

# Grundfos FireSAFE+ Residential range

For use in Residential Fire Sprinkler and Water-Mist Installations



UKCA Marked



CE Marked



BS 9251: 2021 compliant



ISO 9001 approved company



BS 8458:2015 compliant



BS EN 16925:2018 compliant



**GRUNDFOS** 

Possibility in every drop

# Overview of FireSAFE+ Residential range

A FireSAFE+ is a compact and economical fire pump package, designed to operate within both sprinkler and water-misting applications. The unit comes as a plug 'n' play solution, reducing installation time.

FireSAFE+ sets are suitable for applications from 0-800 l/min with the required pressures of 1-18 bar. Smaller sets are available for either 230V / 1ph / 50Hz (domestic power supplies) or 400V / 3ph / 50Hz. Larger sets are only available for 400V / 3ph / 50Hz.

## When would I need a FireSAFE+ Residential range set?

This product is used within premises that have insufficient mains pressure with an aim to deliver water to their fire system. Sprinkler/misting heads require a minimum operating water pressure to work effectively. Pipe and pressure losses must be taken into consideration to ensure the required pressure.

When activated in a fire development situation, it is critical that the pressure does not drop at any point. Pressure drop would prevent the sprinkler/misting head from working effectively causing the fire to grow or reignite rapidly.



Residential FireSAFE+ Set

## A standard FireSAFE+ Residential range package consists of the following:

- Grundfos CRI Pump (very reliable products from the Grundfos industrial range to meet the high pressure demands)
- Non-return valve (to prevent water backflow)
- Two LPCB approved pressure switches (to detect any pressure drop and increasing resilience)
- Electronic solenoid (for weekly pressure switch testing and over-temperature protection)
- LPCB approved flow switch (to detect if flow is present in pump/pipes)
- Control panel (programmed for typical fire philosophy including data logging and LCD display)
- Monitored and lockable isolation valves (preventing full draining/disconnecting from system during service)
- All connected with a stainless steel discharge manifold.

## Applications

### Domestic:

- individual flats and houses

### Residential:

- homes of multiple occupancy
- care homes
- sheltered accommodation
- student accommodation
- small hotels

### Watermist:

- industrial kitchens
- hotels and residential properties
- document storage
- data centres

## How to select a FireSAFE+ Residential set?

Please note that the exact duty requirements for any installations should be confirmed by the sprinkler design contractor.

## Domestic sprinkler installations

The domestic category 1 sprinkler installations include a maximum of two sprinkler heads which can operate simultaneously. The maximum flowrate is calculated by equating the area coverage of the sprinkler head(s) within the largest room of protection. The pressure required is dependent on the installation location and the pressure requirement of the sprinkler heads. Generally, if the set is installed on the ground floor, it will be required to overcome the height of the building, 0.5 bar of pressure losses and approximately 0.5-1.0 bar to the sprinkler head. For example, a 2-floor building of 6m would require  $0.6 (6m = 0.6 \text{ bar}) + 0.5 + 1.0 = 2.1 \text{ bar}$  pressure. If the set is installed above the highest sprinkler head, the height of the building must no longer be taken into consideration, and you will thus require a lower pressure.

## Residential sprinkler installations

Residential category 2 or 3 sprinkler installations include a maximum of four sprinkler heads which can operate simultaneously. The maximum flowrate is calculated by equating the area coverage of the sprinkler head(s) within the largest room of protection. The pressure required is again dependant on the installation location and the pressure requirement of the sprinkler heads. Generally, if the set is installed on the ground floor, it will be required to overcome the height of the building, 0.5 bar of pressure losses and approximately 0.5-1.0 bar to the sprinkler head. For example, a 2-floor building of 6m would require  $0.6 (6m = 0.6 \text{ bar}) + 0.5 + 1.0 = 2.1 \text{ bar}$  pressure. However, if the set is installed above the highest sprinkler head, the height of the building must no longer be taken into consideration, and you will thus require a lower pressure.

