

# SPECIFICATIE TEHNICA/DATA SHEET

## TRADUCTOR DE NIVEL RADAR CU GHID DE UNDA

## GUIDED WAVE RADAR LEVEL TRANSMITTERS

|                                                                                     |                                         |                                                                              |                      |                             |                    |
|-------------------------------------------------------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|----------------------|-----------------------------|--------------------|
| 02                                                                                  |                                         |                                                                              |                      |                             |                    |
| 01                                                                                  | Emis pentru executie                    | 14.12.2021                                                                   | Trifan O.            | Mircia R.                   | Danilov B          |
| 00                                                                                  | Emis pentru comentarii                  | 02.12.2021                                                                   | Trifan O.            | Mircia R.                   | Danilov B          |
| Rev/<br>Rev.                                                                        | Denumireamodificarii/Change description | Data/Date                                                                    | Pr Spec / Consultant | Verificat/Checked           | Aprobat / Approved |
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|                                                                                     |                                         | Nr. proiect / Project no.                                                    |                      | Nr. Document / Document no. |                    |
|                                                                                     |                                         | 10232020                                                                     |                      | RNG-ST-16-301               |                    |
|                                                                                     |                                         |                                                                              |                      | 01                          |                    |
| Scara/Scale                                                                         |                                         | Denumire document/Document name                                              |                      |                             |                    |
| -                                                                                   |                                         | SpecificatieTehnica – Traductor de nivel radar GWR                           |                      |                             |                    |
| Pag1/3                                                                              |                                         |                                                                              |                      |                             |                    |

