

SMART Digital - DDE

Installation and operating instructions



Declaration of conformity

GB: EC declaration of conformity

We, Grundfos, declare under our sole responsibility that the products DDA, DDC and DDE, to which this declaration relates, are in conformity with these Council directives on the approximation of the laws of the EC member states:

- Machinery Directive (2006/42/EC).
Standards used: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Low Voltage Directive (2006/95/EC). *
Standard used: EN 61010-1: 2001 (second edition).
- EMC Directive (2004/108/EC).
Standards used: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Only for products with operating voltage > 50 VAC or > 75 VDC.

This EC declaration of conformity is only valid when published as part of the Grundfos installation and operating instructions.

BG: ЕС декларация за съответствие

Ние, фирма Grundfos, заявяваме с пълна отговорност, че продуктите DDA, DDC и DDE, за които се отнася настоящата декларация, отговарят на следните указания на Съвета за уеднаквяване на правните разпоредби на държавите членки на ЕС:

- Директива за машините (2006/42/EC).
Приложени стандарти: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Директива за нисковолтови системи (2006/95/EC). *
Приложен стандарт: EN 61010-1: 2001 (второ издание).
- Директива за електромагнитна съвместимост (2004/108/EC).
Приложени стандарти: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Само за продукти, работещи при напрежение > 50 VAC или > 75 VDC.

Тазя ЕС декларация за съответствие е валидна само когато е публикувана като част от инструкциите за монтаж и експлоатация на Grundfos.

CZ: ES prohlášení o shodě

My firma Grundfos prohlašujeme na svou plnou odpovědnost, že výrobky DDA, DDC a DDE, na něž se toto prohlášení vztahuje, jsou v souladu s ustanoveními směrnice Rady pro sblížení právních předpisů členských států Evropského společenství v oblastech:

- Směrnice pro strojní zařízení (2006/42/ES).
Použité normy: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Směrnice pro nízkonapětové aplikace (2006/95/ES). *
Použitá norma: EN 61010-1: 2001 (druhé vydání).
- Směrnice pro elektromagnetickou kompatibilitu (EMC) (2004/108/ES).
Použité normy: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Pouze pro výrobky s provozním napětím > 50 VAC nebo > 75 VDC.

Toto ES prohlášení o shodě je platné pouze tehdy, pokud je zveřejněno jako součást instalačních a provozních návodů Grundfos.

DK: EF-overensstemmelseserklæring

Vi, Grundfos, erklærer under ansvar at produkterne DDA, DDC og DDE som denne erklæring omhandler, er i overensstemmelse med disse af Rådets direktiver om indbyrdes tilnærmelse til EF-medlemsstaternes lovgivning:

- Maskindirektivet (2006/42/EF).
Anvendte standarder: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Lavspændingsdirektivet (2006/95/EF). *
Anvendt standard: EN 61010-1: 2001 (anden udgave).
- EMC-direktiv (2004/108/EF).
Anvendte standarder: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Gælder kun for produkter med driftsspænding > 50 VAC eller > 75 VDC.

Denne EF-overensstemmelseserklæring er kun gyldig når den publiceres som en del af Grundfos-monterings- og driftsinstruktioner.

DE: EG-Konformitätserklärung

Wir, Grundfos, erklären in alleiniger Verantwortung, dass die Produkte DDA, DDC und DDE, auf die sich diese Erklärung bezieht, mit den folgenden Richtlinien des Rates zur Angleichung der Rechtsvorschriften der EU-Mitgliedsstaaten übereinstimmen:

- Maschinenrichtlinie (2006/42/EG).
Normen, die verwendet wurden: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Niederspannungsrichtlinie (2006/95/EG). *
Norm, die verwendet wurde: EN 61010-1: 2001 (zweite Ausgabe).
- EMV-Richtlinie (2004/108/EG).
Normen, die verwendet wurden: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Nur für Produkte mit Betriebsspannungen > 50 VAC oder > 75 VDC.

Diese EG-Konformitätserklärung gilt nur, wenn sie in Verbindung mit der Grundfos Montage- und Betriebsanleitung veröffentlicht wird.

EE: EL vastavusdeklaratsioon

Meie, Grundfos, deklareerime enda ainuvastutusel, et tooted DDA, DDC ja DDE, mille kohta käesolev juhend käib, on vastavuses EÜ Nõukogu direktiividega EMÜ liikmesriikide seaduste ühitamise kohta, mis käsitlevad:

- Masinate ohutus (2006/42/EC).
Kasutatud standardid: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Madalpinge direktiiv (2006/95/EC). *
Kasutatud standard: EN 61010-1: 2001 (teine väljaanne).
- Elektromagnetilise ühilduvuse (EMC direktiiv) (2004/108/EC).
Kasutatud standardid: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Ainult toodete jaoks mille tööpinge on suurem kui > 50 VAC või suurem kui > 75 VDC.

Käesolev EL-i vastavusdeklaratsioon kehtib ainult siis, kui see avaldatakse Grundfos'i paigaldus- ja kasutusjuhendi osana.

GR: Δήλωση συμμόρφωσης EC

Εμείς, η Grundfos, δηλώνουμε με αποκλειστικά δική μας ευθύνη ότι τα προϊόντα DDA, DDC και DDE στα οποία αναφέρεται η παρούσα δήλωση, συμμορφώνονται με τις εξής Οδηγίες του Συμβουλίου περί προσεγγίσιων των νομοθεσιών των κρατών μελών της ΕΕ:

- Οδηγία για μηχανήματα (2006/42/ΕC).
Πρότυπα που χρησιμοποιήθηκαν: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Οδηγία χαμηλής τάσης (2006/95/ΕC). *
Πρότυπο που χρησιμοποιήθηκε: EN 61010-1: 2001 (δεύτερη έκδοση).
- Οδηγία Ηλεκτρομαγνητικής Συμβατότητας (EMC) (2004/108/ΕC).
Πρότυπα που χρησιμοποιήθηκαν: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Μόνο για προϊόντα με τάση λειτουργίας > 50 VAC ή > 75 VDC.

Αυτή η δήλωση συμμόρφωσης EC ισχύει μόνον όταν συνοδεύει τις οδηγίες εγκατάστασης και λειτουργίας της Grundfos.

FR: Déclaration de conformité CE

Nous, Grundfos, déclarons sous notre seule responsabilité, que les produits DDA, DDC et DDE, auxquels se réfère cette déclaration, sont conformes aux Directives du Conseil concernant le rapprochement des législations des Etats membres CE relatives aux normes énoncées ci-dessous :

- Directive Machines (2006/42/CE).
Normes utilisées : EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Directive Basse Tension (2006/95/CE). *
Norme utilisée : EN 61010-1: 2001 (deuxième édition).
- Directive Compatibilité Electromagnétique CEM (2004/108/CE).
Normes utilisées : EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Convient uniquement aux produits avec tension de service > 50 VAC ou > 75 VDC.

Cette déclaration de conformité CE est uniquement valide lors de sa publication dans la notice d'installation et de fonctionnement Grundfos.

IT: Dichiarazione di conformità CE

Grundfos dichiara sotto la sua esclusiva responsabilità che i prodotti DDA, DDC e DDE, ai quali si riferisce questa dichiarazione, sono conformi alle seguenti direttive del Consiglio riguardanti il riavvicinamento delle legislazioni degli Stati membri CE:

- Direttiva Macchine (2006/42/CE).
Norme applicate: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Direttiva Basse Tensione (2006/95/CE). *
Norma applicata: EN 61010-1: 2001 (seconda edizione).
- Direttiva EMC (2004/108/CE).
Norme applicate: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Solo per prodotti con tensione di alimentazione > 50 VAC o > 75 VDC.

Questa dichiarazione di conformità CE è valida solo quando pubblicata come parte delle istruzioni di installazione e funzionamento Grundfos.

