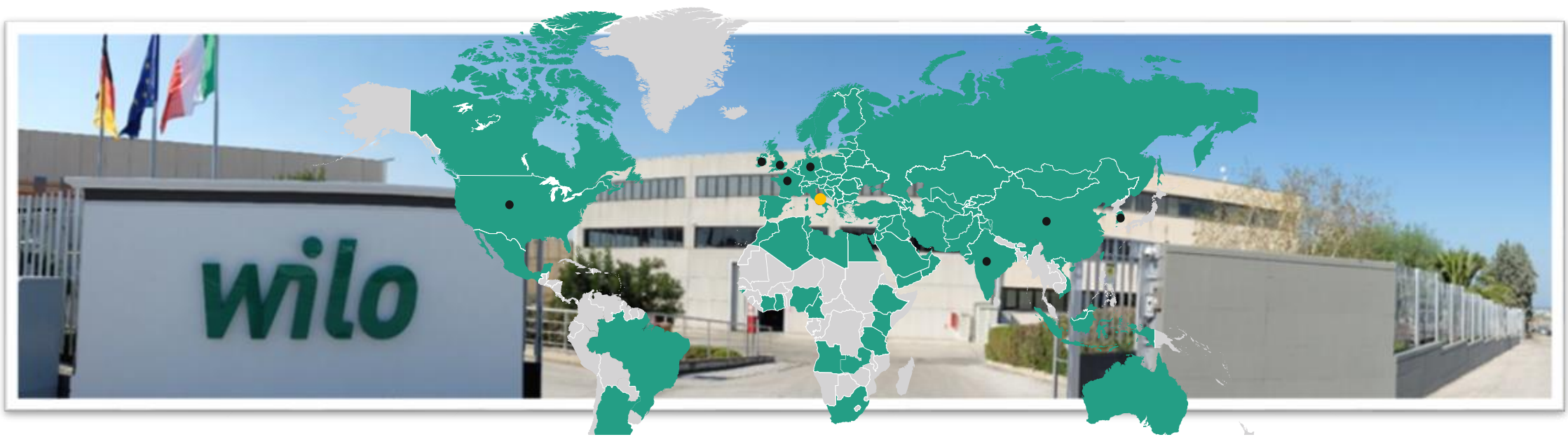


Pump sets in accordance with EN 17451

Application Engineer
Andrea Qazimi

Business Development
Gianluca Straziota

Wilo Group
Pioneer for Intelligent Premium Water Technologies

In building services, water management and industry, we move, treat and control the most important resource on our planet: **water**.



