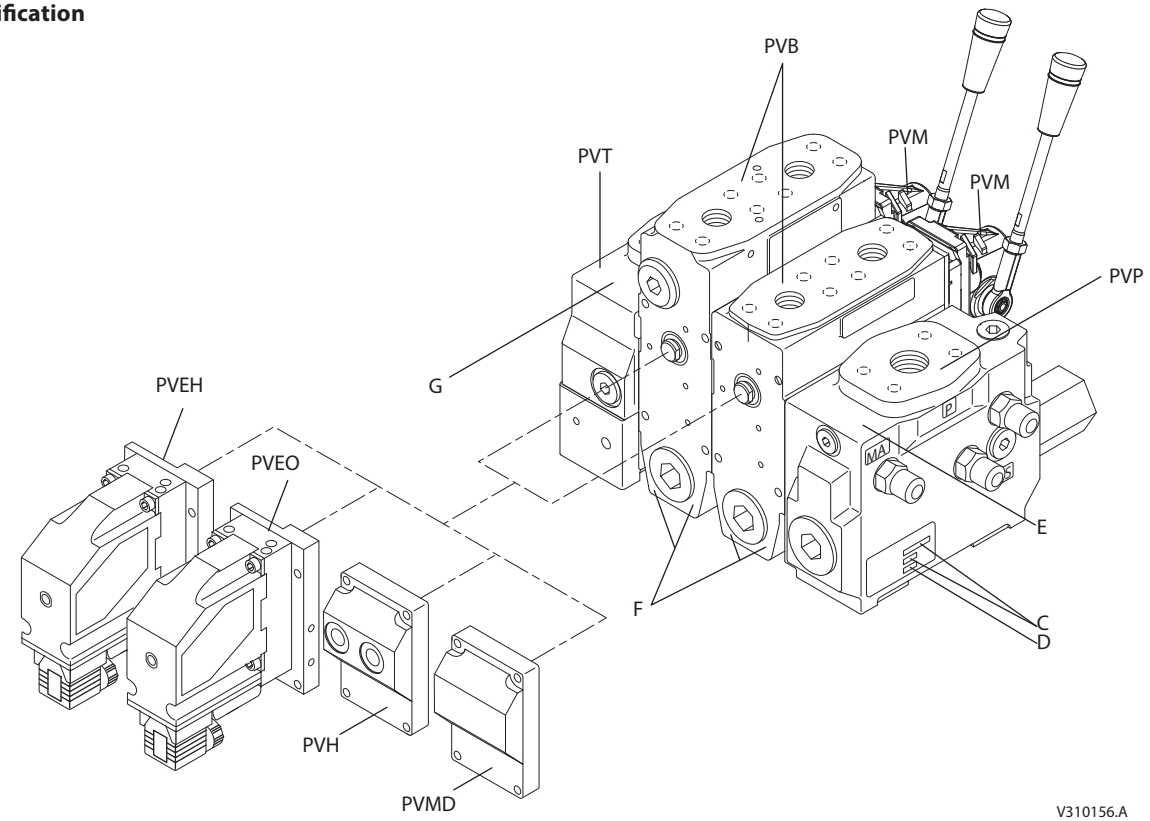
Identifikation
Identification
Identifikation
Identification



C: PVG – nummer, uge og år for montage og serienummer
D: PVP – trykindstilling
E: PVP – nummer, uge og år for fremstilling og serienummer
F: PVB – A-port, nummer, uge og år for fremstilling og serienummer
G: PVT – uge og år for fremstilling

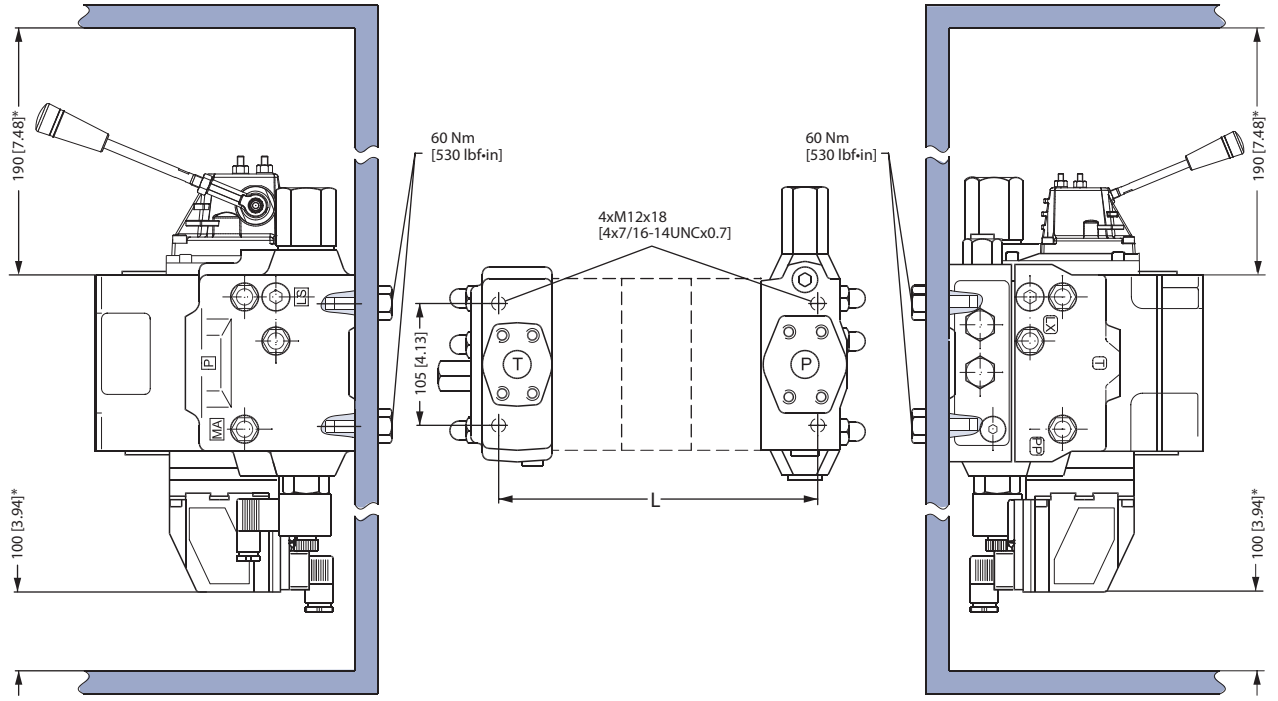
C: PVG – number, week and year of assembly
D: PVP – pressure setting
E: PVP – number, week, year and day manufacturing, issue and series No.
F: PVB – A-Port, number, week, year and day manufacturing, issue and series No.
G: PVT – week and year of manufacturing