## Watermisting applications

Unlike sprinkler installations, watermist requirements differ between the application and watermisting heads. Watermist will usually require lower flow requirements per nozzle, but higher pressure demands.

## Benefits

- FireSAFE+ Residential range is a compact complete solution offering simple plug 'n' play installation.
- The set comes with volt-free contacts able to inform you remotely from the FireSAFE+ Residential range set if it is running and/or if there is a power supply problem (hard-wired) offering the assurance that your property is properly protected.
- Simple controls ensure easy usage and understanding of automated design.
- A weekly self-test increases the lifespan of the equipment and saves money on service visits.
- All wetted parts are made of a minimum of 304 stainless steel. This ensures that only clean water is provided, and also prevents the chance of sprinkler heads being affected by debris, which could stop them working effectively.
- Fail safe feature worry-free operations.
- LCD display allows easy identification of failures.
- Password protected parameters and settings prevent the risk of tampering with settings.
- Full data recorder logging all actions of the set, parameter settings ensure full peace of mind since the history operations of the set are fully logged.
- USB connection for parameter setting and data log downloading saves time when installing and configuring sets and allows ease of programming multiple identical sites.

## Which standards are associated with this equipment?

The FireSAFE+ Residential range is fully compliant with the following standards:

- BS 9251 2021 – Fire sprinkler systems for domestic and residential occupancies – Code of practice
- BS 8458:2015– Fixed fire protection systems – Residential and domestic watermist systems – Code of practice or design and installation
- EN 16925:2018 – Fixed firefighting systems – Automatic residential sprinkler systems – Design, installation and maintenance

## What other equipment might I need?

- Break tank
- Remote alarm panel
- Battery backup/Backup generators
- Priming tank arrangements

# Pump model



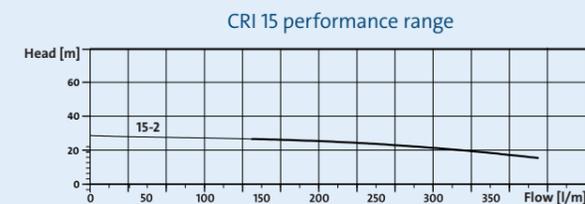
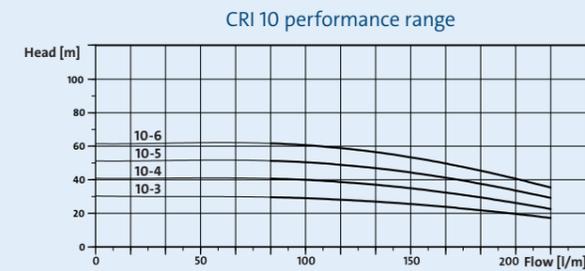
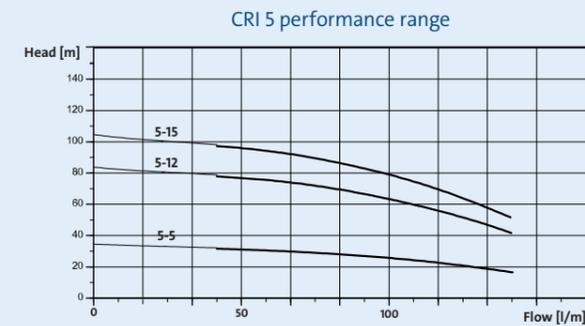
## Features and specifications