Building Services Residential



Building Services Commercial



OEM



Water Management

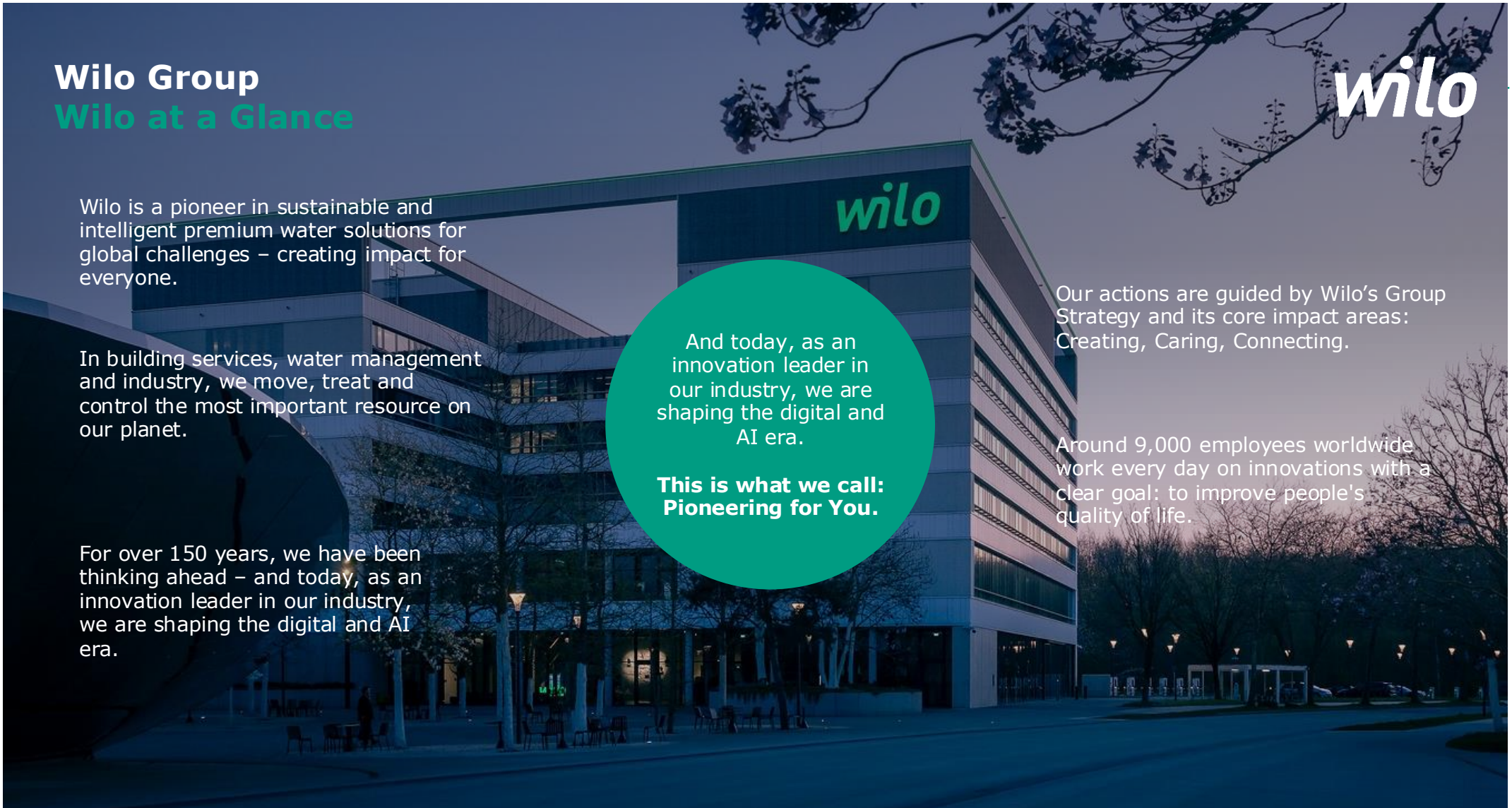


Industry

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Wilo Group
Wilo at a Glance



Wilo is a pioneer in sustainable and intelligent premium water solutions for global challenges – creating impact for everyone.

In building services, water management and industry, we move, treat and control the most important resource on our planet.

For over 150 years, we have been thinking ahead – and today, as an innovation leader in our industry, we are shaping the digital and AI era.

And today, as an innovation leader in our industry, we are shaping the digital and AI era.

This is what we call: Pioneering for You.

