GRUNDFOS **FireSAFE CR**

MARKED

BS 9251: 2014 COMPLIANT

ISO 9001 APPROVED COMPANY

BS 8458:2015 COMPLIANT

for use in Residential Fire Sprinkler and Water-Mist Installations

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FireSAFE overview

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 units are suitable for applications from 0-800 l/min and where pressures of 1-18 bar are required. Smaller units are available for either 230v / 1ph / 50Hz (domestic power supplies) or 400v / 3ph / 50Hz. Larger units available for 400v / 3ph / 50Hz only.

When would I need a FireSAFE set?

This product is used in premises that have insufficient mains pressure to deliver water to their fire system. Sprinkler/misting heads require a minimum operating water pressure to work effectively. Consideration also needs to be given to pipe and pressure losses to ensure necessary pressure can be attained.

When activated in a fire development situation, it is critical that the pressure does not decrease at any point. This is because a decrease in pressure would prevent the sprinkler/misting head working effectively, causing the fire to continue to grow or re-ignite rapidly.

Residential FireSAFE Set

Applications

Domestic:
- Individual flats and houses

Residential:
- Homes of multiple occupancy
- Care homes
- Sheltered accomodation
- Student accomodation
- Small hotels

Watermist:
- Industrial kitchens
- Hotels and residential properties
- Document storage
- Data centres

A standard FireSAFE package would consist of the following:

- Grundfos CR/CRI Pump (very reliable products from the Grundfos industrial range to meet the high pressure demands)
- Non-return valve (to prevent backflow of water)
- Main, Primary pressure switch
- Standby pressure switch (incase of any issues with Primary pressure switch)
- Flow switch (to detect if there is a flow present through the pump/pipes)
- Control panel (programmed to typical fire philosophy)
- Isolating valves (preventing full draining/disconnecting from system during service)

How to select a FireSAFE?

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

Domestic sprinkler installations:

In domestic category one sprinkler installations, there is a maximum of two sprinkler heads which could operate at one time. 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 dependant on the installation location and the pressure requirement of the sprinkler heads. Generally, if the unit 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 bar) + 0.5+ 1.0 = 2.1 bar pressure. If the unit is installed above the highest sprinkler head, the height of the building will no longer needed to be taken into consideration therefore you would require a lower pressure.

Residential sprinkler installations:

In residential category two or three sprinkler installations, there is a maximum of four sprinkler heads which could operate at one time. 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 unit 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 bar) + 0.5+ 1.0 = 2.1 bar pressure. If the unit is however installed above the highest sprinkler head, the height of the building is no longer required to be taken into consideration therefore you would require a lower pressure.

Water-misting applications:

Unlike sprinkler installations, water-mist requirements differ between the application and water-misting heads. Water-mist will usually require lower flow requirements per nozzle, but higher pressure demands.

Benefits

- FireSAFE is a compact complete solution offering simple plug ‘n’ play installation
- The unit comes with volt-free contacts able to inform you remotely from the FireSAFE unit if the unit is running and/or if there is a power supply problem (hard-wired) offering the assurance and knowledge that your property is properly protected
- Basic and simple controls means ease of understanding, the automated design means it is easy to understand how the set operates
- A monthly self-test increases the lifespan of the equipment and saves money on service visits
- All wetted parts are provided to a minimum of 304 stainless steel on the ”Premium” unit. 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 ensures you have the peace of mind that the equipment is working as intended.

What standards are associated with this equipment?

The FireSAFE is fully compliant with the following:

- BS 9251 2014 – 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

What other equipment might I need?

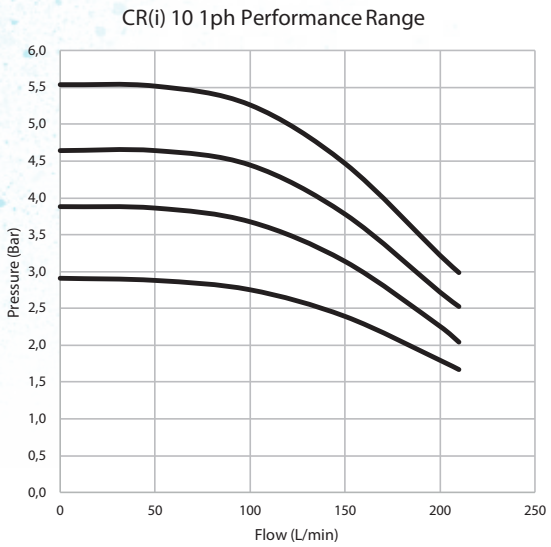
- Break Tank
- Remote Alarm Panel
- Battery Backup/Backup Generators
- Priming Tank Arrangements