C: PVG – Nummer, Woche und Jahr der Montage und Seriennummer
D: PVP – Druckeinstellung
E: PVP – Nummer, Woche und Jahr der Herstellung und Seriennummer
F: PVB – A-Anschluss, Nummer, Woche und Jahr der Herstellung und Seriennummer
G: PVT – Woche und Jahr der Herstellung

C: PVG – numéro, semaine et année de montage et numéro sériel
D: PVP – réglage de pression
E: PVP – numéro, semaine et année de fabrication et numéro sériel
F: PVB – orifice-A, numéro, semaine et année de fabrication et numéro sériel
G: PVT – semaine et année de fabrication

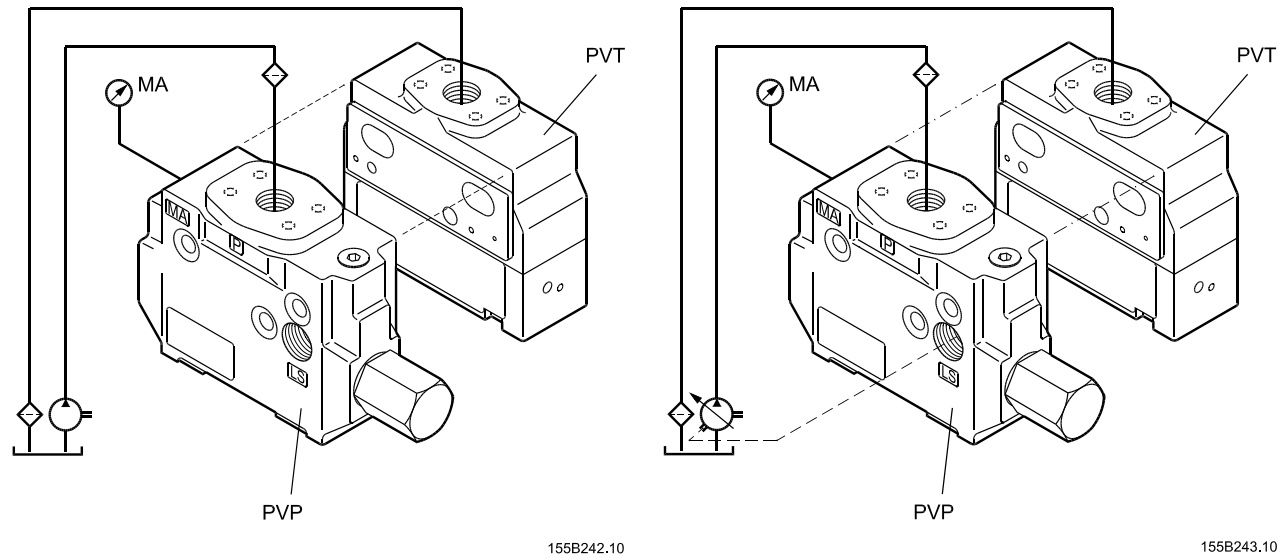
Montering og orientering af stik
Installation and plug orientation
Montage und Ausrichtung des Steckers
Montage et orientation de la prise

PVB	1	2	3	4	5	6	7	8
L mm	168	235	302	369	436	503	570	637
L in	6.61	9.25	11.88	14.53	17.17	19.80	22.44	25.08



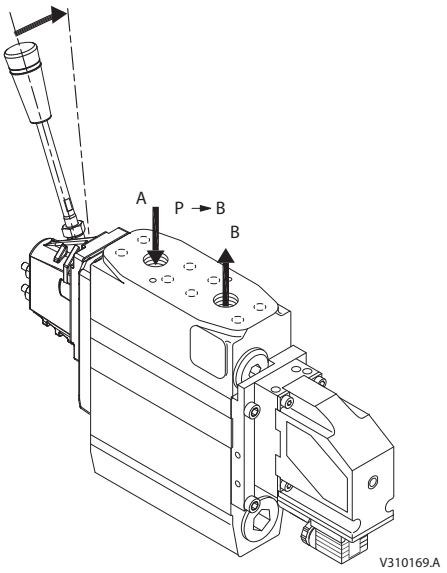
* Plads til demontage
* Room for dismantling
* Platz für Demontage
* Espace pour démontage