LT: EB atitikties deklaracija

Mes, Grundfos, su visa atsakomybe pareiškiame, kad gaminiai DDA, DDC ir DDE, kuriems skirta ši deklaracija, atitinka šias Tarybos Direktyvas dėl Europos Ekonominės Bendrijos šalių narių įstatymų suderinimo:

- Mašinų direktyva (2006/42/EB).
Taikomi standartai: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Žemų įtampų direktyva (2006/95/EB). *
Taikomas standartas: EN 61010-1: 2001 (antrasis leidimas).
- EMS direktyva (2004/108/EB).
Taikomi standartai: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Tik produktams, kurių dirbinė įtampa yra > 50 V kintama arba > 75 V nuolatinė.

Ši EB atitikties deklaracija galioja tik tuo atveju, kai yra pateikta kaip "Grundfos" įrengimo ir naudojimo instrukcijos dalis.

ES: Declaración CE de conformidad

Nosotros, Grundfos, declaramos bajo nuestra entera responsabilidad que los productos DDA, DDC y DDE, a los cuales se refiere esta declaración, están conformes con las Directivas del Consejo en la aproximación de las leyes de los Estados Miembros del EM:

- Directiva de Maquinaria (2006/42/CE).
Normas aplicadas: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Directiva de Baja Tensión (2006/95/CE). *
Norma aplicada: EN 61010-1: 2001 (segunda edición).
- Directiva EMC (2004/108/CE).
Normas aplicadas: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Sólo para productos con tensión de funcionamiento > 50 VAC o > 75 VDC.

Esta declaración CE de conformidad sólo es válida cuando se publique como parte de las instrucciones de instalación y funcionamiento de Grundfos.

HR: EZ izjava o usklađenosti

Mi, Grundfos, izjavljujemo pod vlastitom odgovornošću da je proizvod DDA, DDC i DDE, na koji se ova izjava odnosi, u skladu s direktivama ovog Vijeća o usklađivanju zakona država članica EU:

- Direktiva za strojeve (2006/42/EZ).
Korištene norme: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Direktiva za niski napon (2006/95/EZ). *
Korištena norma: EN 61010-1: 2001 (drugo izdanje).
- Direktiva za elektromagnetsku kompatibilnost (2004/108/EZ).
Korištene norme: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Samo za proizvode s radnim naponom > 50 VAC ili > 75 VDC.

Ova EZ izjava o sukladnosti važeća je jedino kada je izdana kao dio Grundfos montažnih i pogonskih uputa.

LV: EK paziņojums par atbilstību prasībām

Sabiedrība GRUNDFOS ar pilnu atbildību dara zināmu, ka produkti DDA, DDC un DDE, uz kuriem attiecas šis paziņojums, atbilst šādām Padomes direktīvām par tuvināšanos EK dalībvalstu likumdošanas normām:

- Mašīnbūves direktīva (2006/42/EK).
Piemērotie standarti: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Zema sprieguma direktīva (2006/95/EK). *
Piemērotais standarts: EN 60335-1: 2006
- Elektromagnētiskās saderības direktīva (2004/108/EK).
Piemērotie standarti: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Tikai produktiem, kuru darba spriegums ir > 50 V maiņstrāvas vai > 75 V līdzstrāvas.

Šī EK atbilstības deklarācija ir derīga vienīgi tad, ja ir publicēta kā daļa no GRUNDFOS uzstādīšanas un ekspluatācijas instrukcijām.

HU: EK megfeleléségi nyilatkozat

Mi, a Grundfos, egyedül felelősséggel kijelentjük, hogy a DDA, DDC és DDC termékek, amelyekre jelen nyilatkozik vonatkozik, megfelelnek az Európai Unió tagállamainak jogi irányelveit összehangoló tanács alábbi előírásainak:

- Gépek (2006/42/EK).
Alkalmazott szabványok: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Kisfeszültségű Direktiva (2006/95/EK). *
Alkalmazott szabvány: EN 61010-1: 2001 (második kiadás).
- EMC Direktiva (2004/108/EK).
Alkalmazott szabványok: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Csak a > 50 VAC vagy > 75 VDC feszültségnél magasabb üzemi feszültségű berendezések.

Ez az EK megfeleléségi nyilatkozat kizárólag akkor érvényes, ha Grundfos telepítési és üzemeltetési utasítás részeként kerül kiadásra.

NL: EC overeenkomstigheidsverklaring

Wij, Grundfos, verklaren geheel onder eigen verantwoordelijkheid dat de producten DDA, DDC en DDE waarop deze verklaring betrekking heeft, in overeenstemming zijn met de Richtlijnen van de Raad in zake de onderlinge aanpassing van de wetgeving van de EG Lidstaten betreffende:

- Machine Richtlijn (2006/42/EC).
- Gebruikte normen: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Laagspannings Richtlijn (2006/95/EC). *
- Gebruikte norm: EN 61010-1: 2001 (tweede editie).
- EMC Richtlijn (2004/108/EC).
- Gebruikte normen: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Alleen voor producten met bedrijfsspanning > 50 VAC of > 75 VDC.

Deze EC overeenkomstigheidsverklaring is alleen geldig wanneer deze gepubliceerd is als onderdeel van de Grundfos installatie- en bedieningsinstructies.

PL: Deklaracja zgodności WE

My, Grundfos, oświadczamy z pełną odpowiedzialnością, że nasze wyroby DDA, DDC oraz DDE, których deklaracja niniejsza dotyczy, są zgodne z następującymi wytycznymi Rady ds. ujednolicenia przepisów prawnych krajów członkowskich WE:

- Dyrektywa Maszynowa (2006/42/WE).
- Zastosowane normy: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Dyrektywa Niskonapięciowa (LVD) (2006/95/WE). *
- Zastosowana norma: EN 61010-1: 2001 (drugie wydanie).
- Dyrektywa EMC (2004/108/WE).
- Zastosowane normy: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Dotyczy produktów o napięciu zasilania > 50 VAC lub > 75 VDC.

Deklaracja zgodności WE jest ważna tylko i wyłącznie wtedy kiedy jest opublikowana przez firmę Grundfos i umieszczona w instrukcji montażu i eksploatacji.

RU: Декларация о соответствии ЕС

Мы, компания Grundfos, со всей ответственностью заявляем, что изделия DDA, DDC и DDE, к которым относится настоящая декларация, соответствуют следующим Директивам Совета Евросоюза об унификации законодательных предписаний стран-членов ЕС:

- Механические устройства (2006/42/EC).
- Применявшиеся стандарты: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Низковольтное оборудование (2006/95/EC). *
- Применявшийся стандарт: EN 61010-1: 2001 (второе издание).
- Электромагнитная совместимость (2004/108/EC).
- Применявшиеся стандарты: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Только для изделий с рабочим напряжением > 50 В AC или > 75 В DC.

Данная декларация о соответствии ЕС имеет силу только в случае публикации в составе инструкции по монтажу и эксплуатации на продукции производства компании Grundfos.

SK: Prehlásenie o konformite EÚ

My firma Grundfos prehlasujeme na svoju plnú zodpovednosť, že výrobky DDA, DDC a DDE, na ktoré sa toto prehlásenie vzťahuje, sú v súlade s ustanovením smernice Rady pre zblíženie právnych predpisov členských štátov Európskeho spoločenstva v oblastiach:

- Smernica pre stroje/zariadenie (2006/42/EC).
- Použitie normy: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Smernica pre nízkonapäťové aplikácie (2006/95/EC). *
- Použitá norma: EN 61010-1: 2001 (druhé vydanie).
- Smernica pre elektromagnetickú kompatibilitu (2004/108/EC).
- Použitie normy: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Len pre produkty s prevádzkovým napätím > 50 VAC or > 75 VDC.

Toto prehlásenie o konformite ES je platné iba vtedy, ak je zverejnené ako súčasť montážnych a prevádzkových pokynov Grundfos.