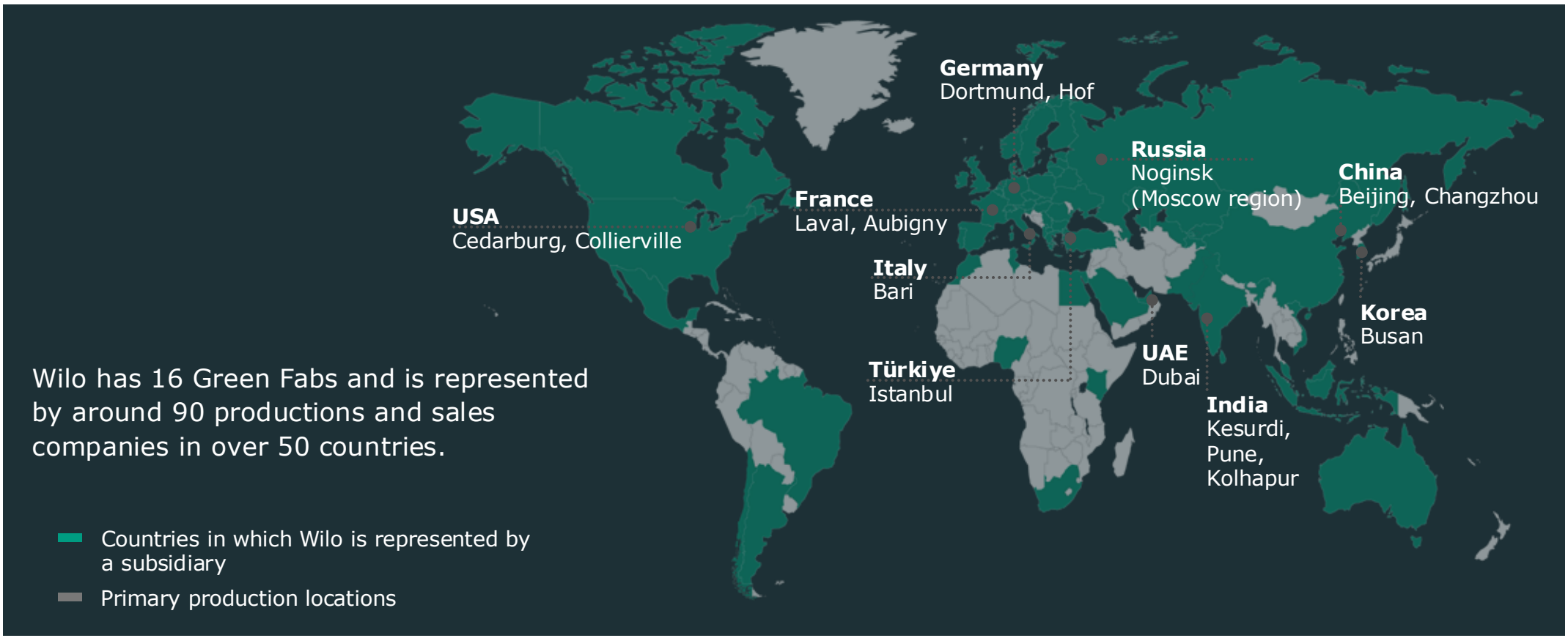
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Wilo Group
Locations Worldwide



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Summary

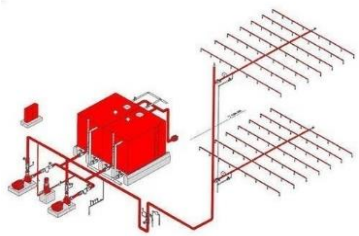
- **Introduction.**
- **Firefighting standards.**
  - **EN 17451:2024** - new EU standard for sprinkler pump sets
  - **EN 12845:2015+A2:2026** – new amendment to EN 12845
  - **EN 14972-1:2020+A1:2025** – water mist systems

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Andrea Qazimi

Introduction - new fire protection norms

EN 12845

Fixed firefighting systems - **Automatic sprinkler systems** - Design, installation and maintenance



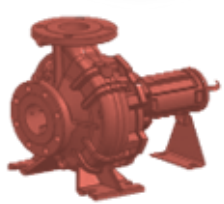
EN 17451

Fixed firefighting systems – Automatic sprinkler systems – Design, assembly, installation and commissioning of **pump sets**



EN 12259-12

Fixed firefighting systems - Components for sprinkler and water spray systems - Part 12: **Pumps.**

