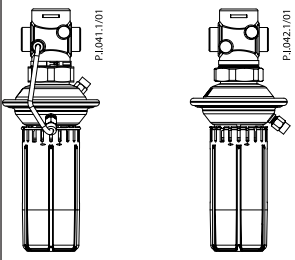
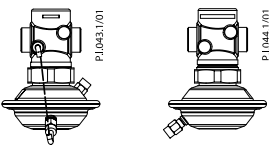
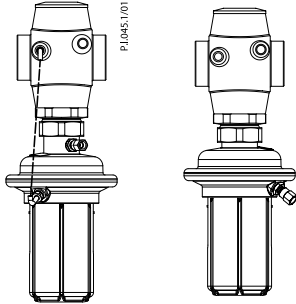
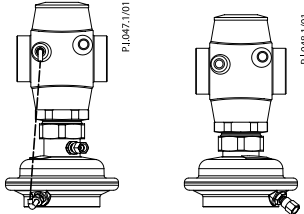
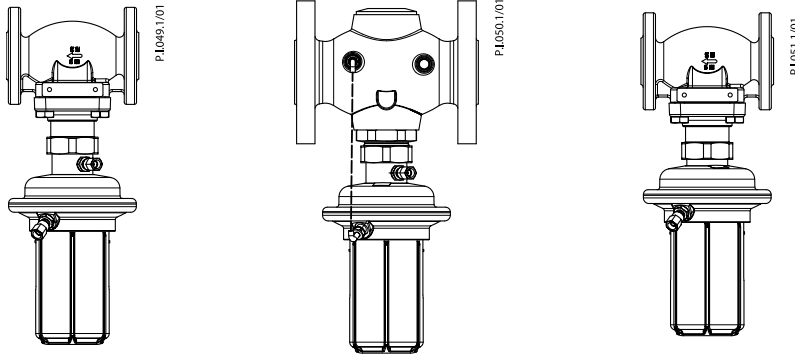
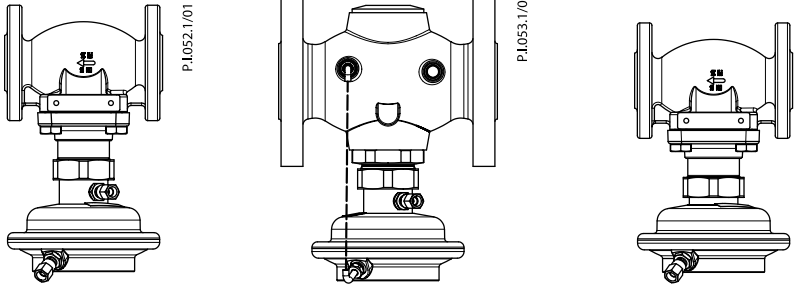
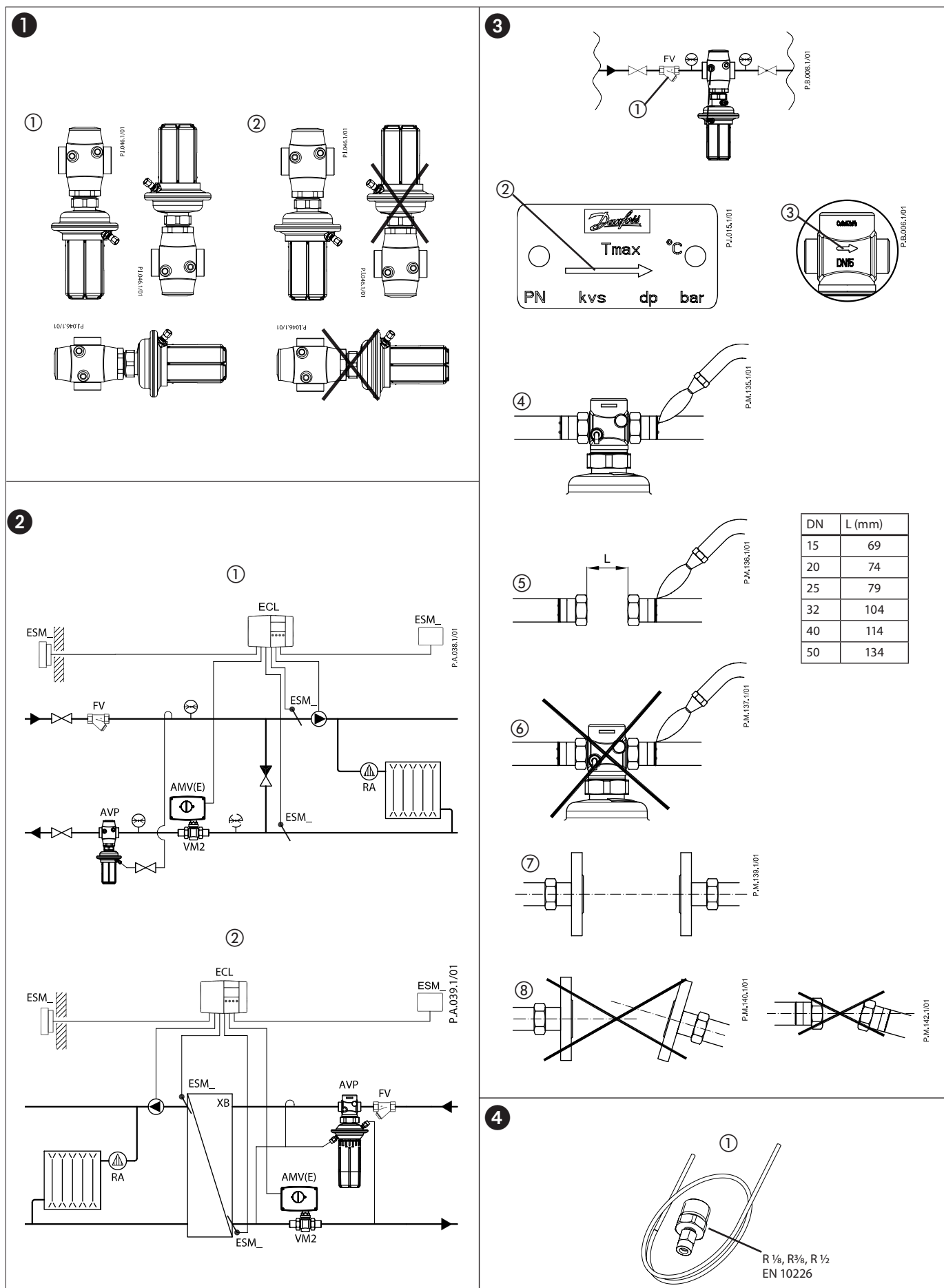
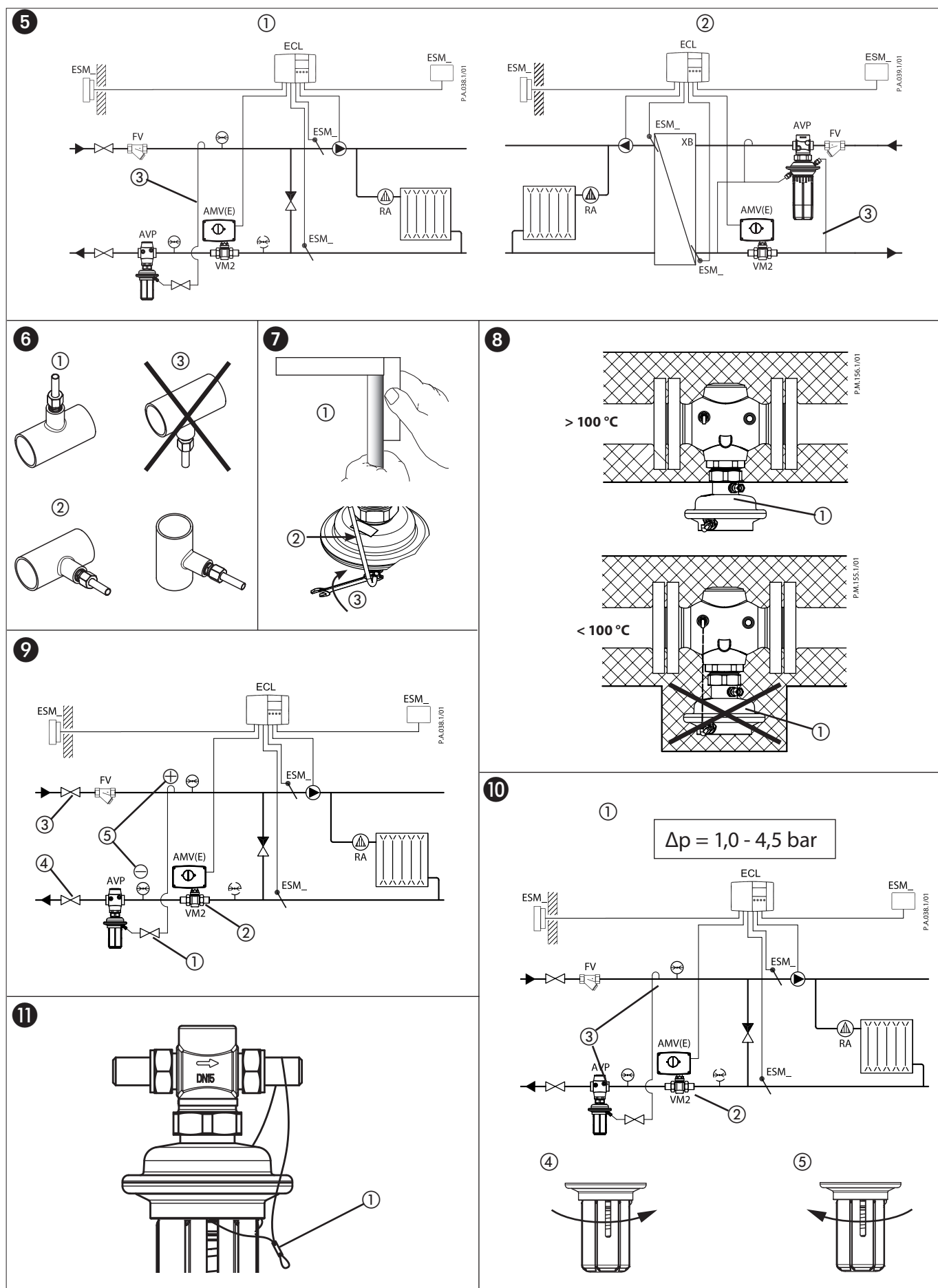