UA: Свідчення про відповідність вимогам ЄС

Компанія Grundfos заявляє про свою виключну відповідальність за те, що продукти DDA, DDC та DDE, на які поширюється дана декларація, відповідають таким рекомендаціям Ради з уніфікації правових норм країн - членів ЄС:

- Механічні прилади (2006/42/EC).
- Стандарти, що застосовувалися: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Низька напруга (2006/95/EC). *
- Стандарти, що застосовувалися: EN 61010-1: 2001 (друге видання).
- Електромагнітна сумісність (2004/108/EC).
- Стандарти, що застосовувалися: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Тільки для продуктів з робочою напругою > 50 VAC або > 75 VDC.

Ця декларація відповідності ЄС дійсна тільки в тому випадку, якщо публікується як частина інструкцій Grundfos з монтажу та експлуатації.

PT: Declaração de conformidade CE

A Grundfos declara sob sua única responsabilidade que os produtos DDA, DDC e DDE, aos quais diz respeito esta declaração, estão em conformidade com as seguintes Directivas do Conselho sobre a aproximação das legislações dos Estados Membros da CE:

- Directiva Máquinas (2006/42/CE).
- Normas utilizadas: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Directiva Baixa Tensão (2006/95/CE). *
- Norma utilizada: EN 61010-1: 2001 (segunda edição).
- Directiva EMC (compatibilidade electromagnética) (2004/108/CE).
- Normas utilizadas: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Apenas para produtos com tensão de funcionamento > 50 VCA ou > 75 VCC.

Esta declaração de conformidade CE é apenas válida quando publicada como parte das instruções de instalação e funcionamento Grundfos.

RO: Declarație de conformitate CE

Noi, Grundfos, declarăm pe propria răspundere că produsele DDA, DDC și DDE, la care se referă această declarație, sunt în conformitate cu aceste Directive de Consiliu asupra armonizării legilor Statelor Membre CE:

- Directiva Utilaje (2006/42/CE).
- Standarde utilizate: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Directiva Tensiune Joasă (2006/95/CE). *
- Standard utilizat: EN 61010-1: 2001 (a doua editie).
- Directiva EMC (2004/108/CE).
- Standarde utilizate: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Numai pentru produse cu tensiunea de funcționare > 50 VAC ori > 75 VDC.

Această declarație de conformitate CE este valabilă numai când este publicată ca parte a instrucțiunilor Grundfos de instalare și funcționare.

SI: ES izjava o skladnosti

V Grundfosu s polno odgovornostjo izjavljamo, da so naši izdelki DDA, DDC in DDE, na katere se ta izjava nanaša, v skladu z naslednjimi direktivami Sveta o približevanju zakonodaje za izenačevanje pravnih predpisov držav članic ES:

- Direktiva o strojih (2006/42/ES).
- Uporabljeni normi: EN 809: 1998, EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Direktiva o nizki napetosti (2006/95/ES). *
- Uporabljena norma: EN 61010-1: 2001 (druga izdaja).
- Direktiva o elektromagnetni združljivosti (EMC) (2004/108/ES).
- Uporabljeni normi: EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Samo za izdelke z delovno napetostjo, večjo od 50 V AC ali manjšo od 75 V DC.

ES izjava o skladnosti velja samo kadar je izdana kot del Grundfos instalacije in navodil delovanja.

RS: EC deklaracija o konformitetu

Mi, Grundfos, izjavljujemo pod vlastitom odgovornošću da je proizvod DDA, DDC i DDE, na koji se ova izjava odnosi, u skladu sa direktivama Saveta za uskladjivanje zakona država članica EU:

- Direktiva za mašine (2006/42/EC).
Korišćeni standardi: EN 809: 1998,
EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Direktiva niskog napona (2006/95/EC). *
- Korišćen standard: EN 61010-1: 2001 (drugo izdanje).
- EMC direktiva (2004/108/EC).
Korišćeni standardi: EN 61326-1: 2006,
EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Samo za proizvode sa radnim naponom > 50 VAC ili > 75 VDC.

Ova EC deklaracija o konformitetu važeća je jedino kada je izdata kao deo Grundfos uputstava za instalaciju i rad.

SE: EG-försäkrän om överensstämmelse

Vi, Grundfos, försäkrar under ansvar att produkterna DDA, DDC och DDE, som omfattas av denna försäkrän, är i överensstämmelse med rådets direktiv om inbördes närmande till EU-medlemsstaternas lagstiftning, avseende:

- Maskindirektivet (2006/42/EG).
Tillämpade standarder: EN 809: 1998,
EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Lågspänningsdirektivet (2006/95/EG). *
- Tillämpad standard: EN 61010-1: 2001 (andra upplagan).
- EMC-direktivet (2004/108/EG).
Tillämpade standarder: EN 61326-1: 2006,
EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Endast för produkter med driftspänning > 50 VAC eller > 75 VDC.

Denna EG-försäkrän om överensstämmelse är endast giltig när den publiceras som en del av Grundfos monterings- och driftsinstruktion.

CN: EC 产品合格声明书

我们格兰富在我们的全权责任下声明，产品 DDA, DDC 和 DDE，即该合格证所指之产品，符合欧共体使其成员国法律趋于一致的以下欧共体理事会指令：

- 机械设备指令 (2006/42/EC)。
所用标准：EN 809: 1998,
EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009。
- 低电压指令 (2006/95/EC)。 *
- 所用标准：EN 61010-1: 2001 (第 2 版)。
- 电磁兼容性指令 (2004/108/EC)。
所用标准：EN 61326-1: 2006,
EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008。

* 仅适用于工作电压 > 50 VAC 或 > 75 VDC 的产品。

本 EC 合格性声明仅在作为格兰富安装与操作指导手册的一部分时有效。

KO: EC

Grundfos DDC DDE EC DDA,

- (2006/42/EC).
EN 809: 1998,
EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- (2006/95/EC). *
- EN 61010-1: 2001 (2).
- EMC (2004/108/EC).
EN 61326-1: 2006,
EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* 50 VAC 75 VDC

EC 가

FI: EY-vaatimustenmukaisuusvakuutus

Me, Grundfos, vakuutamme omalla vastuullamme, että tuotteet DDA, DDC ja DDE, joita tämä vakuutus koskee, ovat EY:n jäsenvaltioiden lainsäädännön yhdenmukaistamiseen tähtäävien Euroopan neuvoston direktiivien vaatimusten mukaisia seuraavasti:

- Konedirektiivi (2006/42/EY).
Sovellettavat standardit: EN 809: 1998,
EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Pienjännittdirektiivi (2006/95/EY). *
- Sovellettavat standardit: EN 61010-1: 2001 (uudistettu versio).
- EMC-direktiivi (2004/108/EY).
Sovellettavat standardit: EN 61326-1: 2006,
EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Vain laitteille, joiden käyttöjännite on > 50 VAC tai > 75 VDC.

Tämä EY-vaatimustenmukaisuusvakuutus on voimassa vain, kun se julkaistaan osana Grundfosin asennus- ja käyttöohjeita.

TR: EC uygunluk bildirgesi

Grundfos olarak bu beyannameye konu olan DDA, DDC ve DDE ürünlerinin, AB Üyesi Ülkelerin kanunlarını birbirine yaklaştırmaya üzerine KONSEY Direktifleriyle uyumlu olduğunun yalnızca bizim sorumluluğumuz altında olduğunu beyan ederiz:

- Makineler Yönetmeliği (2006/42/EC).
Kullanılan standartlar: EN 809: 1998,
EN ISO 12100-1+A1: 2009, EN ISO 12100-2+A1: 2009.
- Düşük Voltaj Yönetmeliği (2006/95/EC). *
- Kullanılan standart: EN 61010-1: 2001 (ikinci baskı).
- EMC Direktifi (2004/108/EC).
Kullanılan standartlar: EN 61326-1: 2006,
EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008.