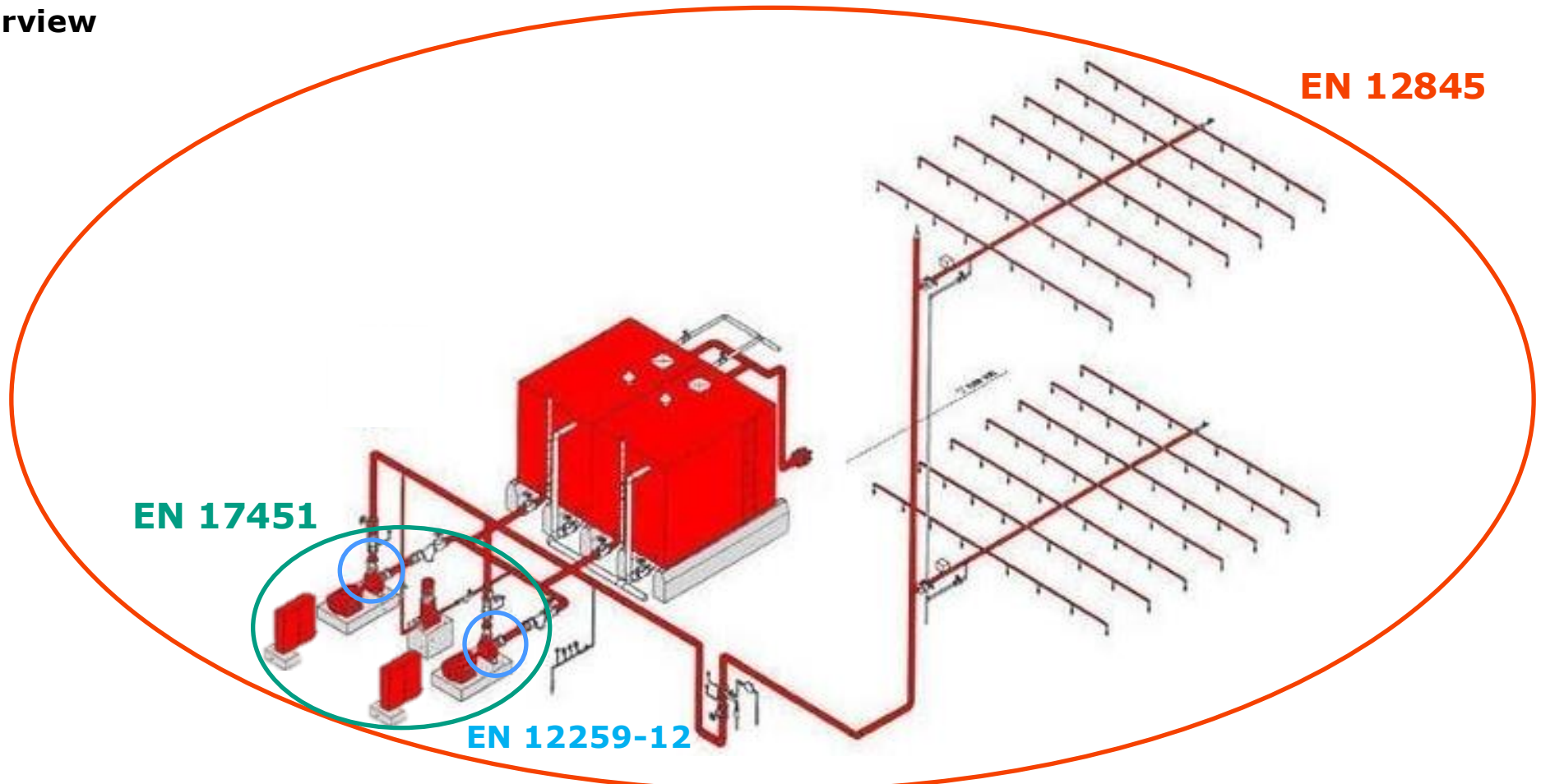


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Introduction - new fire protection norms

