



**STANDARDIZATION**  
A FRAMEWORK  
FOR PROGRESS  
FOR ALL

**EUROPEAN AND INTERNATIONAL  
STANDARDIZATION ACTIVITIES**

**IRRIGATION EQUIPMENT**

AFNOR- EIA  
20 SEPT 2021

Bernadette RUETSCH  
01 41 62 88 87  
[Bernadette.ruetsch@afnor.org](mailto:Bernadette.ruetsch@afnor.org)

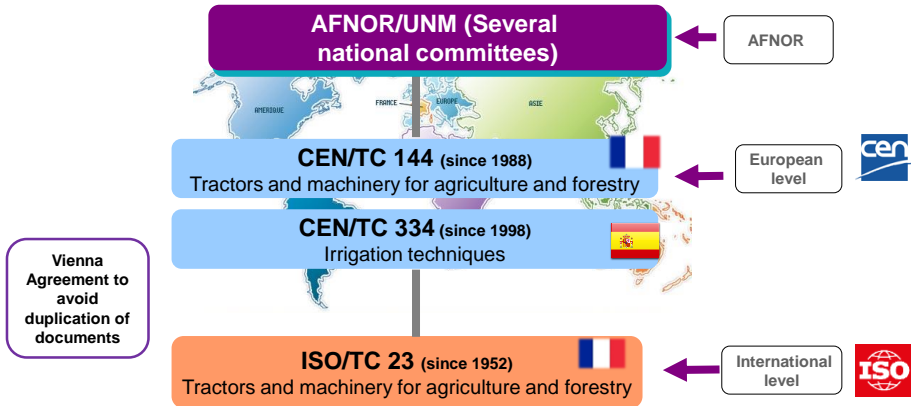
Aurélie THIEBAUD  
01 41 62 80 19  
[Aurélie.thiebaud@afnor.org](mailto:Aurélie.thiebaud@afnor.org)

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STANDARDIZATION

## IRRIGATION EQUIPMENT- STANDARDIZATION ACTIVITIES

- **Welcome and round table**
- **Standardization activities at CEN and ISO level**
- **Standards published and items under development**
- **Discussions**

## IRRIGATION EQUIPMENT- STANDARDIZATION ACTIVITIES

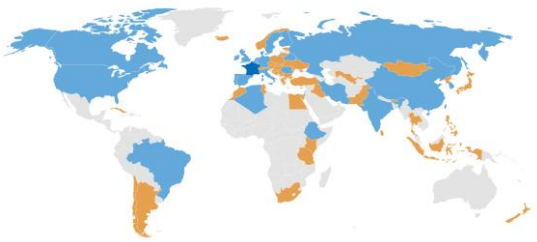


# ISO/TC 23 - TRACTORS AND MACHINERY FOR AGRICULTURE AND FORESTRY



## Scope

Standardization of tractors, machines, systems, implements and their equipment used in agriculture and forestry as well as gardening, landscaping, irrigation and other related areas in which such equipment is used, including electronic/electrical aspects and electronic identification as well as electronic identification of all categories of animals.