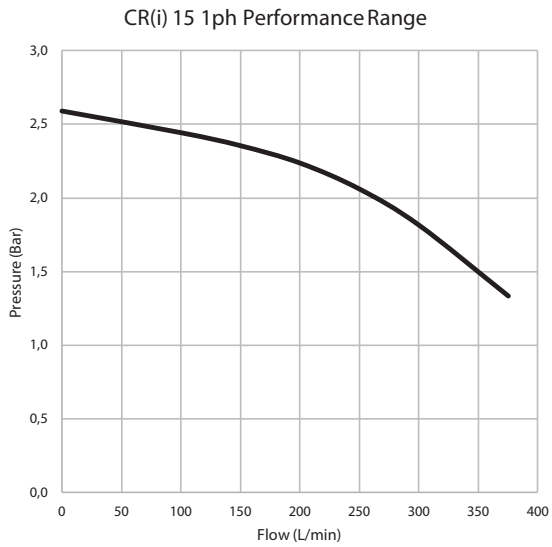
PUMP **MODEL COMPARISONS**

FEATURES AND SPECIFICATIONS	"BASIC" UNIT	"PREMIUM" UNIT
Pipework Material	Black Steel pipework and fittings	Stainless Steel, welded pipework throughout
Pump Type and Material	CR Cast Iron type	304 Grade Stainless Steel Wetted Parts
In-built Controller and Functions	Yes	Yes
- Self-Test	Yes	Yes
- Alarm if Test Fails	Yes	Yes
- Minimum Run-Time to prevent hunting	Yes	Yes
- Low Water Level Indicator input (external level switch required)	Yes	Yes
Flow Test Connection	No	Yes, 1" Connection size with lockable isolation valve included
Test/Drain Point	Yes	Yes
Suction and Delivery Isolation Valves	Yes, Lockable (not monitored)	Yes, Lockable (not monitored)
Flow Switch	Yes, wired into controller	Yes, wired into controller
Delivery Check Valve	Yes	Yes

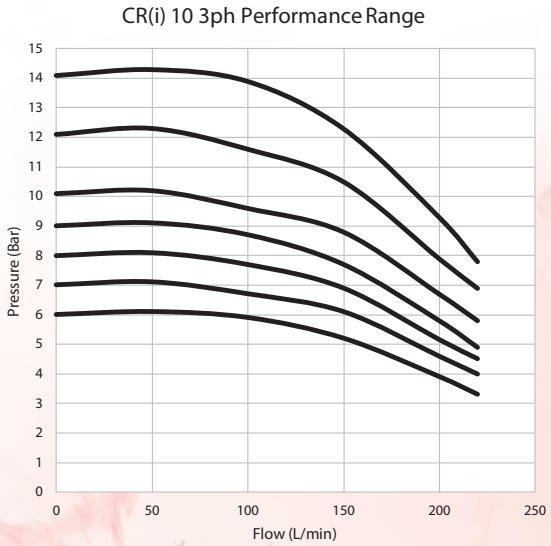
PUMP **PERFORMANCE DATA**

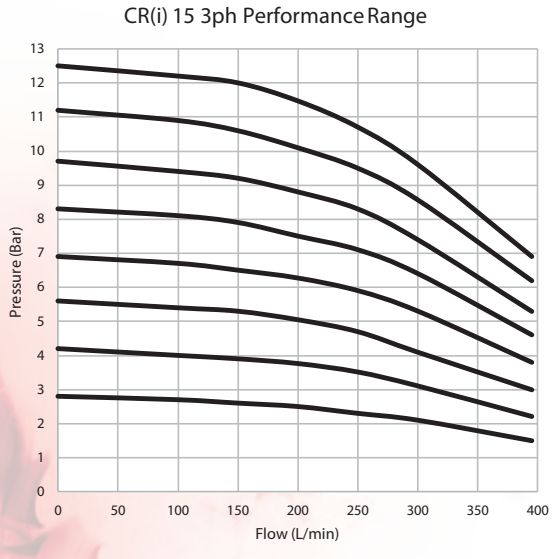
1ph (240v) UNITS:





3ph (415V) UNITS:





Please refer to the Grundfos Product Centre for specific pump performance information.