Overview



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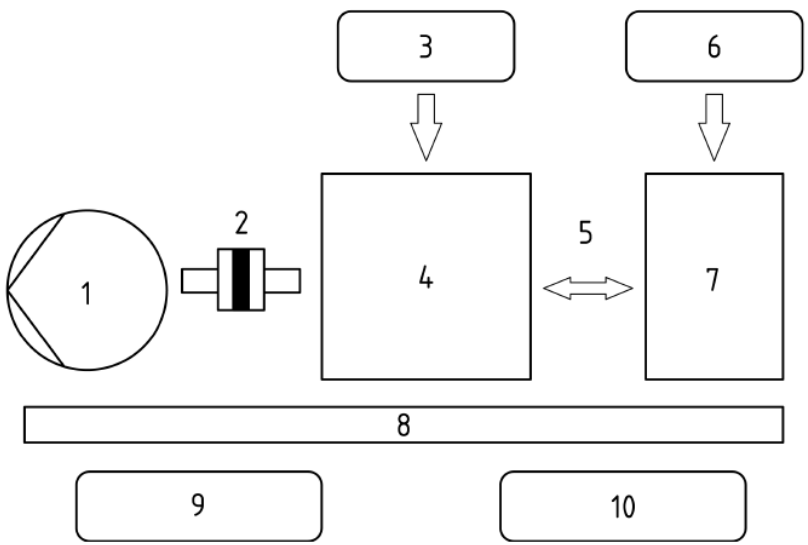


EN 17451 – The pump set

EN 17451:2024 – Definition of pump set

Assembled machine intended to supply water to automatic sprinkler systems, comprising of pump, electric motor or diesel engine (plus batteries, fuel tank and auxiliaries), control panel, wiring, drive coupling, baseframe.

Figure 1 identifies the typical pump set components covered by this document.



Key

1	pump	6	pressure loss detection
2	coupling	7	pump set control panel
3	fuel and fuel tank for diesel driver	8	frame
4	driver	9	test system
5	wiring	10	auxiliary items, e.g. exhaust and cooling pipe

Figure 1 — Example of a typical pump set assembly for a diesel driven unit



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Wilo FireSet N45 – Pumps according to EN17451 (excerpt)

- Reinforced baseplate design with FEM validation; sufficient strength and mass to withstand the forces imposed by the pump set (6.1).
- Each pump set is controlled by its dedicated control panel. The main functions are not shared with other equipment (e.g. jockey pumps). (7.1)
- Pressure switches lines are electrically monitored for short circuit and open circuit monitoring. The trigger sensitivity is ± 0,25 bar. (7.2.2).
- Diesel control panel:
  - It is equipped with 2 ammeters to monitor each battery set. (7.4.1)
  - Battery chargers are sized to recharge a fully discharged battery within 24 h, with -15 % of mains nominal voltage 230 V AC. (7.4.3)
  - Batteries are sized to accommodate the controller for 72 h in standby mode, plus 6 h while the engine is running. (7.4.2)
  - The emergency start is carried out by an additional control panel with two positive action to operate. (9.6.3)
- Diesel engines with heat exchanger as a standard (Wilo).

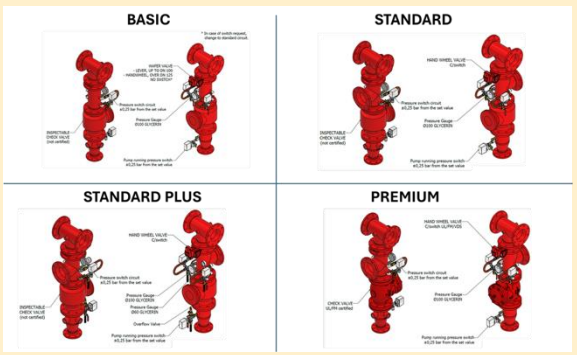


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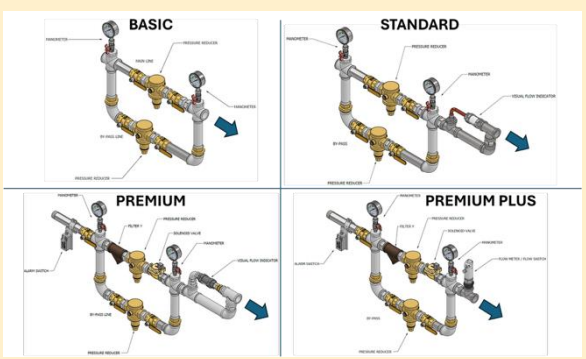
Application Engineer
Andrea Qazimi