| GENERAL/GENERALITIES                                  |                                                        |  |                                          |        |                                  |     |                       |  |  |  |  |  |
|-------------------------------------------------------|--------------------------------------------------------|--|------------------------------------------|--------|----------------------------------|-----|-----------------------|--|--|--|--|--|
| 1.                                                    | Simbol instrument/ Tag number                          |  |                                          |        | LT-301 note 4                    |     |                       |  |  |  |  |  |
| 2.                                                    | Numar P&ID /P&ID number                                |  |                                          |        | N/A                              |     |                       |  |  |  |  |  |
| 3.                                                    | Tag echipament/ Equipment number                       |  |                                          |        | Rezervor PSI                     |     |                       |  |  |  |  |  |
| 4.                                                    | Destinatie/Service                                     |  |                                          |        | Indicare nivel/Level indication  |     |                       |  |  |  |  |  |
| 5.                                                    | Clasificare zona pericol/Hazardous area classification |  |                                          |        | N/A                              |     |                       |  |  |  |  |  |
| PARAMETRI PROCES/PROCESS CONDITION                    |                                                        |  |                                          |        |                                  |     |                       |  |  |  |  |  |
| 6.                                                    | Fluid/Fluid                                            |  |                                          |        | Apa/Water                        |     |                       |  |  |  |  |  |
| 7.                                                    | Compusi corozivi/ Corrosive compounds                  |  |                                          |        | N/A                              |     |                       |  |  |  |  |  |
| 8.                                                    | Operating pressure barg                                |  | Min.                                     | Normal | Max.                             | atm |                       |  |  |  |  |  |
| 9.                                                    | Operating temp °C                                      |  | Min.                                     | Normal | Max.                             | 5   |                       |  |  |  |  |  |
| 10.                                                   | Fluid partea superioara/Upper fluid                    |  | Fluid partea inferioara/Lower fluid      |        | Aer                              |     | Apa PSI               |  |  |  |  |  |
| 11.                                                   | Densitate partea superioara/Upper SG @ T               |  | Densitate partea inferioara/Lower SG @ T |        | -                                |     | 1000kg/m <sup>3</sup> |  |  |  |  |  |
| 12.                                                   | Constanta dielectrica Fluid 1/DK Fluid 1               |  | Constanta dielectrica Fluid 2/DK Fluid 2 |        | -                                |     | 81                    |  |  |  |  |  |
| 13.                                                   | Vascozitate Fluid 1/ Viscosity Fluid 1                 |  | Vascozitate Fluid 2/ Viscosity Fluid 2   |        | -                                |     | 1 cP                  |  |  |  |  |  |
| 14.                                                   | Temperatura ambientala /Ambient temp °C                |  |                                          |        | -29,5 °C ÷ +42,2 °C              |     |                       |  |  |  |  |  |
| APARAT/ELEMENT                                        |                                                        |  |                                          |        |                                  |     |                       |  |  |  |  |  |
| 15.                                                   | Tip sonda/Probe type                                   |  |                                          |        | Flexible single lead, Note 9, 10 |     |                       |  |  |  |  |  |
| 16.                                                   | Lungime sonda /Probe length                            |  |                                          |        | 7700 mm                          |     |                       |  |  |  |  |  |
| 17.                                                   | Material sonda/Probe material                          |  |                                          |        | 316 SST                          |     |                       |  |  |  |  |  |
| 18.                                                   | Domeniu masura/ Measuring range                        |  |                                          |        | 0 ÷ 7500mm                       |     |                       |  |  |  |  |  |
| 19.                                                   | Rezolutie, mm                                          |  |                                          |        | ≤ ±2mm                           |     |                       |  |  |  |  |  |
| 20.                                                   | Montaj in tub protector/ Mounting on cage              |  |                                          |        | N/A                              |     |                       |  |  |  |  |  |
| 21.                                                   | Precizie/Accuracy                                      |  |                                          |        | 0.5%                             |     |                       |  |  |  |  |  |
| 22.                                                   | Material carcasa/ Enclosure material                   |  |                                          |        | Coated aluminum                  |     |                       |  |  |  |  |  |
| 23.                                                   | Protectie climatica/ Ingress protection                |  |                                          |        | IP 65                            |     |                       |  |  |  |  |  |
| TUB PROTECTIE/BODY-CAGE                               |                                                        |  |                                          |        |                                  |     |                       |  |  |  |  |  |
| 24.                                                   | Tip tub protectie/ Body/cage type                      |  |                                          |        | Cageless top mounted             |     |                       |  |  |  |  |  |
| 25.                                                   | Racord proces/ Process connection size                 |  |                                          |        | DN 100                           |     |                       |  |  |  |  |  |
| 26.                                                   | Presiune nominala/Rating                               |  |                                          |        | PN 16                            |     |                       |  |  |  |  |  |
| 27.                                                   | Tip racord proces/Proc. conn. termn. type              |  |                                          |        | VTA                              |     |                       |  |  |  |  |  |
| 28.                                                   | Tip etansare/Flange style                              |  |                                          |        | RF (type B1)                     |     |                       |  |  |  |  |  |
| 29.                                                   | Racord vent/drain/ Vent/drain conn term. type          |  |                                          |        | N/A                              |     |                       |  |  |  |  |  |
| 30.                                                   | Material tub protectie/Body/cage material              |  |                                          |        | N/A                              |     |                       |  |  |  |  |  |
| ROBINETI IZOLARE TUB PROTECTIE/ CAGE ISOLATION VALVES |                                                        |  |                                          |        |                                  |     |                       |  |  |  |  |  |
| 31.                                                   |                                                        |  |                                          |        | Upper                            |     | Lower                 |  |  |  |  |  |
| 32.                                                   | Tip si dimensiune robinet/Valve type and size          |  |                                          |        | N/A                              |     | N/A                   |  |  |  |  |  |
| 33.                                                   | Racord si tip etansare/Valve conn. type and style      |  |                                          |        | N/A                              |     | N/A                   |  |  |  |  |  |
| 34.                                                   | Rating robinet/ Valve rating                           |  |                                          |        | N/A                              |     | N/A                   |  |  |  |  |  |
| 35.                                                   | Robinet drenaj/aerisire/ Drain /vent valves            |  |                                          |        | DRAIN                            |     | VENT                  |  |  |  |  |  |
| 36.                                                   | Tip si dimensiune robinet/Valve type and size          |  |                                          |        | N/A                              |     | N/A                   |  |  |  |  |  |
| 37.                                                   | Racord si tip etansare/Valve conn. type and style      |  |                                          |        |                                  |     |                       |  |  |  |  |  |
| 38.                                                   | Rating robinet/ Valve rating                           |  |                                          |        |                                  |     |                       |  |  |  |  |  |
| 39.                                                   | Material corp robineti/ Valves body material           |  |                                          |        |                                  |     |                       |  |  |  |  |  |
| TRADUCTOR/TRANSMITTER                                 |                                                        |  |                                          |        |                                  |     |                       |  |  |  |  |  |
| 40.                                                   | Semnal iesire/Output signal                            |  |                                          |        | 4-20 mA                          |     |                       |  |  |  |  |  |
| 41.                                                   | Protocol Smart/Smart protocol                          |  |                                          |        | HART protocol                    |     |                       |  |  |  |  |  |
| 42.                                                   | Afisaj integrat/ Integral indicator                    |  |                                          |        | Blind                            |     |                       |  |  |  |  |  |
| 43.                                                   | Alimentare/ Power supply                               |  |                                          |        | 24 V d.c. – Loop powered         |     |                       |  |  |  |  |  |
| 44.                                                   | Material carcasa/Enclosure material                    |  |                                          |        | Epoxy coated aluminium           |     |                       |  |  |  |  |  |
| 45.                                                   | Presetupa/Enclosure cable entry                        |  |                                          |        | Cable gland M20 x 1.5 Note 8     |     |                       |  |  |  |  |  |
| 46.                                                   | Categorie ATEX/EPL/ ATEX category /EPL                 |  |                                          |        | N/A                              |     |                       |  |  |  |  |  |
| 47.                                                   | Tip protectie/ Type of protection                      |  |                                          |        | N/A                              |     |                       |  |  |  |  |  |
| 48.                                                   | Loc montaj/ Mounting location                          |  |                                          |        | Integral mounted                 |     |                       |  |  |  |  |  |
| ALTELE/OTHERS                                         |                                                        |  |                                          |        |                                  |     |                       |  |  |  |  |  |
| 49.                                                   | Protectie intemperii/Winterization                     |  |                                          |        | VTA Note 5                       |     |                       |  |  |  |  |  |
| 50.                                                   | Parasolar/Sunshade                                     |  |                                          |        | VTA Note 5                       |     |                       |  |  |  |  |  |
| 51.                                                   | Unitate de control si alarme/ Control and alarms unit  |  |                                          |        | Necesar/Required Nota 11         |     |                       |  |  |  |  |  |
| 52.                                                   | Inaltime rezervor-inaltime stut/ Tank high-nozzle high |  |                                          |        | 7500/200mm                       |     |                       |  |  |  |  |  |