PUMP **ELECTRICAL DATA**

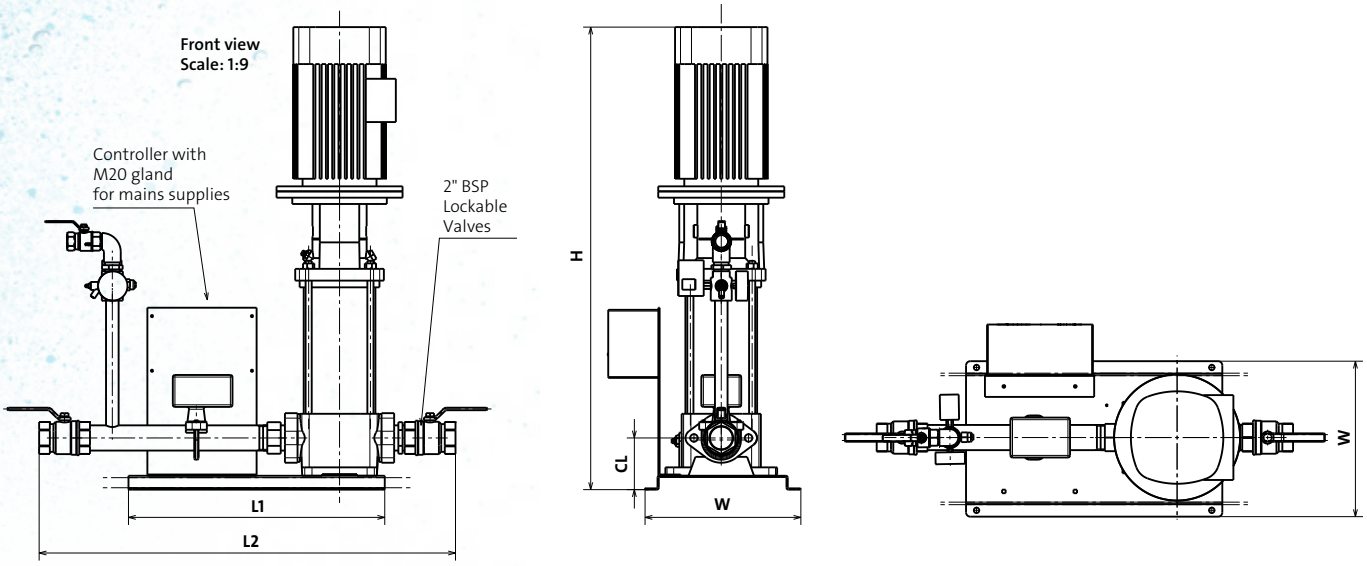
1 PHASE - 220-240V 1ph 50Hz

PUMP TYPE	POWER (kW)	STARTING CURRENT (Amps)	FULL LOAD CURRENT (Amps)	STARTER TYPE	PUMP SET PRODUCT CODE	
					BASIC	PREMIUM
CR(i) 5-5	0,75	15,30	5,10	DIRECT ONLINE	98938408	97931710
CR(i) 10-3	1,10	28,86	7,40	DIRECT ONLINE	98938516	FSV10031
CR(i) 10-4	1,50	38,61	9,90	DIRECT ONLINE	98938518	FSV10041
CR(i) 10-5	2,20	46,20	14,00	DIRECT ONLINE	98938531	FSV10051
CR(i) 10-6	2,20	46,20	14,00	DIRECT ONLINE	98938533	FSV10061
CR(i) 15-2	2,20	46,20	14,00	DIRECT ONLINE	98938570	FSV15021

