

ANNEX 5,6 & 7

MANUFACTURER'S AUTHORIZATION

Date: 06.12.2022

Tender Reference:

Construcția apeductului magistral Sărata-Răzeși – Voinescu – Mingir din r-nul Hîncești (REPETAT)”

MTender ID: **ocds-b3wdp1-MD-1669013317453**

To: **AGENȚIA DE DEZVOLTARE REGIONALA CENTRU**

We, **UT4FB CONTROL LTD**, based in Romania, Iasi, str. Islaz nr.41, legally represented by Mr. Tudor Ioan Ursache, as General Manager having production facilities in Romania, Iasi, str. Islaz nr.41, as manufacturer of:

- WASTEWATER PUMPING STATIONS AND MIXING SYSTEM
- COMPACT UNIT TREATMENTS
- FLOW CONTROL UNITS
- CONTAINERIZED PUMPING STATIONS FOR POTABLE WATER
- CONTAINERIZED AUTOMATIC DEZINFECTION STATIONS

We authorize the company **POLIMER GAZ CONSTRUCTII S.R.L.** with the headquarters in Republic of Moldova, mun.Chisinau, sector Centru, str.Dokuchaev nr.3, to submit a complete offer which purpose is the supply of the above-mentioned products.

Innovation, professionalism, and quality of service are solid values that underlie our entire business.

INOVATION - We promote innovation at the heart of our strategy to create competitive and long-lasting solutions to increase customer profitability.

PROFESSIONALISM - We constantly invest in the professional development of our specialists. Know-how is the guarantee of the execution of any type of project, regardless of its complexity.

QUALITY - We use state-of-the-art equipment, state-of-the-art technology and products of the highest quality and durability.

We also agree that the company **POLIMER GAZ CONSTRUCTII S.R.L.** shall submit to this tender the technical documentation, the sanitary certifications and approvals, the specific technical approvals and approvals to put into operation the products mentioned above.

Signed by: Mr. Tudor Ioan Ursache

as: General Manager

Signature: & Stamp:



Seria PowerXL
Unități de uz general DG1

Eficiență ridicată Noua generație VFD

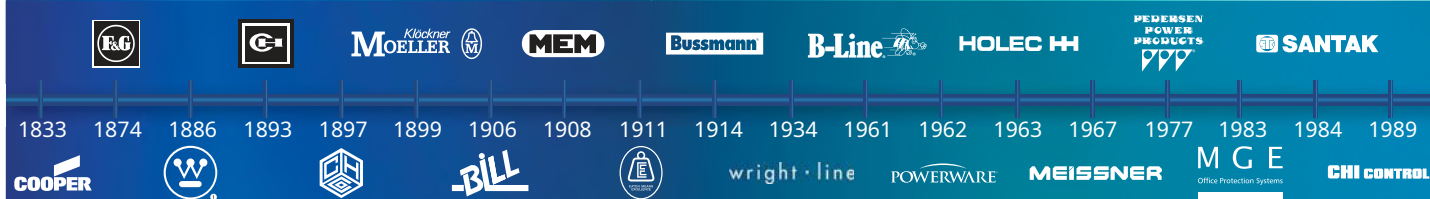


EATON

Powering Business Worldwide



Puterea fuziunii.



Powering Business Worldwide

Există o anumită energie la Eaton. Este puterea unirii unora dintre cele mai respectate nume din lume pentru a construi un brand în care să aveți încredere pentru a vă satisface fiecare nevoie de management al energiei.

Eaton este dedicat să se asigure că puterea fiabilă, eficientă și sigură este disponibilă atunci când este cea mai necesară. Bazându-se pe cei peste 100 de ani de experiență în managementul energiei electrice, experții de la Eaton oferă soluții personalizate, integrate pentru a vă rezolva cele mai critice provocări. Pentru a afla mai multe vizitați www.eaton.com.

Toate cele de mai sus sunt mărci comerciale ale Eaton sau ale afiliaților săi. Eaton are o licență de utilizare a mărcii Westinghouse în Asia Pacific. © 2013 Eaton.

Unitate de uz general DG1



Seria PowerXL — Unitate de uz general DG1

descrierea produsului

Unitățile de uz general DG1 fac parte din seria Eaton PowerXL de următoarea generație de unități de frecvență reglabile concepute special pentru cei mai pretențioși de astăzi.

aplicații comerciale și industriale. Unitatea de putere folosește cea mai sofisticată tehnologie de semiconductor și o construcție extrem de modulară, care poate fi adaptată în mod flexibil pentru a satisface nevoile clientului.

Modulul de control a fost conceput pentru a include comunicațiile standard de astăzi: protocoale și I/O, având totuși modularitatea de a adăuga carduri opționale suplimentare.

Controlul activ al energiei brevetat de la Eaton este, de asemenea, o caracteristică standard pentru unitățile DG1, oferind clienților eficiență, siguranță și fiabilitate sporite.

Aceste unități continuă tradiția performanței robuste și a creșterii bară pe caracteristici și funcționalitate, asigurând cea mai bună soluție la preț corect.

Gamă de produse

- 0,75-90kW, 208-240V
- 1,5-160kW, 380V-500V

Caracteristici și Beneficii

Hardware

- Chopper de frână standard pe cadrele 1, 2, 3
- Evaluări de suprasarcină duble
 - 110% cuplu variabil (IL)
 - 150% cuplu constant (IH)
- IP21 și IP54 încinte disponibile
- Modul comun integrat 5% inductie DC cu protecție la supratensiune de intrare
- Filtre EMI / RFI standard pentru toate unitățile — îndeplinește EMC Categoria C2
- Ceas în timp real — acceptă calendarul și PLC funcționalitate
- Afișaj LCD grafic și tastatură — acceptă simplu navigare prin meniu, precum și diagnosticare și depanare pe ecran
- Operare LOCAL/DE LA DISTANTA de la tastatură și două taste soft configurabile

Cuprins

Descriere

Seria PowerXL — Unitate de uz general DG1

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Pagină

Software

- Logica de control poate fi alimentată de la un panou de control auxiliar extern, funcțiile de comandă interne și magistrala de câmp, dacă este necesar
- I/O standard:
 - 8DI, 1DO
 - 2AI, 2AO
 - Trei rele
 - Îndeplinește nevoile majorității comunicării cerințe
- Comunicații standard:
 - Ethernet IP, Modbus TCP
 - RS-485: Modbus RTU BACnet MS / TP
 - Îndeplinește nevoile majorității comunicării cerințe
- Două sloturi de expansiune—menite să sprijine I/O suplimentare sau protocoale de comunicare după cum este necesar
- Borne de deconectare rapidă pentru conexiuni I/O—suportă rapid ușor instalare
- Controlul activ al energiei - minimizează pierderile de energie din motorul dumneavoastră, rezultând o eficiență energetică de vârf pentru dumneavoastră aplicarea
- Quick Start Wizard la pornirea inițială acceptă o instalare rapidă și ușoară
- Aplicații standard:
 - Standard
 - Multi-pompa și ventilator Control
 - Multi-PID
 - Multifuncțional
- Funcționalitatea de copiere/înserare pe tastatură unității — permite pentru configurarea rapidă a mai multor unități
- I/O preprogramat—suportă rapid, ușor instalare pentru majoritatea aplicațiilor
- Motor dinamic energie regenerativă management
- Instrument PC avansat cu capabilități de diagnosticare
- Două taste soft configurabile de la tastatură

Unități de frecvență reglabile

Seria PowerXL — Unitate de uz general DG1

Standarde și certificări

Produs

- IEC / EN 61800-5-1
- IEC / EN 61800-5-2
- UL 508C
- IEC 61508
- EN 62061
- EN ISO 13849-1

EMC

- Imunitate: IEC / EN 61800-3

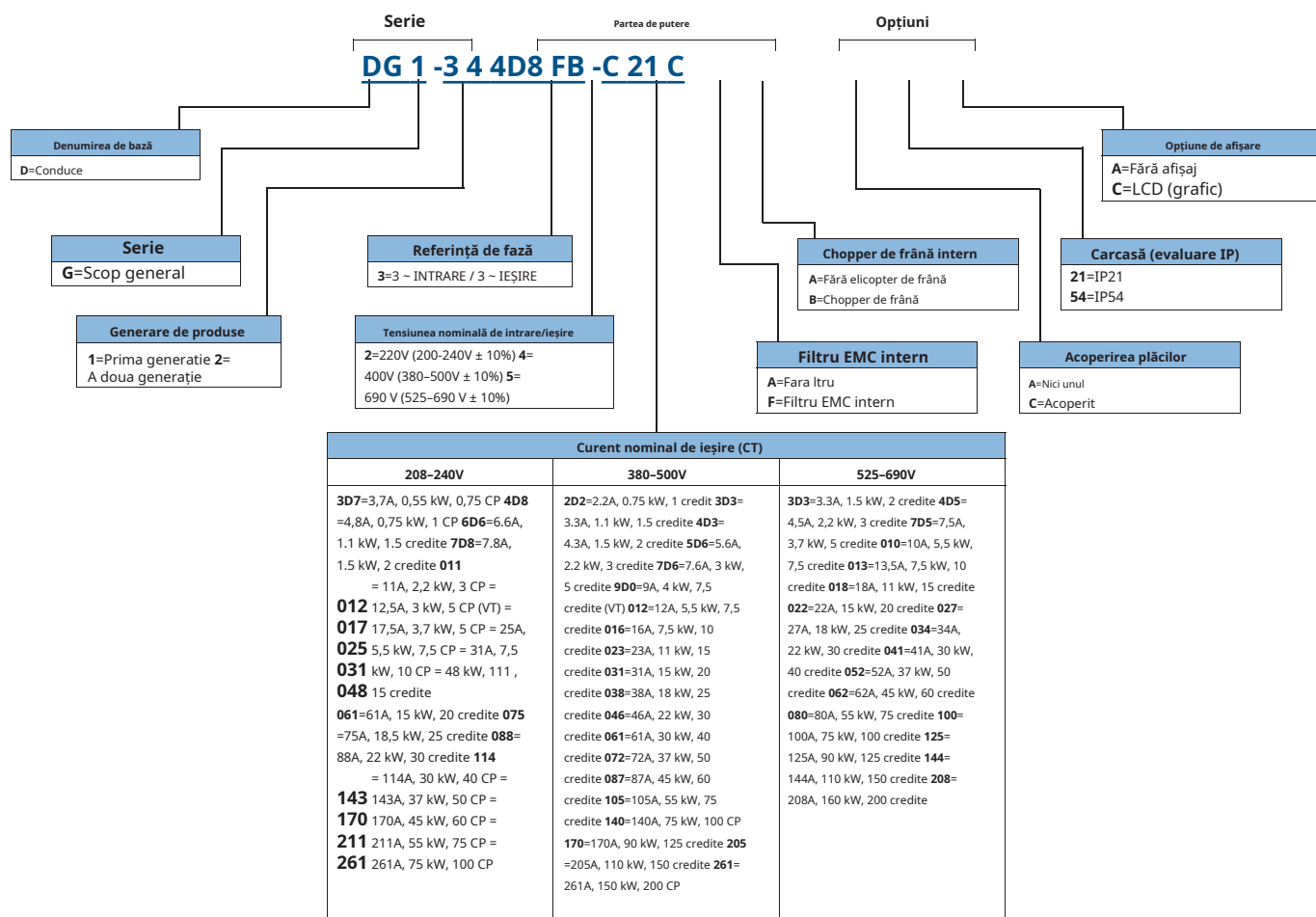
Certificare

- UL
- CUL
- CE
- C-Tick
- GOST
- RoHS

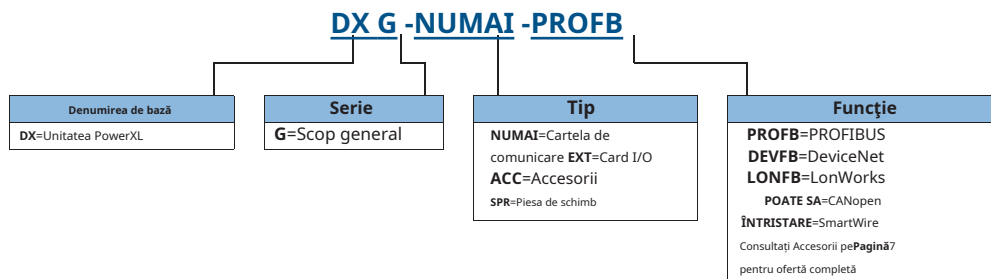


Selectarea numărului de catalog

Seria PowerXL — Unitate de uz general DG1



Seria PowerXL — Plăci opționale pentru unități de uz general DG1



Selectia produselor

208–240V

Seria PowerXL - DG1

IP21



Cadru mărimea	220V 50 Hz Puterea nominală kW (Încărcatura grea)	220V 60 Hz CP (CT / I _u)	Actual (CT / I _u)	220V 50 Hz Puterea nominală kW (sarcină ușoară)	220V 60 Hz CP (VT / I _u)	Actual (VT/I _u)	Catalog Număr
FR1	0,55	0,75	3.7	0,75	1	4.8	DG1-323D7FB-C21C
	0,75	1	4.8	1.1	1.5	6.6	DG1-324D8FB-C21C
	1.1	1.5	6.6	1.5	2	7.8	DG1-326D6FB-C21C
	1.5	2	7.8	2.2	3	11	DG1-327D8FB-C21C
	2.2	3	11	3	-	12.5	DG1-32011FB-C21C
FR2	3	-	12.5	3.7	5	17.5	DG1-32012FB-C21C
	3.7	5	17.5	5.5	7.5	25	DG1-32017FB-C21C
	5.5	7.5	25	7.5	10	31	DG1-32025FB-C21C
FR3	7.5	10	31	11	15	48	DG1-32031FB-C21C
	11	15	48	15	20	61	DG1-32048FB-C21C
FR4	15	20	61	18.5	25	75	DG1-32061FN-C21C
	18.5	25	75	22	30	88	DG1-32075FN-C21C
	22	30	88	30	40	114	DG1-32088FN-C21C
FR5	30	40	114	37	50	143	DG1-32114FN-C21C
	37	50	143	45	60	170	DG1-32143FN-C21C
	45	60	170	55	75	211	DG1-32170FN-C21C
FR6 ⁽¹⁾	55	75	211	75	100	261	DG1-32211FN-C21C
	75	100	261	90	125	310	DG1-32261FN-C21C

IP54

Cadru mărimea	220V 50 Hz Puterea nominală kW (Încărcatura grea)	220V 60 Hz CP (CT / I _u)	Actual (CT / I _u)	220V 50 Hz Puterea nominală kW (sarcină ușoară)	220V 60 Hz CP (VT / I _u)	Actual (VT/I _u)	Catalog Număr
FR1	0,55	0,75	3.7	0,75	1	4.8	DG1-323D7FB-C54C
	0,75	1	4.8	1.1	1.5	6.6	DG1-324D8FB-C54C
	1.1	1.5	6.6	1.5	2	7.8	DG1-326D6FB-C54C
	1.5	2	7.8	2.2	3	11	DG1-327D8FB-C54C
	2.2	3	11	3	-	12.5	DG1-32011FB-C54C
FR2	3	-	12.5	3.7	5	17.5	DG1-32012FB-C54C
	3.7	5	17.5	5.5	7.5	25	DG1-32017FB-C54C
	5.5	7.5	25	7.5	10	31	DG1-32025FB-C54C
FR3	7.5	10	31	11	15	48	DG1-32031FB-C54C
	11	15	48	15	20	61	DG1-32048FB-C54C
FR4	15	20	61	18.5	25	75	DG1-32061FN-C54C
	18.5	25	75	22	30	88	DG1-32075FN-C54C
	22	30	88	30	40	114	DG1-32088FN-C54C
FR5	30	40	114	37	50	143	DG1-32114FN-C54C
	37	50	143	45	60	170	DG1-32143FN-C54C
	45	60	170	55	75	211	DG1-32170FN-C54C
FR6 ⁽¹⁾	55	75	211	75	100	261	DG1-32211FN-C54C
	75	100	261	90	125	310	DG1-32261FN-C54C

Notă:⁽¹⁾FR6 va fi lansat în 2015.

Unități de frecvență reglabile

Seria PowerXL — Unitate de uz general DG1

380–500V

Seria PowerXL - DG1

IP21



Cadru mărimea	400V 50 Hz Puterea nominală kW (Incarcatura grea)	460V 60 Hz CP (CT / I _u)	Actual (CT / I _u)	400V 50 Hz Puterea nominală kW (sarcină ușoară)	460V 60 Hz CP (VT / I _u)	Actual (VT/I _u)	Catalog Număr
FR1	0,75	1	2.2	1.1	1.5	3.3	DG1-342D2FB-C21C
	1.1	1.5	3.3	1.5	2	4.3	DG1-343D3FB-C21C
	1.5	2	4.3	2.2	3	5.6	DG1-344D3FB-C21C
	2.2	3	5.6	3	5	7.6	DG1-345D6FB-C21C
	3	5	7.6	4	-	12	DG1-347D6FB-C21C
	4	-	9	5.5	7.5	12	DG1-249D0FB-C21C
FR2	5.5	7.5	12	7.5	10	16	DG1-34012FB-C21C
	7.5	10	16	11	15	23	DG1-34016FB-C21C
	11	15	23	15	20	31	DG1-34023FB-C21C
FR3	15	20	31	18.5	25	38	DG1-34031FB-C21C
	18.5	25	38	22	30	46	DG1-34038FB-C21C
	22	30	46	30	40	61	DG1-34046FB-C21C
FR4	30	40	61	37	50	72	DG1-34061FN-C21C
	37	50	72	45	60	87	DG1-34072FN-C21C
	45	60	87	55	75	105	DG1-34087FN-C21C
FR5	55	75	105	75	100	140	DG1-34105FN-C21C
	75	100	140	90	125	170	DG1-34140FN-C21C
	90	125	170	110	150	205	DG1-34170FN-C21C
FR6 ⁽¹⁾	110	150	205	132	200	261	DG1-34205FN-C21C
	132	200	261	160	250	310	DG1-34261FN-C21C

IP54

Cadru mărimea	400V 50 Hz Puterea nominală kW (Incarcatura grea)	460V 60 Hz CP (CT / I _u)	Actual (CT / I _u)	400V 50 Hz Puterea nominală kW (sarcină ușoară)	460V 60 Hz CP (VT / I _u)	Actual (VT/I _u)	Catalog Număr
FR1	0,75	1	2.2	1.1	1.5	3.3	DG1-342D2FB-C54C
	1.1	1.5	3.3	1.5	2	4.3	DG1-343D3FB-C54C
	1.5	2	4.3	2.2	3	5.6	DG1-344D3FB-C54C
	2.2	3	5.6	3	5	7.6	DG1-345D6FB-C54C
	3	5	7.6	4	-	12	DG1-347D6FB-C54C
	4	-	9	5.5	7.5	12	DG1-249D0FB-C54C
FR2	5.5	7.5	12	7.5	10	16	DG1-34012FB-C54C
	7.5	10	16	11	15	23	DG1-34016FB-C54C
	11	15	23	15	20	31	DG1-34023FB-C54C
FR3	15	20	31	18.5	25	38	DG1-34031FB-C54C
	18.5	25	38	22	30	46	DG1-34038FB-C54C
	22	30	46	30	40	61	DG1-34046FB-C54C
FR4	30	40	61	37	50	72	DG1-34061FN-C54C
	37	50	72	45	60	87	DG1-34072FN-C54C
	45	60	87	55	75	105	DG1-34087FN-C54C
FR5	55	75	105	75	100	140	DG1-34105FN-C54C
	75	100	140	90	125	170	DG1-34140FN-C54C
	90	125	170	110	150	205	DG1-34170FN-C54C
FR6 ⁽¹⁾	110	150	205	132	200	261	DG1-34205FN-C54C
	132	200	261	160	250	310	DG1-34261FN-C54C

Notă: ⁽¹⁾FR6 va fi lansat în 2015.

Accesorii

Seria PowerXL — unitățile DG1 pot găzdui o selecție largă de plăci opționale de expansiune și adaptoare pentru a personaliza unitatea pentru nevoile aplicației dvs. Unitatea de control a unității este proiectată pentru a accepta un total de două plăci opționale suplimentare.

Unitățile din seria PowerXL — DG1 vin cu o configurație de placă standard instalată din fabrică, care include următoarele:

- I/O standard:
 - 8DI, 1DO
 - 2AI, 2AO
 - Trei rele
- Comunicații standard:
 - Ethernet IP, Modbus TCP
 - RS-485: Modbus RTU
 - BACnet MS / TP

Seria PowerXL — Kituri de carduri I/O DG1

Descriere	Număr de catalog
3 x DI, 3 x DO, 1 x termistor, 24 Vdc / card opțional EXT	DXG-EXT-3DI3DO1T
1 x AI, 2 x AO (izolat pe placa de control) card opțional	DXG-EXT-1AI2AO
3 x releu contact uscat (2NO + 1NO / NC) card opțional	DXG-EXT-3RO
3 x card opțional de intrare termistor PT100 RTD	DXG-EXT-THER1
6 x card opțional de intrare DI 240 Vac	DXG-EXT-6DI

Seria PowerXL — Seturi de carduri de comunicare DG1

Descriere	Număr de catalog
Placă de comunicare PROFIBUS-DP	DXG-NET-PROFB
Card de comunicare CANopen	DXG-NET-CAN
Placă de comunicare DeviceNet	DXG-NET-DEVFB
Actualizare firmware PROFINET	DXG-NET-PROFN
Card și modul de comunicare SmartWire	DXG-NET-SMART
Card de comunicare LonWorks	DXG-NET-LONFB

Seria PowerXL — Seturi de tastatură DG1

Descriere	Număr de catalog
Tastatură standard	TASTATURĂ DXG-SPR
Kit tastatură de la distanță (cablu de 0,5 m)	DXG-ACC-RMTKIT
1m cablu tastatură de la distanță	DXG-ACC-1MCABLE
3m cablu tastatură de la distanță	DXG-ACC-3MCABLE
Doar suport de montare pentru tastatură de la distanță	DXG-ACC-HOLDER
Dop pentru orificiul tastaturii IP54 (menținerea ratingului fără tastatură)	DXG-ACC-N12PLUG

Seria PowerXL — Kituri de conversie și flanșe DG1

Setul opțional IP54 este utilizat pentru a converti o unitate IP21 într-o unitate IP54. Setul include capac, ventilator și manșete.

Kituri de conversie IP54

Descriere	Număr de catalog
Kit cadru 1 IP54	DXG-ACC-FR1N12KIT
Kit Frame 2 IP54	DXG-ACC-FR2N12KIT
Kit Frame 3 IP54	DXG-ACC-FR3N12KIT

Setul de flanșe este utilizat atunci când radiatorul secțiunii de alimentare este montat prin panoul din spate al unei carcase. Setul include feronerie, placă de flanșă superioară, placă de flanșă inferioară și două plăci de flanșă laterale.

Truse cu flanșe

Descriere	Număr de catalog
Kit cadru 1 flanșă IP54	DXG-ACC-FR1N12FK
Kit cadru 2 flanșe IP54	DXG-ACC-FR2N12FK
Kit cadru 3 flanșe IP54	DXG-ACC-FR3N12FK
Kit cadru 4 flanșe IP54	DXG-ACC-FR4N12FK
Kit flanșă Frame 5 IP54	DXG-ACC-FR5N12FK
Kit cadru 4 flanșe IP21	DXG-ACC-FR4N1FK
Kit flanșă Frame 5 IP21	DXG-ACC-FR5N1FK

Seria PowerXL — Unități Demo DG1

Unități Demo

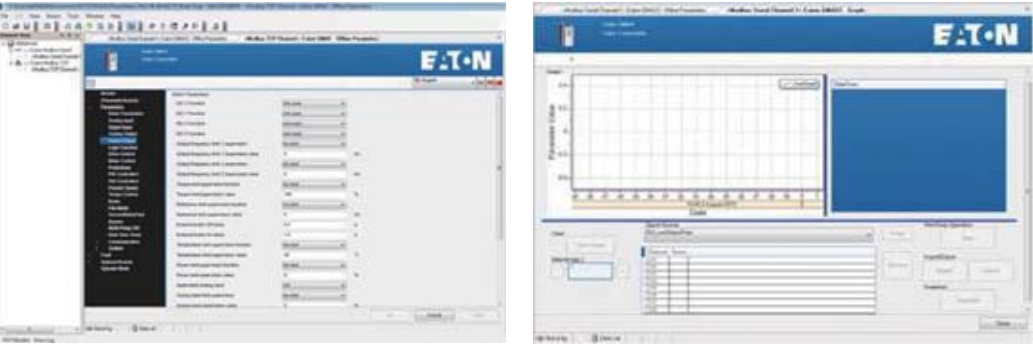
Descriere	Număr de catalog
Carcasă demonstrativă pentru modulul de control DG1	DG1-DEMO1
Carcasă demonstrativă pentru unitatea completă DG1	DG1-DEMO2
Sursă de alimentare auxiliară de mână de 24 V (folosită pentru a alimenta modulul de control în timp ce unitatea nu este conectată la tensiunea de linie)	DG1-CONTROL-PUTERE

Unități de frecvență reglabile

Seria PowerXL — Unitate de uz general DG1

Software

Instrumentul PC din seria PowerXL este proiectat pentru programarea, controlul și monitorizarea unităților DG1. Caracteristicile includ parametri de încărcare care pot fi salvați într-un fișier sau imprimați, setarea referințelor, pornirea și oprirea motorului, monitorizarea semnalelor sub formă grafică sau text și afișare în timp real.



Software

Descriere	Număr de catalog
Kit software (software, cablu, manual)	SOFTWARE DXG-ACC
Cablu software (USB la RJ45 [RS-485])	DXG-ACC-PCCABLE
Baterie ceas în timp real	DXG-ACC-RTBATT

Piese de schimb

Seria PowerXL — Piese de schimb DG1

Descriere	Număr de catalog
Panou de control	
Placa de control principal DG1	DXG-SPR-CTRLBOARD
Kit placa principală de control DG1	DXG-SPR-CTRLKIT
Truse de ventilatoare	
Kit ventilator cadru 1	DXG-SPR-FR1FAN
Kit ventilator Frame 2	DXG-SPR-FR2FAN
Kit ventilator Frame 3	DXG-SPR-FR3FAN
Kit ventilator Frame 4	DXG-SPR-FR4FAN
Kit ventilator Frame 5	DXG-SPR-FR5FAN
Truse de tastatură	
Tastatura standard	TASTATURĂ DXG-SPR
Kit tastatură de la distanță (cablu de 0,5 m)	DXG-ACC-RMTKIT
1m cablu tastatură de la distanță	DXG-ACC-1MCABLE
3m cablu tastatură de la distanță	DXG-ACC-3MCABLE
Doar suport de montare pentru tastatură de la distanță	DXG-ACC-HOLDER
Dop pentru orificiul tastaturii IP54 (menținerea ratingului fără tastatură)	DXG-ACC-N12PLUG
Truse de conducte	
Kit plăci conducte UL	DXG-SPR-ULPLATE
Kit plăci conducte IEC	DXG-SPR-IECPLATE
Coperți standard	
Cadru 1 capac standard IP21	DXG-SPR-FR1CVR
Cadru 2 capac standard IP21	DXG-SPR-FR2CVR
Cadru 3 capac standard IP21	DXG-SPR-FR3CVR
Cadru 4 capac standard IP21	DXG-SPR-FR4CVR
Cadru 5 capac standard IP21	DXG-SPR-FR5CVR
Kit de accesorii standard pentru acționare	
Material de referință CD / stick de memorie	Inclus în fiecare unitate
Prospect de instrucțiuni (IL)	Inclus în fiecare unitate
Plăci de conducte UL sau europene	Inclus în fiecare unitate
Tastatură RJ45 orificiu mufă	Inclus în fiecare unitate
Hardware de împământare a scutului de control	Inclus în fiecare unitate
Garnituri UL sau europene	Inclus în fiecare unitate
Șuruburi suplimentare de împământare	Inclus în fiecare unitate
Baterie ceas în timp real	Inclus în fiecare unitate
Etichetă de modificare EMC	Inclus în fiecare unitate

Unități de frecvență reglabile

Seria PowerXL — Unitate de uz general DG1

Date tehnice și specificații

Seria PowerXL — Date tehnice și specificații DG1

Atribut	Descriere	Specificație
Evaluări de intrare	Tensiunea de intrare U_{in}	208–240V, 380–500V, –15 până la 10%
	Frecvența de intrare	50–60 Hz (variație până la 45–66 Hz)
	Conexiune la alimentare	O dată pe minut sau mai puțin
	Întârziere de pornire	3s (FR1 la FR2), 4s (FR3), 5s (FR4), 6s (FR5)
	Rezistența la scurtcircuit	100 kAIC
Evaluări de ieșire	Tensiune de ieșire	0 la U_{in}
	Curent continuu de ieșire	IL: temperatura ambiantă maxim 40 ° C, până la 55 ° C cu derating, suprasarcină 1,1 x IL (1 min./10 min.) IH: temperatură ambiantă maxim 50 ° C, până la 55 ° C cu derating, suprasarcină 1,5 x 1h (1 min./10 min.)
	Curentul de suprasarcină	150% respectiv 110% (1 min./10 min.)
	Curentul inițial de ieșire	200% (2 sec./20 sec.)
	Frecvența de ieșire	0–400 Hz (implicit)
	Rezoluția în frecvență	0,01 Hz
Caracteristici de control	Metode de control	Controlul frecvenței Controlul vitezei Controlul vitezei în buclă deschisă Controlul cuplului în buclă deschisă
	Frecvența de comutare	Gamă: FR1–3: 1–12 kHz FR4–5: 1–10 kHz Valori implicite: FR1–3: 4 kHz (1H), 6 kHz (IL) FS4–5: 3,6 kHz Reducerea automată a frecvenței de comutare în caz de suprasarcină.
	Referință de frecvență	Intrare analogică: rezoluție 0,1% (10 biți), precizie + 1% Referință panou: rezoluție 0,01 Hz
	Punct de slăbire a câmpului	20–400 Hz
	Timp de accelerare	0,1–3000 sec.
	Timp de decelerare	0,1–3000 sec.
	Cuplul de frânare	Frână DC: 30% x Tn (fără opțiune de frână) Frânare dinamică (cu tocător de frână opțional): 100% coeficient maxim continuu
Condiții ambientale	Temperatura ambiantă de funcționare	- 10 ° C (fără îngheț) până la + 50 ° C, până la + 55 ° C cu derating (CT)
	Temperatura de depozitare	- 40 ° până la + 70 ° C
	Umiditate relativă	0–95% RH, necondens, non-coroziv
	Calitatea aerului: • Vaporii chimici • Particule mecanice	Testat conform IEC 60068-2-60 Cheie de testare: Încercarea de coroziune în amestecuri de gaze curgătoare, metoda 1 (H2S [hidrogen sulfurat] și SO2 [dioxid de sulf]) Proiectat conform: IEC 60721-3-3, unitate în funcțiune, clasa 3C2 IEC 60721-3-3, unitate în funcțiune, clasa 3S2
	Altitudine	Capacitate de încărcare 100% (fără derating) până la 1000 m; Reducere de 1% pentru fiecare 100m peste 1000m; max. 3000m (2000m pentru sisteme TN cu împământare în colț)
	Vibrație: • EN 61800-5-1 • EN 60668-2-6	5–150 Hz Amplitudinea deplasării: 1 mm (vârf) la 5–15,8 Hz (FR1 – FR5) Amplitudine maximă de accelerație: 1g la 15,8–150 Hz (FR1 – FR5)
	ȘOC: • EN 61800-5-1 • EN 60068-2-27	Test de cădere UPS (pentru greutatele UPS aplicabile) Depozitare și transport: maxim 15g, 11 ms (în pachet)
	Clasa de incintă	Standard IP21 în întreaga gamă kW/CP Opțiune IP54 Notă: Tastatura necesară pentru IP54
	Imunitate	Îndeplinește EN 61800-3 (2004), primul și al doilea mediu