Tilslutning – PVP, pumpesidemodul
Connection – PVP, pump side module
Anschluss – PVP, pumpenseitiges Modul
Raccordement – PVP, plaque d'entrée



Oliestrømmens retning
Oil flow direction
Richtung des Ölstroms
Sens du débit

Mekanisk betjening
Mechanical actuation/electrical
Mechanische Betätigung
Commande mécanique



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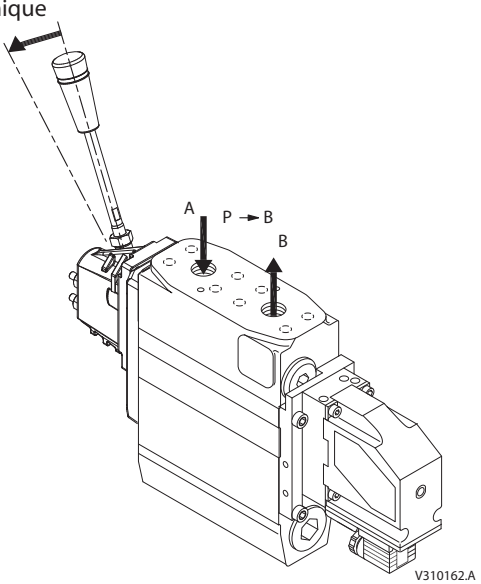

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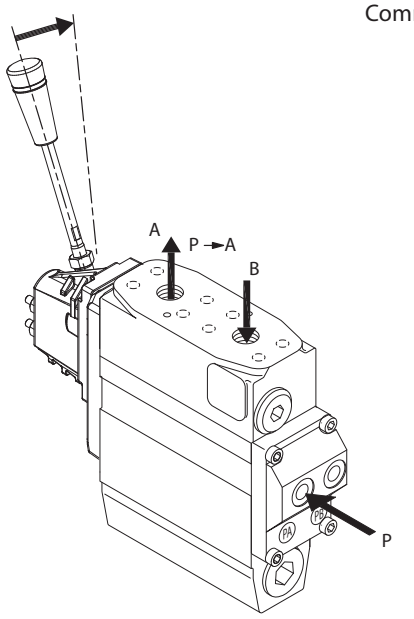
Mekanisk/hydraulisk betjening
Mechanical/hydraulic actuation
Mechanische/hydraulische Betätigung
Commande mécanique/hydraulique



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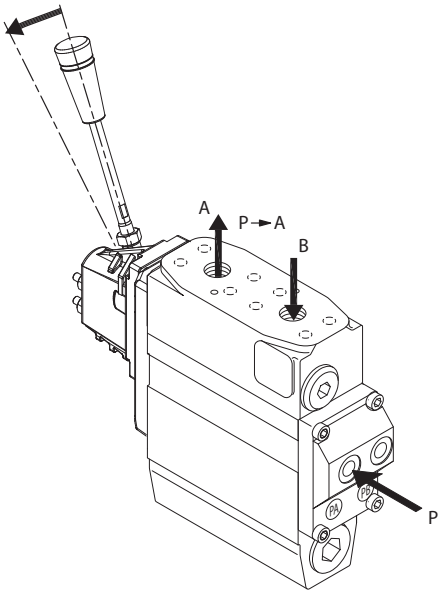

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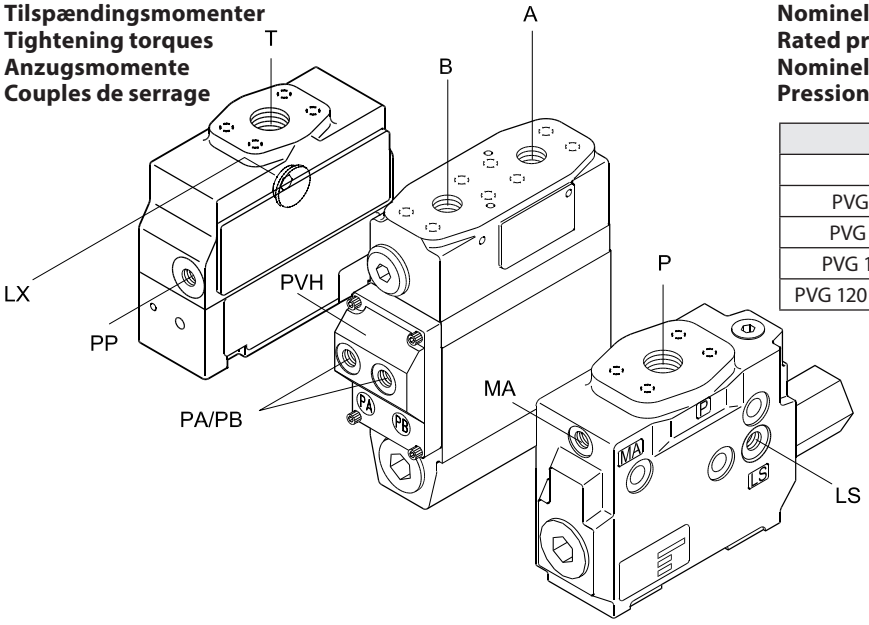
Tilspændingsmomenter
Tightening torques
Anzugsmomente
Couples de serrage



155B445.10

Nominel tryk
Rated pressure
Nomineller Druck
Pression nominale

Product	Rated pressure
PVG 120	400 bar [58.02 psi]
PVG 120/32 w.PVS	300 bar [4351 psi]
PVG 120/32 w.PVSI	350 bar [5076 psi]
PVG 120 w. HIC steel	350 bar [5076 psi]
PVG 120 w. HIC aluminium	210 bar [3046 psi]