* Çalışma voltajı yalnızca > 50 VAC veya > 75 VDC değerinde olan ürünler için.

İşbu EC uygunluk bildirgesi, yalnızca Grundfos kurulum ve çalıştırma talimatlarının bir parçası olarak basıldığı takdirde geçerlilik kazanmaktadır.

JP: EC 適合宣言

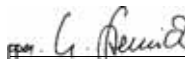
Grundfos は、その責任の下に、DDA, DDC 製品および DDE 製品が EC 加盟諸国の法規に関連する、以下の評議会指令に適合していることを宣言します：

- 機械指令 (2006/42/EC)。
適用規格：EN 809: 1998, EN ISO 12100-1+A1: 2009,
EN ISO 12100-2+A1: 2009。
- 低電圧指令 (2006/95/EC)。 *
- 適用規格：EN 61010-1: 2001 (第 2 版)。
- EMC 指令 (2004/108/EC)。
適用規格：EN 61326-1: 2006, EN 61000-3-2: 2006+A1: 2009+A2: 2009, EN 61000-3-3: 2008。

* 動作電圧 > 50 VAC または > 75 VDC。

この EC 適合宣言は、グルンドフォス取扱説明書の一部に掲載される場合のみ有効です。

Pfinztal, 1 June 2011



Ulrich Stemick
Technical Director
Grundfos Water Treatment GmbH
Reetzstr. 85, D-76327 Pfinztal, Germany

Person authorised to compile technical file and empowered to sign the EC declaration of conformity.

English (GB) Installation and operating instructions

Original installation and operating instructions.

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Warning



Prior to installation, read these installation and operating instructions. Installation and operation must comply with local regulations and accepted codes of good practice.

1. Safety instructions

These installation and operating instructions contain general instructions that must be observed during installation, operation and maintenance of the pump. It must therefore be read by the installation engineer and the relevant qualified operator prior to installation and start-up, and must be available at the installation location at all times.

1.1 Symbols used in this document

Warning



If these safety instructions are not observed, it may result in personal injury.

Caution

If these safety instructions are not observed, it may result in malfunction or damage to the equipment.

Note

Notes or instructions that make the job easier and ensure safe operation.

1.2 Qualification and training of personnel

The personnel responsible for the installation, operation and service must be appropriately qualified for these tasks. Areas of responsibility, levels of authority and the supervision of the personnel must be precisely defined by the operator. If necessary, the personnel must be trained appropriately.

Risks of not observing the safety instructions

Non-observance of the safety instructions may have dangerous consequences for the personnel, the environment and the pump and may result in the loss of any claims for damages.

It may lead to the following hazards:

- Personal injury from exposure to electrical, mechanical and chemical influences.
- Damage to the environment and personal injury from leakage of harmful substances.

1.3 Safety instructions for the operator/user

The safety instructions described in these instructions, existing national regulations on health protection, environmental protection and for accident prevention and any internal working, operating and safety regulations of the operator must be observed. Information attached to the pump must be observed. Leakages of dangerous substances must be disposed of in a way that is not harmful to the personnel or the environment.

Damage caused by electrical energy must be prevented, see the regulations of the local electricity supply company.

Caution

Before starting work on the pump, the pump must be disconnected from the mains. The system must be pressureless!

Note

The mains plug is the separator separating the pump from the mains.

Only original accessories and original spare parts should be used. Using other parts can result in exemption from liability for any resulting consequences.

1.4 Safety of the system in the event of a failure in the dosing pump

The dosing pump was designed according to the latest technologies and is carefully manufactured and tested.

If it fails regardless of this, the safety of the overall system must be ensured. Use the relevant monitoring and control functions for this.

Caution

Make sure that any chemicals that are released from the pump or any damaged lines do not cause damage to system parts and buildings.

The installation of leak monitoring solutions and drip trays is recommended.

1.5 Dosing chemicals

Warning

Before switching the supply voltage back on, the dosing lines must be connected in such a way that any chemicals in the dosing head cannot spray out and put people at risk. The dosing medium is pressurised and can be harmful to health and the environment.



Warning

When working with chemicals, the accident prevention regulations applicable at the installation site should be applied (e.g. wearing protective clothing).

Observe the chemical manufacturer's safety data sheets and safety instructions when handling chemicals!

Warning

If the diaphragm leaks or is broken, dosing liquid will escape from the drain opening on the dosing head (see fig. 2).

Take suitable precautions to prevent harm to health and damage to property from escaping dosing liquid!

Check daily whether liquid is escaping from the discharge opening!

Changing the diaphragm, see section 7. Service.



Caution

A deaeration hose, which is routed into a container, e.g. a drip tray, must be connected to the deaeration valve.

Caution

The dosing medium must be in liquid aggregate state! Observe the freezing and boiling points of the dosing medium!

The resistance of the parts that come into contact with the dosing medium, such as the dosing head, valve ball, gaskets and lines, depends on the medium, media temperature and operating pressure.

Caution

Ensure that parts in contact with the dosing medium are resistant to the dosing medium under operating conditions, see data booklet!

Should you have any questions regarding the material resistance and suitability of the pump for specific dosing media, please contact Grundfos.

2. General information

The DDE dosing pump is a self-priming diaphragm pump. It consists of a housing with stepper motor and electronics and a dosing head with diaphragm and valves.



Excellent dosing features of the pump:

- Optimal intake even with degassing media, as the pump always works at full suction stroke volume.
- Continuous dosing, as the medium is sucked up with a short suction stroke, regardless of the current dosing flow, and dosed with the longest possible dosing stroke.

2.1 Warranty

A guarantee claim in accordance with our general terms of sale and delivery is only valid if the following requirements are fulfilled:

- The pump is used in accordance with the information within this manual.
- The pump is not dismantled or incorrectly handled.
- The maintenance is carried out by authorised and qualified personnel.
- Original spare parts are used for repairs during maintenance.

2.2 Applications

The pump is suitable for liquid, non-abrasive, non-flammable and non-combustible media strictly in accordance with the instructions in these installation and operating instructions.

Areas of application

- Drinking water treatment
- Wastewater treatment
- Swimming pool water treatment
- Boiler water treatment
- CIP (Clean-In-Place)
- Cooling water treatment
- Process water treatment
- Wash plants
- Chemical industry
- Ultrafiltration processes and reverse osmosis
- Irrigation
- Paper and pulp industry
- Food and beverage industries.

2.3 Improper operating methods

The operational safety of the pump is only guaranteed if it is used in accordance with section 2.2 Applications.

Warning

Other applications or the operation of pumps in ambient and operating conditions, which are not approved, are considered improper and are not permitted. Grundfos cannot be held liable for any damage resulting from incorrect use.



Warning

The pump is NOT approved for operation in potentially explosive areas!



Warning

A sunscreen is required for outdoor installation!



2.4 Symbols on the pump

Symbol	Description
	Indication of universally dangerous spot.
	In case of emergency and prior to all maintenance work and repairs, take the mains plug out of the mains supply!
	The device complies with electrical safety class II.
	Connection for deaeration hose at dosing head. If the deaeration hose is not correctly connected, danger will arise due to possible leakage of dosing liquid!