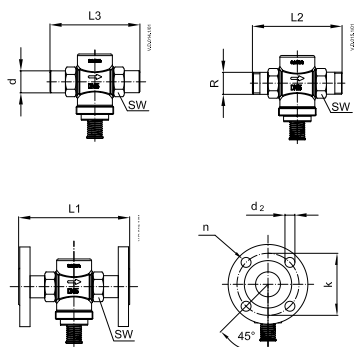
AVP, AVP-F – PN 16,25/DN 15 – 50

AVP (PN16)  DN 15 - 32 $\Delta p = 0.05 - 0.5$ $\Delta p = 0.2 - 1.0$ $\Delta p = 0.8 - 1.6$	AVP-F (PN16)  DN 15 - 32 $\Delta p = 0.2$ $\Delta p = 0.3$ $\Delta p = 0.5$	AVP (PN25)  DN 15 - 50 $\Delta p = 0.2 - 1.0$ $\Delta p = 0.3 - 2.0$	AVP-F (PN25)  DN 15 - 50 $\Delta p = 0.2$ $\Delta p = 0.5$
AVP (PN25)  DN 15 - 25 $\Delta p = 0.2 - 1.0$ $\Delta p = 0.3 - 2.0$ DN 32 - 50 $\Delta p = 0.2 - 1.0$ $\Delta p = 0.3 - 2.0$ DN 15 - 50 $\Delta p = 0.2 - 1.0$ $\Delta p = 0.3 - 2.0$			
AVP-F (PN25)  DN 15 - 25 $\Delta p = 0.2$ $\Delta p = 0.5$ DN 32 - 50 $\Delta p = 0.2$ $\Delta p = 0.5$ DN 15 - 50 $\Delta p = 0.2$ $\Delta p = 0.5$			