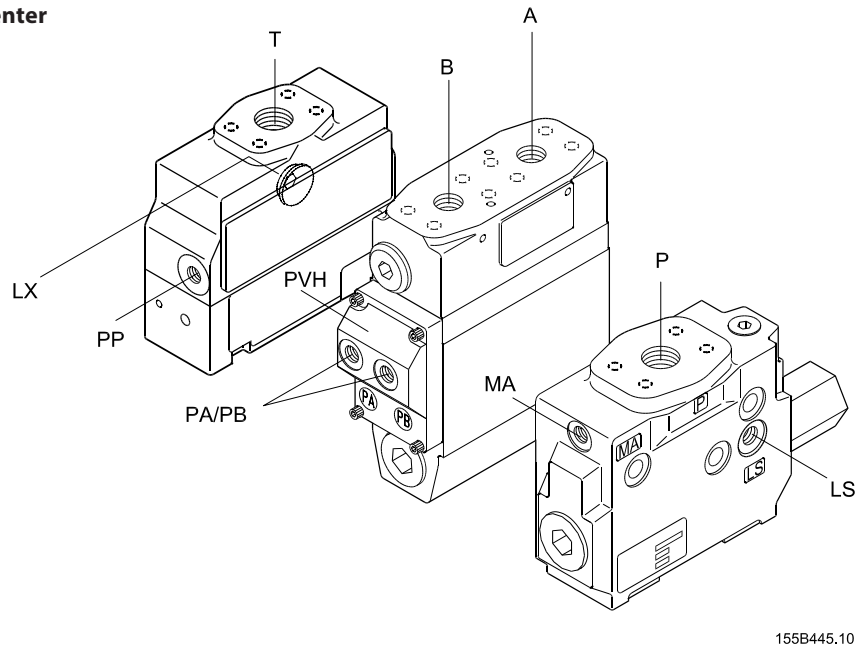
Tilslutningsgevind type G (ISO 228/1)
Connection threads type G (ISO 228/1)
Anschlussgewinde Typ G (ISO 228/1)
Filetage de raccordement type G (ISO 228/1)

Maks. tilspændingsmoment Max. tightening torques Max. Anzugsmomente Couples de serrage maxi			
	PA, PB	**MA**	**LS, LX, PP**
Tætning / Gevind **Sealing / Thread** **Dichtung / Gewinde** **Etanchéite / Filetage**	**G 1/4**	**G 1/4**	**G 3/8**
med stålskive with steel washer mit Stahlscheibe avec rondelle en acier	35 Nm [310 lbf·in]	40 Nm [350 lbf·in]	60 Nm [530 lbf·in]
med kobberskive With cooper washer mit Kupferscheibe avec rondelle en cuivre	30 Nm [270 lbf·in]	20 Nm [180 lbf·in]	35 Nm [310 lbf·in]
med aluminiumsskive with aluminium washer mit Aluminiumscheibe avec rondelle en aluminium	30 Nm [270 lbf.in]	30 Nm [270 lbf.in]	40 Nm [350 lbf·in]
med skærekant with cutting edge mit Dichtkante tranchant	35 Nm [310 lbf.in]	40 Nm [350 lbf.in]	60 Nm [530 lbf·in]

UN og UNF tilslutningsgevind med O-ringstætning
UN and UNF connection threads – O-ring boss port
UN und UNF Anschlussgewinde mit O-ringsdichtung
Filetage de raccordement UN et UNF avec cône pour joint torique

Maks. tilspændingsmoment Max. tightening torques Max. Anzugsmomente Couples de serrage maxi						
	P	**A/B**	**T**	**PA/PB**	**MA**	**LS,LX,PP**
Tætning / Gevind Sealing / Thread Dichtung / Gewinde Etanchéite / Filetage	1 5/16 in-12 UN	1 1/16 in-12 UN	1 5/16 in-12 UN	1/2 in-20 UNF	1/2 in-20 UNF	3/4 in-20 UNF
O-ring O-ring O-ring Joint torique	160 Nm [1410 in-lbs]	120 Nm [1060 in-lbs]	160 Nm [1410 in-lbs]	30 Nm [270 in-lbs]	30 Nm [270 in-lbs]	60 Nm [530 in-lbs]

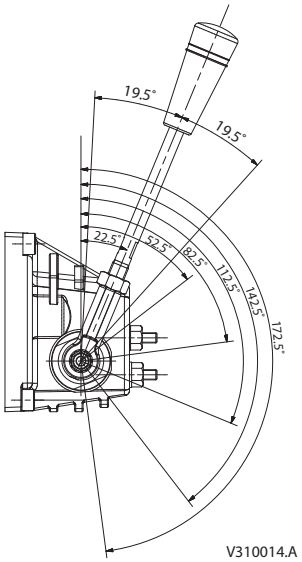
Tilspændingsmomenter
Tightening torques
Anzugsmomente
Couples de serrage



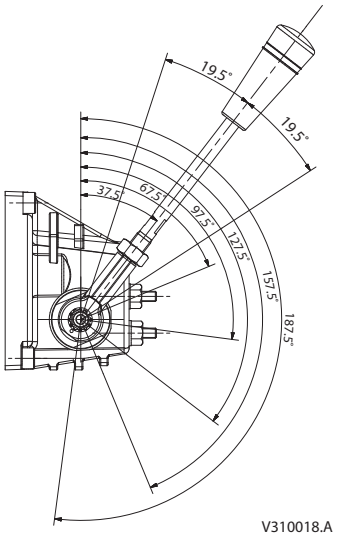
Montagegevind i SAE J 518c flanger
Mounting threads in SAE J 518c flanges
Montagegewinde in SAE J 518c Flanschen
Filetage de montage dans les brides SAE J 518c