2.5 Nameplate

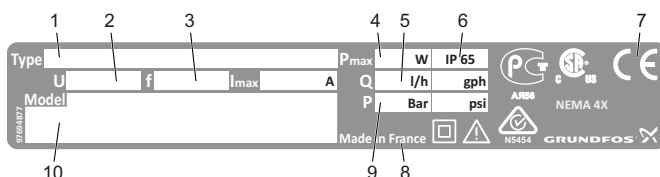


Fig. 1 Nameplate

Pos.	Description	Pos.	Description
1	Type designation	6	Enclosure class
2	Voltage	7	Mark of approval, CE mark, etc.
3	Frequency	8	Country of origin
4	Power consumption	9	Max. operating pressure
5	Max. dosing flow	10	Model

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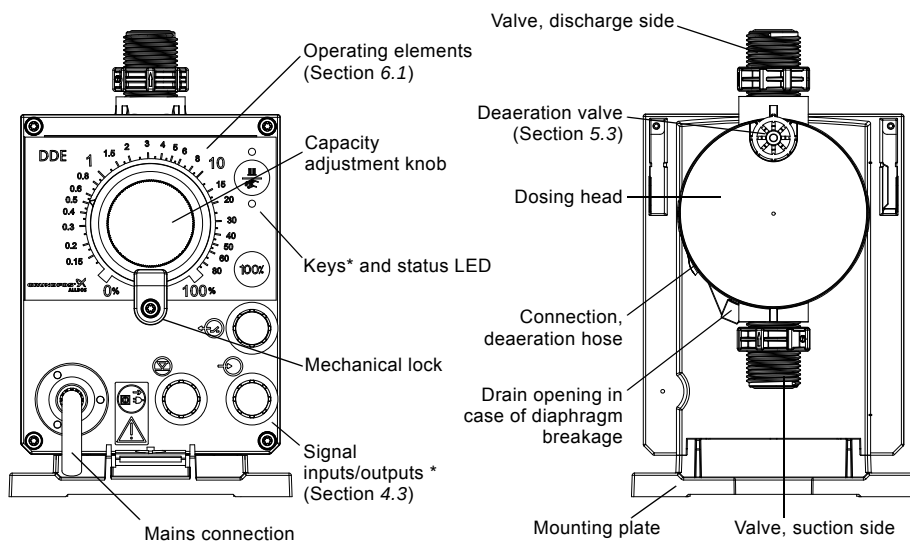
2.6 Type key

The type key is used to identify the precise pump and is not used for configuration purposes.

Code	Example	DDE	6-	10	P-	PP/	V/	C-	X-	3	1	U2U2	F	G
	Pump type													
	Max. flow [l/h]													
	Max. pressure [bar]													
	Control variant													
B	Basic													
P	B with pulse mode													
PR	P with relay output													
	Dosing head material													
PP	Polypropylene													
PVC	PVC (polyvinyl chloride, only up to 10 bar)													
PV	PVDF (polyvinylidene fluoride)													
SS	Stainless steel DIN 1.4401													
	Gasket material													
E	EPDM													
V	FKM													
T	PTFE													
	Valve ball material													
C	Ceramic													
SS	Stainless steel DIN 1.4401													
	Control cube position													
X	No control cube													
	Voltage													
3	1 x 100-240 V, 50/60 Hz													
	Valve type													
1	Standard													
2	Spring-loaded (HV version)													
	Suction/discharge side connection													
U2U2	Hose, 4/6 mm, 6/9 mm, 6/12 mm, 9/12 mm													
U7U7	Hose 0.17" x 1/4"; 1/4" x 3/8"; 3/8" x 1/2"													
AA	Threaded Rp 1/4", female (stainless steel)													
VV	Threaded 1/4" NPT, female (stainless steel)													
XX	No connection													
	Installation set*													
I001	Hose, 4/6 mm (up to 7.5 l/h, 13 bar)													
I002	Hose, 9/12 mm (up to 60 l/h, 9 bar)													
I003	Hose, 0.17" x 1/4" (up to 7.5 l/h, 13 bar)													
I004	Hose, 3/8" x 1/2" (up to 60 l/h, 10 bar)													
	Mains plug													
F	EU													
B	USA, Canada													
G	UK													
I	Australia, New Zealand, Taiwan													
E	Switzerland													
J	Japan													
L	Argentina													
	Design													
G	Grundfos													

* Including: 2 pump connections, foot valve, injection unit, 6 m PE discharge hose, 2 m PVC suction hose, 2 m PVC deaeration hose (4/6 mm).

2.7 Product overview



* only control variant DDE-PR/P

Fig. 2 Overview

3. Technical data / Dimensions

3.1 Technical data



Data		6-10	15-4
Mechanical data	Turndown ratio (setting range)	[1:X]	1000
	Max. dosing capacity	[l/h]	6.0
		[gph]	15.0
	Min. dosing capacity	[l/h]	1.5
		[gph]	4.0
	Max. operating pressure	[bar]	0.006
		[psi]	0.015
	Max. stroke frequency	[strokes/min]	0.0015
	Stroke volume	[ml]	0.0040
	Accuracy of repeatability	[%]	10
	Max. suction lift during operation ¹⁾	[m]	150
	Max. suction lift when priming with wet valves ¹⁾	[m]	60
	Min. pressure difference between suction and discharge side	[bar]	140

Data		6-10	15-4
Mechanical data	Max. inlet pressure, suction side [bar]	2	
	Max. viscosity with spring-loaded valves ²⁾ [mPas] (= cP)	600	500
	Max. viscosity without spring-loaded valves ²⁾ [mPas] (= cP)	50	
	Min. internal hose/pipe diameter suction/discharge side ^{1), 3)} [mm]	4	6
	Min. internal hose/pipe diameter suction/discharge side (high viscosity) ³⁾ [mm]	9	
	Min./Max. liquid temperature [°C]	-10/45	
	Min./Max. ambient temperature [°C]	0/45	
	Min./Max. storage temperature [°C]	-20/70	
	Max. relative humidity (non-condensing) [%]	96	
	Max. altitude above sea level [m]	2000	
Electrical data	Voltage [V]	100-240 V, - 10 %/+ 10 %, 50/60 Hz	
	Length of mains cable [m]	1.5	
	Max. inrush current for 2 ms (100 V) [A]	8	
	Max. inrush current for 2 ms (230 V) [A]	25	
	Max. power consumption P ₁ [W]	19	
	Enclosure class	IP65, Nema 4X	
	Electrical safety class	II	
	Pollution degree	2	
Signal input	Max. load for level input	12 V, 5 mA	
	Max. load for pulse input	12 V, 5 mA	
	Max. load for external stop input	12 V, 5 mA	
	Min. pulse length [ms]	5	
	Max. pulse frequency [Hz]	100	
	Max. resistance in level/pulse circuit [Ω]	1000	
Signal output	Max. ohmic load on relay output [A]	0.5	
	Max. voltage on relay output [V]	30 VDC/30 VAC	
Weight/size	Weight (PVC, PP, PVDF) [kg]	2.4	
	Weight (stainless steel) [kg]	3.2	
	Diaphragm diameter [mm]	44	50
Sound pressure	Max. sound pressure level [dB(A)]	60	
Approvals		CE, CB, CSA-US, NSF61, GOST, C-Tick	

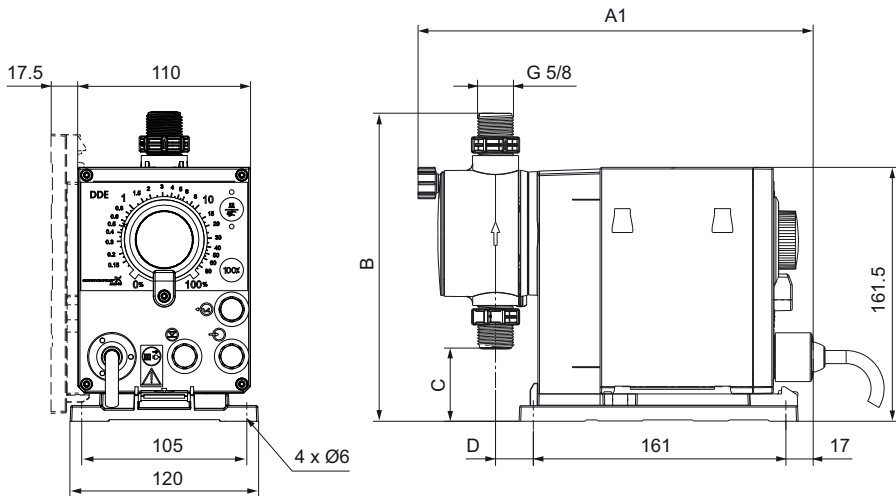
¹⁾ Data is based on measurements with water

²⁾ Maximum suction lift: 1 m, dosing capacity reduced (approx. 30 %)

³⁾ Length of suction line: 1.5 m, length of discharge line: 10 m (at max. viscosity)

3.2 Dimensions

The indicated dimensions are the same for all control variants of the DDE range.
The following drawing shows the DDE-PR control variant.