Seria PowerXL — Date tehnice și specificații DG1, continuare

Atribut	Descriere	Specificație
Standarde	EMC	+ EMC2: EN 61800-3 (2004), Categoria C2 Unitatea poate fi modificată pentru rețele IT și sistem TN de împământare la colț
	Descarcare electrostatică	AI doilea mediu, IEC 61000-4-2, 4 kV CD sau 8 kV AD, criteriul B
	Explozie tranzitorie rapidă	AI doilea mediu, IEC 61000-4-4, 2 kV / 5 kHz, criteriul B
	Rezistență dielectrică	Primar la secundar: 3600 Vac / 5100 Vdc Primar la pământ: 2000 Vac / 2828 Vdc
	Nivelul mediu de zgomot (ventilator de răcire) Nivelul puterii sonore în dB (A)	TBD
	Nivel de zgomot	EN 61800-5-1 (2007), CE, cUL (a se vedea plăcuța de identificare pentru aprobări mai detaliate)
Conexiuni Fieldbus		EtherNet IP, Modbus TCP, BACnet IP, Modbus RTU, BACnet
Seismic	Cerințe de vibrație MRS:	IEC / EN 61800-5-1, EN 60068-2-6; 5 până la 150 Hz, amplitudine de deplasare 1 mm (vârf) la 3 până la 15,8 Hz, amplitudine maximă de accelerație 1G la 15,8 până la 150 Hz
Siguranța/protecții	Protecție de supravoltaj	da
	Limită de declanșare la supratensiune	Unități de 220 V: 456 V Unități de 400 V: 911 V
	Protecție la subțensiune	da
	Limită de declanșare la subțensiune	Unități de 220 V: 211 V Unități de 400 V: 370 V
	Protecție defect de pământ	da
	Supravegherea fazei de intrare	da
	Supravegherea fazei motorii	da
	Protecție la supracurent	da
	Protecție la suprațemperatură a unității	da
	Protecție la suprasarcină motorului	da
	Protecție împotriva blocării motorului	da
	Protecție la subsarcină a motorului	da
	Controlul supratensiunii magistralei DC	da
	Protecție la scurtcircuit a tensiunilor de referință de 24 V	da
	Protecție la supratensiune	Da (mod diferențial 2 kV; modul comun 4 kV)
	Plăci acoperite comune	Da (previne coroziunea)

Unități de frecvență reglabile

Seria PowerXL — Unitate de uz general DG1

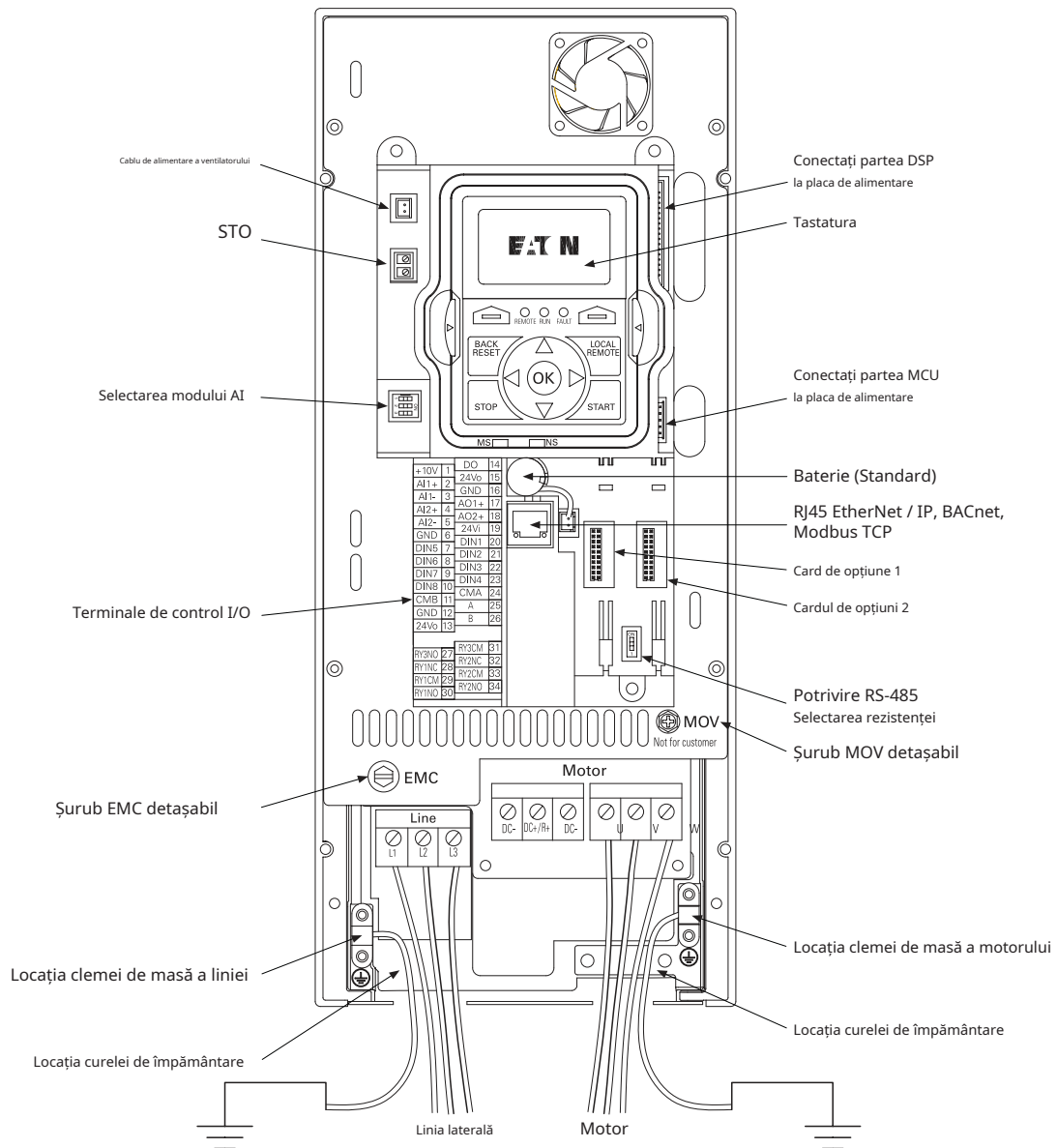
Schema de conexiuni

Seria PowerXL — Diagrama de cablare a controlului DG1

	Pin	Nume semnal	Semnal	Setare implicită	Descriere
	1	+ 10V	Ref. Tensiune de ieșire	-	Sursa de alimentare 10 Vdc
	2	AI1 +	Intrare analogică 1	0–10V	Referință de viteză de tensiune (programabilă la 4–20 mA)
	3	AI1–	Intrare analogică 1 masă	-	Intrare analogică 1 comună (masă)
	4	AI2 +	Intrare analogică 2	4–20 mA	Referință de viteză curentă (programabilă la 0–10V)
	5	AI2–	Intrare analogică 2 masă	-	Intrare analogică 2 comună (masă)
	6	GND	Masa semnal I/O	-	I/O Ground pentru referință și control
	7	DIN5	Intrare digitală 5	Viteza presetată B0	Setează ieșirea de frecvență la viteza presetată 1
	8	DIN6	Intrare digitală 6	Viteza presetată B1	Setează ieșirea de frecvență la viteza presetată 2
	9	DIN7	Intrare digitală 7	Oprire de urgență	Intrarea forțează ieșirea VFD să se oprească
	10	DIN8	Intrare digitală 8	Forțare la distanță	Intrarea duce VFD de la local la la distanță
	11	CMB	DI5 la DI8 Comun	Pământat	Permite intrarea sursei
	12	GND	Masa semnal I/O	-	I/O Ground pentru referință și control
	13	24V	+ 24 Vdc Ieșire	-	Ieșire tensiune de control (100 mA max)
	14	DO1	Ieșire digitală 1	Gata	Indică că unitatea este gata de rulare
	15	24 Vo	+ 24 Vdc Ieșire	-	Ieșire tensiune de control (100 mA max)
	16	GND	Masa semnal I/O	-	I/O Ground pentru referință și control
	17	AO1 +	Ieșire analogică 1	Frecvența de ieșire	Afișează frecvența de ieșire către motor 0–60 Hz (4–20 mA)
	18	AO2 +	Ieșire analogică 2	Curentul motorului	Afișează curentul motorului motorului 0 – FLA (4–20 mA)
	19	24Vi	+ Intrare 24VDC	-	Intrare de tensiune de control extern
	20	DIN1	Intrare digitală 1	Fuși înainte	Intrarea pornește deplasarea în direcția înainte (pornire activată)
	21	DIN2	Intrare digitală 2	Rulați invers	Intrarea pornește deplasarea în sens invers (activare pornire)
	22	DIN3	Intrare digitală 3	Defecțiune externă	Intrarea cauzează defecțiunea unității
	23	DIN4	Intrare digitală 4	Resetare eroare	Intrarea resetează defecțiunile active
	24	CMA	DI1 la DI4 Comun	Pământat	Permite intrarea sursei
	25	A	Semnal RS-485 A	-	Comunicare Fieldbus (Modbus, BACnet)
	26	B	Semnal RS-485 B	-	Comunicare Fieldbus (Modbus, BACnet)
	27	R3NO	Releul 3 Normal deschis	La viteză	Ieșirea releului 3 arată că VFD este la Ref. Frecvență
	28	R1NC	Releul 1 normal închis	Alerga	Ieșirea releului 1 arată că VFD este în stare de funcționare
	29	R1CM	releu 1 comun		
	30	R1NO	Releul 1 Normal deschis		
	31	R3CM	Releul 3 Comun	La viteză	Ieșirea releului 3 arată că VFD este la Ref. Frecvență
	32	R2NC	Releul 2 normal închis	Vina	Ieșirea releului 2 arată că VFD este într-o stare de eroare
	33	R2CM	Releul 2 Comun		
	34	R2NO	Releul 2 Normal deschis		

Aspectul plăcii de control

Seria PowerXL — Aspectul plăcii de control DG1



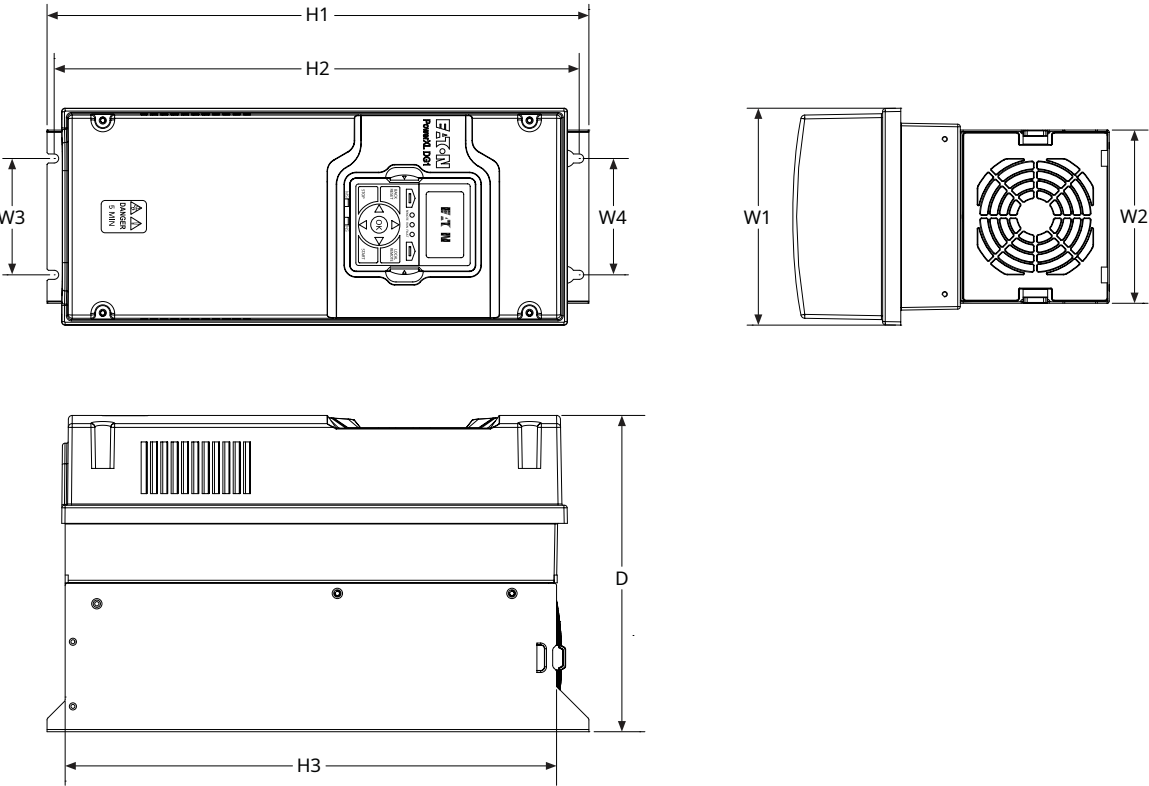
Unități de frecvență reglabile

Seria PowerXL — Unitate de uz general DG1

Dimensiuni

Dimensiuni aproximative în mm

Unități deschise IP21 / 54



Cadru mărimea	Voltaj	hp	kW	Amperi	Dimensiuni aproximative în mm D				W1	W2	W3	W4	Greutate (kg)
		(CT)			H1	H2	H3						
FR1	220 Vac	0,75-3	0,55-2,2	3,5-11	200,4	326,9	311,9	292.1	152,4	121,9	100.1	100.1	7
	400 Vac	1-5	0,75-3,7	2,3-7,6									
FR2	220 Vac	4-7,5	3-5.5	12,5-25	244.1	419,1	405,9	380,0	168,9	134.1	100.1	100.1	12
	400 Vac	7,5-15	5,5-11	12-23									
FR3	220 Vac	10-15	7,5-11	31-48	252,2	558,0	541,0	518,9	199,9	183,9	148.1	148.1	23
	400 Vac	20-30	15-22	31-46									
FR4	220 Vac	20-30	15-22	61-87	290,3	629,9	618,5	591,1	243.1	231,9	190,0	190,0	35
	400 Vac	40-60	30-45	61-87									
FR5	220 Vac	40-60	30-45	105-170	343,7	887,5	753,1	706,9	290,1	281,9	229.1	220,0	64
	400 Vac	75-125	55-90	105-170									

Eaton este dedicat să se asigure că puterea fiabilă, eficientă și sigură este disponibilă atunci când este cea mai necesară. Având cunoștințe de neegalat despre gestionarea energiei electrice în toate industriile, experții de la Eaton oferă soluții personalizate, integrate pentru a rezolva cele mai critice provocări ale clienților noștri.

Accentul nostru este de a oferi soluția potrivită pentru aplicație. Dar, factorii de decizie cer mai mult decât produse inovatoare. Aceștia apelează la Eaton pentru un angajament neclintit față de sprijinul personal care face ca succesul clienților să fie o prioritate de top. Pentru mai multe informații, vizitați **www.eaton.com**.

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Controller - ILC 151 GSM/GPRS - 2700977

Rețineți că datele furnizate aici sunt luate din catalogul online. Pentru informații și date complete, consultați documentația de utilizare. În cazul descărcărilor de pe internet se aplică Termenii și condițiile de utilizare generale.
(<http://download.phoenixcontact.de>)



Inline Controller with Ethernet interface and GSM modem for coupling to other controllers and systems, with programming options according to IEC 61131-3, complete with plug and labeling field.

Descriere articol

The ILC 151 GSM/GPRS combines the options of class 100 controllers with wireless communication via mobile phone networks. A GSM/GPRS modem is integrated in the controller. This enables SMS messages to be sent and received and supports packet-oriented (IP) communication via GPRS.

The controller itself offers 16 digital inputs and 4 digital outputs for various control tasks. The 512 kB program memory and 512 kB data memory complete the functions of the controller, thereby providing plenty of space to accommodate larger applications as well.

The Inline controller (ILC) range covers a wide performance range. From entry-level versions to high-end controllers, users can choose the right controller for their application.

Caracteristici articol

- ✓ Numerous protocols supported such as: HTTP, FTP, SNTP, SNMP, SMTP, SQL, MySQL, etc.
- ✓ Free engineering with PC Worx Express (IEC 61131-3)
- ✓ Complete INTERBUS master (4096 I/O points)
- ✓ Integrated web server for visualization with WebVisit
- ✓ FTP server
- ✓ Flash file system



Date comerciale

Unitate de ambalare	1 buc
GTIN	 4 046356 665537
Greutate pe bucată (fără ambalaj)	350.0 g
Cod tarif vamal	85371091
#ara de origine	Germany

Date tehnice

Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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Controller - ILC 151 GSM/GPRS - 2700977

Date tehnice

Dimensions

Width	85 mm
Height	119.8 mm
Depth	71.5 mm

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 55 °C
Ambient temperature (storage/transport)	-25 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (according to DIN EN 61131-2)
Permissible humidity (storage/transport)	10 % ... 95 % (according to DIN EN 61131-2)
Air pressure (operation)	70 kPa ... 106 kPa (up to 3000 m above mean sea level)
Air pressure (storage/transport)	70 kPa ... 106 kPa (up to 3000 m above mean sea level)
Shock	25g, Criterion 1, according to IEC 60068-2-27
Vibration (operation)	5g

Control system

Programming tool	PC WORX / PC WORX EXPRESS
Diagnostics tool	DIAG+
Configuration tool	Config+ Version 1.01 or later

Mechanical design

Weight	285 g
Diagnostics display	No
Controller redundancy	No

Data interfaces

Interface	INTERBUS local bus (master)
Connection method	Inline data jumper
Transmission speed	500 kBaud / 2 MBaud umschaltbar
Interface	Ethernet 10Base-T/100Base-TX
Connection method	RJ45 socket
Transmission speed	10/100 MBit/s
Interface	GSM / GPRS
Connection method	SIM card, SMA antenna connection

Power supply

Typical current consumption	210 mA
Max. current consumption	860 mA (360 mA communications power + 500 mA analog voltage supply)
Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC
Residual ripple	± 5 %
Power dissipation	max. 5 W

Controller - ILC 151 GSM/GPRS - 2700977

Date tehnice

Fieldbus function

Amount of process data	max. 4096 Bit (INTERBUS)
Number of supported devices	max. 128
Number of local bus devices that can be connected	max. 63 (observe current consumption)
Number of devices with parameter channel	max. 16
Number of supported branch terminals with remote bus branch	max. 3

Direct I/Os

Input name	Digital inputs
Number of inputs	16
Connection method	Inline potential distributor
Description of the input	EN 61131-2 type 1 NPN/PNP
Output name	Digital outputs
Number of outputs	4
Connection method	2, 3, 4-wire
Maximum output current per channel	500 mA
Without analog input	yes
Without analog output	yes
Without pulse direction output	yes
Without counter input	yes

IEC 61131 runtime system

Programming tool	PC WORX / PC WORX EXPRESS
Program memory	512 kByte (43 K instructions (IL))
Mass storage	512 kByte
Retentive mass storage	48 kByte (NVRAM)
Number of control tasks	8
Realtime clock	Yes

General data

Processor	Altera Nios II 64 MHz
Diagnostics display	No

Clasificări

eCl@ss

eCl@ss 4.0	27240490
eCl@ss 4.1	27240490
eCl@ss 5.0	27242208
eCl@ss 5.1	27242208
eCl@ss 6.0	27242208
eCl@ss 7.0	27242208
eCl@ss 8.0	27242207

Controller - ILC 151 GSM/GPRS - 2700977

Clasificări

ETIM

ETIM 3.0	EC001423
ETIM 4.0	EC000236
ETIM 5.0	EC000236

UNSPSC

UNSPSC 6.01	43172015
UNSPSC 7.0901	43201404
UNSPSC 11	43172018
UNSPSC 12.01	43201404
UNSPSC 13.2	43201404

Date tehnice

Denumire pompa

EVMS10 14N5Q1BEGE/5.5

Client	Data 05/05/2022	Companie
Persoană de contact	Nr. art.	Intocmita de
Telefon	Proiect	Telefon
E-Mail	Nr. proiect	E-Mail

Date solicitate

1	Tip pompa	POMPA MULTISTAGE VERTICALĂ	Fluid	apă
2	Numarul de pompe / Rezerva	1 / 0	Temperatura lichidului	°C 20
3	Debit m³/h	12.63	Viscozitate cinematica	mm²/s 1.001
4	Inalt. de pompare m	100	Pres. de vaporizare	bar 0.0234
5	Inaltime geodezica m	0	PH	7
6	Presiune intrare (pin) bar	0	Densitatea	kg/m³ 998.2
7	NPSH disponibil		Solide	Greutate % 0
8	Temperatura ambianta °C	20		

Pompă

9	Denumire pompa	EVMS10 14N5Q1BEGE/5.5	Frecventa	Hz 50
10	Proiectare	POMPA MULTISTAGE VERTICALĂ	Tip montaj	Oval flange (STANDARD)
11	Producător	EBARA	Rotor Diametru	Max. mm 96
12	Turație rpm	2930		Proiectat mm 96
13	Nr. trepte	14		Min. mm 96
14	Conexiune Aspiratie		Debit	Operare m³/h 12.7
15	Conexiune Refulare			Max- m³/h 15
16	Presiune maxima de lucru bar	16		Min- m³/h 4.5
17	Cap de inchidere bar	15.25	Inalt. de pompare	Operare m 100.5
18	Greutate totala kg	Vezi tabelul "Dimensionare"		- (Qmax.) m 72.1
19	Puterea la arbore kW	5.22		- (Qmin.) m 151.7
20			Puterea maxima a axului la rotor maxim	kW 5.17
21	Valoarea NPSH a pompei m	2.5	Eficienta	% 66.4

Materiale

22	Rotor	AISI 304		
23	Carcasă intermediară	AISI 304		
24	Carcasa inferioara	AISI 304		
25	Ax	AISI 304		
26	O-ring	EPDM		
27				

Motor

28	Producător	ETM	Clasa de izolatie	F
29	Tip	TEFC_EVMS10 14/5.5_400_Three Phase	Faze	3~
30	Model	IE3 / 50 Hz / Perechi de poli 1	Marime constructiva	132
31	Putere kW	5.5	Greutate	kg 39
32	Nr. poli	2	Tensiune electrica	V 400
33	Turație rpm	2925	Intensitate curent	A 10.4
34	Grad de protectie	IP 55		
35				

Comentarii

Curba de performanta Denumire pompa

EVMS10 14N5Q1BEGE/5.5

Client	Data 05/05/2022	Companie
Persoană de contact	Nr. art.	Intocmita de
Telefon	Proiect	Telefon
E-Mail	Nr. proiect	E-Mail

Date solicitate

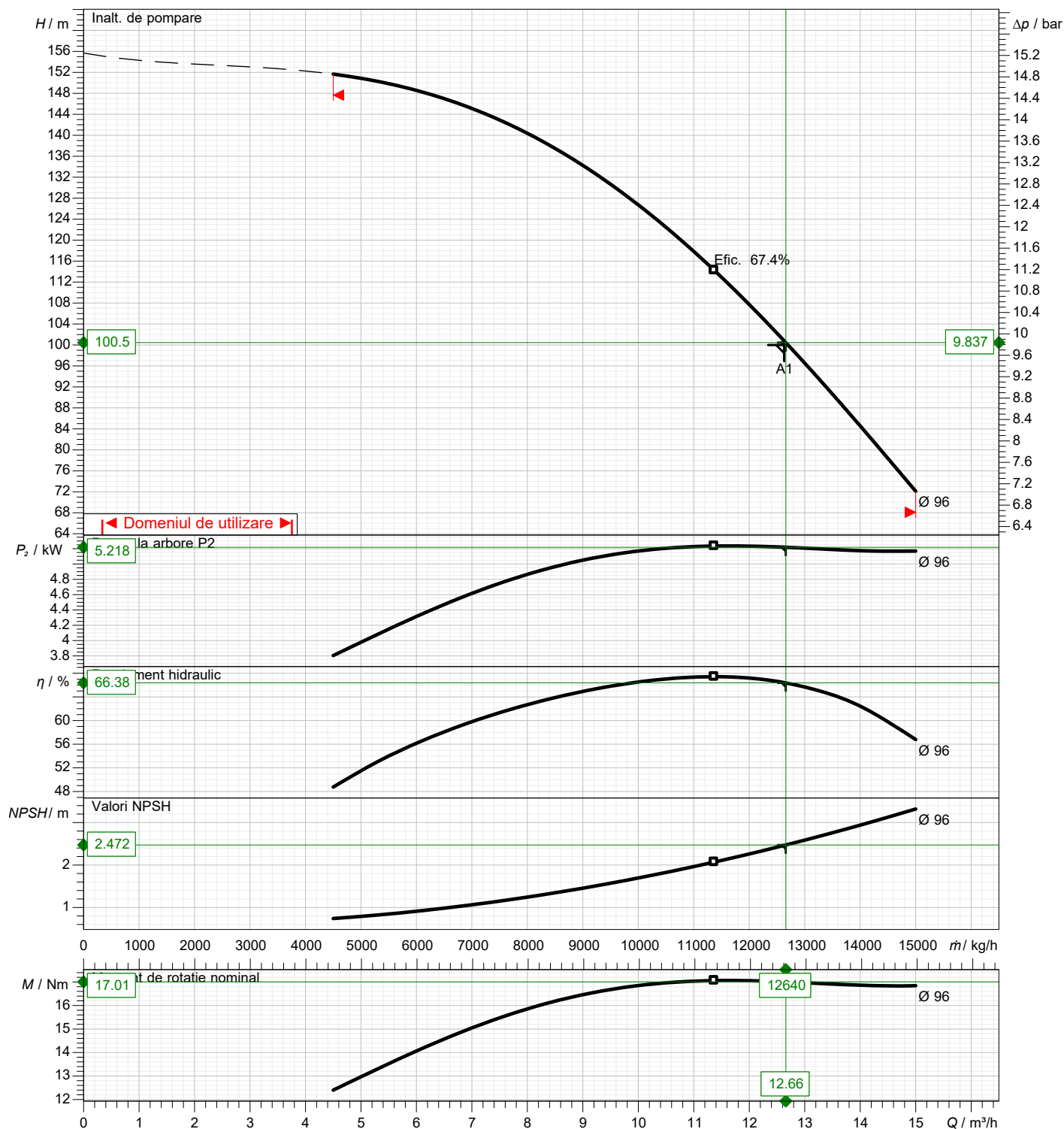
1	Debit	m³/h	12.63
2	Inalt. de pompare	m	100
3	Inaltime geodezica	m	0

Pompă

Debitul de lucru	m³/h	12.7	Frecventa	Hz	50
Presiunea de lucru	m	100.5	Nr. poli		2
Diametrul rotorului proiectat	mm	96	Turație	rpm	2930

Test standard: ISO 9906:2012 - Grade3B

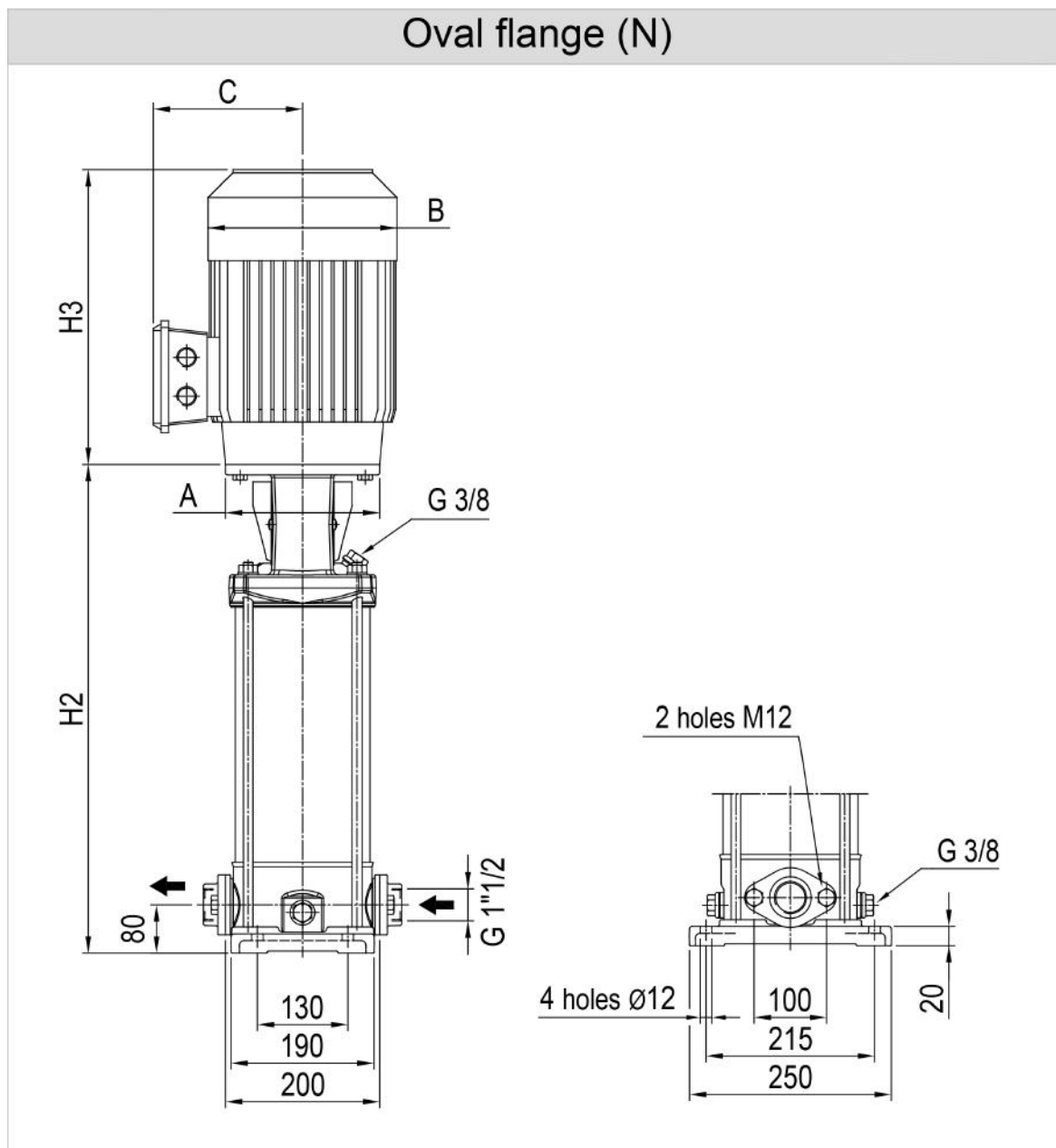
apă; 20°C; 998.3kg/m³; 1mm²/s



Dimensiuni

Nume pompa EVMS10 14N5Q1BEGE/5.5

Client	Data 05/05/2022	Companie
Persoană de contact	Nr. art.	Intocmita de
Telefon	Proiect	Telefon
E-Mail	Nr. proiect	E-Mail



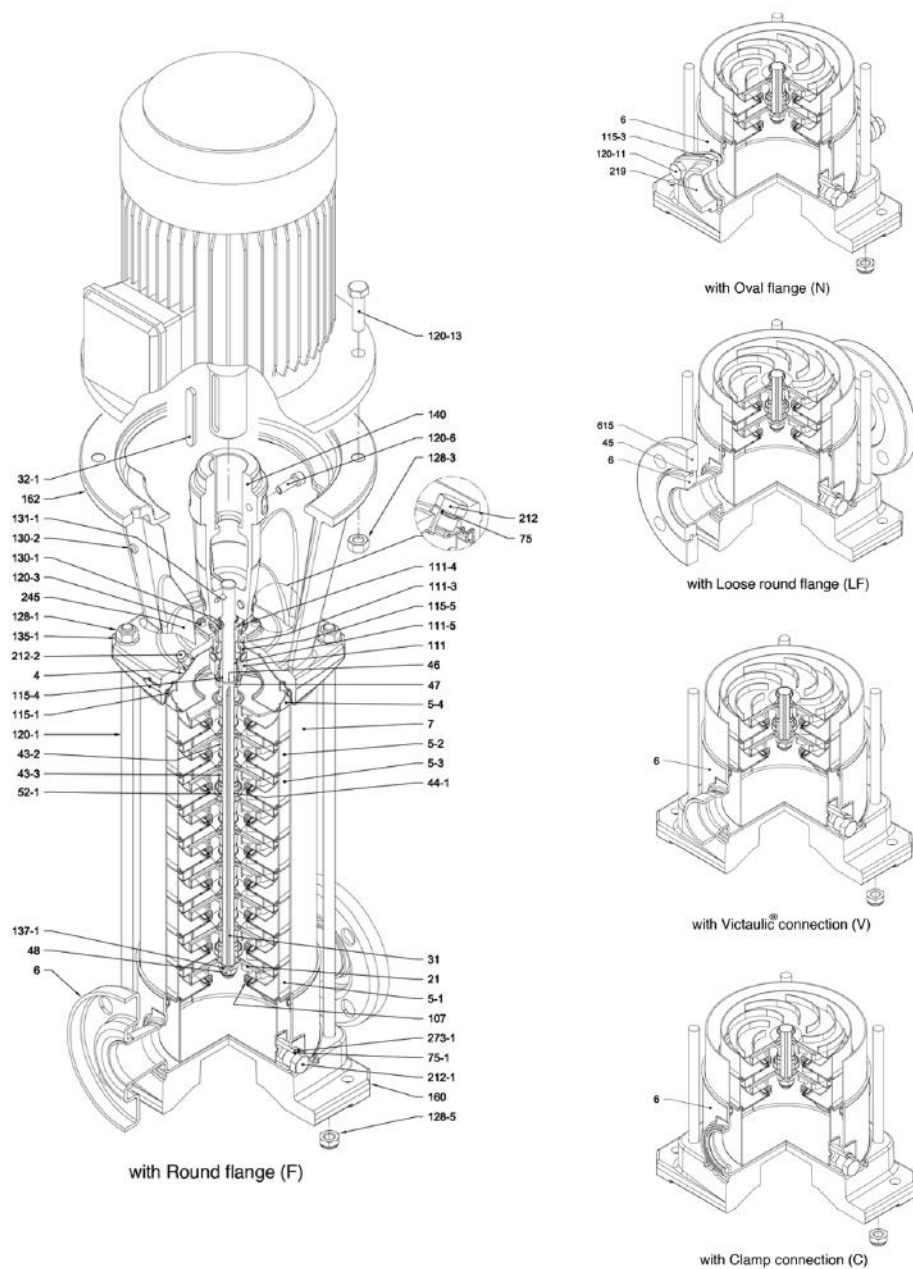
Dimensiuni in		mm						
1	A	Dia300						
2	B	220						
3	C	152						
4	H2	821						
5	H3	399						
6	Weight P&M (kg)	76.8						
7								
8								
9								
10								
11								
12								
13								
14								
15								