Maks. tilspændingsmoment Max. tightening torques Max. Anzugsmomente Couples de serrage maxi				
Port Port Anscshluss Orifice	**Størrelse Size Grösse Taille**	**Gevind Threads Gewinde Filetage**		**Tilspændingsmoment Tightening torque Anzugsmoment Couple de serrage**
P	1 in	M12	18 dyb 18 deep 18 tief profondeur 18	68 Nm [600 lbf·in]
		7/16 - 14 UNC	0.7" dyb 0.7" deep 0.7" tief profondeur 0.7*	68 Nm [600 lbf·in]
A/B	3/4 in	M10	17 dyb 17 deep 17 tief profondeur 17	45 Nm [400 lbf·in]
		3/8 - 16 UNC	0.7" dyb 0.7" deep 0.7" tief profondeur 0.7	45 Nm [400 lbf·in]
T	1 in	M10	17 dyb 17 deep 17 tief profondeur 17	45 Nm [400 lbf·in]
		3/8 - 16 UNC	0.7" dyb 0.7" deep 0.7" tief profondeur 0.7	45 Nm [400 lbf·in]

Montering af håndtag
Installation of lever
Montage von Hebel
Montage de manipulateur

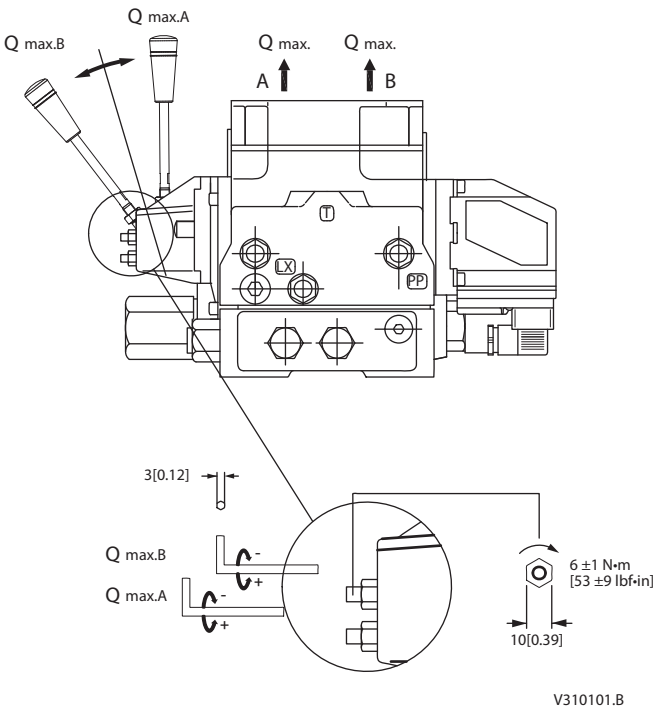


V310014.A



V310018.A

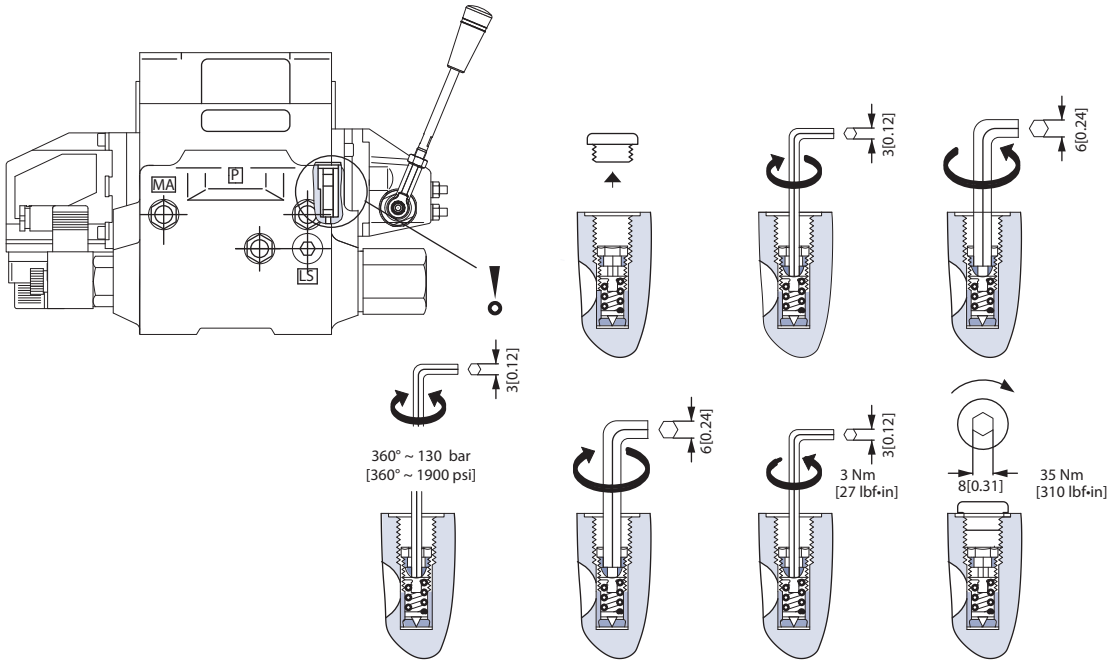
Indstilling af maks. oliestrøm
Setting of max. flow
Einstellung des max. Ölstroms
Réglage de débit maxi



