



SLOVENSKI STANDARD

SIST EN 12324-4:2000

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Namakalna tehnika - Bobenski namakalniki - 4. del: Vprašalna pola za zahteve uporabnika

Irrigation techniques - Reel machine systems - Part 4: Check list of users requirements

Bewässerungsverfahren - Beregnungsmaschinen mit Regnereinzug - Teil 4: Unterlagen des Benutzers

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Techniques d'irrigation - Installations avec entrouleurs - Partie 4: cahier des charges de l'utilisateur

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Ta slovenski standard je istoveten z: **EN 12324-4:1999**

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ICS:

65.060.35	Namakalna in drenažna oprema	Irrigation and drainage equipment
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EUROPEAN STANDARD

EN 12324-4

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 1999

ICS 65.060.35

English version

Irrigation techniques - Reel machine systems - Part 4: Check list of users requirements

Techniques d'irrigation - Installations avec enrouleurs -
Partie 4: Cahier des charges de l'utilisateur

Bewässerungsverfahren - Beregnungsmaschinen mit
Regnereinzug - Teil 4: Unterlagen des Benutzers

This European Standard was approved by CEN on 8 July 1999.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 334 "Irrigation techniques", the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2000, and conflicting national standards shall be withdrawn at the latest by February 2000.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Within its programme of work, Technical Committee CEN/TC 334 "Irrigation techniques" charged CEN/TC 334/WG 1 "Reel Machine Systems" to prepare the following standard :

- EN 12324-4, *Irrigation techniques - Reel machine systems - Part 4 : Check list of user requirements.*

The increasing trend of the number of reel machines used by farmers showed the necessity to produce a form to specify and to present the characteristics of these machines

The purpose of this standard is to facilitate the understanding between users and installators while implementing field irrigation systems based on reel machines.

It shows the technical and operational characteristics that the user requests from the irrigation system to be implemented, to facilitate the selection of equipment and the design of the system.

It shows the estimate form of the corresponding system.

The other standards concerning the irrigation techniques are :

- EN 12324-1, *Irrigation techniques - Reel machine systems - Part 1 : Size series.*
- EN 12324-2, *Irrigation techniques - Reel machine systems - Part 2 : Specifications of polyethylene tubes for reel machines.*
- EN 12324-3, *Irrigation techniques - Reel machine systems - Part 3 : Presentation of technical characteristics.*
- prEN ISO 8224-1, *Traveller irrigation machines - Part 1 : Laboratory and field test methods.*

1 Scope

This European Standard specifies the standard layouts of documents intended to guide the users while establishing programmes of equipment for field equipment featuring one or more reel-machine(s), and while reviewing estimates.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 12324-1, *Irrigation techniques - Reel machine systems - Part 1 : Size series.*

EN 12324-2, *Irrigation techniques - Reel machine systems - Part 2 : Specifications of polyethylene tubes for reel machines.*

EN 12324-3, *Irrigation techniques - Reel machine systems - Part 3 : Presentation of technical characteristics.*

prEN 12734, *Irrigation techniques - Quick coupling pipes for movable irrigation supply.*

3 Terms and definitions

For the purpose of the present European Standard, the terms and definitions of EN 12324-1, EN 12324-2 and prEN ISO 8224-1 and the following terms and definitions apply.

3.1

evapotranspiration

quantity of water transferred from the soil to the atmosphere by evaporation and plant transpiration. It is measured in mm/h or mm/day

3.2

potential evapotranspiration (*ET_{Ref}* or *ET₀*)

maximum quantity of water capable of being evaporated in a given climate, by a continuous expanse of grass vegetation covering the whole ground and well supplied with water. It includes **evaporation** from the soil and **transpiration** from the vegetation in a specific region during a 24 hours period, expressed as a depth of water

3.3

maximum evapotranspiration (*ET_M*)

maximum quantity of water capable of being evapotranspired in a given climate by a given crop well supplied with water

4 Units

In the present standard, units are :

- ha (hectare) for agricultural surface areas ;
- mm/cm (mm of water application depth per cm of soil), for available field capacity at different depths in the soil ;
- mm for total field capacity of an agricultural soil ;
- mm/h for infiltration rate of water into soil ;
- m for dimensions of mechanical parts ;
- mm for pipe and nozzle diameters ;

- m³/h for flow rates ;
- m/h for travelling rate of a water emitting system (travelling gun or boom) ;
- MPa for pressures ;
- kg for masses.

5 Program of equipment for an irrigation installation including a reel machine(s)

The programme of equipment is featuring the data, constraints and requirements, that the user has the responsibility to gather and present for the understanding of the plot to be equipped and the selection of the relevant necessary equipment.

The recommended presentation form is given in Annex A.

6 Estimate

The standard layout of the estimate is featuring data on system design, description of the technical characteristics of the system, and include the estimate presented by the installer.

The recommended presentation form is given in Annex B.

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Annex A (informative)

Recommended presentation form of the programme of equipment for an irrigation installation including a reel machine(s)

USER'S PROGRAMME OF EQUIPMENT

Standard presentation conforming to EN 12324-4.

The programme of equipment is established from the following data, constraints and requirements, that the user has the responsibility to gather and present for the understanding of the plot to be equipped and the selection of the relevant necessary equipment.

A.1 Plot situation

User :

Address :

Phone : Fax :

The user shall provide :

- a map with spot heights showing the entire farm ;
- a detailed land registry map of the plots to be irrigated with indication of the direction of crop lines, the delimitation of the drained zones with indication of flow direction, the location of water supply points either installed or to be installed, buildings, obstacles, height of electric lines (safety), areas where irrigation is to be prevented, and other design constraints.

A.2 Water resource

A.2.1 Nature

The farm water resource is :

- | | | |
|--|--|--|
| <input type="checkbox"/> collective irrigation network : | <input type="checkbox"/> individual water supply : | |
| <input type="checkbox"/> pressurised | <input type="checkbox"/> river or canal intake | |
| <input type="checkbox"/> open flow | <input type="checkbox"/> well or drill | |
| | <input type="checkbox"/> lake | |
| | <input type="checkbox"/> small dam reservoir | |
| | <input type="checkbox"/> other : | |

A.2.2 Availability**A.2.2.1 The water supply point already exists**

Parameters		Supply points		
		Point 1	Point 2	Point 3
Total Volume of Water Available (<i>TVWA</i>), m ³ <input type="checkbox"/> yearly <input type="checkbox"/> daily				
Available Supply Flow-rate (<i>ASFR</i>), m ³ /h				
Pressure (MPa)				
Water availability :	Continuously			
	Number of hours per day			
	Number of days per week			

A.2.2.2 The water supply point is to be installedTotal Volume of Water Available (*TVWA*) : m³Available Supply Flow-rate (*ASFR*) :m³/hLimitations in intake duration : free demand (no limitations) restricted to :hours/days, from h to h restricted todays/week, from(day) to (day)

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A.2.3 Water quality Clean Loaded : silt sand algae debris stones**A.3 Predominant type of soil**

Parameters	Supply points		
	Point 1	Point 2	Point 3
Usual name of soil type in the region			
Irrigation surface area, ha			
Root depth, cm			
Granulometry ^a			
Available field capacity, mm/cm			
Total Field Capacity (<i>F_c</i>), mm			
Infiltration rate, mm/h			
^a According to soil analysis.			