## FireSAFE+ Residential set

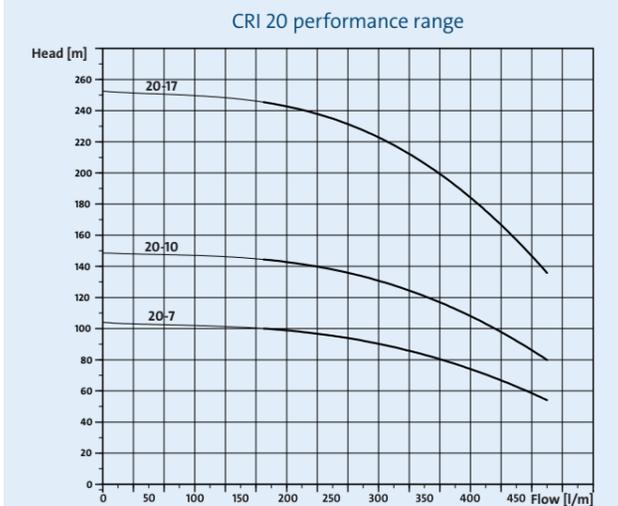
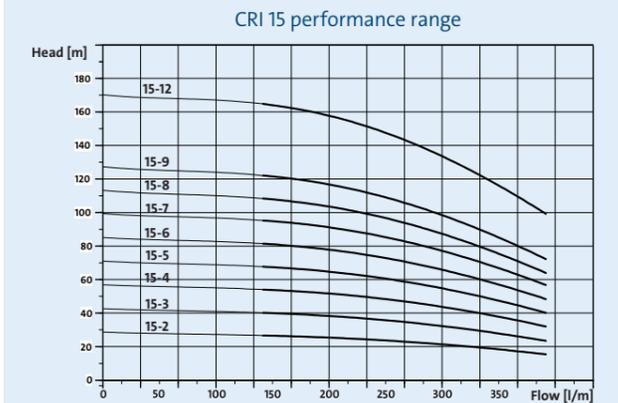
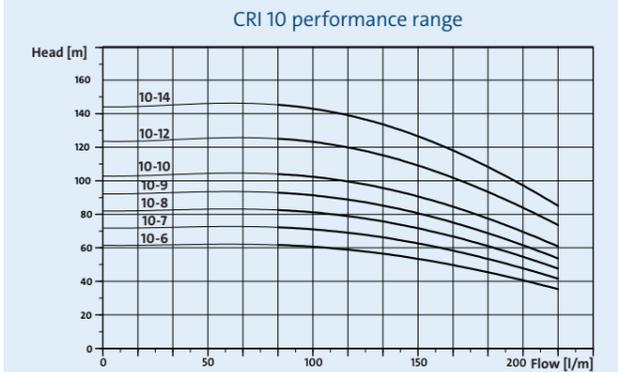
Full conformity standards	BS 9251:2021, EN 16925: 2018, BS 8458:2015
Pipe work material	Stainless steel welded pipework throughout
Pump Type and Material	304 Grade stainless steel wetted parts
In-built Controller and Functions	Yes
– Self-Test	Yes
– Alarm if Test Fails	Yes
– Minimum Run-Time to prevent hunting	Yes
– Low Water Level Indicator input (external level switch required)	Yes
– Data logging	Yes
– USB download / updates	Yes
Pressure switches	Two, LPCB approved
Cable	SY to BS4504
Flow Test Connection	Lockable isolation valve included
Test/Drain Point	Yes
Suction and Delivery Isolation Valves	Yes, two: monitored and lockable
Flow Switch	Yes, LPCB approved
Delivery Check Valve	Yes

# Pump performance data

## 1 phase (240V)



## 3 phase (415V)



# Pump electrical data

## 1 phase – 220-230V 50hz

Pump	Power (kW)	Starting current (Amps)	Full load current (amps)	Starter type	Pump set product code
CRI 5-5	0.75	11.8	1.9	DIRECT ONLINE	92856363
CRI 5-12	2.20	46.2	14	DIRECT ONLINE	92856365
CRI 5-15	2.20	46.2	14	DIRECT ONLINE	92856369
CRI 10-3	1.1	28.9	7.4	DIRECT ONLINE	92856391
CRI 10-4	1.5	38.6	9.9	DIRECT ONLINE	92856392
CRI 10-5	2.2	46.2	14	DIRECT ONLINE	92856393
CRI 10-6	2.2	46.2	14	DIRECT ONLINE	92856395
CRI 15-2	2.2	46.2	14	DIRECT ONLINE	92856399