(1/4)

Constructie

Nume pompa EVMS10 14N5Q1BEGE/5.5

Client	Data 05/05/2022	Companie
Persoană de contact	Nr. art.	Intocmita de
Telefon	Proiect	Telefon
E-Mail	Nr. proiect	E-Mail



(2/4)

Constructie

Nume pompa EVMS10 14N5Q1BEGE/5.5

Client	Data 05/05/2022	Companie
Persoană de contact	Nr. art.	Intocmita de
Telefon	Proiect	Telefon
E-Mail	Nr. proiect	E-Mail

N°	PART NAME		MATERIAL		DIMENSIONS	STANDARD
			EVMS	EVMSL		
4	Casing cover		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)		
5-1	Suction casing		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)		
5-2	Intermediate casing		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)		
5-3	Intermediate casing with bearing		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)		
5-4	Discharge casing		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)		
6	Bottom casing		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)		
7	Outer casing		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)		
21	Impeller		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)		
31	Shaft		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)		
32-1	Adjuster key		EN 1.4301 (AISI 304)			
43-2	Shaft sleeve (intermediate)		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)		
43-3	Shaft sleeve (bearing+discharge casing)		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)		
44-1	Shaft sleeve bearing		Tungsten carbide			
45	Flange holder		EN 1.4301 (AISI 304)			
46	Ring (mechanical seal)		EN 1.4404 (AISI 316L)			
47	Ring holder		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)		
48	Impeller nut		EN 1.4301 (AISI 304) with inox insert	EN 1.4401 (AISI 316) with inox insert	M10	
52-1	Sleeve bearing		Tungsten carbide			
75	O-Ring (priming plug)		EPDM / FPM *		Ø12.37x2.62	OR 3050
75-1	O-Ring (drainage plug)		EPDM / FPM *			
107	Liner ring		EN 1.4301 (AISI 304) + PPS	EN 1.4404 (AISI 316L) + PPS		
111	Mechanical seal		--- **			
111-3	Mechanical seal seat		EN 1.4301 (AISI 304)	EN 1.4401 (AISI 316)		
111-4	Seal holder		EN 1.4301 (AISI 304)			
111-5	Mechanical seal cartridge sleeve		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)		
115-1	O-Ring (outer casing)		EPDM / FPM *		Ø164.46x5.34	OR 6945
115-3	O-Ring		EPDM / FPM *			
115-4	O-Ring (cartridge sleeve)		EPDM / FPM *		Ø15.88x2.62	OR 4093
115-5	O-Ring (seal flange)		EPDM / FPM *		Ø37.77x2.62	OR 4175
120-1	Tie-rod		EN 1.4057 (AISI 431)		M12	
120-3	Screw (seal flange)		A2-70		M5x12	ISO 4762
120-6	Screw (pump coupling)	up to 4.0 kW	Galvanized steel		M6x25	ISO 4762
		from 5.5 kW to 7.5 kW			M8x20	ISO 4762
		above 11 kW			M10x30	ISO 4762
120-11	Screw (counterflange)		A2-70			
120-13	Screw for motor	MEC 80	Galvanized steel 8.8 strength class ISO 898/1		M6x20	ISO 4017
		MEC 90-100-112			M8x20	ISO 4017
		MEC 132			M12x40	UNI 5739
		MEC 160			M16x50	ISO 4017
128-1	Nut (tie rod)		A2-70		M12	ISO 4032
128-3	Nut (motor)	MEC 132	Galvanized steel		M12	ISO 4032
		MEC 160			M16	ISO 4032
128-5	Nut (tie rod)		A2-70		M12	UNI 7474
128-6	Nut (aluminium coupling)	MEC 71-80-90-100-112	Galvanized steel		M6	ISO 4032
130-1	Set screw		EN 1.4301 (AISI 304)		M5x8	ISO 4026
130-2	Screw for coupling guard		A2-70		M5x6	UNI 7687
131-1	Pin for shaft		Carbon Steel		Ø5x35	ISO 2338
135-1	Washer (tie rod)		EN 1.4301 (AISI 304)		Ø13x24x2.5	ISO 7089
135-6	Washer (aluminium coupling)	up to 4.0 kW	Carbon Steel		Ø6	
137-1	Impeller spacer		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)		
140	Coupling	up to 4.0 kW	Die cast Aluminium EN AB-AISI11 Cu2 (Fe)			
160		above 5.5 kW	Cast Iron			
162	Motor bracket		Die cast Aluminium EN AB-AISI11 Cu2 (Fe)			
212	Motor bracket		Cast iron EN-GJL-250			
212	Priming plug		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)	G 3/8	
212-1	Drainage plug		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)	G 3/8	
212-2	Venting plug		EN 1.4404 (AISI 316L)			
219	Counter flange		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)		
245	Coupling guard		EN 1.4301 (AISI 304)			
273-1	Washer (drainage plug)		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)		
615	Flange		Nodular Cast Iron			

* EPDM (standard)
FPM (option)

** see CONSTRUCTION 4/4

(3/4)

Constructie

Nume pompa EVMS10 14N5Q1BEGE/5.5

Client	Data 05/05/2022	Companie
Persoană de contact	Nr. art.	Intocmita de
Telefon	Proiect	Telefon
E-Mail	Nr. proiect	E-Mail

Pump Type	N°																															
	4	5-1	52	53	54	6	7	21	31	32-1	43-2	43-3	44-1	45**	46	47	48	52-1	75	75-1	107	111	111-3	111-4	111-5	115-1	115-3*	115-4	115-5	115-6		
EVMS(L)10 2/0.75	1	1	/	1	1	1	1	2	1	1	/	2	1	4	2	1	1	1	1	2	2	1	1	1	1	1	2	2	1	1	1	1
EVMS(L)10 3/1.5	1	1	1	1	1	1	1	3	1	1	1	2	1	4	2	1	1	1	1	2	3	1	1	1	1	1	2	2	1	1	1	1
EVMS(L)10 4/2.2	1	1	2	1	1	1	1	4	1	1	2	2	1	4	2	1	1	1	1	2	4	1	1	1	1	1	2	2	1	1	1	1
EVMS(L)10 5/2.2	1	1	3	1	1	1	1	5	1	1	3	2	1	4	2	1	1	1	1	2	5	1	1	1	1	1	2	2	1	1	1	1
EVMS(L)10 6/2.2	1	1	4	1	1	1	1	6	1	1	4	2	1	4	2	1	1	1	1	2	6	1	1	1	1	1	2	2	1	1	1	1
EVMS(L)10 7/3.0	1	1	5	1	1	1	1	7	1	1	5	2	1	4	2	1	1	1	1	2	7	1	1	1	1	1	2	2	1	1	1	1
EVMS(L)10 8/3.0	1	1	6	1	1	1	1	8	1	1	6	2	1	4	2	1	1	1	1	2	8	1	1	1	1	1	2	2	1	1	1	1
EVMS(L)10 9/4.0	1	1	7	1	1	1	1	9	1	1	7	2	1	4	2	1	1	1	1	2	9	1	1	1	1	1	2	2	1	1	1	1
EVMS(L)10 10/4.0	1	1	8	1	1	1	1	10	1	1	8	2	1	4	2	1	1	1	1	2	10	1	1	1	1	1	2	2	1	1	1	1
EVMS(L)10 11/4.0	1	1	9	1	1	1	1	11	1	1	9	2	1	4	2	1	1	1	1	2	11	1	1	1	1	1	2	2	1	1	1	1
EVMS(L)10 12/5.5	1	1	9	2	1	1	1	12	1	1	9	3	2	4	2	1	1	2	1	2	12	1	1	1	1	1	2	2	1	1	1	1
EVMS(L)10 14/5.5	1	1	11	2	1	1	1	14	1	1	11	3	2	4	2	1	1	2	1	2	14	1	1	1	1	1	2	2	1	1	1	1
EVMS(L)10 15/5.5	1	1	12	2	1	1	1	15	1	1	12	3	2	4	2	1	1	2	1	2	15	1	1	1	1	1	2	2	1	1	1	1
EVMS(L)10 16/7.5	1	1	13	2	1	1	1	16	1	1	13	3	2	4	2	1	1	2	1	2	16	1	1	1	1	1	2	/	1	1	1	1
EVMS(L)10 18/7.5	1	1	15	2	1	1	1	18	1	1	15	3	2	4	2	1	1	2	1	2	18	1	1	1	1	1	2	/	1	1	1	1
EVMS(L)10 19/7.5	1	1	16	2	1	1	1	19	1	1	16	3	2	4	2	1	1	2	1	2	19	1	1	1	1	1	2	/	1	1	1	1
EVMS(L)10 21/7.5	1	1	18	2	1	1	1	21	1	1	18	3	2	4	2	1	1	2	1	2	21	1	1	1	1	1	2	/	1	1	1	1
EVMS(L)10 22/11	1	1	19	2	1	1	1	22	1	1	19	3	2	4	2	1	1	2	1	2	22	1	1	1	1	1	2	/	1	1	1	1
EVMS(L)10 23/11	1	1	19	3	1	1	1	23	1	1	19	4	3	4	2	1	1	3	1	2	23	1	1	1	1	1	2	/	1	1	1	1

Pump Type	N°																											
	120-1	120-3	120-6	120-11*	120-13	128-1	128-3	128-5	128-6	130-1	130-2	131-1	135-1	135-6	137-1	140	160	162	212	212-1	212-2	219*	245	273-1	615**			
EVMS(L)10 2/0.75	4	4	4	4	4	4	/	4	4	3	4	1	4	4	1	2	1	1	1	2	1	2	2	2	2			
EVMS(L)10 3/1.5	4	4	4	4	4	4	/	4	4	3	4	1	4	4	1	2	1	1	1	2	1	2	2	2	2			
EVMS(L)10 4/2.2	4	4	4	4	4	4	/	4	4	3	4	1	4	4	1	2	1	1	1	2	1	2	2	2	2			
EVMS(L)10 5/2.2	4	4	4	4	4	4	/	4	4	3	4	1	4	4	1	2	1	1	1	2	1	2	2	2	2			
EVMS(L)10 6/2.2	4	4	4	4	4	4	/	4	4	3	4	1	4	4	1	2	1	1	1	2	1	2	2	2	2			
EVMS(L)10 7/3.0	4	4	4	4	4	4	/	4	4	3	4	1	4	4	1	2	1	1	1	2	1	2	2	2	2			
EVMS(L)10 8/3.0	4	4	4	4	4	4	/	4	4	3	4	1	4	4	1	2	1	1	1	2	1	2	2	2	2			
EVMS(L)10 9/4.0	4	4	4	4	4	4	/	4	4	3	4	1	4	4	1	2	1	1	1	2	1	2	2	2	2			
EVMS(L)10 10/4.0	4	4	4	4	4	4	/	4	4	3	4	1	4	4	1	2	1	1	1	2	1	2	2	2	2			
EVMS(L)10 11/4.0	4	4	4	4	4	4	/	4	4	3	4	1	4	4	1	2	1	1	1	2	1	2	2	2	2			
EVMS(L)10 12/5.5	4	4	4	4	4	4	4	4	/	3	4	1	4	/	1	2	1	1	1	2	1	2	2	2	2			
EVMS(L)10 14/5.5	4	4	4	4	4	4	4	4	/	3	4	1	4	/	1	2	1	1	1	2	1	2	2	2	2			
EVMS(L)10 15/5.5	4	4	4	4	4	4	4	4	/	3	4	1	4	/	1	2	1	1	1	2	1	2	2	2	2			
EVMS(L)10 16/7.5	4	4	4	/	4	4	4	4	/	3	4	1	4	/	1	2	1	1	1	2	1	/	2	2	2			
EVMS(L)10 18/7.5	4	4	4	/	4	4	4	4	/	3	4	1	4	/	1	2	1	1	1	2	1	/	2	2	2			
EVMS(L)10 19/7.5	4	4	4	/	4	4	4	4	/	3	4	1	4	/	1	2	1	1	1	2	1	/	2	2	2			
EVMS(L)10 21/7.5	4	4	4	/	4	4	4	4	/	3	4	1	4	/	1	2	1	1	1	2	1	/	2	2	2			
EVMS(L)10 22/11	4	4	4	/	4	4	4	4	/	3	4	1	4	/	1	2	1	1	1	2	1	/	2	2	2			
EVMS(L)10 23/11	4	4	4	/	4	4	4	4	/	3	4	1	4	/	1	2	1	1	1	2	1	/	2	2	2			

* only for Oval flange (N)

** only for Loose round flange (LF)

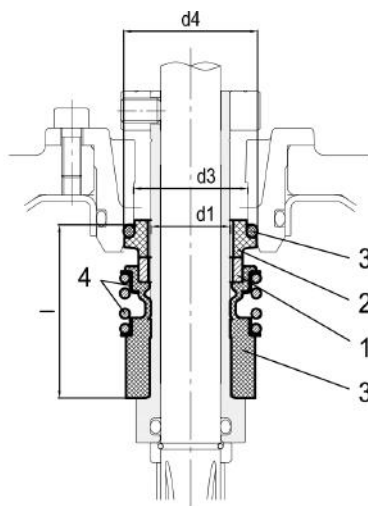
128-6 / 135-6: with Aluminium coupling

(4/4)

Constructie

Nume pompa EVMS10 14N5Q1BEGE/5.5

Client	Data 05/05/2022	Companie
Persoană de contact	Nr. art.	Intocmita de
Telefon	Proiect	Telefon
E-Mail	Nr. proiect	E-Mail



● : Standard

Pump model	Max operating temperature	Shaft seal type		Shaft seal material									Type key	
Max operating pressure		Cartridge		1		2		3		4		5		
		Unbalanced	Balanced	Rotating Part	Code	Stationary Part	Code	Elastomers	Code	Compression spring	Collar	Code		
up to 16 bar	- 30°C to + 120°C	●		SiC	(Q1)	Carbon	(B)	EPDM	(E)	AISI 316		(G)	Q1BEG	

Max operating pressure	d1 [mm]	d2 [mm]	d3 [mm]	d4 [mm]	l [mm]
16 bar	20	-	29	35	37.5

Statie de repompare containerizata 2A + 1R cu electropompe EBARA

Qpompa = 12,6 m³/h, H = 100 mCA



Japanese Technology since 1912

Stația de repompare va fi amplasată într-un container cu dimensiunile 9000 x 2400 x 2700 mm, compartimentat în 3 zone (zona tehnologică, birou și toaletă), cu dimensiunile din planșă, cu stâlpi de susținere profilați la rece din tablă zincată cu grosimea de min 2 mm, pereți din panou sandwich poliuretan tip C 1 RAL 9002 (garantat min 10 ani), acoperiș cu rezistență portantă de min 250 kg/m², format din structură metalică zincată profilată la rece, grunduită reactiv și vopsită, tablă zincată dublu fâltuită, grosime min 0,5 mm, folie anticondens, vată minerală grosime min 100 mm norma C1 ISOVER®, tavan PVC RAL 9002. Containerul este compartimentat în trei zone și anume: 1. zona tehnologică, în care se vor instala echipamentele tehnologice (grup de pompare, tabloul electric etc.); 2. zona de birou, pentru personalul de exploatare, dotat cu mobilier (birou, scaun); 3. zona toaletă, în care se vor prevedea un vas WC și un lavoar. Zona tehnologică va fi prevăzută cu o ușă dublă batantă pe toată lățimea containerului pentru acces în caz de mentenanță la instalația hidraulică și o ușă laterală cu dimensiunile 900x2000 mm, PVC/metalică. Accesul în zona de birou se face din exteriorul containerului printr-o ușă cu dimensiunile 900x2000 mm, PVC/metalică. Accesul în zona toaleta se face din exteriorul containerului printr-o ușă cu dimensiunile 700x2000 mm, PVC/metalică.

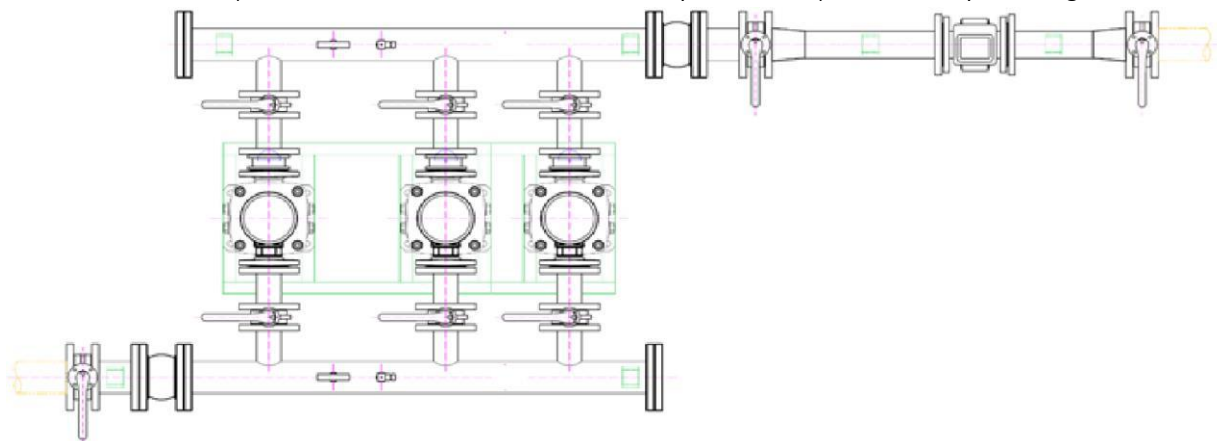
Toate zonele vor fi încălzite utilizând convectoare electrice termostatate cu puterea de min 2000 W, cu montare pe perete. În zona tehnologică, pentru prevenirea apariției condensului, va fi prevăzut un ventilator axial, cu montare murală, cu funcționare temporizată, cu debitul de min 1300 m³/h, 230 V.a., max.60 W. Grila de admisie a aerului în zona tehnologică va fi montată în jumătatea inferioară a ușii duble.

Instalații electrice

Stația de pompare va fi prevăzută cu un singur tablou electric și de automatizare și control al procesului, cu dimensiunile minime 1600 x 400 x 2000 mm. Tabloul electric va fi prevăzut cu: - inversor manual de sursă, pentru posibilitatea conectării unui grup generator portabil (în sursa 1 se va conecta alimentarea din rețeaua electrică, iar în sursa 2 se va conecta o fișă industrială trifazată (400 V), montată aparent pe peretele exterior al tabloului electric); - posibilitatea selectării modului de lucru: manual – 0 – automat; - echipamente pentru protecția și comanda pompelor din grupul de pompare; fiecare pompă va fi acționată prin câte un convertizor de frecvență; - siguranțe automate diferențiale pentru circuitele de iluminat și încălzire; - releu supraveghere faze (subtensiune, succesiune faze, supratensiune, lipsă fază); - ventilator interior de tablou cu funcționare termostată; - priză 230 Vc.a. monofazată și 400 Vc.a. trifazată pentru serviciile interne; - modul de protecție la supratensiuni atmosferice și de comutație.

Pentru iluminatul stației de pompare se vor utiliza lămpi cu LED, alb neutru, 230 Vc.a., IP65, IK08, după cum urmează: - în zona tehnologică: 30 W, 3500 lm, 4000 K, 2 buc.; - în birou: 24 W, 2900 lm, 4000 K, 1 buc.; - în toaletă: 18 W, 2100 lm, 4000 K, 1 buc.

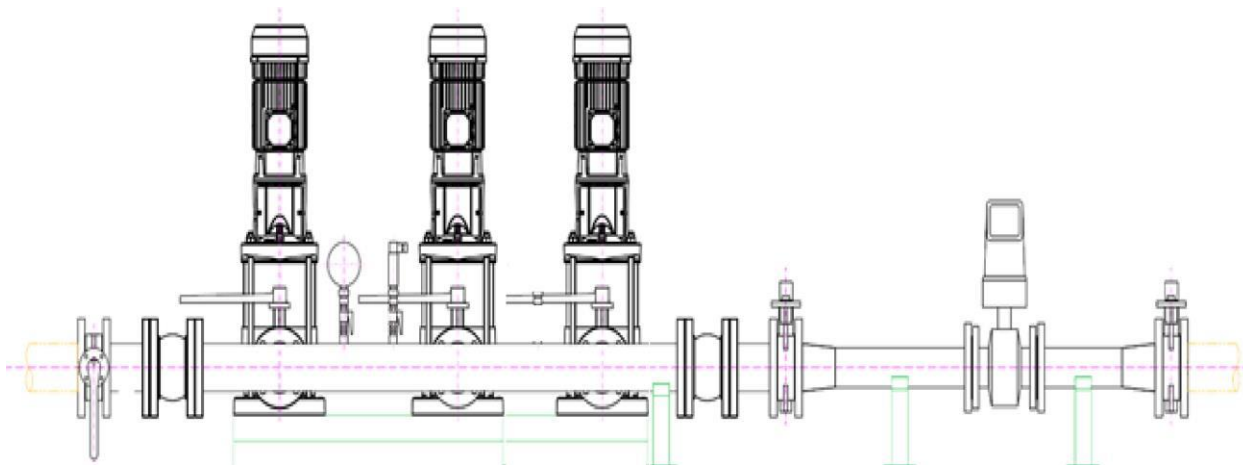
Grupul de pompare se va monta în zona tehnologică, va fi de tipul 2A + 1R, $Q_{pompa} = 12,60 \text{ m}^3/\text{h}$, $H = 100 \text{ mCA}$, cu electropompe verticale multietajate pentru apă potabilă, în construcție integrală din inox AISI 304, motor electric standardizat cu eficiență premium IE3, $P = 5,50 \text{ kW}$, $U = 400 \text{ Vc.a.}$, clasa de izolație F, clasa de protecție IP55, senzori PTC, indice de eficiență hidraulică $MEI > 0,7$, rotoare hidraulice construite pentru reducerea împingerii axiale de tip „Shurricane”, etanșare mecanică cu schimbare rapidă, etanșări de tip o-ring din EPDM.



Grupul de pompare se va realiza din țevă din oțel inoxidabil. Pe distribuitorul și colectorul rupului de pompare se vor prevedea senzori de presiune $0 \div 16 \text{ bar}$, $4 \div 20 \text{ mA}$ și manometre $0 \div 16 \text{ bar}$, din inox, diametru 65 mm, cu glicerină.

Pe aspirația grupului de pompare va fi prevăzut un vas închis, cu membrană, Pn 10, 1000 litri, iar pe refularea grupului de pompare va fi prevăzut un vas închis, cu membrană, Pn 10, 200 litri.

Alimentarea grupului de pompare se face printr-o conductă de aspirație, Dn 65, Refularea grupului de pompare va fi conectată la o conductă, Dn 65.



Pe conductă de refulare va fi prevăzut un debitmetru Dn 65, cu următoarele caracteristici: - principiul de măsurare: inducție electromagnetică; - conectarea la proces: flanșa EN 1092-1; - grad de protecție: IP 67; - carcasă și flanșe: oțel carbon, acoperire anticorozivă cu vopsea epoxidică (min. $150 \mu\text{m}$); - țevă de măsură: inox AISI 304/1.4301; -

electrozi: hastelloy C; - transmițer, montaj compact, precizie de măsurare $\pm 0,4\%$, o ieșire analogică 4÷20mA, o ieșire digitală, o ieșire pe releu, display retroiluminat cu text alfanumeric 3x20 caractere, IP67, alimentare 115-230 Vc.a., temperatura de operare -20÷50 °C.

Pentru monitorizarea/controlul parametrilor procesului tehnologic, precum și pentru comunicația cu sistemul SCADA, în tabloul electric și de automatizare se va prevedea un PLC cu router GSM/GPRS integrat. Pe ușa tabloului electric va fi amplasat un afișaj pentru urmărirea parametrilor procesului de către operator, precum și pentru programarea valorilor de referință.

Tabloul electric și de automatizare trebuie să asigure controlul automat al funcționării pompelor, cu posibilitatea rotirii pompelor la 24, 48 sau 168 de ore.

Caracteristicile PLC-ului:

- procesor: 64 MHz;
- memorie program: 512 kByte;
- memorie nevolatilă retentivă: 48 kByte (NVRAM);
- memorie de stocare: 512 kByte;
- ceas de timp real;
- alimentare: 24 Vc.c. (19,2÷30 Vc.c.);
- consumul tipic de curent: 210 mA;
- current maxim consumat: 860 mA (360 mA – comunicație + 500 mA – alimentare I/O analogice);
- cantitatea de date de proces suportată: max. 4096 Bit (INTERBUS);
- numărul de dispozitive suportate: max. 128;
- numărul de dispozitive locale care pot fi conectate: max. 63;
- limbaje de programare conform IEC 61631-3 (LD, FBD, ST, IL);
- opțiuni comunicare: Ethernet (10/100 Mbit/s), RS485, RS422;
- router GSM/GPRS integrat, port card SIM, conexiune antenă SMA;
- grad de protecție: IP20;
- temperatură ambientală operare/transport-depozitare: -25 ÷ +55 °C / -25 ÷ +85 °C;
- umiditate permisă operare/transport-depozitare: 10 ÷ 95 %;
- presiunea aerului: 70 ÷ 106 kPa (max. 3000 m deasupra nivelului mării);
- port pentru card SD (max. 2 GB);
- webserver integrat. - 16 intrări digitale (conectare 2, 3, 4 conductoare, tip NPN/PNP EN 61131-2) și 4 ieșiri digitale (conectare 2, 3, 4 conductoare, consum maxim pe canal 500 mA) integrate;

Panou operator:

- diagonală: minim 17,8 cm/7";
- rezoluție: 800 x 480 pixeli (WVGA);
- tehnologie touch: rezistiv;
- iluminare fundal: LED; - MTBF: 20000 h;
- număr culori: 262144 - procesor: 454 MHz;
- sistem de operare: MS Windows® CE 6.0;
- memorie RAM: 128 MB SDRAM;
- interfață: 1 x Ethernet (10/100 Mbps, RJ45), 2 x RS-232/422/485, 1 x USB tip A, 1 x USB tip B, 1 x SD;

- tensiune de alimentare: 24 Vc.c. $\pm 15\%$;
- current consumat: 0,4 A;
- grad de protecție: IP 66 (față), IP 20 (spate);
- temperatura ambientală operare/depozitare-transport: $0 \div 50\text{ }^{\circ}\text{C}$ / $-20 \div +85\text{ }^{\circ}\text{C}$;
- umiditate permisă operare/transport-depozitare: $10 \div 95\%$.

Tabloul electric și de automatizare va prelua datele din stația de repompare și va comunica prin GPRS (protocol Modbus TCP) cu dispeceratul SCADA. Date transmise în dispeceratul SCADA vor fi, fără a se limita la această listă, următoarele:

- starea de funcționare a fiecărei pompe din grupul de pompare (oprit, pornit, avarie);
- parametrii electrici ai stației de repompare;
- debitele instantanee și totalizatoarele de pe cele două conducte de refulare;
- presiunile de pe aspirația și refularea grupului de pompare;
- numărul orelor de funcționare pentru fiecare pompă;
- prezența tensiunii de alimentare; - starea comunicației GPRS;



Uninterruptible power supply - TRIO-UPS/1AC/24DC/5 - 2866611

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Uninterruptible power supply with integrated power supply unit, 5A, in combination with MINI-BAT/24/DC/1.3 AH, QUINT-BAT/24DC 3,4AH, 7,2AH or 12 AH

Product Description

The TRIO UPS module with integrated power supply is particularly space-saving: UPS module and power supply in one housing. Only one energy storage is required to complete the UPS system.

Energy storage with lead AGM technology buffers failures lasting up to two hours with 5 A load current.