Wilo FireSet N45 – Additional features

- Simplified variance of hydraulics wet ends, constant improvements.
  - Basic
  - Standard
  - Standard plus
  - Premium



- Simplified and standardized variance of cooling loops for Diesel engines.
  - Basic
  - Standard
  - Premium
  - Premium plus







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Wilo FireSet N45 - New test requirements

Nr. of test	Type of test	To be done at:
1	Verification of performance (10.2.2): • 1,5h Diesel pump test • 0,5h Electric pump test • Build-up of **pump set** characteristic curve	2 options: • At the factory **OR** • At installation site
2	Pre-commissioning checks (10.4)	Compulsory at installation site
3	Commissioning (10.5, 10.6)	Compulsory at installation site

The tests must be conducted using suitable equipment, calibrated and traceable to standards, suitable facilities and competent personnel (10.2.1).

Doing the verification of performance at the pump set manufacturer does not cover the pre-commissioning checks that must be carried out at the destination.

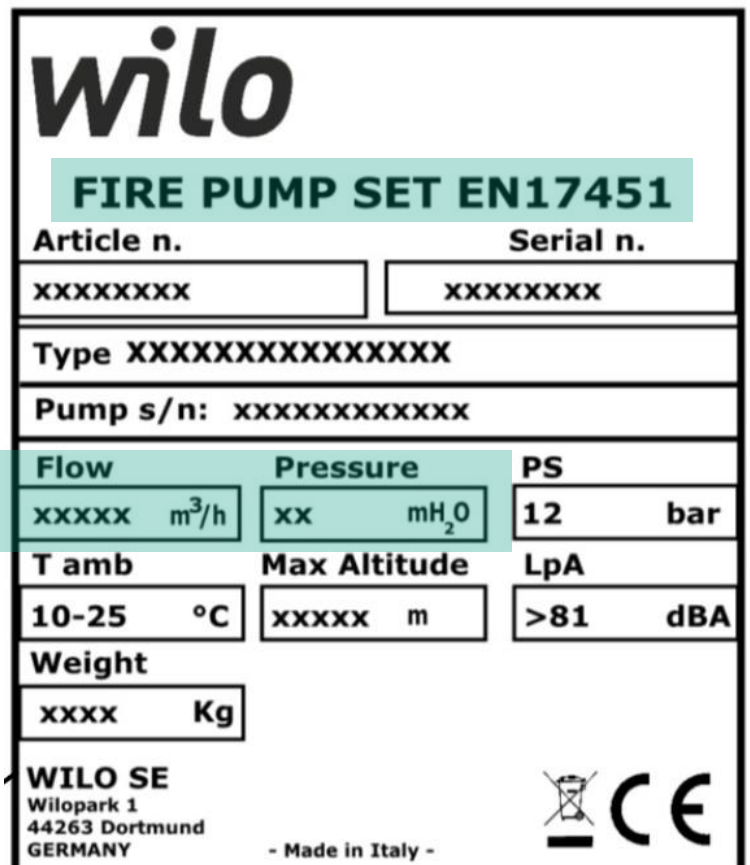
Make sure to be able to produce the adequate documentation for reporting this activity according to EN 17451.