Chair and secretariat : France

11 Sub committees

2 Working groups

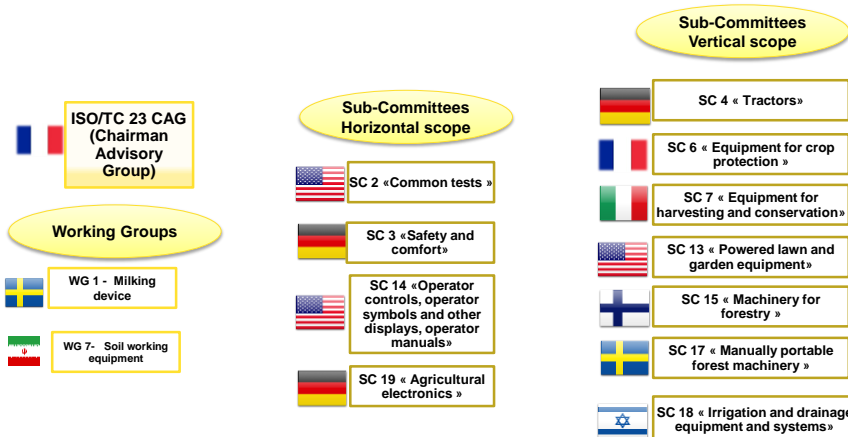
25 Participating members

40 Observing Members

Liaisons : CEMA, EC, IDF, OECD, SBS

386 Published ISO Standards  
80 standards under development

# ISO/TC 23 - TRACTORS AND MACHINERY FOR AGRICULTURE AND FORESTRY

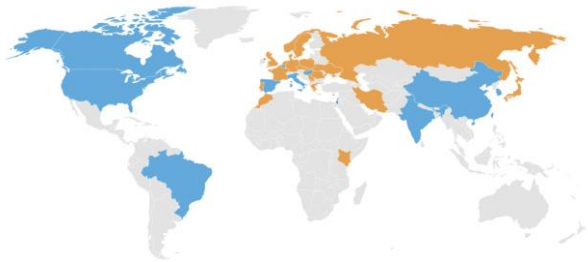


# ISO/TC 23/SC 18 - « IRRIGATION AND DRAINAGE EQUIPMENT AND SYSTEMS »



## Scope

Standardization of irrigation and drainage systems and equipment by elaboration of performance requirements, characteristics and test methods.



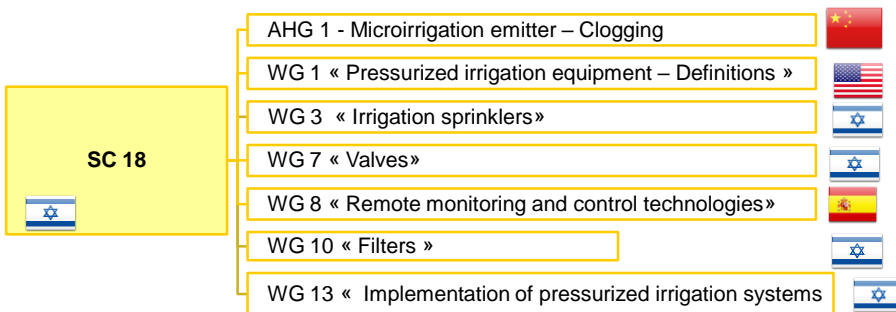
Chair and secretariat : Israel

11 Participating members  
 22 Observing Members  
 7 Working groups  
 Liaisons : CEMA, FAO, ICID

Belgium, Brazil, Canada, China, Hungary, India, Israel, Italy, Republic of Korea, Spain and United States

39 Published ISO Standards  
 11 standards under development

# ISO/TC 23/SC 18 - « IRRIGATION AND DRAINAGE EQUIPMENT AND SYSTEMS »



## WORK PROGRAM OF ISO/TC 23/SC 18

- **Standards published : 39** (list available: <https://www.iso.org/committee/47148/x/catalogue/p/1/u/0/w/0/d/0>)

Main items: standards on valves, filters for micro-irrigation, traveller irrigation machines, sprayers, sprinklers, chemigation...

- **Under development : 11** (list available: <https://www.iso.org/committee/47148/x/catalogue/p/0/u/1/w/0/d/0>)

Main items: remote monitoring and control, pressurized irrigation systems, Control heads, plastics valves

- **Under discussion**

Micro irrigation system for organic farming

## OTHER ISO ITEMS ABOUT IRRIGATION

- **In ISO/TC 23/SC 19 « Agricultural electronics »**
  - Preliminary work items : ISO 7673 (3 parts) about data exchange
- **In ISO/TC 282/SC 1 « Treated wastewater reuse for irrigation »**
  - ISO 16075 (6 parts) on Guidelines for treated wastewater use for irrigation projects
  - ISO 20419 on Guidelines for the adaptation of irrigation systems and practices to treated wastewater
- **In ISO/TC 138 “Plastics pipes, fittings and valves for the transport of fluids”**
  - Specifications for PE pipes for irrigation
  - Pipes with flexible joints intended to be installed using jacking techniques



## CEN/TC 144 « TRACTORS AND MACHINERY FOR AGRICULTURE AND FORESTRY »



### Scope

Standardization of tractors, machines and equipment used in the agriculture, horticulture, gardening and forestry, including the mobile irrigating machines such as reel machines, center pivot and moving lateral types irrigating machines, as far as safety aspects and sustainability issues are concerned..