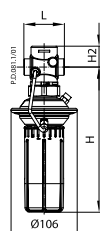
12



DN	15	20	25	32	40	50
SW	32 (G ¾A)	41 (G 1A)	50 (G 1¼A)	63 (G 1¾A)	70 (G 2A)	82 (G 2½A)
d	21	26	33	42	47	60
R ¹⁾	½	¾	1	1¼	-	-
L1 ²⁾	130	150	160	-	-	-
L2	120	131	145	182	-	-
L3	139	154	159	184	204	234
k	65	75	85	100	110	125
d2	14	14	14	18	18	18
n	4	4	4	4	4	4

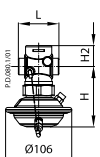
AVP (PN16)

DN	15	20	25	32
	flow	return	flow	return
L	65	70	75	100
H	232	232	232	232
H2	34	34	37	38



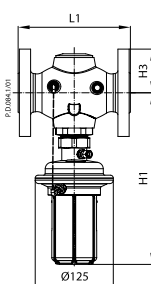
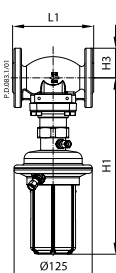
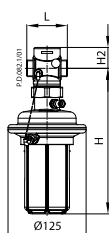
AVP-F (PN16)

DN	15	20	25	32
	flow	return	flow	return
L	65	65	70	75
H	97	97	97	97
H2	34	34	34	37



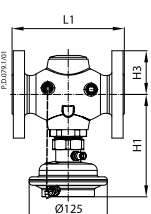
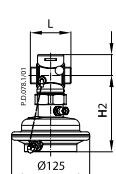
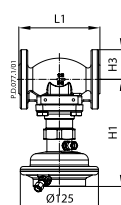
AVP (PN25)

DN	15	20	25	32	40	50
	flow	return	flow	return	flow	return
L	65	70	75	100	110	130
L1	130	150	160	180	200	230
H	233	220	233	220	275	261
H1	283	269	283	269	275	261
H2	34	34	37	62	62	62
H3	47	52	57	70	75	82



AVP-F (PN25)

DN	15	20	25	32	40	50
	flow	return	flow	return	flow	return
L	65	70	75	100	110	130
L1	130	150	160	180	200	230
H	122	109	122	109	164	150
H1	172	158	172	158	164	150
H2	34	34	37	62	62	62
H3	47	52	57	70	75	82



ENGLISH

Safety Notes



Prior to assembly and commissioning to avoid injury of persons and damages of the devices, it is absolutely necessary to carefully read and observe these instructions.

Necessary assembly, start-up, and maintenance work must be performed only by qualified, trained and authorized personnel.

Prior to assembly and maintenance work on the controller, the system must be:

- depressurized,
- cooled down,
- emptied and
- cleaned.

Please comply with the instructions of the system manufacturer or system operator.

Definition of Application

The controller is used for pressure relief control of water and water glycol mixtures for heating, district heating and cooling systems.

The technical parameters on the product labels determine the use.

Assembly

Admissible Installation Positions ①

Medium temperatures up to 100 °C ①:

- Can be installed in any position.

Medium temperatures > 100 °C ②:

- Installation permitted only in horizontal pipelines with the actuator oriented downwards.