**Note:**

1. Lista compusi corozivi:

2. Furnizorul va asigura: Manual de instalare, operare si mentenanta in romana si engleza, Specificatie tehnica, Certificat ATEX, placuta inox cu simbolul instrumentului si care va cuprinde minim: Tag. Nr./Dimensiune/PN/Material/Producator/Model nr./Certificat ATEX nr, etc.

3. Furnizorul va recomanda piesele de schimb necesare pentru functionarea optima a echipamentelor si va oferi informatii privind service-ul autorizat.

4. Aceasta specificatie tehnica are rol informativ, nu este intocmita pentru procurare si se va verifica la faza de detaliu de executie. Traductorul de nivel se va procura numai dupa verificarea compatibilitatii cu executia vasului.

5. Producatorul va confirma ca instrumentele sunt evaluate pentru a rezista conditiilor ambientale de mediu si luminii directe a soarelui. Parasolarul va fi prevazut la recomandarea producatorului.

6. Instrumentele vor fi marcate CE

7. Documente de insotire a instrumentelor:

- Declaration of Conformity in accordance with European Directive ATEX 2014/34/EU (Equipment and Protective Systems for use in Potentially Explosive Atmospheres);

- Declaration of Conformity in accordance with European Directive (EMC) 2014/30/EU (Electromagnetic Compatibility of Equipment);

- Traceability Certificate for Materials as per EN 10204 -3.1;

- Declaration of Conformity in accordance with Pressure European Directive (PED) 2014/68/EU

- Calibration Certificate;

- Functional Tests Certificates

- Hydrostatic Test Certificate;

- Weld Examination Inspection Certificate (if applicable) .

8. Instrumentul va fi echipat cu o presetupa de cablu adecvată pentru tipul de protecție selectat.

9. Furnizorul va propune o metoda potrivita pentru ancorarea tijei senzorului considerand ca nu este posibila sudarea in interiorul rezervorului.

10. Furnizorul va confirma ca tipul de tija selectata este cea mai potrivita pentru aplicatia data.

11. Unitate de control si afisare grafica nivel pe display color pentru 4 intrari (2xAI, 2xDI), dotata cu modul de comunicare seriala, modul de putere cu 8 iesiri de releu programabile, elemente de avertizare optica si acustica (hupa, far avertizor), elemente de interconectare (cabluri). Software de comanda integrat. Alimentare: Un = 230Vca/50Hz. Se monteaza in zona sigura, non-Ex. Unitatea de control va prelua semnale de la traductorul de nivel si de la doua semnalizatoare de nivel digitale si va comanda oprirea pompelor de incendiu la nivel minim-minimorum si maxim maximorum de apa in rezervorul PSI.

VTa- Data ce va fi furnizata/confirmata de vanzator.

| Proiectnr/Project no. | Nr. document/Document no. | Denumire document / Document name               | Rev/Rev. |
|-----------------------|---------------------------|-------------------------------------------------|----------|
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