Your advantages

- ✓ Autonomous – in the event of AC mains failure the industrial PC continues operating without interruption
- ✓ Time saving – when the supply voltage is restored, the industrial PC starts automatically



Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 311809
GTIN	4046356311809
Weight per Piece (excluding packing)	1,147.000 g
Custom tariff number	85371091
Country of origin	China

Technical data

Dimensions

Width	60 mm
Height	130 mm
Depth	118 mm

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 70 °C (> 55° C derating : 2.5%/K)
Ambient temperature (storage/transport)	-40 °C ... 80 °C

Uninterruptible power supply - TRIO-UPS/1AC/24DC/5 - 2866611

Technical data

Ambient conditions

Max. permissible relative humidity (operation)	95 % (at 25 °C, non-condensing)
Climatic class	3K3 (in acc. with EN 60721)
Degree of pollution	2

Input data

Nominal input voltage range	100 V AC ... 240 V AC
AC input voltage range	85 V AC ... 264 V AC (Derating < 90 V AC: 2.5%V)
Input voltage range DC	100 V DC ... 350 V DC (UL508: 100 ... 250 V)
Buffer time	adjustable: 0.5 min; 1 min; 2 min; 3 min; 5 min; 10 min; 15 min; 20 min; PC-Mode
Current consumption	1.1 A (230 V AC, maximum) 1.8 A (120 V AC, maximum)
Inrush current limiting/I ² t	< 1.3 A ² s
Mains buffering time	see diagram
Typical response time	150 ms (230 V AC) 200 ms (120 V AC)
Power factor (cos phi)	approx. 0.5
Protective circuit	Transient surge protection Varistor
Input fuse, integrated	6.3 A (slow-blow, internal)

Output data

Nominal output voltage	24 V DC
Setting range of the output voltage (U _{Set})	22.5 V DC ... 29.5 V DC (Network operation; in the buffer mode, dependent on the battery voltage of 27.9 V DC ... 19.2 V DC)
Nominal output current (I _N)	5 A (-25 °C ... 55 °C)
Derating	55 °C ... 70 °C (2.5%/K)
Output current limit	max. 6 A (Mains operation)
Control deviation	< 1 % (change in load, static 10 % ... 90 %)
Efficiency	> 88 % (230 V AC, network operation) > 86 % (120 V AC, network operation) > 86 % (Battery operation)
Residual ripple	< 10 mV _{PP}
Peak switching voltages nominal load	< 25 mV _{PP}
Connection in parallel	Yes, 2
Surge protection against internal surge voltages	< 35 V DC
Feedback voltage resistance	35 V DC

General

IQ technology	no
Net weight	1.1 kg
Memory medium	External, battery 1.3 Ah / 3.4 Ah / 7.2 Ah / 12 Ah
Insulation voltage input/output	4 kV (type test) 2 kV (routine test)

Uninterruptible power supply - TRIO-UPS/1AC/24DC/5 - 2866611

Technical data

General

Protection class	I
	> 596000 h (40 °C)
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	alignable: horizontally 0 mm, vertically 50 mm

Connection data, input

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Screw thread	M3

Connection data, output

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Stripping length	8 mm
Screw thread	M3

Connection data for signaling

Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Screw thread	M3

Charging process

Charge characteristic curve	I/U characteristic curve
Battery presence check/time interval	60 s
Charge current	0.2 A ... 1.5 A (Default 1.0 A)
End-of-charge voltage	25 V DC ... 30 V DC (Default 27.6 V DC)
Temperature compensation	0 mV/K ... 200 mV/K (42 mV/K by default)
Quality check of battery	4 h ... 200 h (Default 12 h)
Deep discharge protection	18 V DC ... 21 V DC (Default 19.2 V DC)

Uninterruptible power supply - TRIO-UPS/1AC/24DC/5 - 2866611

Technical data

Charging process

Alarm signaling threshold	18 V DC ... 30 V DC (Default 20.4 V DC)
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Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Noise emission	EN 55011 (EN 55022)
Noise immunity	EN 61000-6-2:2005
Connection in acc. with standard	CUL
Standards/regulations	EN 61000-4-2
Contact discharge	6 kV
Standards/regulations	EN 61000-4-3
Frequency range	80 MHz ... 2 GHz
Test field strength	10 V/m
Standards/regulations	EN 61000-4-4
Comments	Criterion B
Standards/regulations	EN 61000-6-3
	EN 61000-4-6
Frequency range	10 kHz ... 80 MHz
Voltage	10 V
Standards/regulations	EN 61000-4-11
Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
Standard - Electrical safety	EN 60950-1/VDE 0805 (SELV)
Standard – Electronic equipment for use in electrical power installations and their assembly into electrical power installations	EN 50178/VDE 0160 (PELV)
Standard – Safety extra-low voltage	EN 60950-1 (SELV)
	EN 60204 (PELV)
Standard - Safe isolation	DIN VDE 0100-410
Standard – Protection against shock currents, basic requirements for protective separation in electrical equipment	EN 50178
Standard – Limitation of mains harmonic currents	EN 61000-3-2
Shipbuilding approval	DNV GL (EMC B)
UL approvals	UL/C-UL listed UL 508
	UL/C-UL Recognized UL 60950-1
Shock	18 ms, 30g, in each space direction (according to IEC 60068-2-27)
Vibration (operation)	< 15 Hz, amplitude ± 2.5 mm (according to IEC 60068-2-6)
	15 Hz ... 150 Hz, 2.3g, 90 min.
Rail applications	EN 50121-4

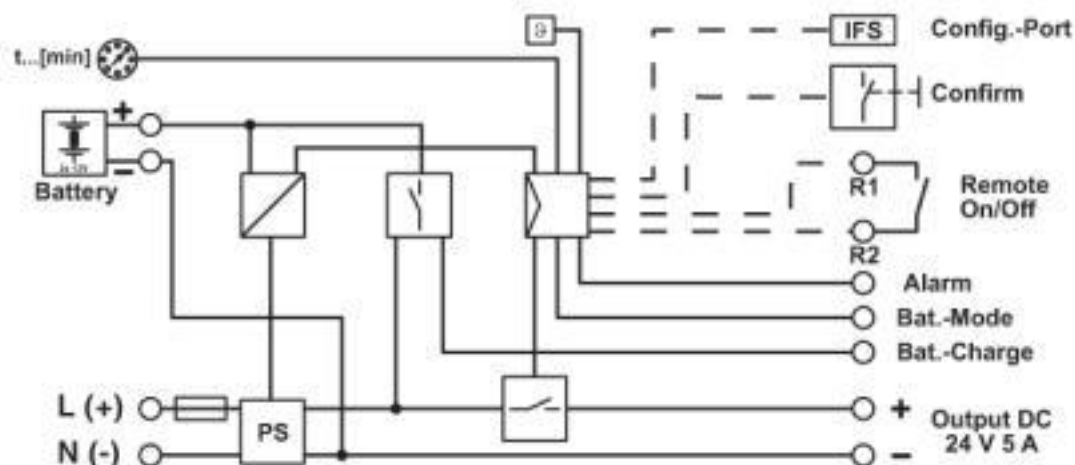
Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 25;
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

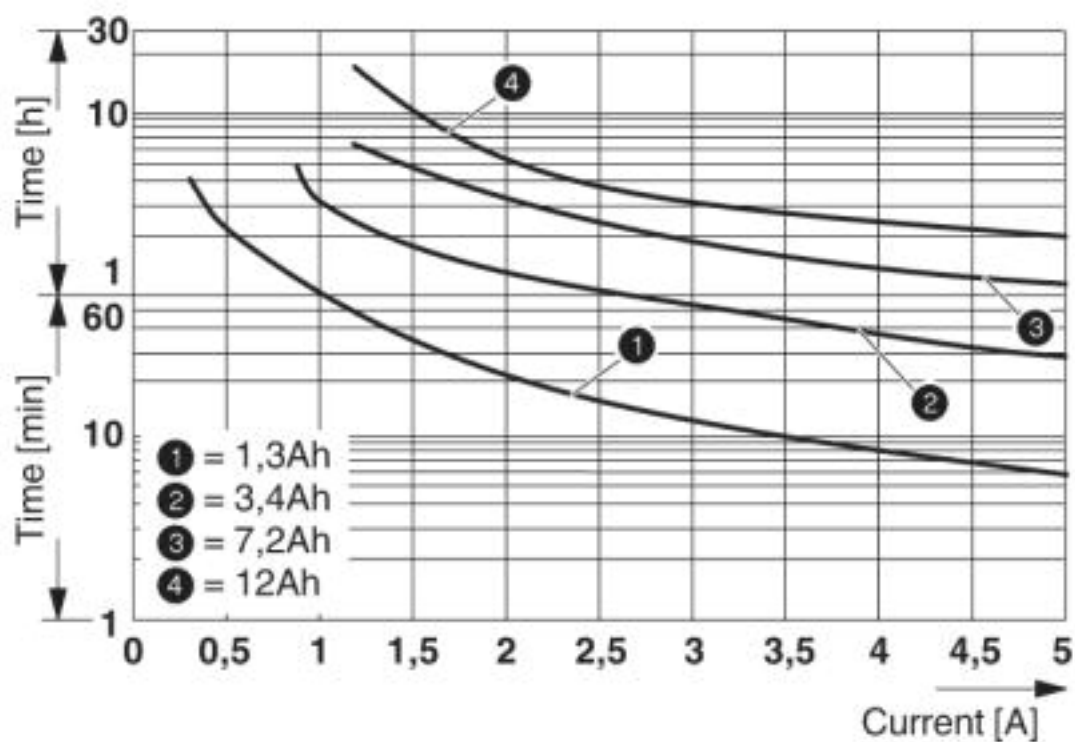
Drawings

Uninterruptible power supply - TRIO-UPS/1AC/24DC/5 - 2866611

Block diagram



Diagram



Classifications

eCl@ss

eCl@ss 4.0	27040600
eCl@ss 4.1	27040600
eCl@ss 5.0	27040600
eCl@ss 5.1	27040600

Uninterruptible power supply - TRIO-UPS/1AC/24DC/5 - 2866611

Classifications

eCl@ss

eCl@ss 6.0	27040600
eCl@ss 7.0	27040603
eCl@ss 8.0	27040603
eCl@ss 9.0	27040705

ETIM

ETIM 2.0	EC000382
ETIM 3.0	EC000382
ETIM 4.0	EC000382
ETIM 5.0	EC000382
ETIM 6.0	EC000382
ETIM 7.0	EC000382

UNSPSC

UNSPSC 6.01	30211510
UNSPSC 7.0901	39121011
UNSPSC 11	39121011
UNSPSC 12.01	39121011
UNSPSC 13.2	39121011
UNSPSC 18.0	39121011
UNSPSC 19.0	39121011
UNSPSC 20.0	39121011
UNSPSC 21.0	39121011

Approvals

Approvals

Approvals

DNV GL / PRS / UL Listed / UL Recognized / cUL Recognized / cUL Listed / EAC / EAC / cULus Recognized / cULus Listed

Ex Approvals

Approval details

DNV GL		https://approvalfinder.dnvgl.com/	TAA00000A2
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Uninterruptible power supply - TRIO-UPS/1AC/24DC/5 - 2866611

Approvals

PRS		http://www.prs.pl/	TE/2104/880590/16
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UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 123528
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UL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 211944
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cUL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 211944
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cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 123528
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EAC			EAC-Zulassung
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EAC			RU*DE*08.B.01873/19
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cULus Recognized			
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cULus Listed			
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Accessories

Accessories

Assembly adapter

Uninterruptible power supply - TRIO-UPS/1AC/24DC/5 - 2866611

Accessories

Assembly adapters - QUINT-PS-ADAPTERS7/2 - 2938206



Assembly adapter for QUINT POWER 10A on S7-300 rail

Assembly adapters - UWA 182/52 - 2938235



Universal wall adapter for securely mounting the device in the event of strong vibrations. The device is screwed directly onto the mounting surface. The universal wall adapter is attached on the top/bottom.

Battery unit

Energy storage - MINI-BAT/24DC/1.3AH - 2866417



Energy storage device, lead AGM, VRLA technology, 24 V DC, 1.3 Ah.

Energy storage - QUINT-BAT/24DC/ 3.4AH - 2866349



Energy storage device, lead AGM, VRLA technology, 24 V DC, 3.4 Ah. Connection via pin cable lug, 14 mm.

Energy storage - QUINT-BAT/24DC/ 7.2AH - 2866352



Energy storage device, lead AGM, VRLA technology, 24 V DC, 7.2 Ah. Connection via pin cable lug, 14 mm.

Uninterruptible power supply - TRIO-UPS/1AC/24DC/5 - 2866611

Accessories

Energy storage - QUINT-BAT/24DC/12AH - 2866365



Energy storage device, lead AGM, VRLA technology, 24 V DC, 12 Ah. Connection via pin cable lug, 14 mm.

Energy storage - UPS-BAT/VRLA/24DC/1.3AH - 2320296



Energy storage device, lead AGM, VRLA technology, 24 V DC, 1.3 Ah, tool-free battery replacement, automatic detection, and communication with QUINT UPS-IQ

Energy storage - UPS-BAT/VRLA/24DC/3.4AH - 2320306



Energy storage device, lead AGM, VRLA technology, 24 V DC, 3.4 Ah, tool-free battery replacement, automatic detection, and communication with QUINT UPS-IQ

Energy storage - UPS-BAT/VRLA/24DC/7.2AH - 2320319



Energy storage device, lead AGM, VRLA technology, 24 V DC, 7.2 Ah, tool-free battery replacement, automatic detection, and communication with QUINT UPS-IQ

Energy storage - UPS-BAT/VRLA/24DC/12AH - 2320322



Energy storage device, lead AGM, VRLA technology, 24 V DC, 12 Ah, tool-free battery replacement, automatic detection, and communication with QUINT UPS-IQ

Data cable preassembled

Uninterruptible power supply - TRIO-UPS/1AC/24DC/5 - 2866611

Accessories

Data cable - IFS-USB-DATACABLE - 2320500



Used for communicating between industrial PCs and Phoenix Contact devices with the 12-pos. IFS data port, such as QUINT UPS or TRIO UPS.

Fuse

Fuse - SI FORM C 15 A DIN 72581 - 0913676



Flat-type plug-in fuse, type C, color code: light blue, nominal current: 15 A

Fuse - SI FORM C 25 A DIN 72581 - 0913757



Flat-type plug-in fuse, type C, color code: white, nominal current: 25 A

Memory block

Memory block - IFS-CONFSTICK-L - 2901103



Multi-functional memory block with handle for the INTERFACE system; for easy storage and back up of the configuration.

Memory block - IFS-CONFSTICK - 2986122



Multi-functional memory block for the INTERFACE systemf for easy storage and backup of the configuration.

Mounting rail adapter

Uninterruptible power supply - TRIO-UPS/1AC/24DC/5 - 2866611

Accessories

DIN rail adapter - UTA 107 - 2853983

Universal DIN rail adapter, for screwing on switchgear



Programming adapter

Programming adapter - IFS-USB-PROG-ADAPTER - 2811271



Programming adapter with USB interface, for programming with software. The USB driver is included in the software solutions for the products to be programmed, such as measuring transducers or motor managers.

Touch panel - BTP 2070W - 1046666

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



Touch panel with 17.8 cm/7" TFT-display (analog resistive (polyester)), 800 x 480 pixel(s) (WVGA), 262144 colors, Arm9™ i.MX28, 454 MHz, 2x COM (RS-232/422/485), 1x USB 2.0, Typ A, 1x USB 2.0, Typ B, 1 x Ethernet (10/100 Mbps), RJ45, Windows® CE 6.0 and user software: Visu+. (bus system: without)

Your advantages

- ✓ Visu+ RT integrated as standard in all BTP 2000 devices
- ✓ Connection to all relevant control systems, thanks to a large number of available drivers
- ✓ Developed for basic applications with attractive price/performance ratio
- ✓ 3 display sizes in 16:9 format

RoHS

Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 642963
GTIN	4055626642963

Technical data

Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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Dimensions

Outer dimensions: width, height, depth	186 mm x 138 mm x 5 mm (Dimensions of the front plate)
Installation dimensions: width, height, depth	175 mm x 127 mm x 31 mm (Installation cutout)

Display

Display	17.8 cm/7" TFT
Screen resolution	800 x 480 Pixel(s) (WVGA)
Touch technology	analog resistive (polyester)
Brightness	300 cd/m², typical (adjustable)
Backlighting	LED
Display backlight MTBF	20000 h

Touch panel - BTP 2070W - 1046666

Technical data

Display

Colors	262144 colors
Reading angle left	70 °
Reading angle right	70 °
Reading angle top	50 °
Reading angle bottom	70 °

Computer data

Processor	Arm9™ i.MX28, 454 MHz
Operating system	Windows® CE 6.0
User software	Visu+
RAM	128 MB DDR2 SDRAM
Mass storage	Flash, 512 MB
Network	1 x Ethernet (10/100 Mbps), RJ45
Interfaces	2x COM (RS-232/422/485)
	1x USB 2.0, Typ A
	1x USB 2.0, Typ B
Bus system	without
Slots	1x SD

General

Housing material	Plastic
Mounting type	Front installation
Weight	400 g

Ambient conditions

Degree of protection	IP66 (on the front), IP20 (on the back)
Ambient temperature (operation)	0 °C ... 50 °C
Ambient temperature (storage/transport)	-20 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)
Vibration (operation)	DIN EN 60068-2-6
Shock	DIN EN 60068-2-27

Device supply

Typical current consumption	0.4 A
Power supply unit	24 V DC ±15 %

Standards and Regulations

Shock	DIN EN 60068-2-27
Vibration (operation)	DIN EN 60068-2-6

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
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Touch panel - BTP 2070W - 1046666

Approvals

Approvals

Approvals

EAC

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approval details

EAC		RU C- DE.A*08.B01708
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Accessories

Accessories

Data plug

D-SUB gender changer - VS-09-GC-ST/ST - 1652651



D-SUB contact insert, shell size 1, with nine signal contacts, type of contact pin, gender changer, fixing with 4-40 UNC thread

Operating stylus

Touch pen - TOUCH PEN - 2701379



Touch pen for analog-resistive HMI, silver coated. Delivery includes self-adhesive pen holder.

PCB plug

Touch panel - BTP 2070W - 1046666

Accessories

Printed-circuit board connector - MSTB 2,5/ 3-STF-5,08 - 1777992



PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm², number of positions: 3, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin

Storage medium

USB memory stick - USB FLASH DRIVE - 2402809



USB memory stick, 8 GB

Disk drive - MICROSDHC-16GB - 1154696



Industrial grade 16 GB MicroSDHC 3DTLC

Disk drive - MICROSDHC-32GB - 1154699



Industrial grade 32 GB MicroSDHC 3DTLC

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Debitmetru electromagnetic MAG5100W

Descriere generala

SITRANS FM MAG 5100 W este un debitmetru electromagnetic construit special pentru aplicatii pe apa : potabila, reziduala, uzata, precum si pe aplicatii unde intervine namolul.

Beneficii:

- Diametre : DN 15 - DN1200/2000.
- Conexiune cu flansa conform EN 1092-1 (DIN 2501), ANSI, AWWA, AS si JIS;
- Liner din cauciuc dur NBR si ebonita pentru toate aplicatiile pe apa ;
- Liner din EPDM pentru aplicatii cu apa potabila ;
- Electrozi de masura si impamantare integrati realizati din hastelloy ;
- Precizie crescuta la debit scazut, datorita design-ului (DN 15 - DN300 mm);
- Aprobări pentru apa potabila ;
- Poate fi ingropat sau inundat ;
- Aprobare pentru tranzactii fiscale ;
- Constructie in conformitate cu ISO 13359 ; standardul incluzand diametre pana la DN400 ;
- Punere in functiune facila, valorile de calibrare si setarile fiind incarcate automat in SENSORPROM ;
- Proiectat astfel incat sa se efectueze verificarea in-situ, utilizandu-se amprenta SENSORPROM-ului ;
- Optiunea Custody Transfer pentru tranzactii fiscale, conform OIML R 49 si verificata conform MI-001
- Indeplineste directivele EEC: PED, directiva 97/23/EC pentru flanse EN1092-1
- Upgrade simplu in fabrica sau la locul de functionare a unui senzor standard la IP68/NEMA 6P.



Aplicatii

Principalele aplicatii ale senzorilor MAG5100W sunt :

- Captarea apei;
- Tratarea apei
- Rețele de distributie a apei (managementul detectiei scurgerilor) ;
- Masurari pentru tranzactii fiscale;
- Irigatii ;
- Tratarea apelor uzate;
- Instalatia de filtrare a apei (de ex. osmoza inversa si ultrafiltrare) ;
- Aplicatii de apa industrială.

Modul de operare

Principiul de masurare al debitului este bazat pe legea inductiei electromagnetice a lui Faraday conform careia senzorul converteste debitul intr-o tensiune electrica proportionala cu viteza acestuia.

Integrarea

Debitmetrul este alcatuit dintr-un senzor de debit si un transmiter SITRANS F M MAG 5000, MAG 6000 sau MAG 6000 I.

Conceptul de comunicatie flexibila USM II simplifica integrarea si updatarea la o gama larga de sisteme, de exemplu, HART, DeviceNet, PROFIBUS DP si PA, FOUNDATION Fieldbus H1, Modbus RTU/RS 485.

Specificatii tehnice

Caracteristici produs	MAG 5100 W (7ME6520)
Liner	EPDM sau NBR – in principal pentru piata europeana Ebonita – in principal pentru pietre non-europene
Dimensiunea nominala si design-ul	Senzor conic (DN15...300) Senzor integral (DN350...1200)
Principiu de masurare Frecventa de excitatie (retea de alimentare - 50/60 Hz)	Inductie electromagnetica DN 15 ... 65 (½" ... 2½"): 12.5 Hz/15 Hz DN 80 ... 150 (3" ... 6"): 6.25 Hz/7.5 Hz DN 200 ... 300 (8" ... 12"): 3.125 Hz/3.75 Hz DN 350...1200 (14"...48"): 1.5625 Hz/1.875 Hz
Conectarea la proces Cu flansa EN 1092-1 ANSI B16.5 AWWA C-207 AS4087	PN 10 (145 psi) : DN 200 ... 300 (8" ... 12") Flansa neteda PN 10 (145 psi): DN 350 ... 1200 (14" ... 48") Flansa cu umar PN 16 (232 psi): DN 50 ... 300 (2" ... 12") Flansa neteda PN 16 (232 psi): DN 350 ... 1200 (14" ... 48") Flansa cu umar PN 40 (580 psi): DN 15 ... 40 (½" ... 1½") Flansa neteda Class 150: ½" ... 12" fata neteda; 14" ... 24" raised face Class D: 28" ... 48", fata neteda PN 16 (DN 50 ... 1200), (2" ... 48") 16 bar (232 psi)
Conditii de functionare Temperatura ambientala Senzor Cu transmitter MAG 5000/6000 montaj compact Presiune de lucru (Abs) [abs. bar] (scade odata cu cresterea temperaturii de lucru)	-40 ... +70 °C -20 ... +60 °C DN 15 ... 40 (½" ... 1½") : 0.01 ... 40 bar DN 50 ... 300 (2" ... 12") : 0.03 ... 20 bar DN 350 ... 1200 (14" ... 48") : 0.01 ... 16 bar
Grad protectie Standard Optional	IP67 to EN 60529/NEMA 4X/6 (1 mH2O pentru 30 min) IP68 to EN 60529/NEMA 6P (10 mH2O continuu)
Caderea de presiune	DN 15 and 25 (½" and 1") : Max. 20 mbar la 1 m/s.

	DN 40 ... 300 (1½" ... 12"): Max 25 mbar la 3 m/s DN 350 ... 1200 (14" ... 48"): nesemnificativ
Presiune de test	1.5 x PN (acolo unde este cazul) FM Fire Service: 2 x PN
Sarcina mecanica (vibratii)	18 ... 1000 Hz aleator in orice directive x,y,z, timp de 2 ore conform EN 60068-2-36 Senzor: 3,17 grms Senzor cu transmitter MAG 5000/6000 montaj compact : 3.17 grms Senzor cu transmitter Mag 6000 I montaj compact : 1.14 grms
Conditii mediu Temperatura mediu masura NBR EPDM EPDM/NBR (MI-001)	 -10 ... +70 °C -10 ... +70 °C 0.1 ... 30 °C
EMC	2004/108/EC
Design Material Carcasa si flanse Teava de masura Electrod Electrod impamantare Cutia de borne	 Otel carbon, acoperit anticoroziune cu vopsea epoxidica (min. 150 µm) Categoria coroziva C4, conform ISO 12944-2 Inox AISI 304/1.4301 Hastelloy C Hastelloy C Fibra de sticla armata cu poliamida
Certificari si autorizatii Calibrare Calibrare standard Tranzactii fiscale (doar impreuna cu MAG 6000 CT) Aprobari pentru apa potabila	 punctul de zero, 2 x 25 % si 2 x 90 % aprobare OIML R 49 pentru apa rece : DN 50 ... 300 (2" ... 12") Apa rece MI-001 (EU): DN 50 ... 300 (2" ... 12") PTB K7.2: Masurarea apei reci DN 50-300 (comanda speciala) Liner EPDM WRAS (WRc, BS6920 apa rece, GB) ACS (F), DVGW W270 (D) Belgaqua (B)
Alte aprobari	MCERTS Conform PED: toate flansele EN1092-1 clasa ANSI 150 (< DN 300 (<12")) – 97/23/EC4) CRN (DN 50 - DN 1200 (2" ... 48")) CSA Clasa I, Div 2

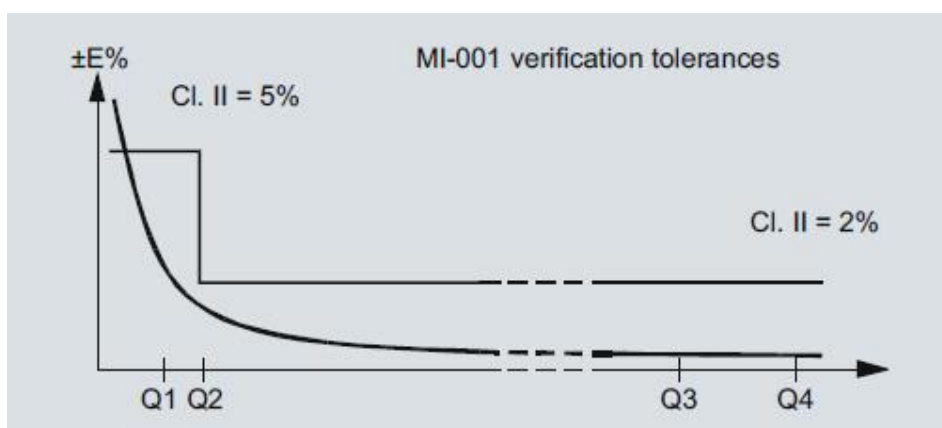
MAG 5100 W (7ME6520) cu MAG 6000 CT MI-001

Programul MAG 5100 W CT este aprobat conform standardului de masurare a apei reci OIML R 49. Incepand cu 01.11.2006 directiva de masurare a apei este aprobata, ceea ce inseamna ca toate echipamentele de masurare a apei pot fi vandute in UE daca au eticheta MI-001.

Produsele MAG 5100 W MI-001 cu diametrele DN50...300 verificate si etichetate au aprobare Clasa II conform directivei 2004/22.EC al Parlamentului European si a Consiliului European din 31.03.2004 al referitoare la instrumentele de masurare (MID), Anexa MI-001. Certificarea MID este obtinuta ca un modul de aprobare B+D conform directivei mentionate mai sus.

Modulul B: Omologare de tip conform OIML R 49

Module : Aprobare pentru asigurarea calitatii pentru productie.



Produse MAG5100W MI-001 verificate si etichetate la un Q3 dat si $Q3/Q4=1.25$ si $Q2/Q1=1.6$

Order code: P11	DN 50 (2")	DN 65 (2½")	DN 80 (3")	DN 100 (4")	DN 125 (5")	DN 150 (6")	DN 200 (8")	DN 250 (10")	DN 300 (12")
JR Q3/Q1	25	25	25	25	25	25	25	25	25
Q4 [m³/h]	20	31.25	60	78.75	125	200	312.5	500	787.5
Q3 [m³/h]	16	25	40	63	100	160	250	400	630
Q2 [m³/h]	1.02	1.6	2.6	4.03	6.4	10.24	16	25.6	40.32
Q1 [m³/h]	0.64	1.00	1.60	2.52	4.0	6.4	10.0	16.0	25.2

Order code: P12	DN 50 (2")	DN 65 (2½")	DN 80 (3")	DN 100 (4")	DN 125 (5")	DN 150 (6")	DN 200 (8")	DN 250 (10")	DN 300 (12")
JR Q3/Q1	63	63	63	63	63	63	63	63	63
Q4 [m³/h]	20	31.25	60	78.75	125	200	312.5	500	787.5
Q3 [m³/h]	16	25	40	63	100	160	250	400	630
Q2 [m³/h]	0.41	0.63	1.02	1.6	2.54	4.06	6.35	10.2	16.0
Q1 [m³/h]	0.25	0.40	0.63	1.00	1.59	2.54	3.97	6.35	10.0

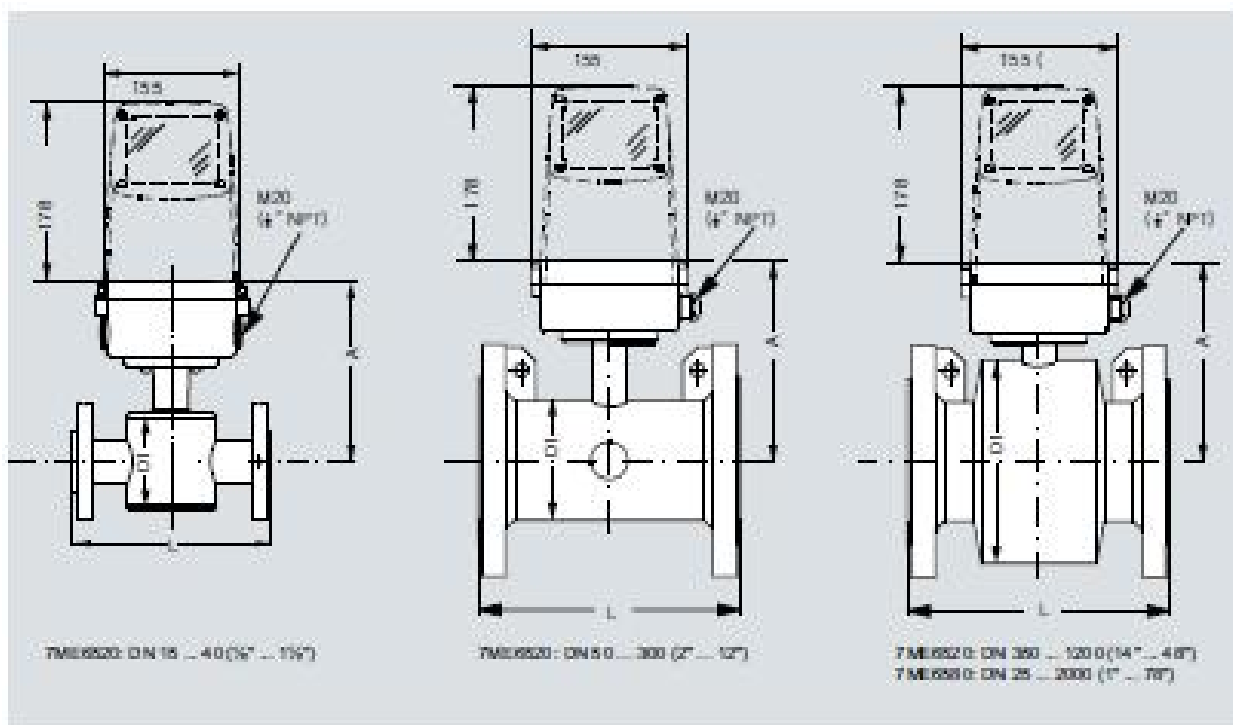
Order code: P13	DN 50 (2")	DN 65 (2½")	DN 80 (3")	DN 100 (4")	DN 125 (5")	DN 150 (6")	DN 200 (8")	DN 250 (10")	DN 300 (12")
JR Q3/Q1	80	80	80	80	80	80	80	80	80
Q4 [m³/h]	20	31.25	60	78.75	125	200	312.5	500	787.5
Q3 [m³/h]	16	25	40	63	100	160	250	400	630
Q2 [m³/h]	0.32	0.50	0.80	1.20	2.00	3.20	5.0	8.0	12.8
Q1 [m³/h]	0.20	0.31	0.50	0.75	1.25	2.00	3.13	5.0	7.90

Order code: P16	DN 50 (2")	DN 65 (2½")	DN 80 (3")	DN 100 (4")	DN 125 (5")	DN 150 (6")	DN 200 (8")	DN 250 (10")	DN 300 (12")
JR Q3/Q1	160	160	160	160	160	160	160	160	160
Q4 [m³/h]	60	78.75	125	200	312.5	500	787.5	1250	2000
Q3 [m³/h]	40	63	100	160	250	400	630	1000	1600
Q2 [m³/h]	0.40	0.63	1.00	1.60	2.50	4.00	6.3	10.0	16.0
Q1 [m³/h]	0.25	0.39	0.63	1.00	1.56	2.50	3.94	6.3	10.0

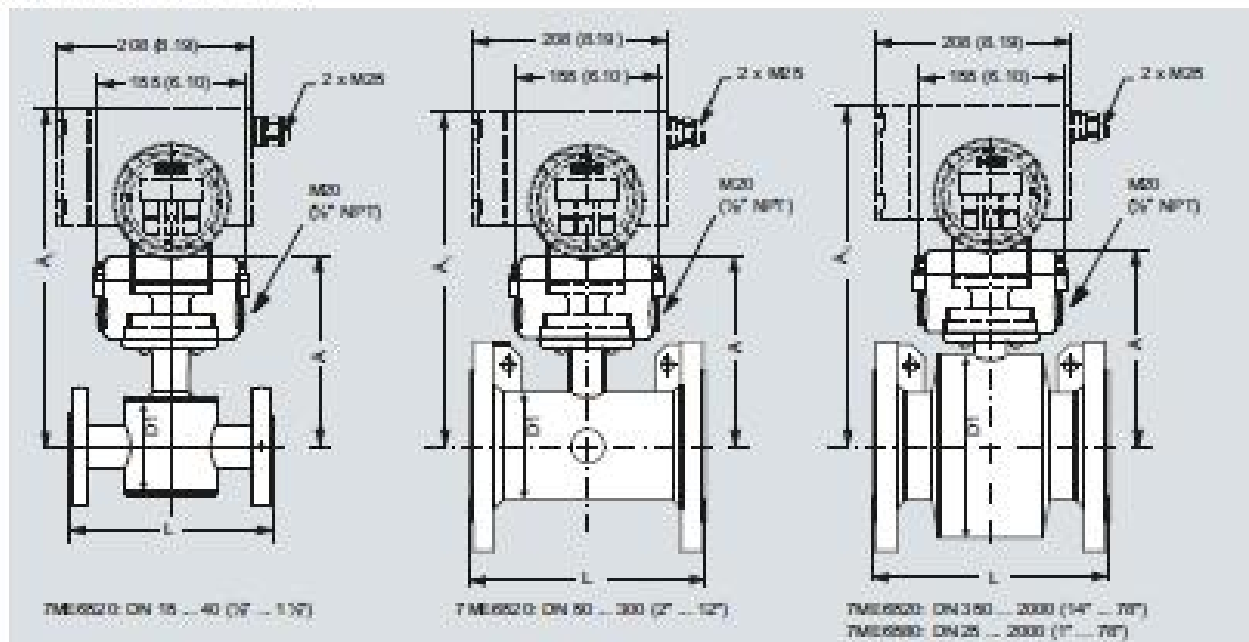
Order code: P17	DN 50 (2")	DN 65 (2½")	DN 80 (3")	DN 100 (4")	DN 125 (5")	DN 150 (6")	DN 200 (8")	DN 250 (10")	DN 300 (12")
JR Q3/Q1	200	200	200	200	200	200	200	200	200
Q4 [m³/h]	60	78.75	125	200	312.5	500	787.5	1250	2000
Q3 [m³/h]	40	63	100	160	250	400	630	1000	1600
Q2 [m³/h]	0.32	0.50	0.80	1.28	2.00	3.20	5.0	8.0	12.8
Q1 [m³/h]	0.20	0.32	0.50	0.80	1.25	2.00	3.15	5.0	8.0

Order code: P18	DN 50 (2")	DN 65 (2½")	DN 80 (3")	DN 100 (4")	DN 125 (5")	DN 150 (6")	DN 200 (8")	DN 250 (10")	DN 300 (12")
JR Q3/Q1	250	250	250	250	250	250	250	250	250
Q4 [m³/h]	60	78.75	125	200	312.5	500	787.5	1250	2000
Q3 [m³/h]	40	63	100	160	250	400	630	1000	1600
Q2 [m³/h]	0.26	0.40	0.64	1.02	1.60	2.56	4.0	6.4	10.24
Q1 [m³/h]	0.16	0.25	0.40	0.64	1.00	1.60	2.52	4.0	6.4