Installation Location and Installation Scheme ②

AVP (-F) return mounting ①

AVP (-F) flow mounting ②

Valve Installation ③

1. Clean pipeline system prior to assembly.
2. The installation of a strainer in front of the controller is strongly recommended ①.
3. Install pressure indicators in front of and behind the system part to be controlled.
4. Install valve
 - The flow direction indicated on the product label ② or on the valve ③ must be observed.
 - The valve with mounted weld-on tailpieces may only be spotwelded to the pipeline ④.
The weld-on tailpieces may be welded only without the valve and seals! ⑤⑥
If these instructions are not observed, high welding temperatures may destroy the seals.
 - Flanges ⑦ in the pipeline must be in parallel position and sealing surfaces must be clean and without any damage.
Tighten screws in flanges crosswise in 3 steps up to the maximum torque (50 Nm).
5. **Caution:**
Mechanical loads of the valve body by the pipelines are not permitted ⑧.

Impulse tube and seal pot mounting

- Which impulse tubes to use? ④
Use Impulse tube set AV ① or use following pipe:
Copper Ø 6 × 1 mm EN 12449
- Connection of impulse tube and seal pot ③ in the system ⑤
 - Return mounting ①
 - Flow mounting ②
- Connection to the pipeline ⑥
It is strongly recommended to install the impulse tube to the pipeline horizontally ① or upwards ②.
This prevents dirt accumulation in the impulse tube and possible malfunction of the controller.
Connection downwards is not recommendable ③.
- Impulse Tube Mounting ⑦
 1. Cut pipe perpendicularly to the pipe axis and smooth edges out ①.
 2. Press impulse tube ② into the threaded joint up to its stop.
 3. Tighten union nut ③ Torque 14 Nm

Insulation ⑧

For medium temperatures up to 100 °C the pressure actuator ① may also be insulated.

Start-up ⑨

Filling the system, first start-up

1. Slowly open shut-off devices ① in the flow pipeline.
2. Slowly open shut-off devices ② in the return pipeline.
3. Slowly open shut-off devices ③ in the flow pipeline.
4. Slowly open shut-off devices ④ in the return pipeline.

Leak and Pressure Tests



Pressure must be gradually increased at the +/- connection ⑤.

Non-compliance may cause damages at the actuator or the valve.

A pressure test of the entire system must be carried out in accordance with manufacturer's instructions.

The maximum test pressure is: **1,5 × PN**

PN - see product label!

Putting out of operation

1. Slowly close shut-off devices ③ in the flow pipeline.
2. Slowly close shut-off devices ④ in the return pipeline.

Settings

Differential Pressure Setting ⑩

(not relevant at fixed setting version AVP-F)

The pressure setting range is indicated on the product label ①.

Procedure:

1. Start system, see section "Filling the system, first start-up"
Completely open all shut-off devices in the system.
2. Set flow rate on a motorised valve ②, on which differential pressure is controlled, to about 50 %.
3. Adjustment
Observe pressure indicators ③ or/and alternatively see handle scale indication.
Turning to the right (clockwise) ④ increases the set-point (stressing the spring).
Turning to the left (counter clockwise) ⑤ reduces the set-point (releasing the spring).



If the required differential pressure is not attained, a cause may be a too small pressure loss in the system.

Seal ⑪

The set-point adjuster can be sealed by a seal wire ①, if necessary.

Dimensions, Weights ⑫

(See page 2)

- 1) Conical ext. thread acc. to EN 10226-1
- 2) Flanges PN 25, acc. to EN 1092-2



Other flange dimensions - see table for tailpieces.

DANSK
Sikkerhedsnoter


Disse instruktioner SKAL læses omhyggeligt forud for montering og indkøring samt respekteres for at undgå skader på personer og udstyr.

Nødvendigt monterings-, opstart- og vedligeholdelsesarbejde må kun udføres af faglært og autoriseret personale.

Forud for monterings- og vedligeholdelsesarbejde på regulatoren skal systemet være:

- trykløst,
- nedkølet,
- tømt og
- rengjort.

Systemproducentens eller -operatørens instruktioner skal overholdes.