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Fig. 3 Dimensional sketch

Pump type	A1 [mm]	B [mm]	C [mm]	D [mm]
DDE 6-10	251	196	46.5	24
DDE 15-4	251	200.5	39.5	24

4. Assembly and installation

For use in Australia:

Installation of this product must comply with AS/NZS3500!

Note

Certificate of suitability number: CS9431

c-tick number: N20683



4.1 Pump assembly

Warning

Install the pump in such a way that the plug can easily be reached by the operator during operation! This will enable the operator to separate the pump from the mains quickly in case of emergency!



The pump is delivered with a mounting plate. The mounting plate can be mounted vertically, e.g. on a wall, or horizontally, e.g. on a tank. It takes just a few quick steps to firmly secure the pump to the mounting plate by means of a slot mechanism.

The pump can easily be released from the mounting plate for maintenance.

4.1.1 Requirements

- The mounting surface must be stable and must not vibrate.
- Dosing must flow upwards vertically.

4.1.2 Align and install mounting plate

- **Vertical installation:** Mounting plate slot mechanism must be above.
- **Horizontal installation:** Mounting plate slot mechanism must be opposite the dosing head.
- The mounting plate can be used as a drill template, please see fig. 3 for drill hole distances.

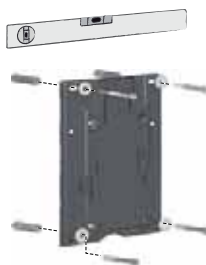


Fig. 4 Locate mounting plate

Warning

Make sure that you do not damage any cables and lines during installation!

1. Indicate drill holes.
2. Drill holes.
3. Secure mounting plate using four screws, diameter 5 mm, to the wall, on the bracket or the tank.

4.1.3 Engage pump in mounting plate

1. Attach the pump to the mounting plate support clamps and slide under slight pressure until it engages.

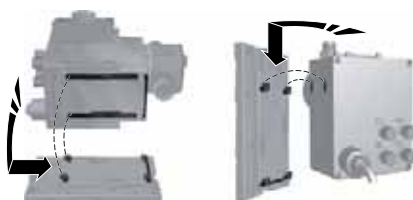


Fig. 5 Engaging the pump

4.2 Hydraulic connection

Warning

Risk of chemical burns!

Wear protective clothing (gloves and goggles) when working on the dosing head, connections or lines!

The dosing head may contain water from the factory check!

Caution

When dosing media which should not come into contact with water, another medium must be dosed beforehand!

Faultless function can only be guaranteed in conjunction with lines supplied by Grundfos!

Caution

The lines used must comply with the pressure limits as per section 3.1 Technical data!

Caution

Important information on installation

- Observe suction lift and hose diameter, see section 3.1 Technical data.
- Shorten hoses at right angles.
- Ensure that there are no loops or kinks in the hoses.
- Keep suction line as short as possible.
- Route suction line up towards the suction valve.
- Installing a filter in the suction line protects the entire installation against dirt and reduces the risk of leakage.

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Hose connection procedure

1. Push union nut and tensioning ring across hose.
2. Push cone part fully into the hose, see fig. 6.
3. Attach cone part with hose to the corresponding pump valve.
4. Tighten union nut manually.
– Do not use tools!
5. Tighten up union nuts after 2-5 operating hours, if using PTFE gaskets!
6. Attach deaeration hose to the corresponding connection (see fig. 2) and run into a container or a collecting tray.

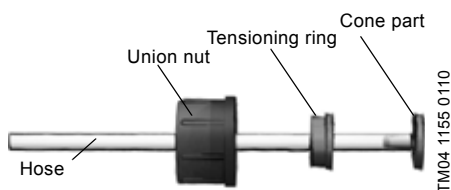


Fig. 6 Hydraulic connection

Note

Pressure differential between suction and discharge side must be at least 1 bar/14.5 psi!

Caution

Tighten up the dosing head screws once before commissioning and after 2-5 operating hours at 3 Nm.

Installation example

The pump offers various installation options. In the picture below, the pump is installed in conjunction with a suction line, level switch and multifunction valve on a Grundfos tank.

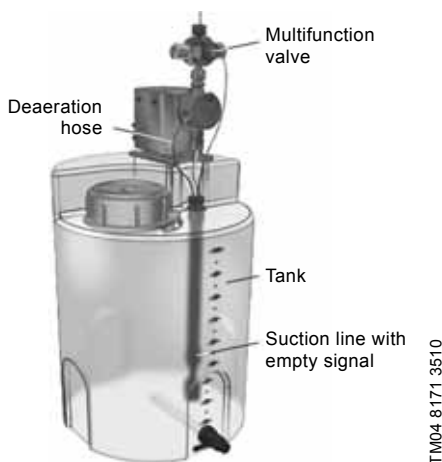


Fig. 7 Installation example

4.3 Electrical connection

Mains connection



Warning

The enclosure class (IP65/Nema 4X) is only guaranteed if plugs or protective caps are correctly installed!



Warning

**The pump can start automatically when the mains voltage is switched on!
Do not manipulate mains plug or cable!**

Note

**The mains plug is the separator separating the pump from the mains.
The rated voltage of the pump, see section 2.5 Nameplate, must conform to local conditions.**

The pump is supplied with assembled mains cable and plug.

1. Set capacity adjustment knob to 0 % (see 6.1 Operating elements).
2. Connect the mains plug with the mains socket.

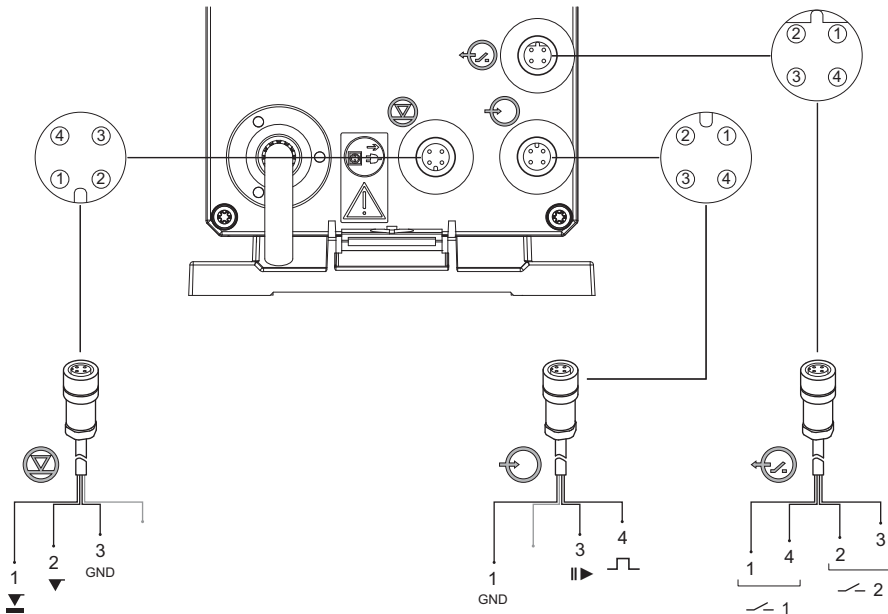
Signal connections

Applies to DDE-PR/P control variant.