Dimensiuni de gabarit



7ME5520 NBR or EPDM liner						7ME5520 Ebonite liner					
Nominal size	A	D1		A		D1		L			
[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]
15 1/2	177	7.0	77	3.0	-	-	104	4.09	200	7.9	-
25 1	187	7.4	95	3.8	187	7.4	104	4.09	200	7.9	-
40 1 1/2	202	8.0	127	5.0	197	7.8	124	4.88	200	7.9	-
50 2	188	7.4	76	3.0	205	8.1	130	5.17	200	7.9	-
65 2 1/2	194	7.6	89	3.5	212	8.3	154	6.06	200	7.9	-
80 3	200	7.9	102	4.0	222	8.7	174	6.85	200	7.9	-
100 4	207	8.1	114	4.5	242	9.5	214	8.43	250	9.8	-
125 5	217	8.5	140	5.5	255	10.0	239	9.41	250	9.8	-
150 6	232	9.1	168	6.6	276	10.9	262	11.1	300	11.8	-
200 8	257	10.1	219	8.6	304	12.0	338	13.31	350	13.8	-
250 10	284	11.2	273	10.8	332	13.1	369	15.47	450	17.7	-
300 12	310	12.2	324	12.8	357	14.1	444	17.76	500	19.7	-
350 14	382	15.0	451	17.8	362	14.3	502	19.76	550	21.7	-
400 16	407	16.0	502	19.8	387	15.2	563	22.16	600	23.6	-
450 18	438	17.2	563	22.2	418	16.5	614	24.17	600	23.6	-
500 20	463	18.2	614	24.2	443	17.4	715	28.15	600	23.6	-
600 24	514	20.2	715	28.2	494	19.4	816	32.13	600	23.6	-
700 28	564	22.2	816	32.1	544	21.4	869	34.21	700	27.6	-
750 30	591	23.3	869	34.2	571	22.5	927	36.5	750	29.5	-
800 32	616	24.3	927	36.5	606	23.9	1032	40.63	800	31.5	-
900 36	663	26.1	1032	40.6	653	25.7	1136	44.72	900	36.4	-
1000 40	714	28.1	1136	44.7	704	27.7	1136	44.72	1000	39.4	-
1100 42	714	28.1	1136	44.7	704	27.7	1238	48.74	1000	39.4	-
1200 48	766	30.1	1238	48.7	755	29.7	1348	53.07	1100	43.3	-
1300 48	820	32.3	1348	53.1	810	31.9	1576	62.94	1200	47.2	-
1400 54	-	-	-	-	925	36.4	1672	66.83	1400	55.1	-
1500 60	-	-	-	-	972	38.2	1915	75.39	1500	59.1	-
1600 66	-	-	-	-	1025	40.4	1974	77.72	1600	63	-
1800 72	-	-	-	-	1123	44.2	2174	85.59	1800	70.9	-
2000 78	-	-	-	-	1223	48.1	-	-	2000	78.7	-



7ME5520 NBR or EPDM liner								7ME5580 Ebonite liner							
Nominal size	A	A1	D1	A	A1	D1	L	A	A1	D1	L	A	A1	D1	L
[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]
15 1/2	177	7.0	331	13.0	77	3.0	-	187	7.4	351	13.8	104	4.09	200	7.9
25 1	187	7.4	341	13.4	96	3.8	187	7.4	351	13.8	104	4.09	200	7.9	7.9
40 1 1/2	202	8.0	356	14.0	127	5.0	197	7.8	359	14.1	124	4.88	200	7.9	7.9
50 2	188	7.4	342	13.5	76	3.0	205	8.1	366	14.4	139	5.47	200	7.9	7.9
65 2 1/2	194	7.6	348	13.7	89	3.5	212	8.3	376	14.8	154	6.06	200	7.9	7.9
80 3	200	7.9	354	14.0	102	4.0	222	8.7	396	15.6	174	6.85	200	7.9	7.9
100 4	207	8.1	361	14.2	114	4.5	242	9.5	409	16.1	214	8.43	250	9.8	9.8
125 5	217	8.5	371	14.6	140	5.5	255	10.0	430	16.9	239	9.41	250	9.8	9.8
150 6	232	9.1	386	15.2	168	6.6	276	10.9	458	18.0	282	11.1	300	11.8	11.8
200 8	257	10.1	411	16.2	219	8.6	304	12.0	486	19.1	338	13.31	350	13.8	13.8
250 10	264	11.2	438	17.2	273	10.8	332	13.1	511	20.1	393	15.47	450	17.7	17.7
300 12	310	12.2	454	18.3	324	12.8	357	14.1	516	20.3	444	17.76	500	19.7	19.7
350 14	382	15.0	536	21.1	451	17.8	362	14.3	541	21.3	502	19.76	550	21.7	21.7
400 16	407	16.0	561	22.1	502	19.8	387	15.2	572	22.5	563	22.16	600	23.6	23.6
450 18	438	17.2	592	23.3	563	22.2	418	16.5	597	23.5	614	24.17	600	23.6	23.6
500 20	463	18.2	617	24.3	614	24.2	443	17.4	648	25.5	715	28.15	600	23.6	23.6
600 24	514	20.2	668	26.3	715	28.2	494	19.4	698	27.5	815	32.13	600	23.6	23.6
700 28	564	22.2	718	28.3	816	32.1	544	21.4	725	28.5	869	34.21	700	27.6	27.6
750 30	591	23.3	745	29.3	869	34.2	571	22.5	750	29.9	927	36.5	750	29.5	29.5
800 32	616	24.3	770	30.3	927	36.5	606	23.9	807	31.8	1032	40.63	800	31.5	31.5
900 36	663	26.1	817	32.2	1032	40.6	663	26.7	858	33.8	1136	44.72	900	36.4	36.4
1000 40	714	28.1	868	34.2	1136	44.7	704	27.7	858	33.8	1136	44.72	1000	39.4	39.4
42	714	28.1	868	34.2	1136	44.7	704	27.7	904	35.6	1238	48.74	1000	39.4	39.4
44	755	30.1	919	36.2	1238	48.7	755	29.7	964	38.0	1348	53.07	1100	43.3	43.3
1200 48	820	32.3	974	38.3	1348	53.1	810	31.9	1079	42.5	1675	66.34	1200	47.2	47.2
1400 54	-	-	-	-	-	-	925	36.4	1126	44.3	1672	66.83	1400	55.1	55.1
1500 60	-	-	-	-	-	-	972	38.2	1179	46.4	1915	75.39	1500	59.1	59.1
1600 66	-	-	-	-	-	-	1025	40.4	1277	50.3	1974	77.72	1600	63.0	63.0
1800 72	-	-	-	-	-	-	1123	44.2	1377	54.2	2174	85.59	1800	70.9	70.9
2000 78	-	-	-	-	-	-	1223	48.1	-	-	-	-	2000	78.7	78.7

Greutate

[illegible]

Measuring instrument - EEM-MA400 - 2901364

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Energy measurement device to measure electrical parameters in low voltage installations up to 500 V, acquisition of total harmonic oscillations - can be extended with RS-485 communication module

Your advantages

- ✓ Can be extended with RS-485 communication module (JBUS/MODBUS)
- ✓ Acquisition of total harmonics up to 51st harmonic



Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 585804
GTIN	4046356585804
Weight per Piece (excluding packing)	704.200 g
Custom tariff number	90303100
Country of origin	Tunisia
Note	Made to Order (non-returnable)

Technical data

Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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Dimensions

Width	96 mm
Height	96 mm
Depth	82 mm
Installation depth with extension module	80 mm
Installation depth without extension module	60 mm

Ambient conditions

Ambient temperature (operation)	-10 °C ... 55 °C (14 °F to 131 °F)
---------------------------------	------------------------------------

Measuring instrument - EEM-MA400 - 2901364

Technical data

Ambient conditions

Ambient temperature (storage/transport)	-20 °C ... 85 °C (-4 °F ... 185 °F)
Max. permissible relative humidity (operation)	≤ 95 %
Max. salt spray content	≤ 2.5 %
Degree of protection	IP52 (Front)
	IP30 (Back side)

Input data

Measuring principle	True r.m.s. value measurement
Acquisition of harmonics	up to 51st harmonic
Measured value	AC sine (50/60 Hz)
Input name	Voltage measuring input V1, V2, V3
Input voltage range	50 V AC ... 500 V AC (Phase/Phase)
	28 V AC ... 289 V AC (Phase/neutral conductor)
Precision	0.2 %
Input name	Current measurement I1, I2, I3
Input current range	via external transformers
Input current	9999 A (primary)
	5 A (secondary)
Current measuring range	0 A ... 9999 A
Overload capacity	6 A (Permanent)
Response threshold from measuring range nominal value	5 mA
Precision	0.2 %
Current overload	10 x I _N for 1 s
Messbereich_Leistung	0 MW ... 11 MW
	0 Mvar ... 11 Mvar
	0 MVA ... 11 MVA
Precision	0.5 %
Active energy (IEC 62053-22)	Class 0.5 S
Reactive power (IEC 62053-23)	Class 2

Output data

Output description	Via function module
--------------------	---------------------

Interfaces

Designation	via communication module
-------------	--------------------------

General

Display	LCD display, backlighting
Measuring rate	approximately
Supply voltage range	110 V AC ... 400 V AC ±10 %
	120 V DC ... 350 V DC (# 20 %)
Nominal power consumption	5 VA
Power consumption	10 VA (with max. number of extension modules)

Measuring instrument - EEM-MA400 - 2901364

Technical data

General

Mains type	3-phase (3 or 4-wire), 2-phase (2-wire), and single-phase (1-wire)
Color	black
Conformance	CE-compliant
Rated insulation voltage	300 V AC (EN 61010-1)
Test voltage	3.5 kV AC (50 Hz, 1 min.)
	2.2 kV AC (50 Hz, 1 min.)

UL data

Supply voltage	300 V AC
Nominal supply voltage range	110 V AC ... 240 V AC ± 10 %
	120 V DC ... 250 V DC ± 10 %
Power consumption	10 VA
Operating mode	Indoor use
Surge voltages	Transient overvoltage according to installation classes
Overvoltage category	I, II, III
Overvoltage category of the supply	Min. II
Altitude	≤ 2000 m
Ambient temperature (operation)	0 °C ... 40 °C
Max. permissible relative humidity (operation)	80 % (up to 31 °C)
	50 % (at 40 °C)

Standards and Regulations

Conformance	CE-compliant
UL, USA/Canada	UL 61010-1
	CSA-C22.2 No. 61010-1
	cULus

Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

Classifications

eCl@ss

eCl@ss 4.0	27210900
eCl@ss 4.1	27210900
eCl@ss 5.0	27210900
eCl@ss 5.1	27210900
eCl@ss 6.0	27142300
eCl@ss 7.0	27142330
eCl@ss 8.0	27142330
eCl@ss 9.0	27142330

Measuring instrument - EEM-MA400 - 2901364

Classifications

ETIM

ETIM 4.0	EC002301
ETIM 5.0	EC002301
ETIM 6.0	EC002301
ETIM 7.0	EC002301

UNSPSC

UNSPSC 6.01	30211916
UNSPSC 7.0901	39121535
UNSPSC 11	39121535
UNSPSC 12.01	39121535
UNSPSC 13.2	39121535

Accessories

Accessories

Assembly adapter

DIN rail adapter - EEM-MKT-DRA - 2902078



DIN rail adapter for EEM-MA600 and EEM-MA400 energy meters

Communication module

Communication module - EEM-RS485-MA400 - 2901365



RS-485 JBUS/MODBUS communication module for EEM-MA400

Function module

Special function module - EEM-IMP-MA400 - 2904314



Function module with a pulse or alarm output for the EEM-MA400

Fisa Tehnica

INSTALATIE DE CLORINARE CU HIPOCLORIT DE SODIU CU POMPA DOZATOARE

Sistem de dozare Grundfos format din pompa dozatoare digitala de tip DDA, set de instalare cu semnal avertizare de gol pentru monitorizarea nivelului de lichid din rezervor si rezervor.

Pompa dozatoare de tip DDA cu capacitate maxima de 7,5 L/h si presiune de maximum 16 bar

Descriere produs:
DDA 7.5-16 FCM-PP/V/C-F-31U2U2FG
Cod produs: **97722010**

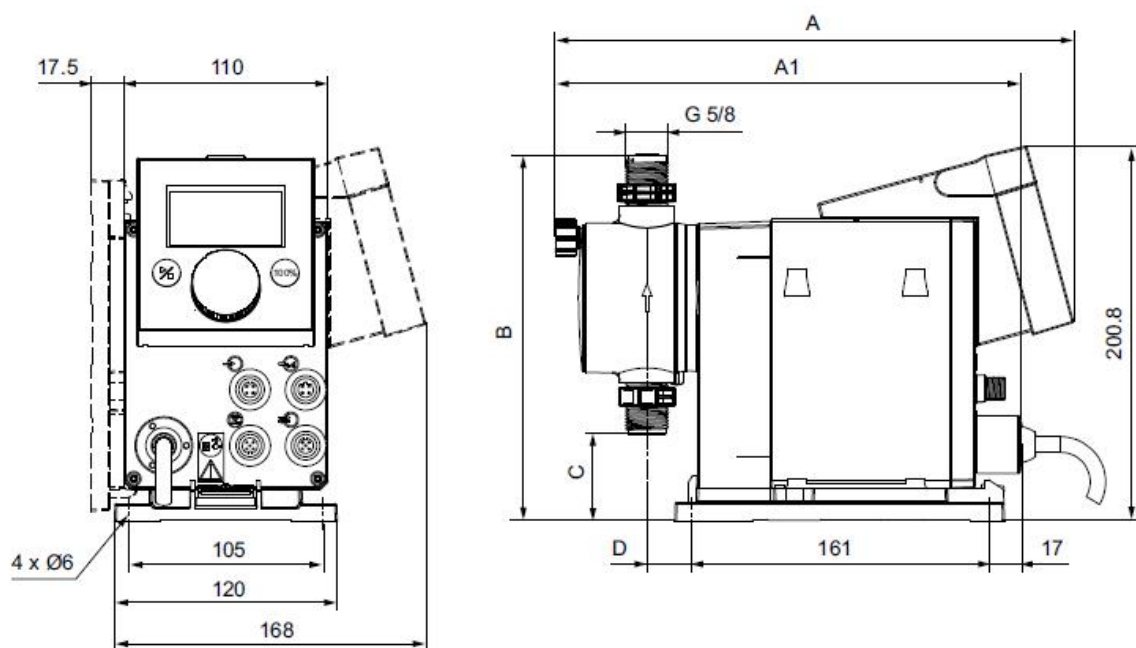


Caracteristici tehnice:

- Debit maxim de dozare: 7.5 l/h
- Debit maxim de dozare in slow mode 50%: 3.75 l/h
- Debit maxim de dozare in slow mode 25%: 1.88 l/h
- Min flow: 2,5 ml/h
- Vazcozitate maxima la 100 %: 50 mPas
- Vazcozitate maxima in slow mode 50 %: 1800 mPas
- Vazcozitate maxima in slow mode 25 %: 2500 mPas
- Aprobari: CE, CSA-US, EAC, RCM
- Tip supapa: Standard
- Acuratetea repetabilitatii: 1 %
- Inaltimea maxima de aspiratie in timpul functionarii: 6 m
- Inaltimea maxima de aspiratie in timpul amorsarii: 2 m
- tensiune de alimentare 230 V $\pm$ 10%, 50/60 Hz;
- raport dozare: 1:3000 -> domeniu capacitate de dozare 0,0025 ... 7,5 L/h,
- contrapresiune max. 16 bar;
- clasa de protectie: IP 65
- volum cursa de dozare: 0,74 mL
- frecventa curse de dozare : maximum 190 curse/minut
- racorduri: furtun ($\varnothing_{ext}$ x $\varnothing_{int}$): 6 x 4, 9 x 6, 12 x 6, 12 x 9 mm (sunt incluse toate);
- ajustare manuala sau automata a capacitatii de dozare;
- posibilitate de control extern prin contacte libere de potential; control cu microprocesor si posibilitate de multiplicare/demultiplicare numar de impulsuri de la contorul de apa, iesiri/intrari semnal analog 4...20 mA, intrari/iesiri de releu, intrare stop extern, intrare semnal de gol;
- dezaerare atat in timpul functionarii cat si in perioadele de repaus dintre ciclurile de functionare;
- sistem de control al debitului cu diagnoza selectiva a cauzei (suprapresiune, linie de refulare crapata, cavitatie, scurgeri de lichid pe la supape);
- monitorizare (contra)presiune prin senzorul de presiune integrat;

- măsurarea capacității de dozare prin detectarea deviațiilor debitului de dozare fixat și compensarea acestora prin corecția frecvenței curselor de dozare (eliminarea anomaliilor date de prezența unor bule de gaz sau o contrapresiune scăzută)
- materiale componente: PP – cap de dozare, Viton – elastomer, Ceramic – bila supapei de dozare;
- afișaj iluminat cu cristale lichide în culori pentru afișarea stărilor de operare, alarmelor și mesajelor de avertizare;
- placa pentru instalarea pompei fie pe rezervorul de lichid, fie pe perete;
- în funcție de poziția de instalare, cubul de control al pompei poate fi (re)aranjat în 3 poziții: față, stânga sau dreapta, fără oprirea procesului de dozare;
- meniul pompei ușor de utilizat și disponibil în peste 20 de limbi, inclusiv limba română.

Dimensiuni:



Tip pompa	A (mm)	A1 (mm)	B (mm)	C (mm)	D (mm)
DDA 7,5-16	280	251	196	46,5	24

Rezervor de stocare solutie de hipoclorit de sodiu

Descriere produs: Tank PE-transp
Cod produs: **in functie de volum**



Caracteristici tehnice:

- Volum: in functie de capacitatea sistemului de dozare
- Material: PE
- Culoare material: transparent
- Tip constructiv: rotund

Dimensiuni (mm):

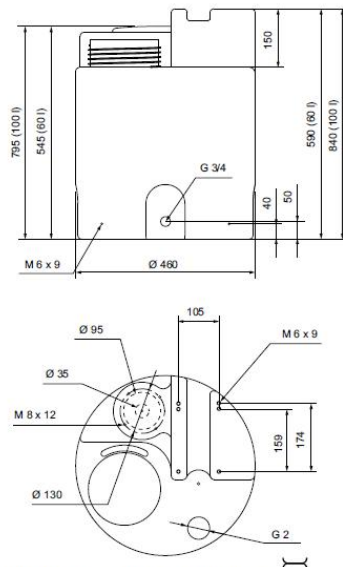


Fig. 50 Cylindrical tank, 60 and 100 litres

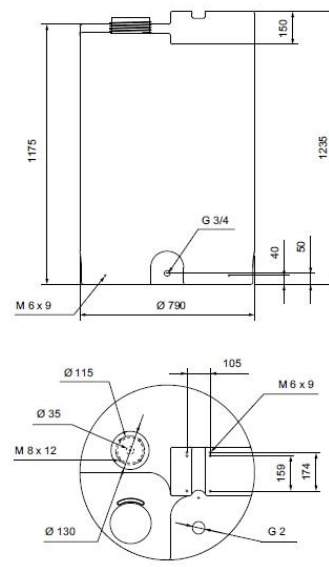


Fig. 52 Cylindrical tank, 500 litres

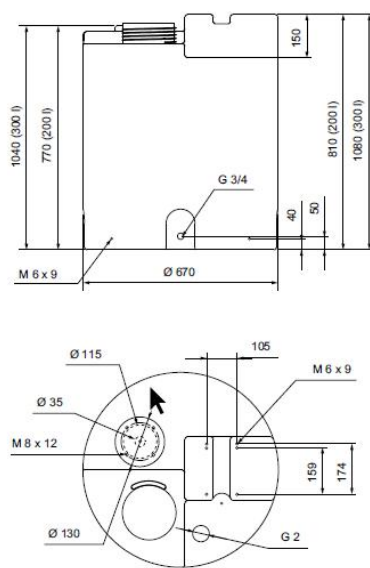


Fig. 51 Cylindrical tank, 200 and 300 litres

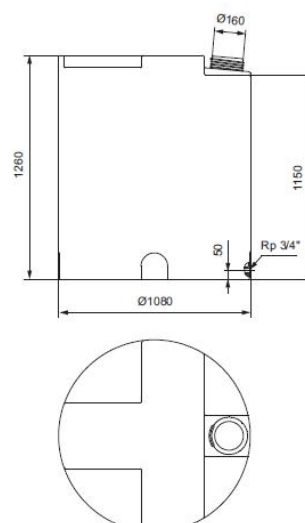


Fig. 53 Cylindrical tank, 1000 litres

Linie de aspiratie rigida

Descriere produs:
RSL-0690-2L-G5/8 PE/V,E/C U2
Cod produs: **in functie de rezervorul de hipoclorit**



Componenta si caracteristici tehnice:

- clapet de sens unic
- racorduri furtun ($\varnothing_{\text{ext}} \times \varnothing_{\text{int}}$): 6 x 4, 9 x 6, 12 x 6, 12 x 9 mm (sunt incluse toate)
- 2 contacte de tip Reed pentru 2 semnale avertizare de gol
- 5 m cablu incastat in teava PE
- stecher rotund de tip M12
- Diametru nominal: DN8
- material: PE
- elastomer: EPDM/FKM

Dimensiuni (mm):

Tip rezervor	Capacitate rezervor (L)	Adancime imersie recomandata (mm)
Cilindric/rotund	60	500
	100	690
	200	690
	300	980
	500	1100
	1000	1200

Agitator manual

Descriere produs:
Handmixer
Cod produs: **98133793**



Componenta si caracteristici tehnice:

- lungime maxima: 1200 mm, dar lungimea poate fi ajustata in functie de volumul/tipul rezervorului de stocare hipoclorit
- Diametru nominal: DN 15
- material: PE

Supapa multifunctionala

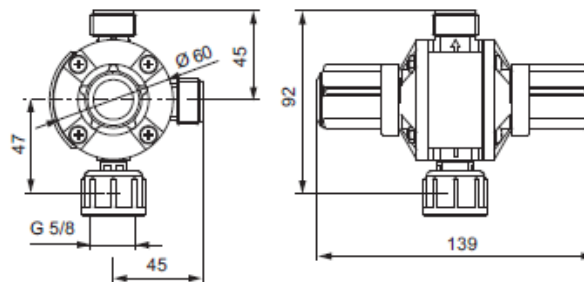
Descriere produs:
MFV-G5/8-16 PVC/V U2
Cod produs: **95730823**



Caracteristici tehnice:

- Presiune maxima: 16 bar
- Diametru nominal: DN 15
- Racorduri furtun ($\varnothing_{\text{ext}} \times \varnothing_{\text{int}}$): 6 x 4, 9 x 6, 12 x 6, 12 x 9 mm (sunt incluse toate)
- material:
 - carcasa: PVDF
 - racorduri: PVC
 - elastomer: FKM/Viton

Dimensiuni (mm):



Furtun dozare

Descriere produs:
hose PE-4/6-10m 3/U2
Cod produs: **91836504**

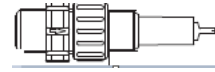


Caracteristici tehnice:

- material: PE
- presiune maxima: 13 bar (la 20 °C)
- dimensiuni: $\varnothing_{\text{ext}}$ x $\varnothing_{\text{int}}$: 6 x 4 mm
- lungime: 10 m

Unitate de injectie

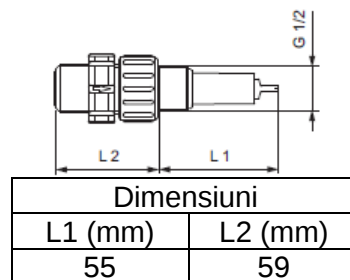
Descriere produs:
Injection unit 0203-16 PVC/V/C 4U2-2
Cod produs: **95730964**



Caracteristici tehnice:

- material:
 - o carcasa: PVC
 - o elastomer: FKM/Viton
 - o bila supapa: Ceramic
- presiune maxima: 16 bar

Dimensiuni:



Sistem de masura a concentratiei de clor rezidual in apa tratata

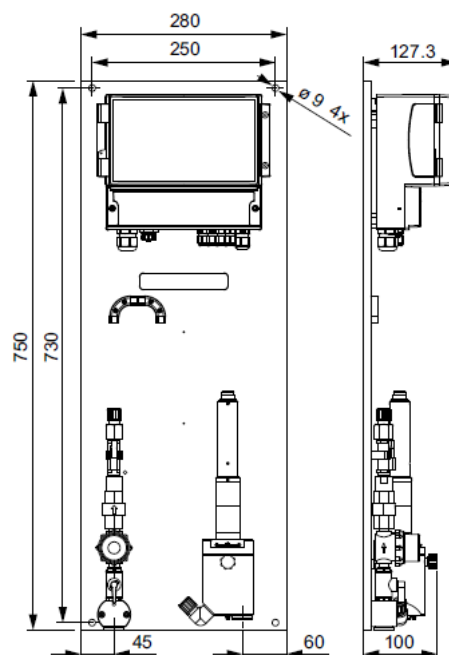
Descriere produs:
DID-1 BF1-FCL2
 Cod produs: **98915656**



Date tehnice:

- Alimentare 220V
- Sistem preasamblat al controlerului si a celulei de masura (instalare pe perete)
- masura si control on-line a concentratiei de clor rezidual, cu compensarea autoamata a temperaturii
- sistem de prelevare proba de apa pentru analiza concentratiei de clor rezidual
- Senzor precalibrat de clor de tip amperometric în constructie metalica, format din 3 electrozi:
 1. electrod de aur (de masura) acoperit acoperit de o membrana hidrofilica permeabila speciilor ionice in general, ,
 2. electrod de referinta (Ag/halogenura de Ag)
 3. contraelectrod (inox)
- gama de masura clor rezidual 0-2mg/l
- senzor de temperatura a apei
- presiune maxima de lucru 3 bar

Dimensiuni (mm):



Controller - ILC 151 GSM/GPRS - 2700977

Rețineți că datele furnizate aici sunt luate din catalogul online. Pentru informații și date complete, consultați documentația de utilizare. În cazul descărcărilor de pe internet se aplică Termenii și condițiile de utilizare generale.
(<http://download.phoenixcontact.de>)



Inline Controller with Ethernet interface and GSM modem for coupling to other controllers and systems, with programming options according to IEC 61131-3, complete with plug and labeling field.

Descriere articol

The ILC 151 GSM/GPRS combines the options of class 100 controllers with wireless communication via mobile phone networks. A GSM/GPRS modem is integrated in the controller. This enables SMS messages to be sent and received and supports packet-oriented (IP) communication via GPRS.

The controller itself offers 16 digital inputs and 4 digital outputs for various control tasks. The 512 kB program memory and 512 kB data memory complete the functions of the controller, thereby providing plenty of space to accommodate larger applications as well.

The Inline controller (ILC) range covers a wide performance range. From entry-level versions to high-end controllers, users can choose the right controller for their application.

Caracteristici articol

- ✓ Numerous protocols supported such as: HTTP, FTP, SNTP, SNMP, SMTP, SQL, MySQL, etc.
- ✓ Free engineering with PC Worx Express (IEC 61131-3)
- ✓ Complete INTERBUS master (4096 I/O points)
- ✓ Integrated web server for visualization with WebVisit
- ✓ FTP server
- ✓ Flash file system



Date comerciale

Unitate de ambalare	1 buc
GTIN	 4 046356 665537
Greutate pe bucată (fără ambalaj)	350.0 g
Cod tarif vamal	85371091
#ara de origine	Germany

Date tehnice

Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
-------------------------	---

Controller - ILC 151 GSM/GPRS - 2700977

Date tehnice

Dimensions

Width	85 mm
Height	119.8 mm
Depth	71.5 mm

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 55 °C
Ambient temperature (storage/transport)	-25 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (according to DIN EN 61131-2)
Permissible humidity (storage/transport)	10 % ... 95 % (according to DIN EN 61131-2)
Air pressure (operation)	70 kPa ... 106 kPa (up to 3000 m above mean sea level)
Air pressure (storage/transport)	70 kPa ... 106 kPa (up to 3000 m above mean sea level)
Shock	25g, Criterion 1, according to IEC 60068-2-27
Vibration (operation)	5g

Control system

Programming tool	PC WORX / PC WORX EXPRESS
Diagnostics tool	DIAG+
Configuration tool	Config+ Version 1.01 or later

Mechanical design

Weight	285 g
Diagnostics display	No
Controller redundancy	No

Data interfaces

Interface	INTERBUS local bus (master)
Connection method	Inline data jumper
Transmission speed	500 kBaud / 2 MBaud umschaltbar
Interface	Ethernet 10Base-T/100Base-TX
Connection method	RJ45 socket
Transmission speed	10/100 MBit/s
Interface	GSM / GPRS
Connection method	SIM card, SMA antenna connection

Power supply

Typical current consumption	210 mA
Max. current consumption	860 mA (360 mA communications power + 500 mA analog voltage supply)
Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC
Residual ripple	± 5 %
Power dissipation	max. 5 W

Controller - ILC 151 GSM/GPRS - 2700977

Date tehnice

Fieldbus function

Amount of process data	max. 4096 Bit (INTERBUS)
Number of supported devices	max. 128
Number of local bus devices that can be connected	max. 63 (observe current consumption)
Number of devices with parameter channel	max. 16
Number of supported branch terminals with remote bus branch	max. 3

Direct I/Os

Input name	Digital inputs
Number of inputs	16
Connection method	Inline potential distributor
Description of the input	EN 61131-2 type 1 NPN/PNP
Output name	Digital outputs
Number of outputs	4
Connection method	2, 3, 4-wire
Maximum output current per channel	500 mA
Without analog input	yes
Without analog output	yes
Without pulse direction output	yes
Without counter input	yes

IEC 61131 runtime system

Programming tool	PC WORX / PC WORX EXPRESS
Program memory	512 kByte (43 K instructions (IL))
Mass storage	512 kByte
Retentive mass storage	48 kByte (NVRAM)
Number of control tasks	8
Realtime clock	Yes

General data

Processor	Altera Nios II 64 MHz
Diagnostics display	No

Clasificări

eCl@ss

eCl@ss 4.0	27240490
eCl@ss 4.1	27240490
eCl@ss 5.0	27242208
eCl@ss 5.1	27242208
eCl@ss 6.0	27242208
eCl@ss 7.0	27242208
eCl@ss 8.0	27242207

Controller - ILC 151 GSM/GPRS - 2700977

Clasificări

ETIM

ETIM 3.0	EC001423
ETIM 4.0	EC000236
ETIM 5.0	EC000236

UNSPSC

UNSPSC 6.01	43172015
UNSPSC 7.0901	43201404
UNSPSC 11	43172018
UNSPSC 12.01	43201404
UNSPSC 13.2	43201404

Qty. Description

1 DDA 7.5-16



Note! Product picture may differ from actual product

Product No.: [97722010](#)

DDA 7.5-16 FCM-PP/V/C-F-31U2U2

The SMART Digital DDA is a compact positive displacement, diaphragm dosing pump with variable-speed drive (stepper motor) and intelligent control electronics with minimum energy consumption. The SMART Digital Dosing series operates at full stroke length to ensure optimum accuracy, priming and suction, even for high-viscosity or degassing liquids. The duration of each discharge stroke varies according to the capacity set, resulting in optimum smooth and continuous discharge flow.

The click-stop mounting plate allows installation in three different positions without using any additional accessories. The control cube can be turned easily into front, left or right position. The click wheel and the multi-coloured backlit graphical, plain-text LC display make commissioning and operation intuitive. The control elements are protected by a transparent cover.

The sensor-based FlowControl (FC) system detects malfunctions directly in the dosing head and displays them in plain text in the alarm menu, e.g. air bubbles, line burst, overpressure. The integrated flow measurement function (only FCM) measures the actual flow and makes additional monitoring and control equipment redundant (accuracy of $\pm 1.5\%$ of set value in case of trouble-free process). The measured flow is displayed and can be integrated in the process control, e.g. SCADA. Furthermore, the AutoFlowAdapt function (only FCM) automatically adjusts the pump speed according to the process conditions to maintain target flow even at e.g. varying backpressure or air bubbles foaming (degassing drive strategy).

The dosing head is composed of:

- Long lifetime and universal, chemically resistant full-PTFE diaphragm.
- Double ball valves for highest dosing accuracy.
- Deaeration valve for easy start-up.
- Pressure sensor.

Operation modes:

- Manual dosing in ml/h, l/h or gph.
- Pulse control in ml/pulse (incl. memory function).
- Analog control 0/4-20 mA (scalable).
- Pulse-based batch function in ml, l or gal.
- Timer-based batch function (Dosing timer, cycle or week).
- Fieldbus control (Genibus prepared for ProfibusDP E-box).

Other features:

- Auto deaeration during pump standby to avoid breakdowns due to air-locking.
- Two SlowMode steps (anti-cavitation), 50 % (maximum flow: 3.75 l/h) and 25 % (maximum flow: 1.88 l/h), e.g. for high-viscosity or degassing liquids.
- Service information display to show when service and which wear-part order number is required.
- Two-step key lock function to protect the pump against unauthorised access.
- Additional display function to provide further information, e.g. the actual mA input signal.
- Counter for total dosed volume (resettable), operating hours, etc.
- Save and load customised settings as well as reload of factory settings.