**Chair and secretariat :** [France](#)

**7 Working groups**

**34 CEN members**

(27 European countries, UK, Republic of North Macedonia, Serbia, Turkey, and 3 countries of EFTA (Iceland, Norway and Switzerland))

**Liaisons :** CEMA, EC, EIA

**EN standards : Adopted by all the 34 CEN members**

→ Withdrawal of the national standards on the same scope

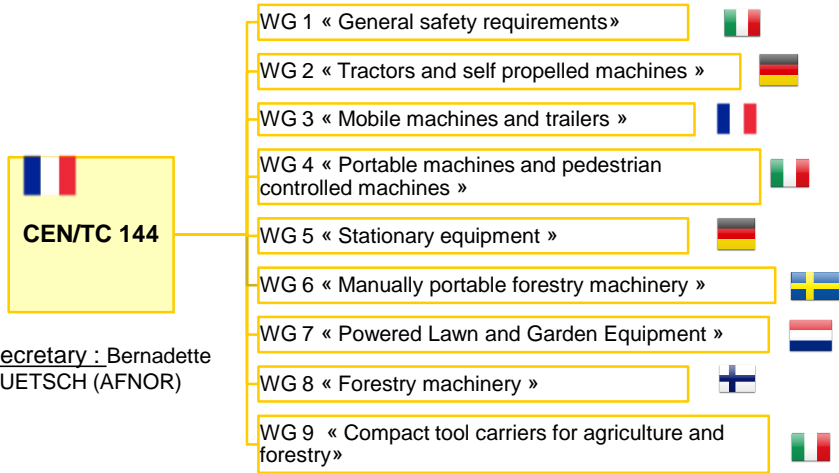
**Harmonized standards :**

→ Give Compliance to the Essential Health and Safety Requirements of European regulations/ Directives

**Vienna Agreement CEN/ISO – Dresden Agreement CENELEC/IEC :**

→ Same standards adopted : EN ISO or CLC IEC

**CEN/TC 144 « TRACTORS AND MACHINERY FOR AGRICULTURE AND FORESTRY »**



**CEN/TC 144 « TRACTORS AND MACHINERY FOR AGRICULTURE AND FORESTRY »**



<b>WG 1 - General safety requirements</b>	<i>Development of common safety standards applicable to all kind of agricultural and forestry machinery.</i>
<b>WG 2 - Tractors and self-propelled machines</b>	<i>Development of standards applicable to Tractors and self-propelled machines</i>
<b>WG 3 - Mobile machines and trailers</b>	<i>Development of standards applicable to agricultural mobile machines and trailers regarding safety and protection.</i>
<b>WG 4 - Portable machines and pedestrian controlled machines</b>	<i>Development of safety standards applicable to portable machines and pedestrian controlled machines whether used for agricultural or for gardening purposes.</i>
<b>WG 5 - Stationary equipment</b>	
<b>WG 6 - Manually portable forestry machinery</b>	<i>Development of agreements on defined subjects for manually portable, hand-held, powered forest machinery. The agreements shall primarily concern aspects linked to EEC Directives such as Machinery Directive with its amendments, the Low Voltage Directive and the EMC Directive, as well as on applicable environmental aspects as noise and exhaust emissions.</i>
<b>WG 7 - Powered Lawn and Garden Equipment</b>	<i>Development of mechanical standards applicable to powered garden equipment.</i>
<b>WG 8 Forestry machinery</b>	<i>Development of standards applicable to forestry machinery excluding manually portable forestry machinery.</i>
<b>WG 9 - Compact tool carriers for agriculture and forestry</b>	

## CEN/TC 144 « TRACTORS AND MACHINERY FOR AGRICULTURE AND FORESTRY »



99 Published Standards (with 55 EN ISO)  
47 standards under development (with 37 pr EN ISO)

WG		Published	Work items
1	General safety requirements	14	5
2	Tractors and self-propelled machines	9	1
3	Mobile machines and trailers	31	8
4	Portable machines and pedestrian controlled machines	6	4
5	Stationary equipment		1
6	Manually portable forestry machinery	9	8
7	Powered Lawn and Garden Equipment	14	4
8	Forestry machinery	7	5
9	Compact tool carriers for agriculture and forestry		1

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## CEN/TC 144 « TRACTORS AND MACHINERY FOR AGRICULTURE AND FORESTRY »



### FOCUS ON HARMONIZED STANDARDS

Mandates / requests from the EC to CEN for standards giving presumption of conformity with the Essential Requirements of Directives / regulations ("New Approach")	
95 % of CEN/TC 144 work items are developed in support of the following 4 mandates	
M/396	<b>Machinery Directive 2006/42/CE (Safety)</b> → More than 85 % of CEN/TC 144 work items
M/471	<b>Machinery for pesticide application- Directive 2006/127/CE</b>
M/435	<b>Sustainable use of pesticides - Directive 2006/128/CE</b>
M/422	<b>Electromagnetic compatibility Directive 2014/30/EU</b>