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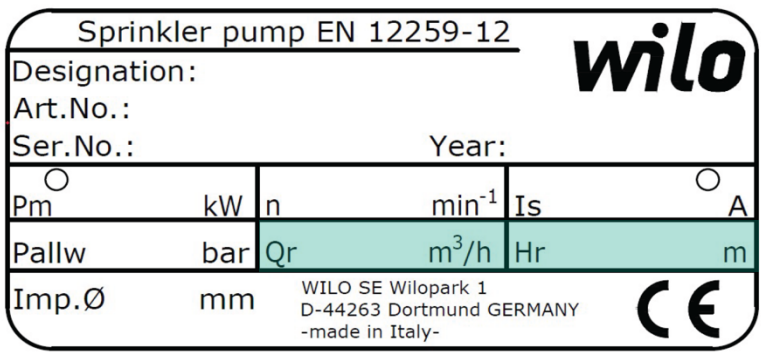
Wilo FireSet N45 – pump set new nameplate(s)

Pump set nameplate

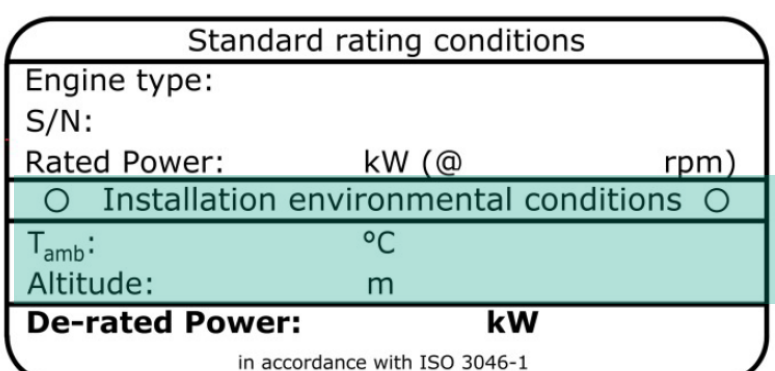


+

Pump nameplate EN 12259-12. It is guaranteed by that the pump can supply the 140% of Qr at no less than 70% of Hr.



Diesel engine de-rate nameplate if required (9.3.1, 9.3.2)



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EN 12845:2015+A2:2026 – new amendment

Implementation dates of the new amendment A2:2026?

Implementation Dates

date of Ratification (DOR) (1)	2026-01-19
date of Availability (DAV) (2)	2026-04-01
date of Announcement (DOA) (3)	2026-07-31
date of Publication (DOP) (4)	2026-10-31
date of Withdrawal (DOW) (5)	2026-10-31

(1) Date of ratification **(dor)** date when the Technical Board notes the approval of an EN (and HD for CENELEC), from which time the standard may be said to be approved

(2) Date of availability **(dav)** date when the definitive text in the official language versions of an approved CEN/CENELEC publication is distributed by the Central Secretariat

(3) Date of announcement **(doa)** latest date by which the existence of an EN (and HD for CENELEC), a TS or a CWA has to be announced at national level

(4) Date of publication **(dop)** latest date by which an EN has to be implemented at national level by publication of an identical national standard or by endorsement

(5) Date of withdrawal **(dow)** latest date by which national standards conflicting with an EN (and HD for CENELEC) have to be withdrawn

01.04.2026 - Europe. This term is peremptory.
31.10.2026 - Countries. This term is directory.

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Andrea Qazimi

EN 12845:2015+A2:2026 – key points

The new A2 amendment is a collection of modification of the actual EN 12845, not a new full text.

> **1 Modification to the European foreword**
>
> *Add the following paragraph to the European foreword:*
>
> "In comparison with EN 12845:2015+A1:2019, technical modifications have been made to integrate references and usage of EN 17451, EN 12845-2 and EN 12845-3 into this document."

- Today the EN 17451 … **can** be applied with the current edition of EN 12845:2015+A1:2019.
- After the EN 17451 **is required** by EN 12845:2015+A2:2026.

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EN 12845:2015+A2:2026 – key points

The new A2 amendment is a collection of modification of the actual EN 12845, not a new full text.

15 Modification to 10.1. "General"

Replace the whole clause with:

"Water supplies consisting of pumps shall conform to EN 17451."

Water supplies (of sprinkler system) consisting of pumps, shall conform to EN 17451.

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EN 12845:2015+A2:2026 – key points

The new A2 amendment is a collection of modification of the actual EN 12845, not a new full text.