Signal inputs/outputs:

Qty.	Description
	- Input for pulse, analog 0/4-20mA, external stop. - Input for low-level and empty-tank signal. - Two potential-free output relays for max. 30 V AC/DC (configurable, e.g. alarm, stroke signal, pump dosing, timer etc.) - Output analog 0/4-20mA. - Fieldbus communication interface (GeniBus, also for additional Profibus DP E-box to retrofit). Technical: Type key: DDA 7.5-16 FCM-PP/V/C-F-31U2U2 Max. Flow: 7.5 l/h Max. flow in slow mode 50%: 3.75 l/h Max. flow in slow mode 25%: 1.88 l/h Min flow: 2.5 ml/h Turn-down ratio: 1:3000 Approvals on nameplate: CE, CSA-US, EAC, RCM Valve type: Standard Maximum viscosity at 100 %: 50 mPas Maximum viscosity in slow mode 50 %: 1800 mPas Maximum viscosity in slow mode 25 %: 2500 mPas Accuracy of repeatability: 1 % Materials: Dosing head: PP (Polypropylene) Valve ball: Ceramic Gasket: FKM Installation: Range of ambient temperature: 0 .. 45 °C Maximum operating pressure: 16 bar Installation set: NO Installation type: No installation set Pump inlet: 4/6, 6/9, 6/12, 9/12 mm Pump outlet: 4/6, 6/9, 6/12, 9/12 mm Max. Suction lift during operation: 6 m Max. Suction lift during priming: 2 m Liquid: Pumped liquid: Water Liquid temperature range: -10 .. 45 °C Selected liquid temperature: 20 °C Density: 998.2 kg/m³ Electrical data: Maximum power input - P1: 24 W Mains frequency: 50 / 60 Hz Rated voltage: 1 x 100-240 V Enclosure class (IEC 34-5): IP65 / NEMA 4X Length of cable: 1.5 m Type of cable plug: EU Inrush current: 25A at 230V for 2ms Controls: Control variant: FCM Level control: YES Analog input: 0/4-20 MA Pulse control: YES Ext. Stop input: YES Analog output: 0/4-20 MA Output relays: 2



Company name:

Created by:

Phone:

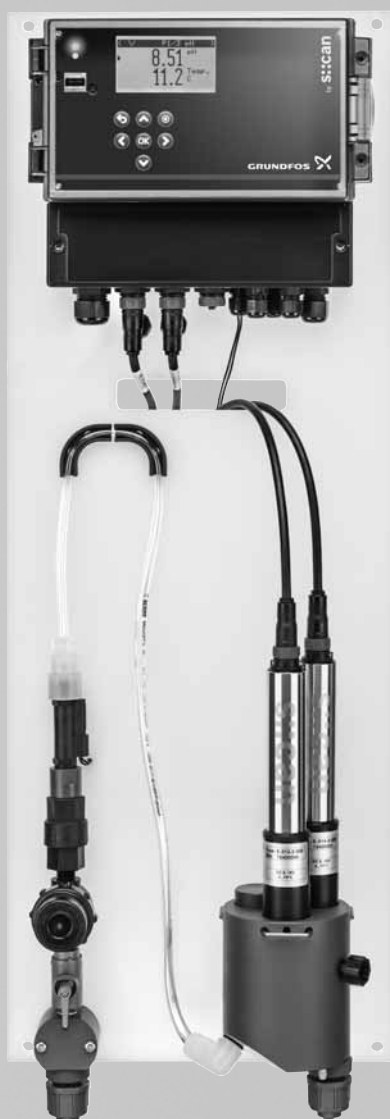
Date:

09/04/2020

Qty.	Description
	Bus communication: YES
	Others:
	Net weight: 2 kg
	Gross weight: 3 kg
	Color: RED

DID

Compact measuring systems, controllers, sensors and accessories
up to 3 parameters (Cl_2 , ClO_2 , H_2O_2 , PAA, pH, ORP, conductivity)



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1. Product introduction

General

Monitoring of typical water quality parameters as well as precise control of disinfectant addition or pH adjustment is essential for many water treatment processes. Bus interface as well as data logging functionalities and intuitive user interface are a must for M&C today.

The new Grundfos by s::can DID systems are the perfect combination of s::can's state-of-the-art digital sensor technology and Grundfos' experience in PID controlling of dosing and disinfection processes. DID systems are designed to match perfectly with Grundfos dosing pumps, gas dosing systems as well as systems for the generation and dosing of chlorine dioxide and hypochlorite.

Characteristics and main features

DID systems are available as pre-assembled systems with bypass flow cell or as kits for applications with tank-immersed sensors.

Variants with bypass flow cell are intended for monitoring and control of disinfectants, pH, ORP, conductivity and temperature. The water flow through the cell is kept at an appropriate level by a flow restrictor. Lack of water is detected by a flow switch and leads to an alarm. A shut-off ball valve and a sampling cock complete the hydraulic installation, which is compatible with Grundfos standard hoses.

System configurations for tank immersion are available with up to 2 sensors for pH, ORP and conductivity, and always include temperature measurement. These variants allow measurement of water parameters directly in the tank or basin without the need for a bypass line and flow cell. The control unit can either be fixed directly at a wall or back plate, or mounted on a DIN rail in a cabinet.

CU 382 control unit

- Intuitive plain-text operation
- Data logger functionality
- Up to 3 controller outputs, freely assignable
- Modbus included
- Modbus sensor interface
- Data interchange with USB stick
- Wide-range power supply

Sensors

- Modbus interface to CU 382 control unit
- Onboard storage of calibration data
- Temperature compensation included for all sensors
- Long service intervals
- Pre-calibrated (pH, ORP, conductivity sensor)
- 1-2 sensor variants per parameter for all applications and measuring ranges
- Diaphragm-covered amperometric sensor principle for disinfectant sensors
- Low pH dependency for free-chlorine sensors

Pre-assembled measuring system

- Automatic setting of the water flow and detection of missing water flow in systems with flow cell
- Sensor holder included in systems for tank installation
- 7.5 m of cable included in systems for tank installation (extension cables are available in lengths up to 20 m)
- Sensor guard included in systems for tank installation

2. Type key

Example: DID-3 BF3-FCL2/TCL2/pH

	Code	Description
CU 382 control unit variant	DID-1	CU 382-1 for 1 parameter + temperature, 100-250 VAC, 50-60 Hz
	DID-3	CU 382-3 for 3 parameters + temperature, 100-250 VAC, 50-60 Hz
Installation variant	BF1	Bypass flow cell, 1 sensor
	BF3	Bypass flow cell, 3 sensors
	TI1	Tank immersion, 1 sensor
	TI2	Tank immersion, 2 sensors
Parameters/sensors	FCL2	Free chlorine, 0-2 ppm
	FCL20	Free chlorine, 0-20 ppm
	TCL2	Total chlorine, 0-2 ppm
	TCL20	Total chlorine, 0-20 ppm
	CDI2	Chlorine dioxide, 0-2 ppm
	CDI20	Chlorine dioxide, 0-20 ppm
	HP2	Hydrogen peroxide, 0-200 ppm
	HP20	Hydrogen peroxide, 0-2000 ppm
	PA2	Peracetic acid, 0-200 ppm
	PA20	Peracetic acid, 0-2000 ppm
	pH	pH 2-12, up to 10 bar, 70 °C
	ORP	ORP, -2000 mV to +2000 mV, up to 10 bar, 70 °C
	CND	Conductivity, 1-500000 µS/cm (2-42 PSU), up to 20 bar, 70 °C

Remarks:

- All sensors include temperature measurement
- Measurement of disinfectant parameters (FCL, TCL, CDI, HP or PA) is only possible with BF1 or BF3 installation variant
- BF1 and BF3 installation variants include flow detection
- BF1 and BF3 installation variants include 1.0 m sensor cable(s)
- TI1 and TI2 installation variants are only possible for parameters pH, ORP or CND
- TI1 and TI2 installation variants include 7.5 m sensor cable(s)
- Mains cable is not included, please select from accessories list and order separately

3. Functions

Components

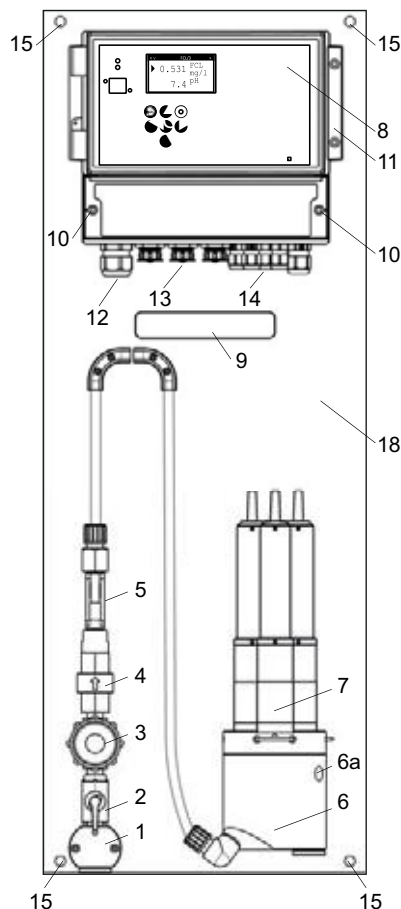


Fig. 1 Components of DID with flow cell

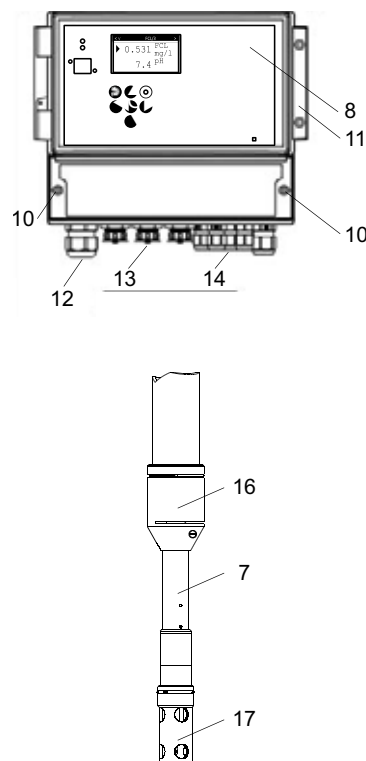
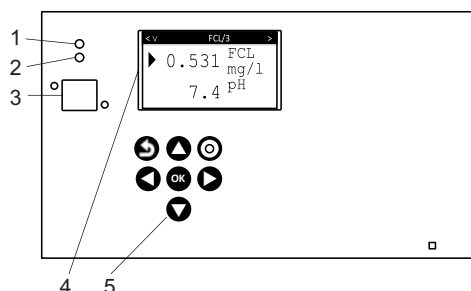


Fig. 2 Components of DID with immersed sensor

Pos.	Description
1	Water inlet, G 1/2" internal thread and connections for Grundfos hoses
2	Ball valve, 1/4" NPT
3	Inlet strainer, with screw cap for removal and cleaning of the sieve
4	Flow restrictor, mechanical
5	Flow detector, digital. Sends an alarm to the CU 382 control unit, if the water flow falls below the minimal flow rate (approx. 0.25 l/min).
6	Flow cell for 1 or 3 sensors. Includes an outlet with G 1/2" internal thread and connections for Grundfos hoses, and a sampling valve (6a).
7	Sensors
8	CU 382 control unit for 1 or 3 sensors
9	Opening in the back plate for the power supply cables and sensor cables
10	Screw joints to open the cable terminal compartment
11	Clip to open the housing cover
12	Cable gland for power supply
13	Connector for scan sensors
14	Cable gland for signal outputs
15	Holes for wall-mounting
16	Sensor holder
17	Sensor guard
18	Back plate

Operating elements



TM06 5634 5115

Fig. 3 Operating elements

Pos.	Description
1	Power LED, green
2	Communication LED, orange Flashes during communication with a sensor
3	USB slot For data export or firmware update
4	Display
Operating buttons	
	[Back] button Exits the current menu
	[Up] button - Moves the marker to the line above - The first character of the selected line is a triangle - Increases values
	[Function] button - Enters the setup menus - Disables or deletes values
5	[Left] button Moves the marker to the left
	[Ok] button - Enters the selected menu - Confirms the selected line or value - Acknowledges alarms
	[Right] button Moves the marker to the right
	[Down] button - Moves the marker to the line below - The first character of the selected line is a triangle - Decreases values

CU 382 control unit



TM06 5969 0316

Fig. 4 CU 382 control unit

Overview of features

Features	CU 382-1	CU 382-3
1 connector for digital s::can sensor	•	
3 connectors for digital s::can sensors		•
3 PID controllers	•	•
2 digital relay outputs, adjustable as controller outputs and/or limit switch outputs	•	•
3 analog outputs, adjustable as controller outputs and/or measured value outputs	•	•
1 alarm relay output	•	•
1 cleaning valve output	•	•
2 digital inputs, adjustable as remote on/off input, water meter pulse input or setpoint switch input	•	•
1 analog input, adjustable as flow meter input or external setpoint input	•	•
Data logger functionality (measured values, logfile, configuration)	•	•
USB host interface	•	•
Multilingual user interface	•	•
Modbus (via RS485)	•	•
1 input for flow switch of flow cell	•	•

Software menu

Status	Parameter	Controller	Alarm
Status > Version V7.05B1 Serial: 9999999 Waiting: 1s YYYY/MM/DD h/min/sec  General setup ▶ Manage sensor Manage parameters Cleaning 1 Measuring settings Date/Time Modbus slave Update software Select language Service	< V P1/3 pH > ▶ 9.49 pH 22.1 Temp. C  Parameter setup ▶ Calibrate expert Monitor Display settings Alarm settings Output Output settings pH compensation Parameter info Remove parameter	< V C2/2 > 15 % Type PID/Running pH >4/20 mA #2 AV/SP: 6.86/7.00 (ext.)  Controller setup ▶ Setpoint Settings PID/2-P/None Source Output DI/mA Output settings Alarm settings Reset state	< AP001 A1/1 YYYY/MM/DD Follow below Lower alarm limit Alarm setup ▶ Acknowledgment of alarms
USB Data transfer 	▶ Copy results Delete results Copy logfile Delete logs Update software...		

4. Installation schemes

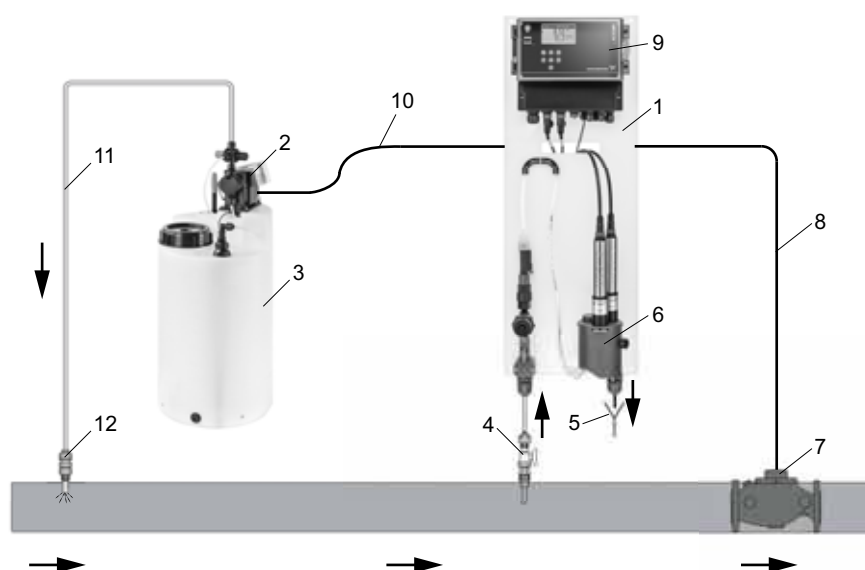


Fig. 5 Installation scheme of DID with bypass flow cell

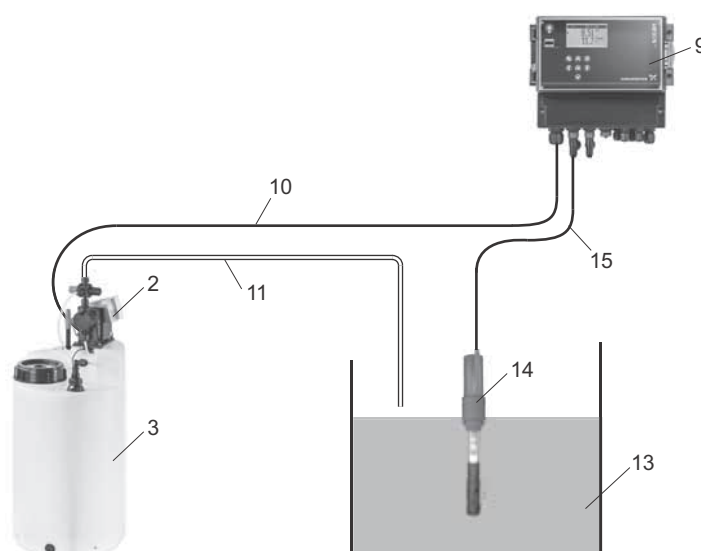


Fig. 6 Installation scheme of DID for tank immersion

Legend

1	DID with bypass flow cell
2	SMART Digital dosing pump
3	Dosing tank
4	Sample water extraction
5	Sample water outlet to the drain
6	Bypass flow cell for 1 or 3 sensors
7	Flowmeter
8	Signal cable from flowmeter to CU 382 control unit
9	CU 382 control unit
10	Control cable to SMART Digital dosing pump
11	Dosing line
12	Injection unit
13	Tank
14	Sensor holder
15	Signal cable from sensor to CU 382 control unit

TM06 5635 5115

TM06 6082 0616

5. Technical data

CU 382-1 and CU 382-3 control unit

Data		CU 382-1	CU 382-3
General data	Number of sensor connectors (Buccaneer 400 series)	1	3
	Number of analog inputs (4-2000 mA)		1
	Number of digital inputs		2
	Number of analog outputs (4-20 mA)		3
	Number of digital outputs NO relays		2
	Number of digital outputs NO/NC relays (alarm relays)		1
	Number of USB ports (host)		1
	Number of RS485 ports (Modbus slave)		1
	Number of M20 cable gland entries (mains)		1
	Number of M16 cable gland entries		1
	Number of M12 cable gland entries		4 ¹⁾
	Memory (industrial grade SLC)	[MB]	512
	Ambient temperature	[°C]	-20 to +45
	Humidity (non condensing)	[%]	5 to 90
Electrical data ²⁾	Voltage	[V]	100-240
	Frequency	[Hz]	50-60
	Power consumption	[W]	33
	Max. inrush current	[A]	< 30
	Enclosure class		IP65
Signal input, analog 4-20 mA	Input resistance	[Ohm]	100
	Galvanic isolation (to system ground/earth)	[kV]	1
	Resolution	[bit]	12
Signal input, digital	Standard setup (for connection with mechanical relay/switch)		
	• Max. input frequency	[Hz]	100
	• Low input voltage	[V]	< 7
	• High input voltage	[V]	> 8
	• Input resistance	[Ohm]	> 1000
	Optional setup (for connection with external voltage output)		
	• Max. input frequency	[Hz]	100
	• Low input	[Ohm]	< 100
	• High input	[Ohm]	> 2000
	• Galvanic isolation (to system ground/earth)	[kV]	1
Signal output, analog 4-20 mA	Maximum load resistance	[Ohm]	500
	Galvanic isolation (to system ground/earth)	[kV]	1
	Resolution	[bit]	12
Signal output, digital with relays ³⁾	Maximum working voltage	[VAC]	250
	Maximum switchable load	[A]	6
	Maximum load	[VA]	600
Weight		[kg]	1.3
Approvals		CE, CSA, cTUVus, (RCM)	

¹⁾ One of the cable glands is used for the flow switch (DID with bypass flow cell)

²⁾ Remark: a circuit breaker must be installed

³⁾ Remark: depending on the load, additional snubber circuits might be required

Sensors for disinfectants

			Chlori::lyser				Chlodi::lyser		Hyper::lyser		Peroxy::lyser	
			Free chlorine		Total chlorine		Chlorine dioxide		Hydrogen peroxide		Peracetic acid	
General data	Measuring range	ppm [mg/l]	0-2	0-20	0-2	0-20	0-2	0-20	0-200	0-2000	0-200	0-2000
	Accuracy	[%]	< 1 ¹⁾	< 1 ²⁾	< 1 ¹⁾	< 1 ²⁾	< 1 ¹⁾	< 1 ²⁾	< 2 ³⁾	< 0.5 ⁴⁾	< 2 ³⁾	< 0.5 ⁴⁾
	Resolution	ppm [mg/l]	0.001	0.01	0.001	0.01	0.001	0.01	0.1	1	0.1	1
	Measuring principle	-	Amperometric, 3 electrodes, membrane-covered				Amperometric, 2 electrodes, membrane-covered					
	Temperature compensation	-	Yes		Yes		Yes		Yes		Yes	
	pH compensation	-	Yes		Yes		-		-		-	
	Response time (T90)	[minute]	2		2		1		8		5 at 10 °C 1.5 at 50 °C	
	Run-in time (during startup, after power-off)	[hour]	2		2		1		3		3	
Ambient conditions	Operating temperature (liquid temperature)	[°C]	5-45		5-45		5-50		5-45		5-45	
	Max. pressure (on outlet, without pressure peaks or fluctuation)	[bar]	0.5		0.5		1		1		1	
	Recommended flow (DID with flow cell)	[l/h]	30		30		30		30		30-100	
	Recommended flow speed (DID for tank immersion)	[m/s]	0.015 - 0.06		0.015 - 0.06		0.015 - 0.06		0.015 - 0.06		0.015 - 0.06	
	pH operating range	[pH]	4-9		4-12		2-11		2-11		1-6	
Cross sensitivities	Influence of pH on reading	-	Up to pH 7: no influence Up to pH 9: 10 % of electrode slope		Between pH 4 and 12: 5 % of electrode slope per pH unit		No influence		No influence		No influence	
	Influence of ClO ₂ : Reading instead of parameter	[%]	75		75		-		n/A		100	
	Influence of Cl ₂ : Reading instead of parameter	[%]	-		-		0		Must not be present		0	
	Influence of O ₃ : Reading instead of parameter	[%]	80		130		2500		Must not be present		2500	
	Influence of other substances	-	Combined chlorine can increase reading		-		-		PES or PAA must not be present. Sulfide and phenole poison or destroy the membrane system.		No influence of H ₂ O ₂	
Material and design	Enclosure class	-	IP67		IP67		IP67		IP67		IP67	
	Housing materials	-	PVC-U, PEEK SS 1.4571		PVC-U, PEEK SS 1.4571		PVC-U SS 1.4571		PVC-U SS 1.4571		PVC-U SS 1.4571	
Storage data	Storage temperature of sensor	[°C]	0-45									
	Storage temperature of electrolyte	[°C]	10-35									
	Storage conditions	-	Dry, without electrolyte, with clean membrane cap									
	Max. storage time of electrolyte	years	1-2 (check expiry date on package)									
Approvals	-	CE (EN 61326-1:2013)										

1) at 0.4 ppm and at 1.6 ppm

2) at 1.5 ppm

3) at 40 ppm and at 160 ppm

4) at 40 ppm and < 2 % at 1600 ppm

Sensors for pH, ORP and conductivity

		pH::lyser pH	Redo::lyser ORP	Condu::lyser Conductivity
General data	Measuring principle	-	Potentiometric, with combined non-porous reference electrode	4-electrode, direct contact
	Measuring range of main parameter	-	pH 2-12	-2000 to +2000 mV
	Measuring range of temperature	[°C]	0-70	0-70
	Temperature compensation	-	Yes, with PT100 (class B)	no
	Resolution of main parameter	-	pH 0.01	1 mV
	Resolution of temperature	[°C]	0.1	0.1
	Accuracy	-	± 0.1 pH	± 10 mV in standard solution
	Response time (T90)	[s]	30	± 0.1 % of current reading in standard solution
	Run-in time (during startup)	[hour]	< 1	60
Ambient conditions	Operating temperature	[°C]	0-70	
	Operating pressure range	[bar]	0-10	
	Recommended range flow speed (submersed installation)	[m/s]	0.01-3	
Material and design	Enclosure class (sensors with plug)	-	IP67	
	Enclosure class (sensors with cable)	-	IP68	
	Housing materials	-	Stainless steel 1.4571, POM-C	
	Sensor materials	-	-	Stainless steel 1.4435, PEEK, EPDM
Storage data	Storage temperature of sensor	[°C]	0-90	0-60
	Storage time	-	Approx. one year with filled protective cap (check expiry date on package)	No limitation
Approvals	-	CE (EN 61326-1:2013)		

Hydraulic installation

BF1 and BF3 variants with bypass flow cell

Data		Units	BF1	BF3
General data	Number of connectable S::CAN sensors		1	3
	Min. liquid temperature*	[°C]		0.1
	Max. liquid temperature*	[°C]		45
	Min. ambient temperature*	[°C]		0.1
	Max. ambient temperature*	[°C]		45
Hydraulic data	Min. flow rate	[l/h]	30	
	Max. flow rate (integrated limitation)	[l/h]	60	
	Max. pressure at inlet	[bar]	3	
	Min. pressure at inlet	[bar]	0.5	
	Max. pressure at outlet (non fluctuating)	[bar]	0.5	
Connection data	Inlet/outlet: internal thread	["]		Rp1/2
	Inlet/outlet: threaded connection size	-		G 5/8
	Inlet/outlet: hose connections, metric (ID/OD)	[mm]	4/6, 6/9, 6/12 or 9/12	
	Inlet/outlet: hose connections, inch (IDxOD)	["]	0.17 x 1/4, 1/4 x 3/8 or 3/8 x 1/2	
	Sample water outlet: hose barb	[mm]	4	

* Check data of sensor and CU 382 control unit, too. The lowest value defines the actual operating limits.

T11 and T12 variants for tank immersion

Data	Units	T11	T12
Number of connectable S::CAN sensors		1	2
General data	Min. liquid temperature*	[°C]	0.1
	Max. liquid temperature*	[°C]	45
	Min. ambient temperature*	[°C]	0.1
	Max. ambient temperature*	[°C]	45
Hydraulic data	Max. flow speed*	[m/s]	See sensor data
	Max. pressure*	[bar]	10
Connection data	Prepared for metric pipe dimension (OD)	[mm]	50
	Prepared for inch pipe dimension (OD)	["]	2

* Check data of sensor and CU 382 control unit, too. The lowest value defines the actual operating limits.

Weights

Description	Without packaging	With packaging	Product number
	[kg]	[kg]	
DID-1 BF1-FCL2	4.26	8.10	98915656
DID-1 BF1-CDI2	4.26	8.10	98915657
DID-1 BF1-PA2	4.26	8.10	98915658
DID-1 BF1-HP2	4.26	8.10	98915659
DID-3 BF3-FCL2/TCL2	4.72	8.78	98915660
DID-3 BF3-FCL2/PH	4.71	8.77	98915661
DID-3 BF3-FCL2/TCL2/PH	4.97	9.18	98915662
DID-3 BF3-FCL2/ORP	4.71	8.77	98915663
DID-3 BF3-FCL2/PH/ORP	4.96	9.17	98915664
DID-1 BF1-PH	4.25	8.09	98915665
DID-1 T11-PH	2.08	5.88	98915666
DID-1 T11-ORP	2.08	5.88	98915667
DID-3 T12-ORP/PH	2.85	6.80	98915668
DID-3 BF3-ORP/PH	4.70	8.76	98915669
DID-1 BF1-CND	4.25	8.09	98915670
DID-1 T11-CND	2.08	5.88	98915671

6. Dimensions

DID with flow cell BF1

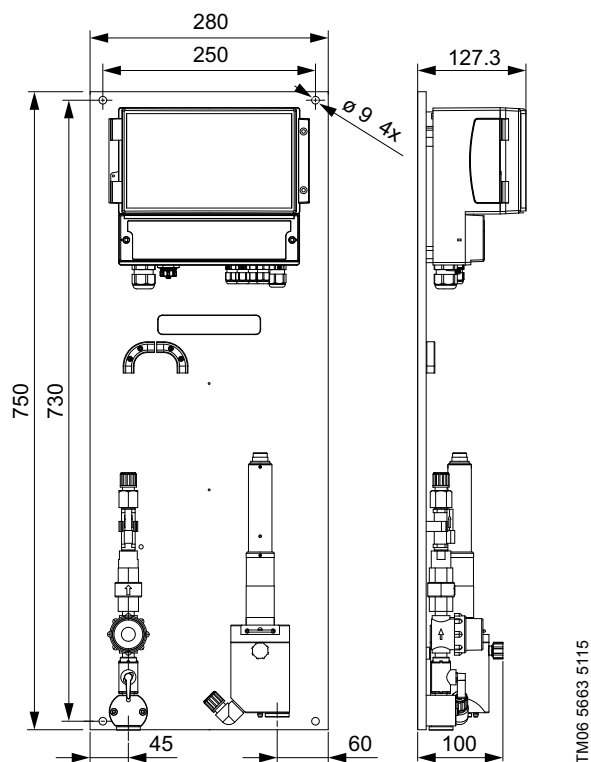


Fig. 7 Dimensions of DID with flow cell, GF1 installation variant, for 1 sensor (in mm)

DID with flow cell BF3

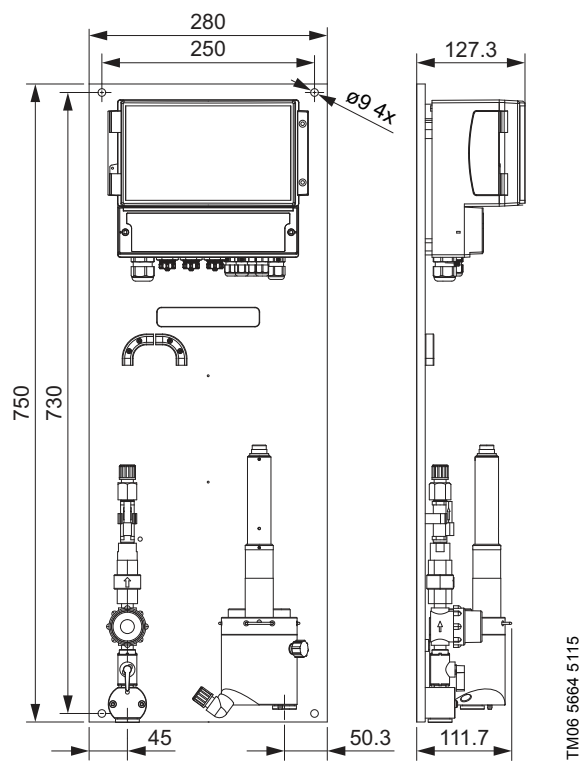


Fig. 8 Dimensions of DID with flow cell, BF3 installation variant, for up to 3 sensors (in mm)

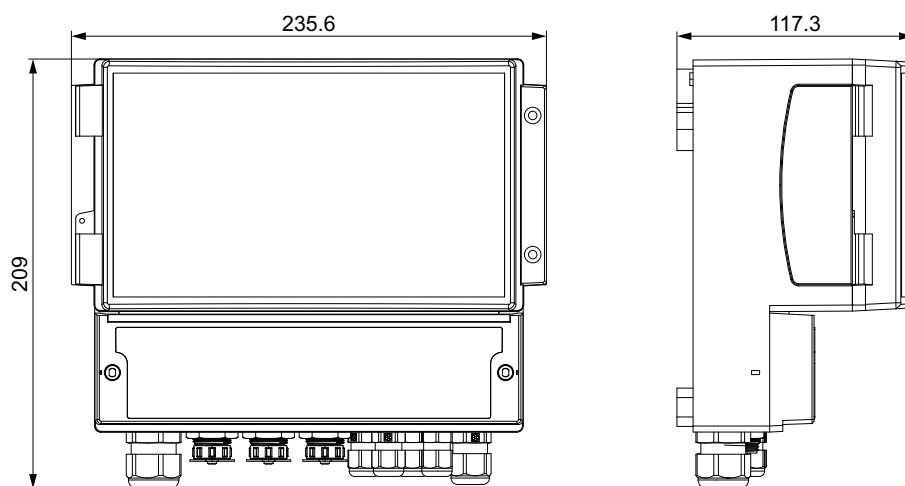


Fig. 9 Dimensions of CU 382 control unit, front and side view (in mm)

DID for wall mounting and sensor with holder

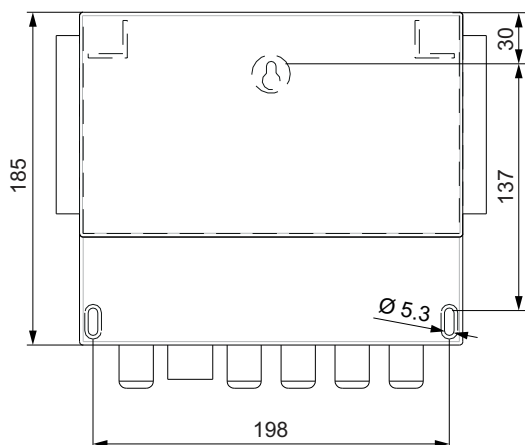


Fig. 10 Dimensions of CU 382 control unit for wall-mounting, back (in mm)

TM06 b5979 0316

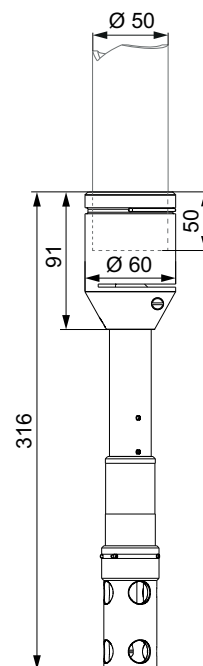


Fig. 11 Dimensions of sensor with holder (in mm), pipe with outside diameter 50 mm not included

TM06 5977 0316

7. Product selection

Standard range DID pre-assembled system

DID with bypass flow cell, with flow switch

Purpose/applications	Parameter 1	Parameter 2	Parameter 3	Type key	Product number
Free chlorine dosing control ¹⁾	Free chlorine 0-2 ppm			DID-1 BF1-FCL2	98915656
ClO ₂ dosing control	Chlorine dioxide 0-2 ppm			DID-1 BF1-CDI2	98915657
PAA dosing control	Peracetic acid 0-200 ppm			DID-1 BF1-PA2	98915658
H ₂ O ₂ dosing control	Hydrogen peroxide 0-200 ppm			DID-1 BF1-HP2	98915659
Chloramine dosing control or chlorine dosing control with monitoring of total chlorine	Free chlorine 0-2 ppm	Total chlorine 0-2 ppm		DID-3 BF3-FCL2/TCL2	98915660
Free chlorine dosing control + pH control ²⁾	Free chlorine 0-2 ppm	pH 2-12		DID-3 BF3-FCL2/PH	98915661
Chloramine dosing control or chlorine dosing control with monitoring of total chlorine + pH control ²⁾	Free chlorine 0-2 ppm	Total chlorine 0-2 ppm	pH 2-12	DID-3 BF3-FCL2/TCL2/PH	98915662
Free chlorine dosing control with validation via ORP ¹⁾	Free chlorine 0-2 ppm	ORP -2000 to +2000 mV		DID-3 BF3-FCL2/ORP	98915663
Free chlorine dosing control with validation via ORP + pH control ²⁾	Free chlorine 0-2 ppm	pH 2-12	ORP -2000 to +2000 mV	DID-3 BF3-FCL2/PH/ORP	98915664
pH control (neutralisation, pH adjustment for further processes), dosing control of acids and bases	pH 2-12			DID-1 BF1-PH	98915665
Dosing control in oxidation/reduction processes (e.g. removal of chromic acid, nitrite or cyanide)	ORP -2000 to +2000 mV	pH 2-12		DID-3 BF3-ORP/PH	98915669
Chemical dosing control in CIP-processes, high-purity water, cooling towers	Conductivity 1-500000 µS/cm			DID-1 BF1-CND	98915670
Without sensors, allows customisation according to specific application requirements, up to 3 sensors are possible				DID-3 BF3	99083725

¹⁾ With internal pH compensation up to pH 8.5

²⁾ Provides additional pH compensation of chlorine measurement for highest accuracy

DID for tank immersion

Purpose/applications	Parameter 1	Parameter 2	Type key	Product number
pH control (neutralisation for further processes), dosing control of acids and bases	pH 2-12		DID-1 TI1-PH	98915666
Denitrification, monitoring of the disinfection effect when dosing oxidising agents, etc.	ORP -2000 to +2000 mV		DID-1 TI1-ORP	98915667
Dosing control in oxidation/reduction processes (e.g. removal of chromic acid, nitrite or cyanide)	ORP -2000 to +2000 mV	pH 2-12	DID-3 TI2-ORP/PH	98915668
Chemical dosing control in CIP-processes, high-purity water, cooling towers	Conductivity 1-500000 µS/cm		DID-1 TI1-CND	98915671

8. Accessories and maintenance kits

Accessories

Mains cables

Cable length: 2.0 m

Plug type	Product number
Europe	99074491
USA	99074492
Australia	99074493

Sensor cables

- Connection of sensor and control unit
- Extension to bridge long distances between sensor and control unit

Use	Cable length [m]	Product number
DID with flow cell: cable for connection of sensor and control unit	1	98915690
DID with flow cell and DID for tank immersion: extension cable for long distance connection of sensor and control unit	10	98915691
	20	98915692

Sensors

Individual sensors for customised solutions or add-on to standard systems. All sensors include temperature measurement in addition to the main parameter.