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## WORK PROGRAM CEN/TC 144

### □ **2 standards published on irrigation machines:**

- **EN 909:1998+A1:2009** - Agricultural and forestry machinery - Centre pivot and moving lateral types irrigation machines – Safety
- **EN 908:1999+A1:2009** - Agricultural and forestry machinery - Reel machines for irrigation - Safety

### □ **Others general standards/work items of interest**

- **EN ISO 4254-1** :Agricultural machinery - Safety - Part 1: General requirements
- **Pr EN ISO 25119 series** : Tractors and machinery for agriculture and forestry - Safety-related parts of control systems
- **Pr EN ISO 14982-1 and -2** : Agricultural and forestry machinery - Electromagnetic compatibility - Test methods and acceptance criteria
- **Pr EN ISO 18497 series** : Agricultural machinery and tractors - Safety of partially automated, semi-autonomous and autonomous machinery

## CEN/TC 334 « IRRIGATION TECHNIQUES »



### □ **Historical background**

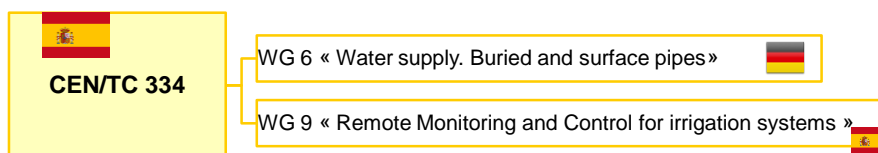
The CEN/TC 144/SC 1 'Irrigation techniques', created in 1991 was transformed into a CEN/TC 334 'Irrigation techniques' at the end of 1998, because of the development of standards not related to the EC Machinery Directive.

### □ **Scope**

Elaboration of standards guiding irrigation system selection, design, installation and operation. These standards have to take into account the need to improve uniformity of water distribution (due to limited water resources) and also to consider the good quality of installations and equipment, and appropriate technical knowledge as important factors. Irrigation equipment should be an efficient tool for sustainable development and to allow rationalization of the training modules for the users of the equipment.

### □ **Since 2020, EIA is in liaison with CEN/TC 334**

## CEN/TC 334 « IRRIGATION TECHNIQUES »



### Secretary :

Francisco ARRIBAS (UNE)

### ❑ Standards published: **31**

- Main items: solid set sprinkler systems, reel machine systems, centre pivot and moving lateral systems, automatic turf irrigation systems, calculation principles and measurement methods....

### ❑ Under development: **1** (pr EN ISO 8224-1 about traveller irrigation machines)

- The last publication of EN standard was in 2008. Now, CEN/TC 334 elaborates only publication of EN ISO standard.

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## OTHER CEN ITEMS ABOUT IRRIGATION

- ❑ **In CEN/TC 155 Plastics piping systems and ducting systems**
  - Plastics piping systems for water supply and for buried and above ground drainage, sewerage and irrigation under pressure
- ❑ **In CEN/TC 203 Cast iron pipes, fittings and their joints**
  - Ductile iron pipes, fittings, accessories and their joints for water pipelines
- ❑ **In CEN/TC 459/SC 10 Steel tubes, and iron and steel fittings**
  - Malleable cast iron fittings with compression ends for polyethylene (PE) piping systems
- ❑ **In CEN/TC 132 Aluminium and aluminium alloys**
  - HF seam welded tubes
- ❑ **In CEN/TC 69 Industrial valves**
  - Valves for water supply

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**FOR MORE  
INFORMATION**

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**ISO Standards and projects on Irrigation and drainage equipment**

- Titles and scopes available : <https://www.iso.org/ics/65.060.35/x/>
- Online Browsing Platform : <https://www.iso.org/obp/ui/#home>

Access the most up to date content in ISO standards, graphical symbols, codes or terms and definitions. Preview content before you buy, search within documents and easily navigate between standards.

**CEN Standards and projects on Irrigation and drainage equipment**

- Titles and scopes available:  
<https://standards.cencenelec.eu/dyn/www/f?p=205:105:0>

**THANKS !**

11 rue Francis de Pressensé  
93 571 La Plaine Saint-Denis Cedex  
Tél. 01 41 62 80 00  
Fax. 01 49 17 90 00



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