20 Modification to 10.6.2.1 "General"

Replace the sentence above Table 14 with:

"The suction piping, including all valves and fittings, shall be designed in such a way as to ensure that the available NPSH (calculated at the maximum anticipated water temperature) at the pump inlet exceeds

the required NPSH by at least 1 m at the maximum pump set flow as shown in Table 14 and according to EN 17451".

- The suction piping shall be design according to the NPSHr + at least 1m of the maximum pump set flow according to EN 17451.

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EN 14972-1:2020+A1:2025 – key points

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 14972-1:2020+A1

May 2025

ICS 13.220.20

Supersedes EN 14972-1:2020

English Version

Fixed firefighting systems - Water mist systems - Part 1: Design, installation, inspection and maintenance

Installations fixes de lutte contre l'incendie - Systèmes à brouillard d'eau - Partie 1 : Conception, installation, inspection et maintenance

Ortsfeste Brandbekämpfungsanlagen - Wassernebelsysteme - Teil 1: Planung, Einbau, Inspektion und Wartung

7.2.3 Centrifugal pumps

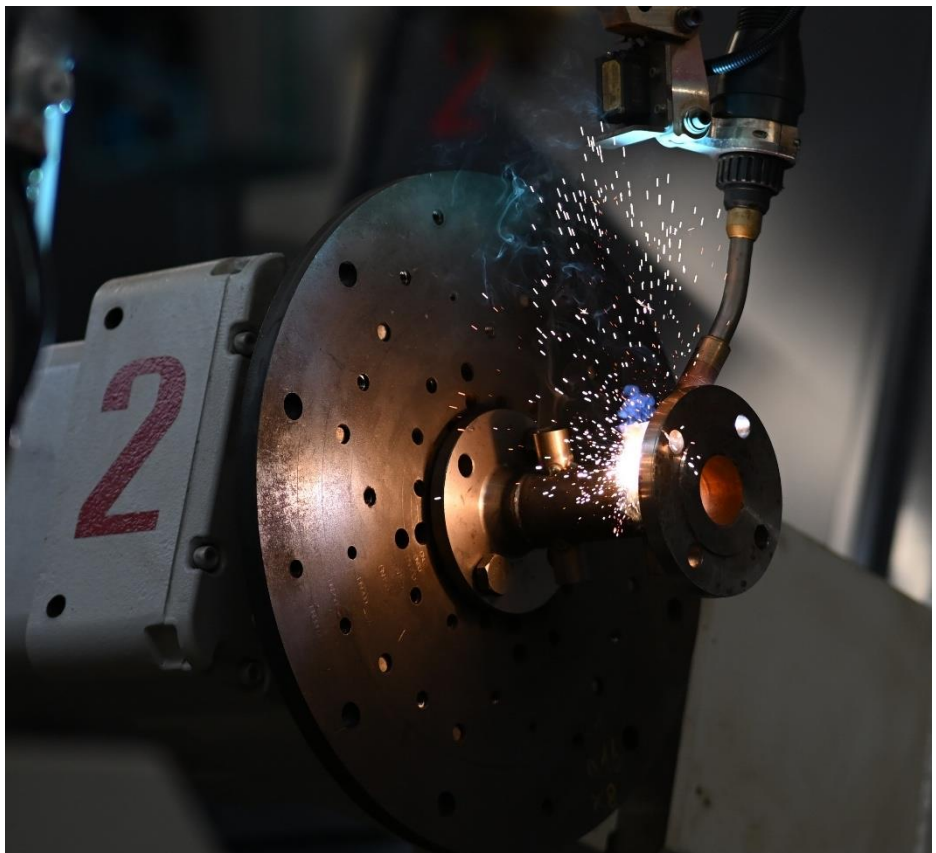
Centrifugal pumps shall be in accordance with [A1] EN 17451 [A1] and [A1] EN 12259-12 [A1], for the suction condition of the pumps.

- The Water mist systems standard EN 14972, accepts, *de facto,* the usage of pump sets EN 17451 in water mist installations.

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