DID with flow cell

- Sensors with plug

Parameter	Measuring range	Product number
Free chlorine (FCI)	0-2 ppm	98915674
	0-20 ppm	98915675
Total chlorine (TCI)	0-2 ppm	98915676
	0-20 ppm	98915677
Chlorine dioxide (CDI)	0-2 ppm	98915678
	0-20 ppm	98915679
Hydrogen peroxide (HP)	0-200 ppm	98915680
	0-2000 ppm	98915681
Peracetic acid (PA)	0-200 ppm	98915682
	0-2000 ppm	98915683
pH	pH 2-12	98915684
ORP	-2000 mV to +2000 mV	98915686
Conductivity (CND)	1-500000 µS/cm (2-42 PSU)	98915688

DID for tank immersion

- Sensors with 7.5 m of fixed cable

Parameter	Measuring range	Product number
pH	pH 2-12	98915685
ORP	-2000 mV to +2000 mV	98915687
Conductivity (CND)	1-500000 µS/cm (2-42 PSU)	98915689

CU 382 control unit

Individual control units for customised solutions or as a replacement.

Control unit type	Number of sensor connectors	Product number
CU 382-1	1	98915672
CU 382-3	3	98915673

Hydraulic installation components

Installation type	Components	Product number
DID with bypass flow cell	Inlet connection, shut-off valve, strainer, flow restrictor, flow switch, connecting hose	99074484
	Flow cell for 1 sensor, sampling cock and outlet, outlet connection	99074485
	Flow cell for 3 sensors, sampling cock and outlet, outlet connection	99074486
DID for tank immersion	Sensor holder	99074490
	Sensor guard	99074487
	Cleaning valve (for use with a compressed-air installation)	99074488
	Cleaning assembly with valve and compressor (if no compressed air is available on site)	99074489

Anti-siphoning pressure-loading valve

Mounted on the outlet connection of DID with bypass flow cell.

Prevents siphoning in case the outlet to the drain is far below the DID system.

Description	Product number
Pressure loading valve to prevent siphoning	96609179

Sample water extraction devices

Sample water extraction devices are used to extract a part of the main water flow.

Sample water extraction devices consist of:

- An extraction pipe that is immersed into the water flow to be measured.
 - The pipe can be cut to length to match installation conditions on site.
 - With R 1/2" installation connection
- A ball valve to stop the water flow to the DID system.

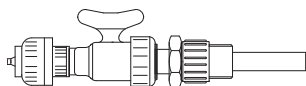


Fig. 12 Sample water extraction device

TM06 5648 5115

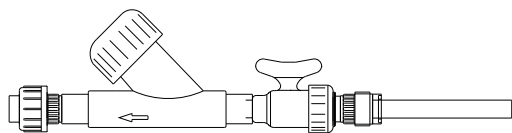


Fig. 13 Sample water extraction device

TM06 5649 5115

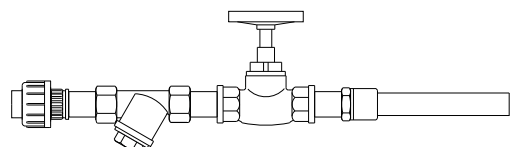


Fig. 14 Sample water extraction device

TM06 5650 5115

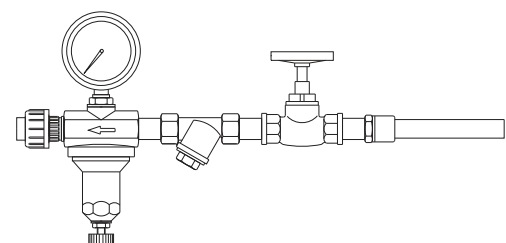


Fig. 15 Sample water extraction device

TM06 5651 5115

Description	Product number
Max. 3 bar, PVC (Fig. 12)	96729302
Max. 3 bar, PVC, with filter (Fig. 13)	96729301
Max. 3 bar, brass, with filter (Fig. 14)	96729300
Max. 10 bar, brass, with filter, pressure reducing valve and manometer (Fig. 15)	96698139

Sample water extraction pump

In case the installation on site does not allow free water flow to the DID system, a sample water extraction pump can be used to transport the water.

- Connection DN8
- Mains voltage and frequency 220 V, 50 Hz
- Power consumption approx. 40 W

Description	Product number
Sample water extraction pump, up to 35 l/h	95701524

External water filters

An additional external water filter might be necessary when more dirt is expected in the water to be measured.

Note: all DID systems with bypass flow cell have an integrated water filter.

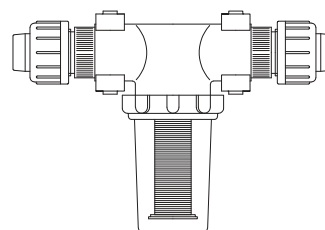


Fig. 16 External water filter without ball valve

TM06 5652 5115

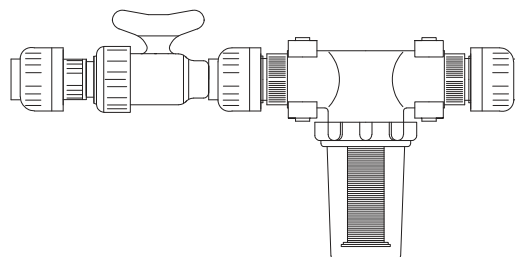


Fig. 17 External water filter with ball valve

TM06 5653 5115

Description	Product number
External water filter, with ball valve	96622995
External water filter, without ball valve	95709473

KCl solution for safe storage of pH and ORP sensors

The tips of ORP and pH sensors must be wetted with 3-molar potassium chloride (KCl) solution during storage.

Description	Product number
Bottle of KCl solution for safe storage of pH and ORP sensors, 250 ml	96688696

Buffer solution kit for pH sensor calibration

The buffer solution kit includes three buffer solutions with pH 4.01, pH 7 and pH 9.18.

Description	Product number
Buffer solution kit, 3 x 100 ml	96609165

Maintenance kits

Maintenance kits for disinfectant sensors

Maintenance kits for disinfectant sensors include a bottle of electrolyte and a membrane cap.

When used under normal conditions with ordinary water, a sensor can be operated for one year with a maintenance kit.

The electrolyte must be exchanged twice a year, the membrane cap once a year.

Maintenance kit for parameter	Product number
Free chlorine (FCI)	99074494
Total chlorine (TCI)	99074495
Chlorine dioxide (CDI)	99074496
Hydrogen peroxide (HP)	99074497
Peracetic acid (PA)	99074498

Maintenance kits for pH and ORP sensors

Maintenance kits for pH and ORP sensors include an electrode to replace the one included in the sensor.

Depending on the water quality, the electrode must be replaced after 1-3 years.

Maintenance kit for parameter	Product number
pH	99074499
ORP	99074500

9. Grundfos Product Center

Online search and sizing tool to help you make the right choice.

<http://product-selection.grundfos.com>



SIZING enables you to size a pump based on entered data and selection choices.

REPLACEMENT enables you to find a replacement product. Search results will include information on

- the lowest purchase price
- the lowest energy consumption
- the lowest total life cycle cost.

The screenshot shows the Grundfos Product Center website. At the top, there's a navigation bar with 'HOME', 'FIND PRODUCT', 'COMPARE', 'YOUR PROJECTS', 'SAVED ITEMS', and 'HELP'. Below this is a search bar with the placeholder text 'Input product number or a whole or partial product name' and a 'SEARCH' button. The main content area has four large buttons: 'SIZING' (with a subtext 'Enter pump sizing'), 'CATALOGUE' (with a subtext 'Products and services'), 'REPLACEMENT' (with a subtext 'Replace an old pump with a new'), and 'LIQUIDS' (with a subtext 'Find pump by liquid'). Below these buttons is a 'QUICK SIZING' section with input fields for 'Flow (Q)*' and 'Head (H)*', and a 'Select what to size by' section with radio buttons for 'Size by application', 'Size by pump design', and 'Size by pump family'. There is also a 'START SIZING' button. At the bottom, there's an 'ADVANCED SIZING' section with checkboxes for 'Advanced sizing by application' and 'Guided selection'.

CATALOGUE gives you access to the Grundfos product catalogue.

LIQUIDS enables you to find pumps designed for aggressive, flammable or other special liquids.

All the information you need in one place

Performance curves, technical specifications, pictures, dimensional drawings, motor curves, wiring diagrams, spare parts, service kits, 3D drawings, documents, system parts. The Product Center displays any recent and saved items - including complete projects - right on the main page.

Downloads

On the product pages, you can download installation and operating instructions, data booklets, service instructions, etc. in PDF format.

Subject to alterations.

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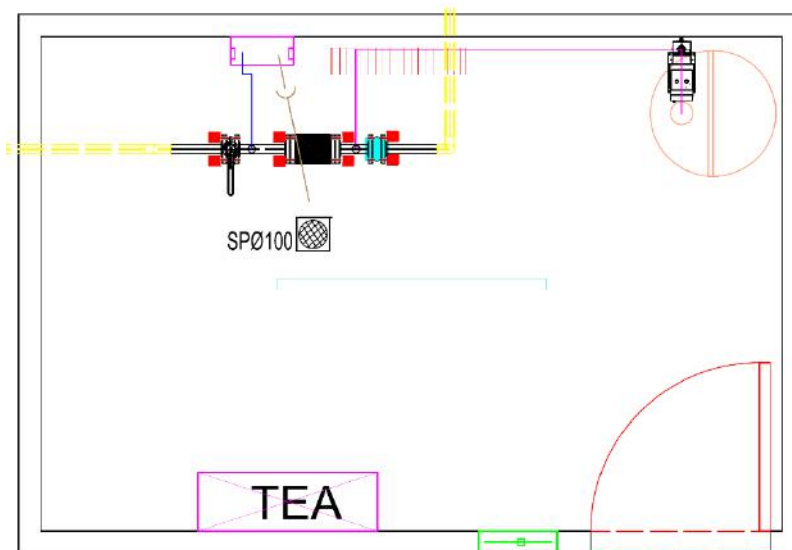
ECM: 1165028

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GRUNDFOS 

Stație de clorinare containerizată cu 1 sistem de clorinare cu hipoclorit

Stația de clorinare este prevăzută cu o linie de măsurare a debitului și de injecție a hipocloritului.



Stația de clorinare este amplasată într-un container, cu o singură încăpere, cu stâlpi de susținere profileți la rece din tablă zincată cu grosimea de 2 mm, pereți din panou sandwich poliuretan tip C 1 RAL 9002 (garantat 10 ani), acoperiș cu rezistență portantă de 250 kg/m², format din structură metalică zincată profilată la rece, grunduită reactiv și vopsită, tablă zincată dublu fâltuită, grosime 0,5 mm, folie anticondens, vată minerală grosime 100 mm norma C1 ISOVER®, tavan PVC RAL 9002, prevăzut cu o ușă laterală cu dimensiunile 900x2000 mm, PVC/metalică.

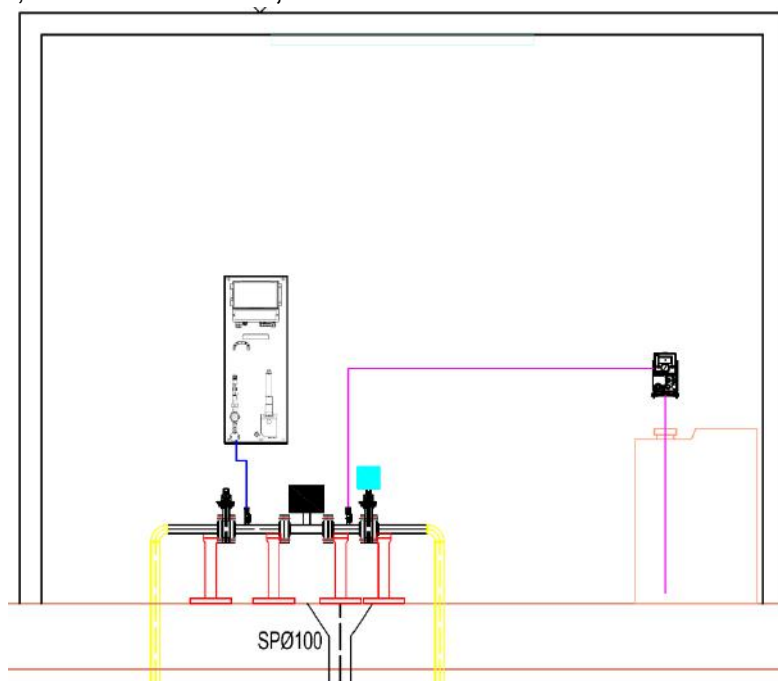
Containerul este încălzit utilizând un convector electric termostatat cu puterea de 2000 W, cu montare murală și cu un ventilator axial, cu montare murală, cu funcționare temporizată, cu debitul de 1300 m³/h, 230 V.a.c., 60 W.

Stația poate fi livrată în mai multe variante configurate în funcție de diametrul liniei de măsură și injecție. Diametre disponibile pentru conducte: DN40, DN50, DN65, DN80, DN100, DN125, DN150, DN200.

Linia de măsurare a debitului și de injecție este cu următoarele echipamente:

- robinet de izolare la intrare;

- debitmetru electromagnetic;
- sistem de analiză clor rezidual;
- sistem de dozare hipoclorit;
- robinet acționat electric la ieșirea liniei.



Debitmetrul montat pe linie are următoarele caracteristici:

- conectarea la proces: flanșa EN 1092-1;
- grad de protecție: IP 67;
- carcasă și flanșe: oțel carbon, acoperire anticorozivă cu vopsea epoxidică (min. 150 μm);
- țevă de măsură: inox AISI 304/1.4301;
- electrozi: hastelloy C;
- transmiter, montaj compact, precizie de măsurare $\pm 0,4 \%$, o ieșire analogică 4÷20mA, o ieșire digitală, o ieșire pe releu, display retroiluminat cu text alfanumeric 3x20 caractere, IP67, alimentare 115-230 Vc.a., temperatura de operare -20÷50 °C.

Sistem de analiză clor rezidual montat pe linie are următoarele caracteristici:

- alimentare: 220 Vc.a.;
- sistem preasamblat al unității de control și al celulei de măsură;
- sistem de prelevare a probei de apă pentru analiza concentrației de clor rezidual;
- măsurarea și controlul continuu a concentrației clorului rezidual, cu posibilitatea de compensare a temperaturii;
- gama de măsură a clorului rezidual: 0÷2 mg/l;
- senzor de temperatura a apei;
- presiune maxima de lucru: 3 bar.

Sistemul de dozare montat pe linie are următoarele caracteristici:

- pompă dozatoare digitală (220VAC, 16bar, afișaj LCD, modul interfațare SCADA, intrări și ieșiri digitale, intrări și ieșiri analogice), cu funcționare automată în funcție de debitul apei pompate și de valoarea clorului rezidual măsurată de instalația de analiză;
- rezervor de stocare soluție de hipoclorit, 200 litri, material PE, prevăzut cu robinet de golire;
- agitator manual;
- linie de aspirație rigidă, cu: sorb aspirație, clapetă de sens și senzor de rezervor gol;
- supapă multifuncțională, pentru: prevenirea sifonării, menținerea constantă a contrapresiunii și reducerea manuală a presiunii;
- furtun dozare hipoclorit;
- unitate de injecție hipoclorit, cu supapă pentru prevenirea cristalizării și blocării dozării hipocloritului în apa care are un conținut ridicat de carbonați.

Stația de clorinare este prevăzută cu un tablou electric, de automatizare și control al procesului cu următoarele caracteristici principale:

- echipat cu inversor manual de sursă, pentru posibilitatea conectării unui grup generator portabil (în sursa 1 se va conecta alimentarea din rețeaua electrică, iar în sursa 2 se va conecta o fișă industrială monofazată (230 V), montată aparent pe peretele exterior al tabloului electric);
- dotat cu echipamente pentru protecția și comanda dozatoarelor de hipoclorit;
- dotat cu echipamente de protecție pentru debitmetre;
- dotat cu siguranțe automate diferențiale pentru circuitele de iluminat și încălzire;
- dotat cu priză 230 Vc.a. monofazată pentru serviciile interne;
- dotat cu modul de protecție la supratensiuni atmosferice și de comutație;

Pentru monitorizarea/controlul parametrilor procesului tehnologic, precum și pentru comunicația cu un sistem SCADA, în tabloul electric și de automatizare este prevăzut un PLC cu router GSM/GPRS integrat și sistem UPS cu acumulatori tampon. Pe ușa tabloului electric este amplasat un afișaj de 7" pentru urmărirea parametrilor procesului de către operator, precum și pentru programarea valorilor de referință.

Principalele date ce pot fi transmise către un dispecerat SCADA sunt următoarele:

- starea de funcționare a analizoarelor de clor și a sistemelor de dozare;
- parametrii electrici ai stației de clorinare;
- debitele instantanee și totalizatoarele;
- prezența tensiunii de alimentare;
- starea comunicației GPRS;
- regim stație de clorinare;
- cantitate de clor/puls programată;
- concentrație de clor programată;

- alarmă nivel scăzut hipoclorit în rezervor;
- alarmă sisteme clorinare;
- volum de clor dozat;
- număr de porniri ale pompelor dozatoare de clor;
- orele de funcționare ale pompelor dozatoare de clor;
- temperatura apei.

Uninterruptible power supply - TRIO-UPS/1AC/24DC/5 - 2866611

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Uninterruptible power supply with integrated power supply unit, 5A, in combination with MINI-BAT/24/DC/1.3 AH, QUINT-BAT/24DC 3,4AH, 7,2AH or 12 AH

Product Description

The TRIO UPS module with integrated power supply is particularly space-saving: UPS module and power supply in one housing. Only one energy storage is required to complete the UPS system.

Energy storage with lead AGM technology buffers failures lasting up to two hours with 5 A load current.

Your advantages

- ✓ Autonomous – in the event of AC mains failure the industrial PC continues operating without interruption
- ✓ Time saving – when the supply voltage is restored, the industrial PC starts automatically



Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 311809
GTIN	4046356311809
Weight per Piece (excluding packing)	1,147.000 g
Custom tariff number	85371091
Country of origin	China

Technical data

Dimensions

Width	60 mm
Height	130 mm
Depth	118 mm

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 70 °C (> 55° C derating : 2.5%/K)
Ambient temperature (storage/transport)	-40 °C ... 80 °C

Uninterruptible power supply - TRIO-UPS/1AC/24DC/5 - 2866611

Technical data

Ambient conditions

Max. permissible relative humidity (operation)	95 % (at 25 °C, non-condensing)
Climatic class	3K3 (in acc. with EN 60721)
Degree of pollution	2

Input data

Nominal input voltage range	100 V AC ... 240 V AC
AC input voltage range	85 V AC ... 264 V AC (Derating < 90 V AC: 2.5%V)
Input voltage range DC	100 V DC ... 350 V DC (UL508: 100 ... 250 V)
Buffer time	adjustable: 0.5 min; 1 min; 2 min; 3 min; 5 min; 10 min; 15 min; 20 min; PC-Mode
Current consumption	1.1 A (230 V AC, maximum) 1.8 A (120 V AC, maximum)
Inrush current limiting/I ² t	< 1.3 A ² s
Mains buffering time	see diagram
Typical response time	150 ms (230 V AC) 200 ms (120 V AC)
Power factor (cos phi)	approx. 0.5
Protective circuit	Transient surge protection Varistor
Input fuse, integrated	6.3 A (slow-blow, internal)

Output data

Nominal output voltage	24 V DC
Setting range of the output voltage (U _{Set})	22.5 V DC ... 29.5 V DC (Network operation; in the buffer mode, dependent on the battery voltage of 27.9 V DC ... 19.2 V DC)
Nominal output current (I _N)	5 A (-25 °C ... 55 °C)
Derating	55 °C ... 70 °C (2.5%/K)
Output current limit	max. 6 A (Mains operation)
Control deviation	< 1 % (change in load, static 10 % ... 90 %)
Efficiency	> 88 % (230 V AC, network operation) > 86 % (120 V AC, network operation) > 86 % (Battery operation)
Residual ripple	< 10 mV _{PP}
Peak switching voltages nominal load	< 25 mV _{PP}
Connection in parallel	Yes, 2
Surge protection against internal surge voltages	< 35 V DC
Feedback voltage resistance	35 V DC

General

IQ technology	no
Net weight	1.1 kg
Memory medium	External, battery 1.3 Ah / 3.4 Ah / 7.2 Ah / 12 Ah
Insulation voltage input/output	4 kV (type test) 2 kV (routine test)

Uninterruptible power supply - TRIO-UPS/1AC/24DC/5 - 2866611

Technical data

General

Protection class	I
	> 596000 h (40 °C)
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	alignable: horizontally 0 mm, vertically 50 mm

Connection data, input

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Screw thread	M3

Connection data, output

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Stripping length	8 mm
Screw thread	M3

Connection data for signaling

Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Screw thread	M3

Charging process

Charge characteristic curve	I/U characteristic curve
Battery presence check/time interval	60 s
Charge current	0.2 A ... 1.5 A (Default 1.0 A)
End-of-charge voltage	25 V DC ... 30 V DC (Default 27.6 V DC)
Temperature compensation	0 mV/K ... 200 mV/K (42 mV/K by default)
Quality check of battery	4 h ... 200 h (Default 12 h)
Deep discharge protection	18 V DC ... 21 V DC (Default 19.2 V DC)

Uninterruptible power supply - TRIO-UPS/1AC/24DC/5 - 2866611

Technical data

Charging process

Alarm signaling threshold	18 V DC ... 30 V DC (Default 20.4 V DC)
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Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Noise emission	EN 55011 (EN 55022)
Noise immunity	EN 61000-6-2:2005
Connection in acc. with standard	CUL
Standards/regulations	EN 61000-4-2
Contact discharge	6 kV
Standards/regulations	EN 61000-4-3
Frequency range	80 MHz ... 2 GHz
Test field strength	10 V/m
Standards/regulations	EN 61000-4-4
Comments	Criterion B
Standards/regulations	EN 61000-6-3
	EN 61000-4-6
Frequency range	10 kHz ... 80 MHz
Voltage	10 V
Standards/regulations	EN 61000-4-11
Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
Standard - Electrical safety	EN 60950-1/VDE 0805 (SELV)
Standard – Electronic equipment for use in electrical power installations and their assembly into electrical power installations	EN 50178/VDE 0160 (PELV)
Standard – Safety extra-low voltage	EN 60950-1 (SELV)
	EN 60204 (PELV)
Standard - Safe isolation	DIN VDE 0100-410
Standard – Protection against shock currents, basic requirements for protective separation in electrical equipment	EN 50178
Standard – Limitation of mains harmonic currents	EN 61000-3-2
Shipbuilding approval	DNV GL (EMC B)
UL approvals	UL/C-UL listed UL 508
	UL/C-UL Recognized UL 60950-1
Shock	18 ms, 30g, in each space direction (according to IEC 60068-2-27)
Vibration (operation)	< 15 Hz, amplitude ± 2.5 mm (according to IEC 60068-2-6)
	15 Hz ... 150 Hz, 2.3g, 90 min.
Rail applications	EN 50121-4

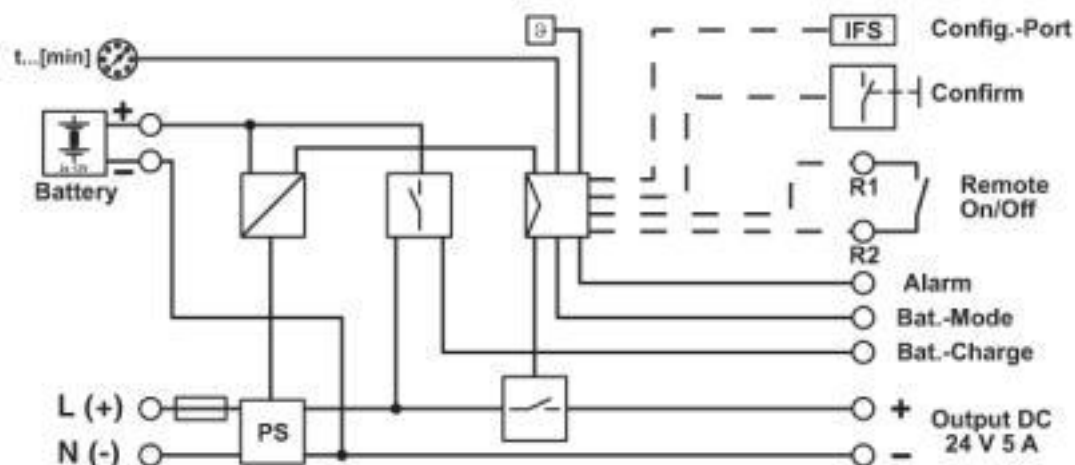
Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 25;
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

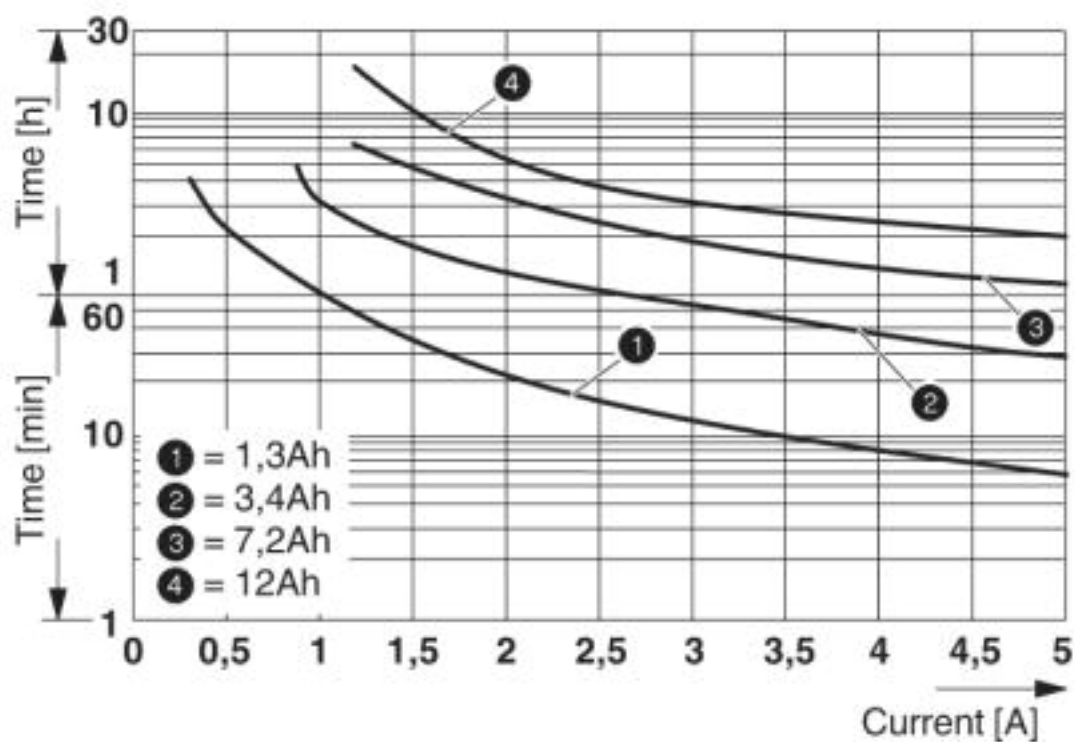
Drawings

Uninterruptible power supply - TRIO-UPS/1AC/24DC/5 - 2866611

Block diagram



Diagram



Classifications

eCl@ss

eCl@ss 4.0	27040600
eCl@ss 4.1	27040600
eCl@ss 5.0	27040600
eCl@ss 5.1	27040600

Uninterruptible power supply - TRIO-UPS/1AC/24DC/5 - 2866611

Classifications

eCl@ss

eCl@ss 6.0	27040600
eCl@ss 7.0	27040603
eCl@ss 8.0	27040603
eCl@ss 9.0	27040705

ETIM

ETIM 2.0	EC000382
ETIM 3.0	EC000382
ETIM 4.0	EC000382
ETIM 5.0	EC000382
ETIM 6.0	EC000382
ETIM 7.0	EC000382

UNSPSC

UNSPSC 6.01	30211510
UNSPSC 7.0901	39121011
UNSPSC 11	39121011
UNSPSC 12.01	39121011
UNSPSC 13.2	39121011
UNSPSC 18.0	39121011
UNSPSC 19.0	39121011
UNSPSC 20.0	39121011
UNSPSC 21.0	39121011

Approvals

Approvals

Approvals

DNV GL / PRS / UL Listed / UL Recognized / cUL Recognized / cUL Listed / EAC / EAC / cULus Recognized / cULus Listed

Ex Approvals

Approval details

DNV GL		https://approvalfinder.dnvgl.com/	TAA00000A2
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Uninterruptible power supply - TRIO-UPS/1AC/24DC/5 - 2866611

Approvals

PRS		http://www.prs.pl/	TE/2104/880590/16
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UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 123528
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UL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 211944
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cUL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 211944
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cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 123528
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EAC			EAC-Zulassung
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EAC			RU*DE*08.B.01873/19
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cULus Recognized			
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cULus Listed			
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Accessories

Accessories

Assembly adapter

Uninterruptible power supply - TRIO-UPS/1AC/24DC/5 - 2866611

Accessories

Assembly adapters - QUINT-PS-ADAPTERS7/2 - 2938206



Assembly adapter for QUINT POWER 10A on S7-300 rail

Assembly adapters - UWA 182/52 - 2938235



Universal wall adapter for securely mounting the device in the event of strong vibrations. The device is screwed directly onto the mounting surface. The universal wall adapter is attached on the top/bottom.