ESPAÑOL
Notas de seguridad


Antes del montaje y de la puesta en marcha, para evitar daños personales y perjuicios en los dispositivos, es absolutamente necesario leer cuidadosamente estas instrucciones.

El montaje, la puesta en marcha y el trabajo de mantenimiento necesario deberán ser realizados solo por personal cualificado y autorizado.

Antes del montaje y el trabajo de mantenimiento del controlador, el sistema debe ser:

- despresurizado
- enfriado,
- vaciado y
- limpiado.

Por favor, cumpla con las instrucciones del fabricante del sistema o del operador del sistema.


ČESKY
Bezpečnostní informace


Z důvodu maximálního snížení možnosti poranění osob nebo vzniku škod na majetku je bezpodmínečně nutné se před vlastní montáží a uvedením regulátoru do provozu pečlivě seznámit se všemi bezpečnostními informacemi zde uvedenými.

Nezbytné montážní práce, kroky při uvádění do provozu a opravy mohou provádět pouze kvalifikovaní, proškolení pracovníci, kteří pro tuto činnost byly určeni.

Před montáží nebo před případnou opravou nebo servisem regulátoru je nutné, aby regulovaný systém splňoval následující podmínky:

- nebyl pod tlakem
- byl dostatečně ochlazen
- vyprázdněn a
- vyčištěn.

Potupujte podle návodu výrobce systému nebo jeho provozovatele.


DEUTSCH
Sicherheitshinweise


Um Verletzungen an Personen und Schäden am Gerät zu vermeiden, ist diese Anleitung vor der Montage unbedingt zu beachten.

Montage, Inbetriebnahme und Wartungsarbeiten dürfen nur von sachkundigen und autorisierten Personen durchgeführt werden.

Vor Montage und Wartungsarbeiten am Regler die Anlage:

- drucklos machen,
- abkühlen,
- entleeren und
- reinigen.

Die Vorgaben des Anlagenherstellers und Anlagenbetreibers sind zu beachten.


SLOVENŠČINA
Varnostna opozorila


Izjemno pomembno je, da pred montažo in zagonom skrbno preberete navodila in se jih držite. S tem se izognete poškodbam ljudi in okvaram na opremi.

Nujna sestavna, zagonska in vzdrževalna dela lahko izvajajo samo kvalificirani, šolani in pooblašeni delavci.

Pred sestavo in vzdrževalnimi deli na regulatorju mora biti sistem:

- tlačno izravnano,
- ohlajeno,
- izpraznjeno in
- očiščeno.

Prosimo, upoštevajte navodila proizvajalca sistema ali sistemskega operaterja.


POLSKI
Warunki bezpieczeństwa


W celu uniknięcia zranienia osób i uszkodzenia urządzeń należy bezwzględnie przed montażem i uruchomieniem zaworu zapoznać się dokładnie z niniejszą instrukcją.

Czynności związane z montażem, uruchomieniem i obsługą mogą być dokonywane wyłącznie przez osoby uprawnione i odpowiednio wykwalifikowane.

Przed montażem i obsługą konserwacyjną regulatora należy:

- zrzucić ciśnienie,
- ostudzić urządzenie,
- opróżnić układ i
- oczyścić.

Prosimy stosować się do instrukcji producenta lub operatora układu.



РУССКИЙ

Правила техники безопасности



Для предупреждения травматизма и повреждения оборудования перед началом производства работ по его монтажу и вводу в эксплуатацию следует изучить и соблюдать настоящую инструкцию.

Монтаж, наладку и техническое обслуживание оборудования может выполнять только квалифицированный персонал, имеющий допуск к таким работам.

В целях соблюдения правил техники безопасности перед началом работ по монтажу или обслуживанию регулятора необходимо произвести следующие действия с трубопроводной системой:

- сбросить давление;
- охладить;
- опорожнить;
- прочистить.

При этом должна соблюдаться также инструкция по эксплуатации системы.