Warning

Electric circuits of external devices connected to the pump inputs must be separated from dangerous voltage by means of double or reinforced insulation!



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Fig. 8 Wiring diagram of the electrical connections (DDE-PR/P)

External stop and pulse input

Function	Pins				Plug type
	1/brown	2/white	3/blue	4/black	
External stop	GND		X		Pulse
Pulse	GND			X	Pulse

Level signals: empty and low-level signal

Function	Pins				Plug type
	1	2	3	4	
Low-level signal	X		GND		Pulse
Empty signal		X	GND		Pulse

Relay outputs*

Function	Pins				Plug type
	1/brown	2/white	3/blue	4/black	
Relay 1 (Alarm)	X			X	Pulse
Relay 2 (selectable)		X	X		Pulse

* applies to DDE-PR control variant

5. Start-up

5.1 General notes



Warning

Suction and discharge hoses must be connected correctly!
The deaeration hose must be connected correctly and inserted into a suitable tank!

Caution

Tighten up the dosing head screws once before commissioning and after 2-5 operating hours at 3 Nm.

5.2 Check before commissioning

- Check that the rated voltage indicated on the nameplate complies with the local conditions.
- Check that all connections are assembled correctly. Tighten connections, if necessary.
- Check that the dosing head screws are tightened with the indicated torque (3 Nm). Tighten dosing head screws, if necessary.
- Check that all electrical cables and plugs are connected correctly.

5.3 Start and deaerate the pump

1. Connect mains supply (see 4.3 *Electrical connection*).
2. Open the deaeration valve by approximately half a turn.
3. DDE-PR/P control variant: Press the [100 %] key and hold it down, until liquid flows out of the deaeration hose continuously and without any bubbles.
4. DDE-B control variant: Turn the capacity adjustment knob to 100 % and wait, until liquid flows out of the deaeration hose continuously and without any bubbles. Then set the capacity adjustment knob back to 0 %.
5. Close the deaeration valve.

The pump is deaerated.



6. Operation

6.1 Operating elements

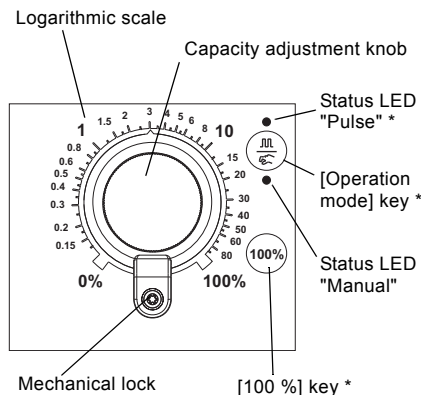


Fig. 9 Operating elements

* Applies to DDE-PR/P control variant.

Capacity adjustment knob

The capacity adjustment knob is used to set the capacity in percent of the maximum dosing flow of the pump. Due to the logarithmical increase of the percent values, even small dosing capacities can be set accurately.

Mechanical lock

The mechanical lock protects the set dosing capacity against unauthorised manipulation. For locking, tighten the screw until the adjustment knob cannot be turned anymore.

Keys and LEDs

Note

The DDE-B control variant is only equipped with a status LED.

When pressing and holding down the [100 %] key, the pump doses at 100 % for a certain time.

The [100 %] key can be used e.g. for deaeration.

The [Operation mode] key is used to change between the "Manual" and "Pulse" mode (see section 6.2.3). According to the selected operation mode, the respective status LED is active ("Pulse" = LED above key; "Manual" = LED below key).

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The status LEDs indicate the following operating statuses and faults:

LED colour	Pump status/fault
Green (flashing)	stop
Green	running
Red-green (flashing)	standby (external stopped) *
Yellow	low-level signal *
Red	empty signal, pump stops *
Red (flashing)	motor blocked, pump stops

* only DDE-PR/P control variant

6.2 Operation modes

Following operation modes are available:

- **Manual**, see section 6.2.1
- **Pulse** *, see section 6.2.2

* Applies to DDE-PR/P control variant.

6.2.1 Manual

In this operation mode, the pump doses constantly the dosing quantity set by the adjustment knob.

The setting range depends on the pump type:

Type	Setting range [l/h]
DDE 6-10	0.0060 - 6
DDE 15-4	0.0150 - 15

6.2.2 Pulse

Applies to DDE-PR/P control variant.

In this operation mode, the pump doses the set dosing volume for each incoming (potential-free) pulse, e.g. from a water meter. The pump automatically calculates the optimum stroke frequency for dosing the set volume per pulse.

The calculation is based on:

- the frequency of external pulses
- the set stroke volume in percent.

The dosing quantity per pulse is set to a value between 0.1 % and 100 % of the stroke volume using the adjustment knob.

The setting range depends on the pump type:

Type	Setting range [ml/pulse]
DDE 6-10	0.0008 - 0.81
DDE 15-4	0.0016 - 1.58

The frequency of incoming pulses is multiplied by the set dosing volume. If the pump receives more pulses than it can process at the maximum dosing flow, it runs at the maximum stroke frequency in continuous operation. Excess pulses will be ignored.

6.2.3 Change operation modes

Applies to DDE-PR/P control variant.

1. Set adjustment knob to 0 %.
2. Connect mains supply (see section 4.3 *Electrical connection*).
3. Hold down the [Operation mode] key for at least 5 seconds.

The new operation mode is saved.

6.3 Inputs/outputs

Applies to DDE-PR/P control variant.

6.3.1 External stop

The pump can be stopped via an external pulse, e.g. from a control room. When activating the external stop pulse, the pump switches from the operating state "Running" into the operating state "Standby". According to the selected operation mode, the respective LED flashes red-green.

6.3.2 Empty and low-level signals

In order to monitor the filling level in the tank, a dual-level sensor can be connected to the pump. The pump responds to the signals as follows:

Sensor signal	Pump status
Low level	• LED lights up in yellow • Pump continues running
Empty	• LED lights up in red • Pump stops

Caution

When the tank is filled up again, the pump restarts automatically!

6.3.3 Relay outputs

Applies to DDE-PR control variant.

The pump can switch two external signals using installed relays. The relays are switched by potential-free pulses. The connection diagram of the relays is shown in section 4.3 *Electrical connection*.

Relay 1 is allocated with the alarm signals (tank empty, motor blocked) as standard. Relay 2 can be allocated with the following signals:

Relay 2 signal	Description
Low-level signal *	low level in tank
Stroke signal	each full stroke
Pulse input **	each incoming pulse from pulse input

* Default setting

** The correct transmission of incoming pulses can only be guaranteed up to a pulse frequency of 5 Hz.

6.3.4 Change settings

The signal inputs (level signals, external stop) and the relay outputs are configured at the factory as normally open (NO) contacts. They can be re-configured as normally closed (NC) contacts. Relay 2 can be allocated with different signals.

The activated settings are indicated by the status LEDs when the pump is in the setup mode. For entering the setup mode and changing settings, proceed as follows:

1. Set adjustment knob to 0 %.
2. Connect mains supply (see section 4.3 *Electrical connection*).
3. Press [100 %] key and [Operation mode] key simultaneously and hold them down for at least 5 seconds.
 - The pump switches into setup mode 1. The active setup mode is indicated by the color of the upper status LED. The current setting is indicated by the color of the lower status LED.
4. Make the desired settings according to the following table:

		Switch setup modes with [Operation mode] key 		
		Setup mode 1 Green Contact type of signal inputs (low-level, empty and external stop)	Setup mode 2 * Yellow Contact type of relay outputs	Setup mode 3 * Red Allocated signal of Relay 2
Change setting with [100 %] key 	upper status LED			
	lower status LED			
	Green	NO **	NO **	Low-level signal **
	Yellow	NC	NC	stroke signal
	Red	–	–	pulse input

* Only DDE-PR control variant

** Default setting

5. To exit setup mode, keep [100%] key and [Operation mode] key simultaneously pressed for at least 1 second.

7. Service



In order to ensure a long service life and dosing accuracy, wearing parts such as diaphragms and valves must be regularly checked for signs of wear. Where necessary, replace worn parts with original spare parts made from suitable materials.