Battery unit

Energy storage - MINI-BAT/24DC/1.3AH - 2866417



Energy storage device, lead AGM, VRLA technology, 24 V DC, 1.3 Ah.

Energy storage - QUINT-BAT/24DC/ 3.4AH - 2866349



Energy storage device, lead AGM, VRLA technology, 24 V DC, 3.4 Ah. Connection via pin cable lug, 14 mm.

Energy storage - QUINT-BAT/24DC/ 7.2AH - 2866352



Energy storage device, lead AGM, VRLA technology, 24 V DC, 7.2 Ah. Connection via pin cable lug, 14 mm.

Uninterruptible power supply - TRIO-UPS/1AC/24DC/5 - 2866611

Accessories

Energy storage - QUINT-BAT/24DC/12AH - 2866365



Energy storage device, lead AGM, VRLA technology, 24 V DC, 12 Ah. Connection via pin cable lug, 14 mm.

Energy storage - UPS-BAT/VRLA/24DC/1.3AH - 2320296



Energy storage device, lead AGM, VRLA technology, 24 V DC, 1.3 Ah, tool-free battery replacement, automatic detection, and communication with QUINT UPS-IQ

Energy storage - UPS-BAT/VRLA/24DC/3.4AH - 2320306



Energy storage device, lead AGM, VRLA technology, 24 V DC, 3.4 Ah, tool-free battery replacement, automatic detection, and communication with QUINT UPS-IQ

Energy storage - UPS-BAT/VRLA/24DC/7.2AH - 2320319



Energy storage device, lead AGM, VRLA technology, 24 V DC, 7.2 Ah, tool-free battery replacement, automatic detection, and communication with QUINT UPS-IQ

Energy storage - UPS-BAT/VRLA/24DC/12AH - 2320322



Energy storage device, lead AGM, VRLA technology, 24 V DC, 12 Ah, tool-free battery replacement, automatic detection, and communication with QUINT UPS-IQ

Data cable preassembled

Uninterruptible power supply - TRIO-UPS/1AC/24DC/5 - 2866611

Accessories

Data cable - IFS-USB-DATACABLE - 2320500



Used for communicating between industrial PCs and Phoenix Contact devices with the 12-pos. IFS data port, such as QUINT UPS or TRIO UPS.

Fuse

Fuse - SI FORM C 15 A DIN 72581 - 0913676



Flat-type plug-in fuse, type C, color code: light blue, nominal current: 15 A

Fuse - SI FORM C 25 A DIN 72581 - 0913757



Flat-type plug-in fuse, type C, color code: white, nominal current: 25 A

Memory block

Memory block - IFS-CONFSTICK-L - 2901103



Multi-functional memory block with handle for the INTERFACE system; for easy storage and back up of the configuration.

Memory block - IFS-CONFSTICK - 2986122



Multi-functional memory block for the INTERFACE systemf for easy storage and backup of the configuration.

Mounting rail adapter

Uninterruptible power supply - TRIO-UPS/1AC/24DC/5 - 2866611

Accessories

DIN rail adapter - UTA 107 - 2853983

Universal DIN rail adapter, for screwing on switchgear



Programming adapter

Programming adapter - IFS-USB-PROG-ADAPTER - 2811271



Programming adapter with USB interface, for programming with software. The USB driver is included in the software solutions for the products to be programmed, such as measuring transducers or motor managers.

Touch panel - BTP 2070W - 1046666

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Touch panel with 17.8 cm/7" TFT-display (analog resistive (polyester)), 800 x 480 pixel(s) (WVGA), 262144 colors, Arm9™ i.MX28, 454 MHz, 2x COM (RS-232/422/485), 1x USB 2.0, Typ A, 1x USB 2.0, Typ B, 1 x Ethernet (10/100 Mbps), RJ45, Windows® CE 6.0 and user software: Visu+. (bus system: without)

Your advantages

- ✓ Visu+ RT integrated as standard in all BTP 2000 devices
- ✓ Connection to all relevant control systems, thanks to a large number of available drivers
- ✓ Developed for basic applications with attractive price/performance ratio
- ✓ 3 display sizes in 16:9 format

RoHS

Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 642963
GTIN	4055626642963

Technical data

Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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Dimensions

Outer dimensions: width, height, depth	186 mm x 138 mm x 5 mm (Dimensions of the front plate)
Installation dimensions: width, height, depth	175 mm x 127 mm x 31 mm (Installation cutout)

Display

Display	17.8 cm/7" TFT
Screen resolution	800 x 480 Pixel(s) (WVGA)
Touch technology	analog resistive (polyester)
Brightness	300 cd/m², typical (adjustable)
Backlighting	LED
Display backlight MTBF	20000 h

Touch panel - BTP 2070W - 1046666

Technical data

Display

Colors	262144 colors
Reading angle left	70 °
Reading angle right	70 °
Reading angle top	50 °
Reading angle bottom	70 °

Computer data

Processor	Arm9™ i.MX28, 454 MHz
Operating system	Windows® CE 6.0
User software	Visu+
RAM	128 MB DDR2 SDRAM
Mass storage	Flash, 512 MB
Network	1 x Ethernet (10/100 Mbps), RJ45
Interfaces	2x COM (RS-232/422/485)
	1x USB 2.0, Typ A
	1x USB 2.0, Typ B
Bus system	without
Slots	1x SD

General

Housing material	Plastic
Mounting type	Front installation
Weight	400 g

Ambient conditions

Degree of protection	IP66 (on the front), IP20 (on the back)
Ambient temperature (operation)	0 °C ... 50 °C
Ambient temperature (storage/transport)	-20 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)
Vibration (operation)	DIN EN 60068-2-6
Shock	DIN EN 60068-2-27

Device supply

Typical current consumption	0.4 A
Power supply unit	24 V DC ±15 %

Standards and Regulations

Shock	DIN EN 60068-2-27
Vibration (operation)	DIN EN 60068-2-6

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
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Touch panel - BTP 2070W - 1046666

Approvals

Approvals

Approvals

EAC

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approval details

EAC		RU C- DE.A*08.B01708
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Accessories

Accessories

Data plug

D-SUB gender changer - VS-09-GC-ST/ST - 1652651



D-SUB contact insert, shell size 1, with nine signal contacts, type of contact pin, gender changer, fixing with 4-40 UNC thread

Operating stylus

Touch pen - TOUCH PEN - 2701379



Touch pen for analog-resistive HMI, silver coated. Delivery includes self-adhesive pen holder.

PCB plug

Touch panel - BTP 2070W - 1046666

Accessories

Printed-circuit board connector - MSTB 2,5/ 3-STF-5,08 - 1777992



PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm², number of positions: 3, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin

Storage medium

USB memory stick - USB FLASH DRIVE - 2402809



USB memory stick, 8 GB

Disk drive - MICROSDHC-16GB - 1154696



Industrial grade 16 GB MicroSDHC 3DTLC

Disk drive - MICROSDHC-32GB - 1154699



Industrial grade 32 GB MicroSDHC 3DTLC

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Debitmetru electromagnetic MAG5100W

Descriere generala

SITRANS FM MAG 5100 W este un debitmetru electromagnetic construit special pentru aplicatii pe apa : potabila, reziduala, uzata, precum si pe aplicatii unde intervine namolul.

Beneficii:

- Diametre : DN 15 - DN1200/2000.
- Conexiune cu flansa conform EN 1092-1 (DIN 2501), ANSI, AWWA, AS si JIS;
- Liner din cauciuc dur NBR si ebonita pentru toate aplicatiile pe apa ;
- Liner din EPDM pentru aplicatii cu apa potabila ;
- Electrozi de masura si impamantare integrati realizati din hastelloy ;
- Precizie crescuta la debit scazut, datorita design-ului (DN 15 - DN300 mm);
- Aprobari pentru apa potabila ;
- Poate fi ingropat sau inundat ;
- Aprobare pentru tranzactii fiscale ;
- Constructie in conformitate cu ISO 13359 ; standardul incluzand diametre pana la DN400 ;
- Punere in functiune facila, valorile de calibrare si setarile fiind incarcate automat in SENSORPROM ;
- Proiectat astfel incat sa se efectueze verificarea in-situ, utilizandu-se amprenta SENSORPROM-ului ;
- Optiunea Custody Transfer pentru tranzactii fiscale, conform OIML R 49 si verificata conform MI-001
- Indeplineste directivele EEC: PED, directiva 97/23/EC pentru flanse EN1092-1
- Upgrade simplu in fabrica sau la locul de functionare a unui senzor standard la IP68/NEMA 6P.



Aplicatii

Principalele aplicatii ale senzorilor MAG5100W sunt :

- Captarea apei;
- Tratarea apei
- Rețele de distributie a apei (managementul detectiei scurgerilor) ;
- Masurari pentru tranzactii fiscale;
- Irigatii ;
- Tratarea apelor uzate;
- Instalatia de filtrare a apei (de ex. osmoza inversa si ultrafiltrare) ;
- Aplicatii de apa industrială.

Modul de operare

Principiul de masurare al debitului este bazat pe legea inductiei electromagnetice a lui Faraday conform careia senzorul converteste debitul intr-o tensiune electrica proportionala cu viteza acestuia.

Integrarea

Debitmetrul este alcatuit dintr-un senzor de debit si un transmiter SITRANS F M MAG 5000, MAG 6000 sau MAG 6000 I.

Conceptul de comunicatie flexibila USM II simplifica integrarea si updatarea la o gama larga de sisteme, de exemplu, HART, DeviceNet, PROFIBUS DP si PA, FOUNDATION Fieldbus H1, Modbus RTU/RS 485.

Specificatii tehnice

Caracteristici produs	MAG 5100 W (7ME6520)
Liner	EPDM sau NBR – in principal pentru piata europeana Ebonita – in principal pentru pietre non-europene
Dimensiunea nominala si design-ul	Senzor conic (DN15...300) Senzor integral (DN350...1200)
Principiu de masurare Frecventa de excitatie (reteaua de alimentare - 50/60 Hz)	Inductie electromagnetica DN 15 ... 65 (½" ... 2½"): 12.5 Hz/15 Hz DN 80 ... 150 (3" ... 6"): 6.25 Hz/7.5 Hz DN 200 ... 300 (8" ... 12"): 3.125 Hz/3.75 Hz DN 350...1200 (14"...48"): 1.5625 Hz/1.875 Hz
Conectarea la proces Cu flansa EN 1092-1 ANSI B16.5 AWWA C-207 AS4087	PN 10 (145 psi) : DN 200 ... 300 (8" ... 12") Flansa neteda PN 10 (145 psi): DN 350 ... 1200 (14" ... 48") Flansa cu umar PN 16 (232 psi): DN 50 ... 300 (2" ... 12") Flansa neteda PN 16 (232 psi): DN 350 ... 1200 (14" ... 48") Flansa cu umar PN 40 (580 psi): DN 15 ... 40 (½" ... 1½") Flansa neteda Class 150: ½" ... 12" fata neteda; 14" ... 24" raised face Class D: 28" ... 48", fata neteda PN 16 (DN 50 ... 1200), (2" ... 48") 16 bar (232 psi)
Conditii de functionare Temperatura ambientala Senzor Cu transmitter MAG 5000/6000 montaj compact Presiune de lucru (Abs) [abs. bar] (scade odata cu cresterea temperaturii de lucru)	-40 ... +70 °C -20 ... +60 °C DN 15 ... 40 (½" ... 1½") : 0.01 ... 40 bar DN 50 ... 300 (2" ... 12") : 0.03 ... 20 bar DN 350 ... 1200 (14" ... 48") : 0.01 ... 16 bar
Grad protectie Standard Optional	IP67 to EN 60529/NEMA 4X/6 (1 mH2O pentru 30 min) IP68 to EN 60529/NEMA 6P (10 mH2O continuu)
Caderea de presiune	DN 15 and 25 (½" and 1") : Max. 20 mbar la 1 m/s.

	DN 40 ... 300 (1½" ... 12"): Max 25 mbar la 3 m/s DN 350 ... 1200 (14" ... 48"): nesemnificativ
Presiune de test	1.5 x PN (acolo unde este cazul) FM Fire Service: 2 x PN
Sarcina mecanica (vibratii)	18 ... 1000 Hz aleator in orice directive x,y,z, timp de 2 ore conform EN 60068-2-36 Senzor: 3,17 grms Senzor cu transmitter MAG 5000/6000 montaj compact : 3.17 grms Senzor cu transmitter Mag 6000 I montaj compact : 1.14 grms
Conditii mediu Temperatura mediu masura NBR EPDM EPDM/NBR (MI-001)	 -10 ... +70 °C -10 ... +70 °C 0.1 ... 30 °C
EMC	2004/108/EC
Design Material Carcasa si flanse Teava de masura Electrod Electrod impamantare Cutia de borne	 Otel carbon, acoperit anticoroziune cu vopsea epoxidica (min. 150 µm) Categoria coroziva C4, conform ISO 12944-2 Inox AISI 304/1.4301 Hastelloy C Hastelloy C Fibra de sticla armata cu poliamida
Certificari si autorizatii Calibrare Calibrare standard Tranzactii fiscale (doar impreuna cu MAG 6000 CT) Aprobari pentru apa potabila	 punctul de zero, 2 x 25 % si 2 x 90 % aprobare OIML R 49 pentru apa rece : DN 50 ... 300 (2" ... 12") Apa rece MI-001 (EU): DN 50 ... 300 (2" ... 12") PTB K7.2: Masurarea apei reci DN 50-300 (comanda speciala) Liner EPDM WRAS (WRc, BS6920 apa rece, GB) ACS (F), DVGW W270 (D) Belgaqua (B)
Alte aprobari	MCERTS Conform PED: toate flansele EN1092-1 clasa ANSI 150 (< DN 300 (<12")) – 97/23/EC4) CRN (DN 50 - DN 1200 (2" ... 48")) CSA Clasa I, Div 2

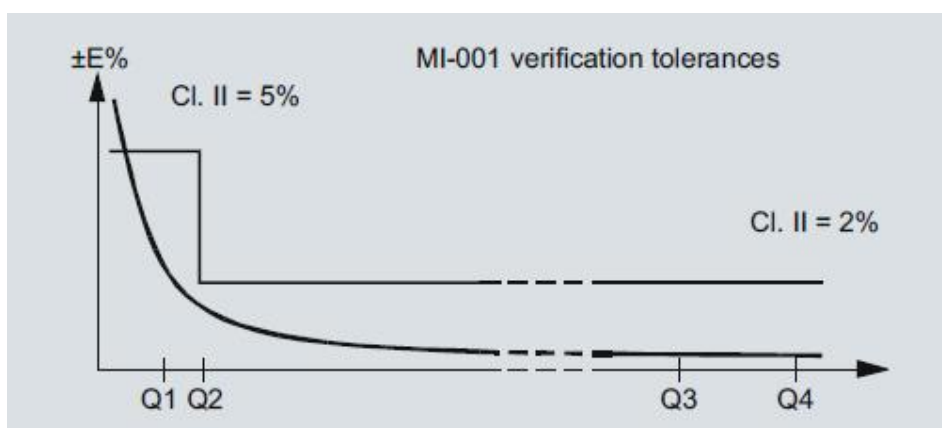
MAG 5100 W (7ME6520) cu MAG 6000 CT MI-001

Programul MAG 5100 W CT este aprobat conform standardului de masurare a apei reci OIML R 49. Incepand cu 01.11.2006 directiva de masurare a apei este aprobata, ceea ce inseamna ca toate echipamentele de masurare a apei pot fi vandute in UE daca au eticheta MI-001.

Produsele MAG 5100 W MI-001 cu diametrele DN50...300 verificate si etichetate au aprobare Clasa II conform directivei 2004/22.EC al Parlamentului European si a Consiliului European din 31.03.2004 al referitoare la instrumentele de masurare (MID), Anexa MI-001. Certificarea MID este obtinuta ca un modul de aprobare B+D conform directivei mentionate mai sus.

Modulul B: Omologare de tip conform OIML R 49

Module : Aprobare pentru asigurarea calitatii pentru productie.



Produse MAG5100W MI-001 verificate si etichetate la un Q3 dat si $Q3/Q4=1.25$ si $Q2/Q1=1.6$

Order code: P11	DN 50 (2")	DN 65 (2½")	DN 80 (3")	DN 100 (4")	DN 125 (5")	DN 150 (6")	DN 200 (8")	DN 250 (10")	DN 300 (12")
JR Q3/Q1	25	25	25	25	25	25	25	25	25
Q4 [m³/h]	20	31.25	60	78.75	125	200	312.5	500	787.5
Q3 [m³/h]	16	25	40	63	100	160	250	400	630
Q2 [m³/h]	1.02	1.6	2.6	4.03	6.4	10.24	16	25.6	40.32
Q1 [m³/h]	0.64	1.00	1.60	2.52	4.0	6.4	10.0	16.0	25.2

Order code: P12	DN 50 (2")	DN 65 (2½")	DN 80 (3")	DN 100 (4")	DN 125 (5")	DN 150 (6")	DN 200 (8")	DN 250 (10")	DN 300 (12")
JR Q3/Q1	63	63	63	63	63	63	63	63	63
Q4 [m³/h]	20	31.25	60	78.75	125	200	312.5	500	787.5
Q3 [m³/h]	16	25	40	63	100	160	250	400	630
Q2 [m³/h]	0.41	0.63	1.02	1.6	2.54	4.06	6.35	10.2	16.0
Q1 [m³/h]	0.25	0.40	0.63	1.00	1.59	2.54	3.97	6.35	10.0

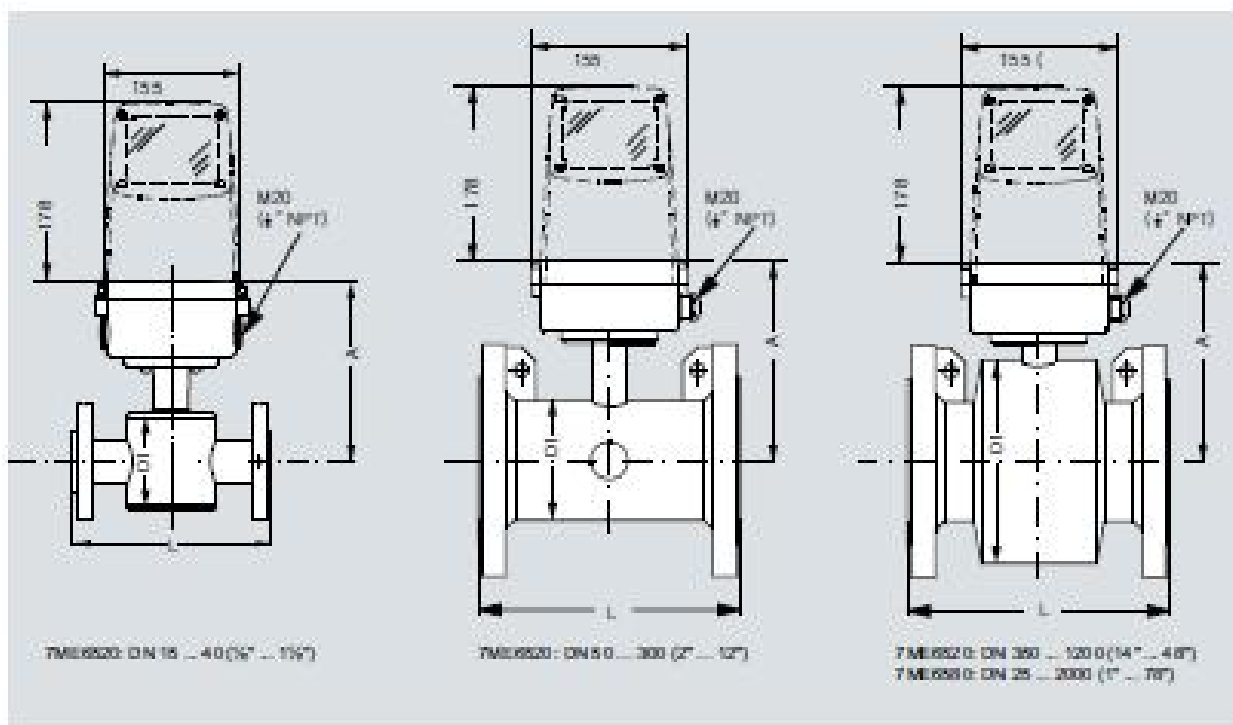
Order code: P13	DN 50 (2")	DN 65 (2½")	DN 80 (3")	DN 100 (4")	DN 125 (5")	DN 150 (6")	DN 200 (8")	DN 250 (10")	DN 300 (12")
JR Q3/Q1	80	80	80	80	80	80	80	80	80
Q4 [m³/h]	20	31.25	60	78.75	125	200	312.5	500	787.5
Q3 [m³/h]	16	25	40	63	100	160	250	400	630
Q2 [m³/h]	0.32	0.50	0.80	1.20	2.00	3.20	5.0	8.0	12.8
Q1 [m³/h]	0.20	0.31	0.50	0.75	1.25	2.00	3.13	5.0	7.90

Order code: P16	DN 50 (2")	DN 65 (2½")	DN 80 (3")	DN 100 (4")	DN 125 (5")	DN 150 (6")	DN 200 (8")	DN 250 (10")	DN 300 (12")
JR Q3/Q1	160	160	160	160	160	160	160	160	160
Q4 [m³/h]	60	78.75	125	200	312.5	500	787.5	1250	2000
Q3 [m³/h]	40	63	100	160	250	400	630	1000	1600
Q2 [m³/h]	0.40	0.63	1.00	1.60	2.50	4.00	6.3	10.0	16.0
Q1 [m³/h]	0.25	0.39	0.63	1.00	1.56	2.50	3.94	6.3	10.0

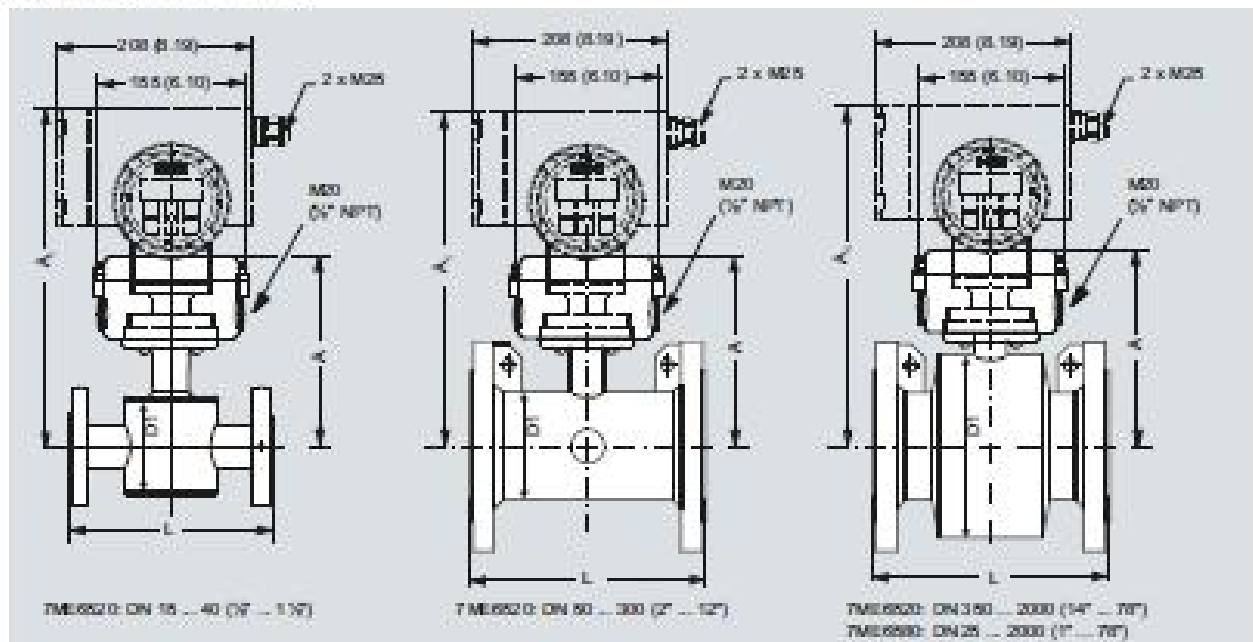
Order code: P17	DN 50 (2")	DN 65 (2½")	DN 80 (3")	DN 100 (4")	DN 125 (5")	DN 150 (6")	DN 200 (8")	DN 250 (10")	DN 300 (12")
JR Q3/Q1	200	200	200	200	200	200	200	200	200
Q4 [m³/h]	60	78.75	125	200	312.5	500	787.5	1250	2000
Q3 [m³/h]	40	63	100	160	250	400	630	1000	1600
Q2 [m³/h]	0.32	0.50	0.80	1.28	2.00	3.20	5.0	8.0	12.8
Q1 [m³/h]	0.20	0.32	0.50	0.80	1.25	2.00	3.15	5.0	8.0

Order code: P18	DN 50 (2")	DN 65 (2½")	DN 80 (3")	DN 100 (4")	DN 125 (5")	DN 150 (6")	DN 200 (8")	DN 250 (10")	DN 300 (12")
JR Q3/Q1	250	250	250	250	250	250	250	250	250
Q4 [m³/h]	60	78.75	125	200	312.5	500	787.5	1250	2000
Q3 [m³/h]	40	63	100	160	250	400	630	1000	1600
Q2 [m³/h]	0.26	0.40	0.64	1.02	1.60	2.56	4.0	6.4	10.24
Q1 [m³/h]	0.16	0.25	0.40	0.64	1.00	1.60	2.52	4.0	6.4

Dimensiuni de gabarit



7ME5520 NBR or EPDM liner						7ME5520 Ebonite liner					
Nominal size	A	D1		A		D1		L			
[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]	[mm] [inch]
15 1/2	177	7.0	77	3.0	-	-	104	4.09	200	7.9	-
25 1	187	7.4	95	3.8	187	7.4	104	4.09	200	7.9	-
40 1 1/2	202	8.0	127	5.0	197	7.8	124	4.88	200	7.9	-
50 2	188	7.4	76	3.0	205	8.1	130	5.12	200	7.9	-
65 2 1/2	194	7.6	89	3.5	212	8.3	154	6.06	200	7.9	-
80 3	200	7.9	102	4.0	222	8.7	174	6.85	200	7.9	-
100 4	207	8.1	114	4.5	242	9.5	214	8.43	250	9.8	-
125 5	217	8.5	140	5.5	255	10.0	239	9.41	250	9.8	-
150 6	232	9.1	168	6.6	276	10.9	262	11.1	300	11.8	-
200 8	257	10.1	219	8.6	304	12.0	338	13.31	350	13.8	-
250 10	284	11.2	273	10.8	332	13.1	369	15.47	450	17.7	-
300 12	310	12.2	324	12.8	357	14.1	444	17.76	500	19.7	-
350 14	382	15.0	451	17.8	362	14.3	502	19.76	550	21.7	-
400 16	407	16.0	502	19.8	387	15.2	563	22.16	600	23.6	-
450 18	438	17.2	563	22.2	418	16.5	614	24.17	600	23.6	-
500 20	463	18.2	614	24.2	443	17.4	715	28.15	600	23.6	-
600 24	514	20.2	715	28.2	494	19.4	816	32.13	600	23.6	-
700 28	564	22.2	816	32.1	544	21.4	869	34.21	700	27.6	-
750 30	591	23.3	869	34.2	571	22.5	927	36.5	750	29.5	-
800 32	616	24.3	927	36.5	606	23.9	1032	40.63	800	31.5	-
900 36	663	26.1	1032	40.6	653	25.7	1136	44.72	900	36.4	-
1000 40	714	28.1	1136	44.7	704	27.7	1136	44.72	1000	39.4	-
1100 42	714	28.1	1136	44.7	704	27.7	1238	48.74	1000	39.4	-
1200 48	766	30.1	1238	48.7	755	29.7	1348	53.07	1100	43.3	-
1300 48	820	32.3	1348	53.1	810	31.9	1576	62.94	1200	47.2	-
1400 54	-	-	-	-	925	36.4	1672	66.23	1400	55.1	-
1500 60	-	-	-	-	972	38.2	1915	75.39	1500	59.1	-
1600 66	-	-	-	-	1025	40.4	1974	77.72	1600	63	-
1800 72	-	-	-	-	1123	44.2	2174	85.59	1800	70.9	-
2000 78	-	-	-	-	1223	48.1	-	-	2000	78.7	-



7ME5520 NBR or EPDM liner								7ME5580 Ebonite liner							
Nominal size		A		A1		D1		A		A1		D1		L	
[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]
15	1/2	177	7.0	331	13.0	77	3.0	-	-	341	13.4	104	4.09	200	7.9
25	1	187	7.4	341	13.4	96	3.8	187	7.4	351	13.8	104	4.09	200	7.9
40	1 1/2	202	8.0	356	14.0	127	5.0	197	7.8	359	14.1	124	4.88	200	7.9
50	2	188	7.4	342	13.5	76	3.0	205	8.1	366	14.4	139	5.47	200	7.9
65	2 1/2	194	7.6	348	13.7	89	3.5	212	8.3	376	14.8	154	6.06	200	7.9
80	3	200	7.9	354	14.0	102	4.0	222	8.7	396	15.6	174	6.85	200	7.9
100	4	207	8.1	361	14.2	114	4.5	242	9.5	409	16.1	214	8.43	250	9.8
125	5	217	8.5	371	14.6	140	5.5	255	10.0	430	16.9	239	9.41	250	9.8
150	6	232	9.1	386	15.2	168	6.6	276	10.9	458	18.0	282	11.1	300	11.8
200	8	257	10.1	411	16.2	219	8.6	304	12.0	486	19.1	338	13.31	350	13.8
250	10	264	11.2	438	17.2	273	10.8	332	13.1	511	20.1	393	15.47	450	17.7
300	12	310	12.2	454	18.3	324	12.8	357	14.1	516	20.3	444	17.76	500	19.7
350	14	382	15.0	536	21.1	451	17.8	362	14.3	541	21.3	502	19.76	550	21.7
400	16	407	16.0	561	22.1	502	19.8	387	15.2	572	22.5	563	22.16	600	23.6
450	18	438	17.2	592	23.3	563	22.2	418	16.5	597	23.5	614	24.17	600	23.6
500	20	463	18.2	617	24.3	614	24.2	443	17.4	648	25.5	715	28.15	600	23.6
600	24	514	20.2	668	26.3	715	28.2	494	19.4	698	27.5	815	32.13	600	23.6
700	28	564	22.2	718	28.3	816	32.1	544	21.4	725	28.5	869	34.21	700	27.6
750	30	591	23.3	745	29.3	869	34.2	571	22.5	750	29.9	927	36.5	750	29.5
800	32	616	24.3	770	30.3	927	36.5	606	23.9	807	31.8	1032	40.63	800	31.5
900	36	663	26.1	817	32.2	1032	40.6	653	25.7	858	33.8	1136	44.72	900	35.4
1000	40	714	28.1	868	34.2	1136	44.7	704	27.7	858	33.8	1136	44.72	1000	39.4
42	714	28.1	868	34.2	1136	44.7	704	27.7	904	35.6	1238	48.74	1000	39.4	
44	755	30.1	919	36.2	1238	48.7	755	29.7	964	38.0	1348	53.07	1100	43.3	
1200	48	820	32.3	974	38.3	1348	53.1	810	31.9	1079	42.5	1675	66.34	1200	47.2
1400	54	-	-	-	-	-	-	925	36.4	1126	44.3	1672	66.83	1400	55.1
1500	60	-	-	-	-	-	-	972	38.2	1179	46.4	1915	75.39	1500	59.1
1600	66	-	-	-	-	-	-	1025	40.4	1277	50.3	1974	77.72	1600	63.0
1800	72	-	-	-	-	-	-	1123	44.2	1377	54.2	2174	85.59	1800	70.9
2000	78	-	-	-	-	-	-	1223	48.1	-	-	-	-	2000	78.7

Greutate

[illegible]