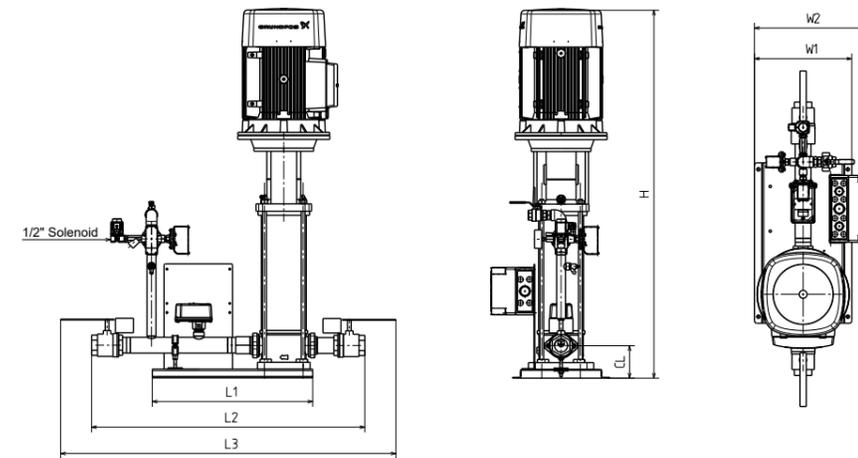
## 3 phase – 380-415V 50Hz

Pump	Power (kW)	Starting current (Amps*)	Full load current (Amps)	Starter type	Soft start current** (Amps*)	Standard pump set Product code	Soft-start pump set Product code
CRI 10-6	2.2	42.3	4.6	Direct online	16.9	92856400	92856442
CRI 10-7	3.0	58.0	6.3	Direct online	23.2	92856402	92905648
CRI 10-8	3.0	58.0	6.3	Direct online	23.2	92856404	On req.
CRI 10-9	3.0	58.0	6.3	Direct online	23.2	92856405	On req.
CRI 10-10	4.0	87.7	7.9	Direct online	35.1	On req.	On req.
CRI 10-12	4.0	87.7	7.9	Direct online	35.1	On req.	92856451
CRI 10-14	5.5	129.8	11.0	Direct online	51.9	On req.	On req.
CRI 15-2	2.2	42.3	4.6	Direct online	16.9	On req.	On req.
CRI 15-3	3.0	58.0	6.3	Direct online	23.2	92856409	On req.
CRI 15-4	4.0	87.7	7.9	Direct online	35.1	92856410	On req.
CRI 15-5	4.0	87.7	7.9	Direct online	35.1	92856411	On req.
CRI 15-6	5.5	129.8	11.0	Direct online	51.9	92856412	92856457
CRI 15-7	5.5	129.8	11.0	Direct online	51.9	92856413	On req.
CRI 15-8	7.5	131.0	14.4	Direct online	52.4	92856414	92856461
CRI 15-9	7.5	131.0	14.4	Direct online	52.4	On req.	On req.
CRI 15-12	11.0	-	20.3	Soft-start	58.5	-	92856468
CRI 20-7	7.5	131.0	14.4	Direct online	52.4	92856442	On req.
CRI 20-10	11.0	-	20.3	Soft-start	58.5	-	92856465
CRI 20-17	18.5	-	33.5	Soft-start	120.6	-	92856470

\* In event of UPS systems, please note all currents provided are per phase and should be multiplied by the total number of phases.

\*\* Please note soft-start is an optional extra and not included as standard. Please contact Grundfos for further information.

# Pump dimensional data



## 1 phase – 220-230V 50hz

Pump	Length			Width	Height	Pipework centreline height	Suction diameter	Delivery diameter	Unit weight	Pump set product code
	L1 (mm)	L2 (mm)	L3 (mm)							
TYPE				W1 (mm)	H (mm)	CL (mm)	(inches)	(inches)	(KG)	
CRI 5-5	610	930	1120	370	612	82	1.25"	1.25"	80	92856363
CRI 5-12	610	930	1120	370	908	82	1.25"	1.25"	98	92856365
CRI 5-15	610	930	1120	370	988	82	1.25"	1.25"	100	92856369
CRI 10-3	610	987	1218	370	714	113	1.5"	1.5"	74	92856391
CRI 10-4	610	987	1218	370	784	113	1.5"	1.5"	76	92856392
CRI 10-5	610	987	1218	370	814	113	1.5"	1.5"	81	92856393
CRI 10-6	610	987	1218	370	844	113	1.5"	1.5"	82	92856395
CRI 15-2	610	1049	1285	370	776	123	2"	2"	83	92856399