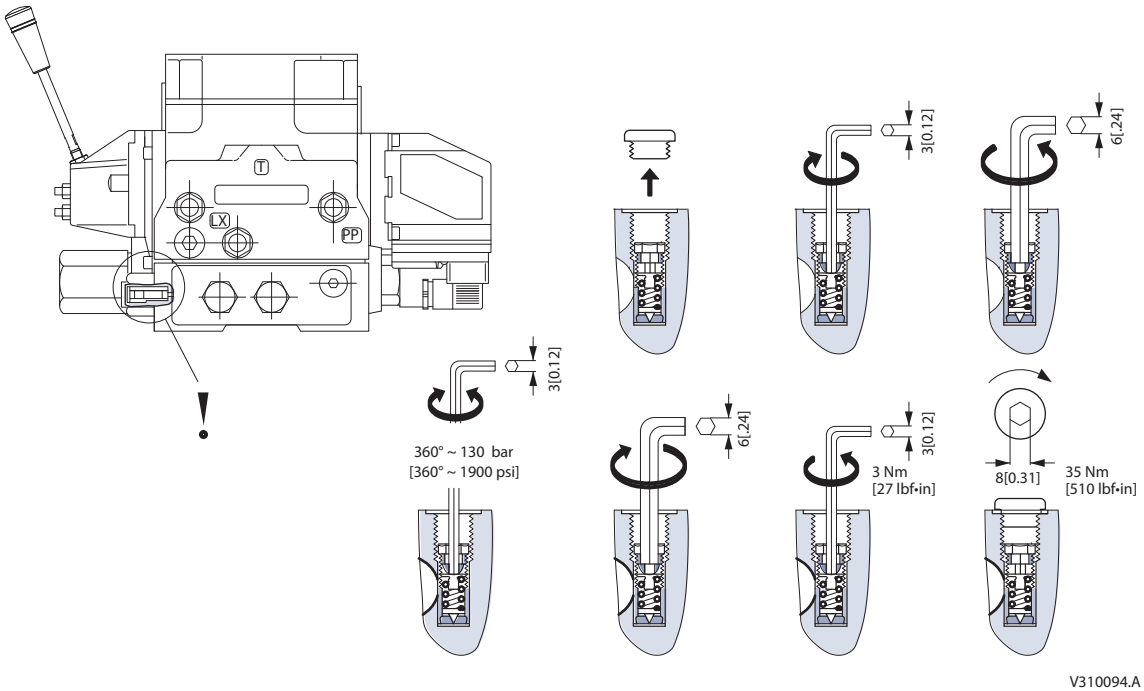
V310101.B

Trykindstilling
Pressure setting
Druckeinstellung
Réglage de pression

PVP,
Indstilling af LS sikkerhedsventil
LS relief valve setting
Einstellung des LS Sicherheitsventils
Réglage vanne de décharge LS

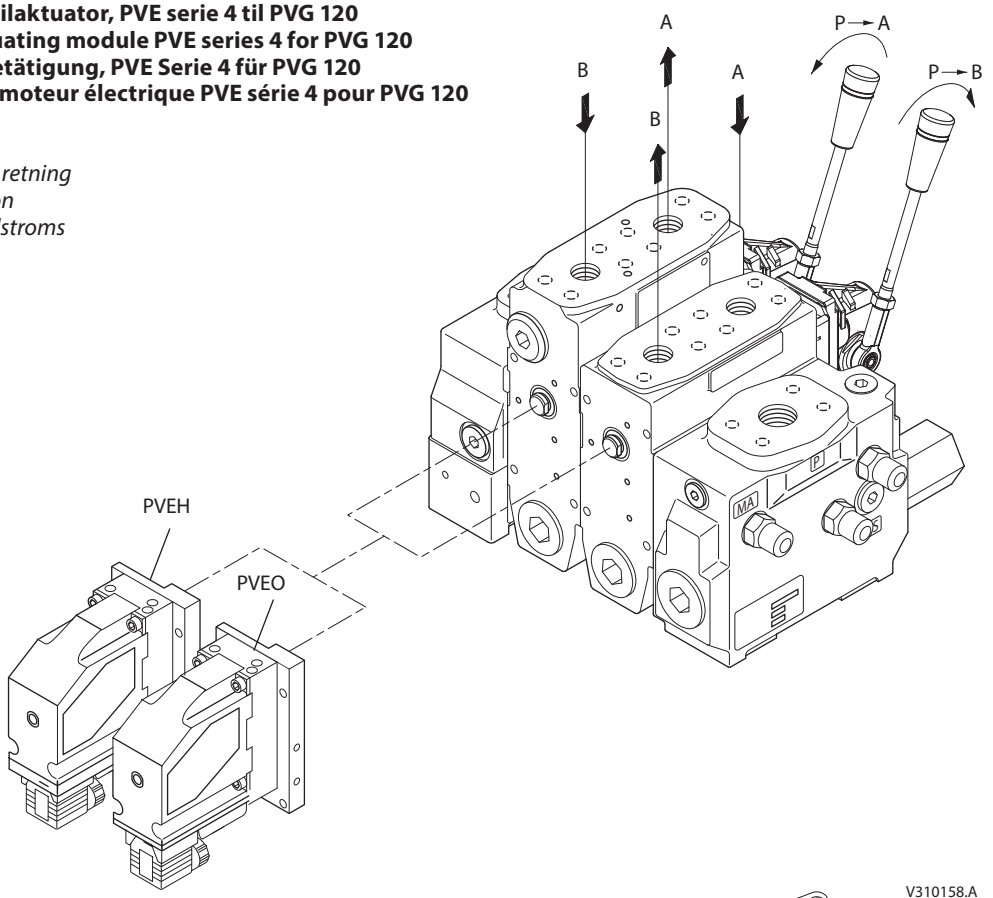


PVB,
Indstilling af LS sikkerhedsventil
LS relief valve setting
Einstellung des LS Sicherheitsventils
Réglage vanne de décharge LS