NEDERLANDS

Veiligheid



Om verwondingen aan personen en schade aan de apparatuur te voorkomen is het absoluut noodzakelijk om deze instructies zorgvuldig te lezen en te bestuderen.

Noodzakelijke (de)montage, inbedrijfstelling en onderhoud dient alleen door deskundig, getraind en bevoegd personeel te worden uitgevoerd.

Voorafgaand aan montage- of onderhoudswerkzaamheden moet het systeem worden:

- afgesloten,
- afgekoeld,
- afgetapt en
- gereinigd.

Volg altijd de instructies van de installatiebouwer- of beheerder op.



ROMÂNĂ

Instrucțiuni privind siguranța în funcționare



Înainte de asamblare și de punerea în funcțiune, pentru evitarea accidentării persoanelor și a deteriorării echipamentului, este absolut necesară citirea cu atenție și respectarea acestor instrucțiuni.

Lucrările necesare de montare, punere în funcțiune și întreținere, trebuie efectuate numai de persoane calificate și autorizate.

Înainte de lucrările de asamblare și întreținere, sistemul trebuie să fie:

- depresurizat,
- răcit,
- golit și
- curățat

Vă rugăm să respectați instrucțiunile producătorului sau operatorului sistemului.



LIETUVIŲ K.

Saugumo reikalavimai



Kad nesusižeistumėte ir nesugadintumėte prietaisų, prieš montavimą ir paleidimą būtina išnagrinėti instrukciją.

Prietaisų montavimą, paleidimą bei priežiūrą privalo vykdyti tik kvalifikuoti, apmokyti ir įgalioti tokios darbus atlikti specialistai.

Prieš pradėdami reguliatoriaus montavimo ir priežiūros darbus sistema turi būti paruošta:

- kad joje nebūtų slėgio;
- atšąsinta;
- ištuštinta ir
- išvalyta.

Rekomenduojame laikytis sistemos gamintojų arba sistemos operatoriaus instrukcijų.



MAGYAR

Biztonsági előírások



Összeszerelés és üzembe helyezés előtt feltétlenül olvassa el és tartsa be ezen útmutató utasításait a személyi sérülések és a készülék meghibásodásának elkerülése érdekében! Az összeszerelést, üzembe helyezést és karbantartást csak szakképzett és arra feljogosított személy végezheti.

A szerelési és karbantartási munkálatok előtt a rendszert:

- nyomásmentesíteni kell,
- le kell hűteni,
- le kell üríteni,
- és meg kell tisztítani.

Kérjük, tartsa be a rendszer gyártójának és üzemeltetőjének rendelkezéseit!



FRANÇAIS

Remarques de sécurité



Pour éviter qu'une personne ne se blesse et que le dispositif ne soit endommagé, il est absolument nécessaire de lire attentivement ces instructions avant le montage et la mise en service, et de les respecter.

Le travail d'assemblage, de démarrage et de maintenance nécessaire doit être effectué uniquement par un personnel qualifié, formé et autorisé.

Avant tout travail de montage et d'entretien du régulateur, l'installation doit être :

- mise hors pression,
- refroidie,
- vidée,
- nettoyée.

Suivre les instructions du fabricant du système.





AVP, AVP-F – PN 16,25/DN 15 – 50

Danfoss A/S

Climate Solutions • danfoss.com • +45 7488 2222

Any information, including, but not limited to information on selection of product, its application or use, product design, weight, dimensions, capacity or any other technical data in product manuals, catalogues descriptions, advertisements, etc. and whether made available in writing, orally, electronically, online or via download, shall be considered informative, and is only binding if and to the extent, explicit reference is made in a quotation or order confirmation. Danfoss cannot accept any responsibility for possible errors in catalogues, brochures, videos and other material. Danfoss reserves the right to alter its products without notice. This also applies to products ordered but not delivered provided that such alterations can be made without changes to form, fit or function of the product.

All trademarks in this material are property of Danfoss A/S or Danfoss group companies. Danfoss and the Danfoss logo are trademarks of Danfoss A/S. All rights reserved.