## 3 phase – 380-415V 50hz

Pump	Length			Width			Height	Pipework centreline height	Suction diameter	Delivery diameter	Unit weight		Standard pump set product code	Soft-start pump set product code
	L1 (mm)	L2 (mm)	L3 (mm)	W1 (mm)	DOL W2 (mm)	Soft Start W3 (mm)					DOL (kg)	Soft start (kg)		
TYPE							H (mm)	CL (mm)	(inches)	(inches)				
CRi 10-6	610	987	1218	370	450	511	844	113	1.5"	1.5"	81	87	92856400	92856444
CRi 10-7	610	987	1218	370	450	511	893	113	1.5"	1.5"	87	93	92856402	92905648
CRi 10-8	610	987	1218	370	450	511	923	113	1.5"	1.5"	88	94	92856404	On req.
CRi 10-9	610	987	1218	370	450	511	953	113	1.5"	1.5"	89	95	92856405	On req.
CRi 10-10	610	987	1218	370	450	511	1020	113	1.5"	1.5"	102	108	On req.	On req.
CRi 10-12	610	987	1218	370	450	511	1080	113	1.5"	1.5"	104	110	On req.	92856451
CRi 10-14	610	987	1218	370	450	511	1191	113	1.5"	1.5"	123	129	On req.	On req.
CRi 15-2	610	1049	1285	370	450	511	774	123	2.0"	2.0"	85	91	On req.	On req.
CRi 15-3	610	1049	1285	370	450	511	840	123	2.0"	2.0"	88	94	92856409	On req.
CRi 15-4	610	1049	1285	370	450	511	922	123	2.0"	2.0"	101	107	92856410	On req.
CRi 15-5	610	1049	1285	370	450	511	967	123	2.0"	2.0"	103	109	92856411	On req.
CRi 15-6	610	1049	1285	370	450	511	1063	123	2.0"	2.0"	121	127	92856412	92856457
CRi 15-7	610	1049	1285	370	450	511	1108	123	2.0"	2.0"	122	128	92856413	On req.
CRi 15-8	610	1049	1285	370	450	511	1141	123	2.0"	2.0"	134	140	92856414	92856461
CRi 15-9	610	1049	1285	370	450	511	1184	123	2.0"	2.0"	135	141	On req.	On req.
CRi 15-12	610	1049	1285	370	-	511	1499	123	2.0"	2.0"	-	191	-	92856468
CRi 20-7	610	1039	1275	370	450	511	1018	123	2.0"	2.0"	123	129	92856442	On req.
CRi 20-10	610	1039	1275	370	-	511	1411	123	2.0"	2.0"	-	188	-	92856465
CRi 20-17	610	1049	1275	370	-	511	1770	123	2.0"	2.0"	-	228	-	92856470



#### **FireSAFE+ Domestic range**

Compact fire pump and controller package for domestic sprinkler applications.



#### **High Hazard Fire Sets**

For sprinkler applications to protect commercial and industrial properties deemed as highly combustible.



#### **FireSAFE+ Residential range**

Compact fire pump and controller package for residential sprinkler and water misting applications.



#### **Hydrant or Wet Riser Pumps**

Used to provide water at outlets around a building or site, enabling fire fighting away from a fire truck and in hard to access areas.



#### **Ordinary Hazard Fire Sets**

Used within sprinkler installations to protect smaller commercial or industrial properties.



#### **Packaged Pump Houses**

Complete, custom engineered-to-order solutions, constructed, tested and pre-wired prior to despatch.