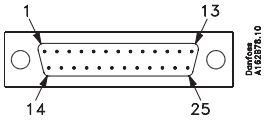
Elektrisk ventilaktuator, PVE serie 4 til PVG 120
Electrical actuating module PVE series 4 for PVG 120
Elektrische Betätigung, PVE Serie 4 für PVG 120
Module servomoteur électrique PVE série 4 pour PVG 120

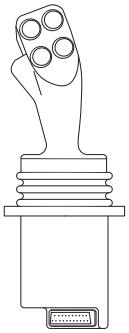
Oliestrømmens retning
Oil flow direction
Richtung des Ölstroms
Sens du débit



V310158.A

25 pin SUB-D connector
(MIL-C-24308 /DIN 41652)



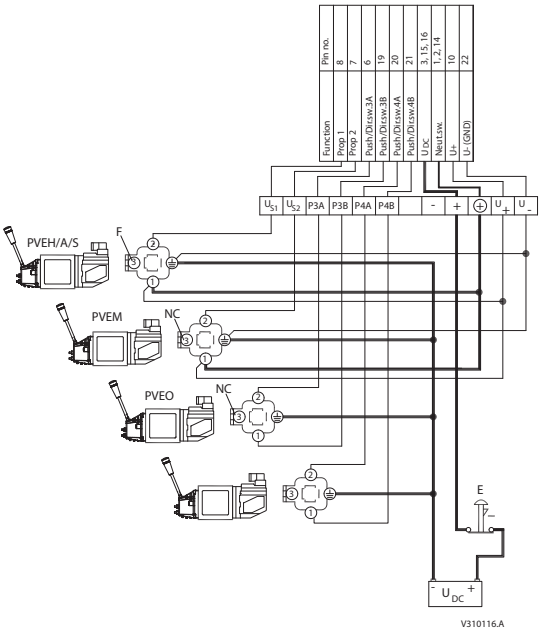


U_{DC} = Forsyningsspænding/Supply voltage
Versorgungsspannung/Tension d'alimentation
U_S = Signalspænding/Signal voltage
Signalspannung/Tension de commande

E: Nødstop
E: Emergency circuit braker
E: Notschalter
E: Interrupteur

F: Udtag fra fejlovervågning
F: Branch circuit for fault indication
F: Anzapfung von der Fehlerüberwachung
F: Prise du surveillance défaut

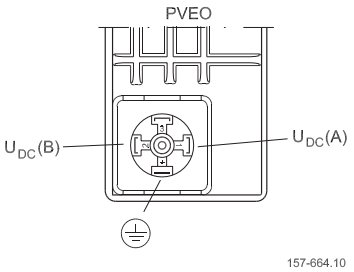
NC: Ikke tilsluttet
NC: Not connected
NC: Nicht eingeloggt
NC: Pas connecté



V310116.A

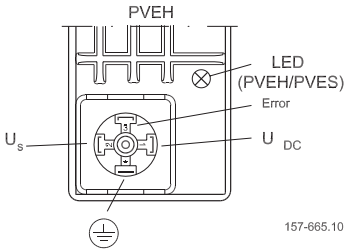
Hirschmann-version on/off

Function	Signal voltage (A or B)	
	A (pin 1)	B (pin 2)
Neutral	0	0
Q: P -> A	U_{DC}	0
Q: P -> B	0	U_{DC}



Hirschmann-version proportional

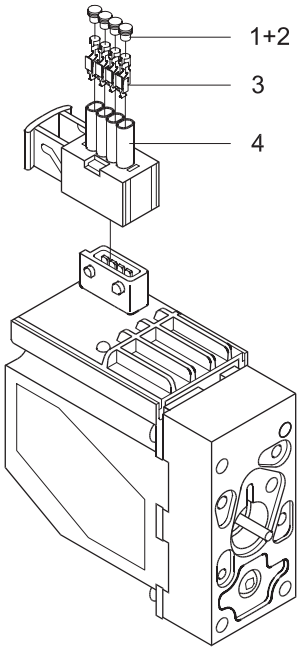
Function	Signal voltage (U_S)
Neutral	U_S (pin 2) = 0.5 • U_{DC}
Q: P -> A	U_S (pin 2) = (0.5 -> 0.25) • U_{DC}
Q: P -> B	U_S (pin 2) = (0.5 -> 0.75) • U_{DC}

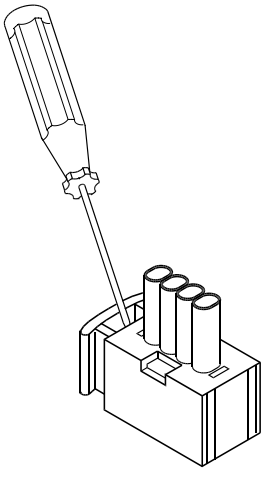


AMP-stik til PVE serie 4
AMP connector for PVE series 4
AMP-Stecker für PVE Serie 4
Kit AMP pour PVE serie 4