Should you have any questions, please contact your service partner.

7.1 Cleaning

If necessary, clean all pump surfaces with a dry and clean cloth.

7.2 Service intervals

Warning

If the diaphragm leaks or is broken, dosing liquid will escape from the drain opening on the dosing head (see fig. 2). Take suitable precautions to prevent harm to health and damage to property caused by escaping dosing liquid! Check daily whether liquid is escaping from the drain opening!

Interval	Task
Every day	Check, if liquid leaks from dosing head, drain opening or valves (see fig. 2). If necessary, tighten dosing head screws (3 Nm), valves and cap nuts, or perform service (see 7.3 Perform service).
Every 2 years or 8000 operating hours	Replace diaphragm and valves (see 7.3 Perform service)

7.3 Perform service

Only spare parts and accessories from Grundfos should be used for maintenance. The usage of non-original spare parts and accessories renders any liability for resulting damages null and void.

Information about carrying out maintenance can be found in the service kit catalog on our homepage (www.grundfosalldos.com).

Warning

Risk of chemical burns!

When dosing dangerous media, observe the corresponding precautions in the safety data sheets!

Wear protective clothing (gloves and goggles) when working on the dosing head, connections or lines!

Do not allow any chemicals to leak from the pump. Collect and dispose of all chemicals correctly!

Caution

Before any work to the pump, the pump must be disconnected from the mains. The system must be pressureless!

7.3.1 Dosing head overview

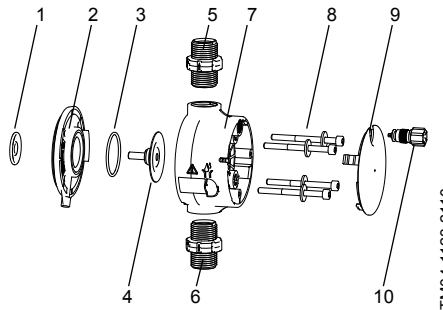


Fig. 10 Dosing head, exploded view

1	Safety diaphragm
2	Flange
3	O-ring
4	Diaphragm
5	Valve on discharge side
6	Valve on suction side
7	Dosing head
8	Screws with discs
9	Cover
10	Deaeration valve

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7.3.2 Dismantling the diaphragm and valves

1. Make system pressureless.
2. Empty the dosing head before maintenance and flush it, if necessary.
3. Set adjustment knob to 0 %.
4. Switch off mains supply.
5. Take suitable steps to ensure that the returning liquid is safely collected.
6. Dismantle suction, pressure and deaeration hoses.
7. Dismantle valves on suction and discharge side (5, 6).
8. Remove the cover (9).
9. Loosen screws (8) on the dosing head (7) and remove the screws and discs.
10. Remove the dosing head (7).
11. Unscrew diaphragm (4) counter-clockwise and remove with flange (2).

7.3.3 Reassembling the diaphragm and valves

1. Attach flange (2) correctly and screw on new diaphragm (4) clockwise.
 - Make sure that the O-ring (3) is seated correctly!
2. Connect/switch on mains supply.
3. Turn the adjustment knob slowly to bring the diaphragm into its service position "inside" (end of suction phase, diaphragm retracted). Set adjustment knob back to 0 %.
4. Switch off mains supply again.
5. Attach the dosing head (7).
6. Install screws with discs (8) and cross-tighten.
 - Torque: 3 Nm.
7. Attach the cover (9).
8. Install new valves (5, 6).
 - Do not interchange valves and pay attention to direction of arrow.
9. Connect suction, pressure and deaeration hoses (see section 4.2 *Hydraulic connection*).
10. Deaerate dosing pump (see section 5.3 *Start and deaerate the pump*).
11. Please observe the notes on commissioning in section 5. *Start-up*!

7.4 Repairs

Warning

The pump housing must only be opened by personnel authorised by Grundfos!



Repairs must only be carried out by authorised and qualified personnel!

Switch off the pump and disconnect it from the voltage supply before carrying out maintenance work and repairs!

After consulting Grundfos, please send the pump, together with the safety declaration completed by a specialist, to Grundfos. The safety declaration can be found at the end of these instructions. It must be copied, completed and attached to the pump.

If the pump has been used to dose toxic liquids or liquids hazardous to health, the pump must be cleaned prior to dispatch!

Caution

If the above requirements are not met, Grundfos may refuse to accept delivery of the pump. The shipping costs will be charged to the sender.

8. Faults



8.1 Indication of faults

Depending on the selected operation mode, the pump indicates the following faults with its LEDs:

LED colour	Fault	Remedy
Yellow	low-level signal	• fill tank • check contact type (see section 6.3.4).
Red	empty signal	• fill tank • check contact type (see section 6.3.4).
Red (flashing)	motor blocked	• reduce backpressure • have gear repaired, if necessary.

For further faults, please see 8.2 *List of faults*.

8.2 List of faults

Fault	Possible cause	Possible remedy
Dosing flow too high	Inlet pressure greater than backpressure	Install additional spring-loaded valve (approx. 3 bar) on the discharge side. Increase pressure differential.
	Air in dosing head	Deaerate the pump.
No dosing flow or dosing flow too low	Faulty diaphragm	Change the diaphragm (see section 7.3 <i>Perform service</i>).
	Leakage/fracture in lines	Check and repair lines.
	Valves leaking or blocked	Check and clean valves.
	Valves installed incorrectly	Check that the arrow on the valve housing is pointing in the direction of flow. Check whether all O-rings are installed correctly.
	Blocked suction line	Clean suction line/install filter.
	Suction lift too high	Reduce suction lift. Install priming aid.
	Viscosity too high	Use hose with larger diameter. Install spring-loaded valve on the discharge side.
	Deaeration valve open	Close the deaeration valve.
Irregular dosing	Valves leaking or blocked	Tighten up valves, replace valves if necessary (see section 7.3 <i>Perform service</i>).
	Backpressure fluctuations	Keep backpressure constant.
Liquid escaping from the drain opening on the flange	Faulty diaphragm	Change the diaphragm (see section 7.3 <i>Perform service</i>).
Liquid escaping	Dosing head screws not tightened	Tighten up screws (see section 4.2 <i>Hydraulic connection</i>).
	Valves not tightened	Tighten up valves/union nuts (see section 4.2 <i>Hydraulic connection</i>).
Pump not sucking in	Suction lift too high	Reduce suction lift; if necessary, provide positive inlet pressure.
	Backpressure too high	Open the deaeration valve.
	Soiled valves	Flush system, replace valves if necessary (see section 7.3 <i>Perform service</i>).

9. Disposal

This product or parts of it must be disposed of in an environmentally sound way.
Use appropriate waste collection services.
If this is not possible, contact the nearest Grundfos company or service workshop.



Subject to alterations.

Safety declaration

Please copy, fill in and sign this sheet and attach it to the pump returned for service.

Note *Fill in this document using english or german language.*

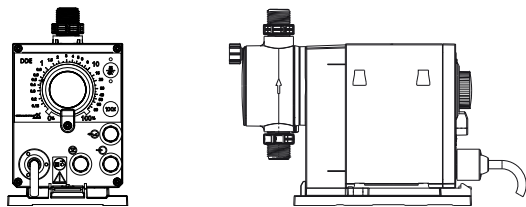
Product type (nameplate) _____

Model number (nameplate) _____

Dosing medium _____

Fault description

Please make a circle around the damaged parts.
In the case of an electrical or functional fault, please mark the cabinet.



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Please describe the error/cause of the error in brief.

We hereby declare that the pump has been cleaned and is completely free from chemical, biological and radioactive substances.

Date and signature

Company stamp

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