Pos.	Description	Qty.	AMP Code no.	Danfoss Code no.	Danfoss Code no with 4 mm cable
1	Wire sealing (blue)	4*	828904-1	157B4992 min. 5 pcs	157B4994 min. 5 pcs.
2	Blind plug (transparent)	1	828922-1		
3	JPT contact (loose piece)	4*	929930-1		
4	JPT housing keying B (gray)	1	2-967059-1		

JPT = AMP Junior Power Timer





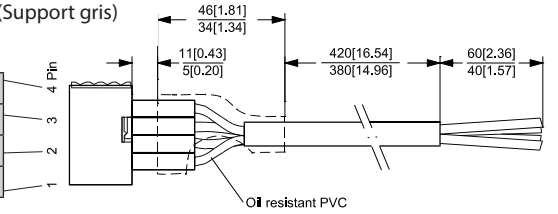
Kabel med stik
Cable with connector
Kabel mit Stecker
Câble avec connecteur

Code: 157B4994
(min. 5 pcs.)

Pin 1	Hvid, White, Weiß, Blance
Pin 2	Blå, Blue, Blau, Bleu
Pin 3	Gul, Yellow, Gelb, Jaune
Pin 4	Rød, Red, Rot, Rouge

PVE-funktion (gråt stik)
PVE-function (grey connector)
PVE-Funktion (Grauer Stecker)
PVE-Fonction (Support gris)

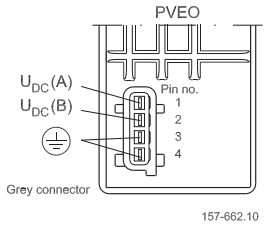
Pin 4	**F**
Pin 3	**U-**
Pin 2	**U+**
Pin 1	**Us**



157-376.10

AMP-version on/off

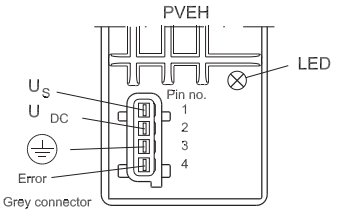
Function	Signal voltage (A or B)	
	A (pin 1)	B (pin 2)
Neutral	0	0
Q: P -> A	U_{DC}	0
Q: P -> B	0	U_{DC}



157-662.10

AMP-version proportional

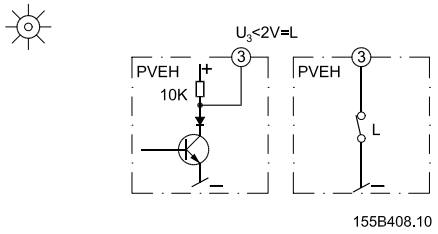
Function	Signal voltage (U_S)
Neutral	U_S(pin 1) = 0.5 • U_{DC}
Q: P -> A	U_S(pin 1) = (0.5 -> 0.25) • U_{DC}
Q: P -> B	U_S(pin 1) = (0.5 -> 0.75) • U_{DC}

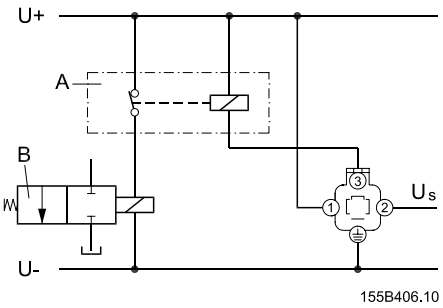


157-663.10

PVE fejlovervågning
PVE fault monitoring
PVE Fehlerüberwachung
PVE Surveillance de défat

Normal



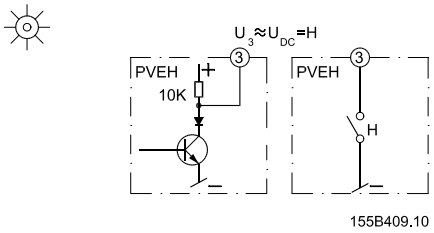


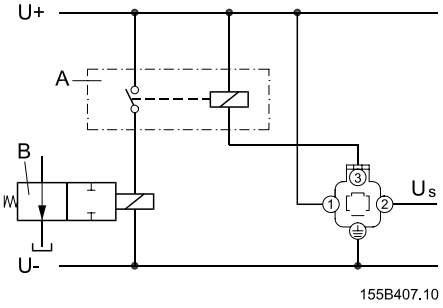
Grøn
Green
Grün
Vert

A: Eksternt relæ
A: External relay
A: Externes Relais
A: Relais externe

B: Magnetventil
B: Solenoid valve
B: Magnetventil
B: Electrodistributeur

Fejl / Fault / Fehler / Défaut





Rød
Red
Rot
Rouge

A: Eksternt relæ
A: External relay
A: Externes Relais
A: Relais externe

B: Magnetventil
B: Solenoid valve
B: Magnetventil
B: Electrodistributeur

Type	Fault monitoring	Delay before error out	Error mode	Error output status	Fault output on PVE [1]	LED light	Memory (reset needed)
PVEO	No fault monitoring	-	-	-	-	-	-
PVEH	Active	500 ms	No fault	Low	< 2 V	Green	-
			Input signal faults	High	~U_{DC}	Flashing red	Yes
			Transducer (LVDT)			Constant red	
			Close loop fault				
	Passive	250 ms	No fault	Low	< 2 V	Green	-
			Input signal faults	High	~U_{DC}	Flashing red	No
			Transducer (LVDT)			Constant red	
			Close loop fault				

[1] Measured between fault output pin and ground

⚠ 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).

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 4.

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.

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 4.