3 PHASE - 380-415V 3ph 50Hz

PUMP TYPE	POWER (kW)	STARTING CURRENT (Amps)	FULL LOAD CURRENT (Amps)	STARTER TYPE	PUMP SET PRODUCT CODE	
					BASIC	PREMIUM
CR(i) 10-6	2,20	42,28	4,45	DIRECT ONLINE	98938538	FSV10063
CR(i) 10-7	3,00	57,96	6,30	DIRECT ONLINE	98938563	FSV10073
CR(i) 10-8	3,00	57,96	6,30	DIRECT ONLINE	98938566	FSV10083
CR(i) 10-9	3,00	57,96	6,30	DIRECT ONLINE	98938411	FSV10093
CR(i) 10-10	4,00	98,40	8,00	DIRECT ONLINE	98938459	FSV10103
CR(i) 10-12	4,00	98,40	8,00	DIRECT ONLINE	98938462	FSV10123
CR(i) 10-14	5,50	143,96	12,20	DIRECT ONLINE	98938514	98469271
CR(i) 15-2	2,20	42,28	4,45	DIRECT ONLINE	98938582	FSV15023
CR(i) 15-3	3,00	57,96	6,30	DIRECT ONLINE	98938589	FSV15033
CR(i) 15-4	4,00	98,40	8,00	DIRECT ONLINE	98938599	FSV15043
CR(i) 15-5	4,00	98,40	8,00	DIRECT ONLINE	98938600	FSV15053
CR(i) 15-6	5,50	143,96	12,20	DIRECT ONLINE	98938662	FSV15063
CR(i) 15-7	5,50	143,96	12,20	DIRECT ONLINE	98938664	98377106
CR(i) 15-8	7,50	44	15,80	STAR DELTA	98938681	FSV15083
CR(i) 15-9	7,50	44	15,80	STAR DELTA	98938683	98388267
CR(i) 20-7	7,50	44	15,80	STAR DELTA	98938701	FSV20073

PUMP **DIMENSIONAL DATA**



1 PHASE - 220-240V 1ph 50Hz

PUMP TYPE	LENGTH L1 (mm)	LENGTH L2 (mm)		WIDTH W (mm)	HEIGHT H (mm)	PIPEWORK CENTRELINE HEIGHT CL (mm)	SUCTION DIAMETER (inches)	DELIVERY DIAMETER (inches)	UNIT WEIGHT (KG)	PUMP SET PRODUCT CODE	
		BASIC	PREMIUM							BASIC	PREMIUM
CR(i) 5-5	610	810	880	370	608	82	1.25”	1.25”	75	98938408	97931710
CR(i) 10-3	610	950	1000	370	575	113	1.5”	1.5”	72	98938516	FSV10031
CR(i) 10-4	610	950	1000	370	787	113	1.5”	1.5”	75	98938518	FSV10041
CR(i) 10-5	610	950	1000	370	817	113	1.5”	1.5”	81	98938531	FSV10051
CR(i) 10-6	610	950	1000	370	847	113	1.5”	1.5”	83	98938533	FSV10061
CR(i) 15-2	610	1000	1000	370	770	123	2”	2”	89	98938570	FSV15021

3 PHASE - 380-415V 3ph 50Hz

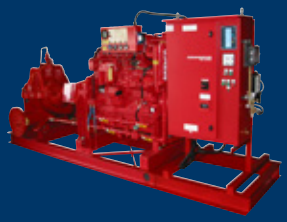
PUMP TYPE	LENGTH L1 (mm)	LENGTH L2 (mm)		WIDTH W (mm)	HEIGHT H (mm)	PIPEWORK CENTRELINE HEIGHT CL (mm)	SUCTION DIAMETER (mm)	DELIVERY DIAMETER (mm)	UNIT WEIGHT (KG)	PUMP SET PRODUCT CODE	
		BASIC	PREMIUM							BASIC	PREMIUM
CR(i) 10-6	610	950	1000	370	850	113	1.5”	1.5”	77	98938538	FSV10063
CR(i) 10-7	610	950	1000	370	900	113	1.5”	1.5”	85	98938563	FSV10073
CR(i) 10-8	610	950	1000	370	930	113	1.5”	1.5”	86	98938566	FSV10083
CR(i) 10-9	610	950	1000	370	960	113	1.5”	1.5”	90	98938411	FSV10093
CR(i) 10-10	610	950	1000	370	1030	113	1.5”	1.5”	97	98938459	FSV10103
CR(i) 10-12	610	950	1000	370	1080	113	1.5”	1.5”	104	98938462	FSV10123
CR(i) 10-14	610	950	1000	370	1200	113	1.5”	1.5”	108	98938514	FSV10143
CR(i) 15-2	610	1000	1000	370	767	123	2”	2”	84	98938582	FSV15023
CR(i) 15-3	610	1000	1000	370	831	123	2”	2”	91	98938589	FSV15033
CR(i) 15-4	610	1000	1000	370	920	123	2”	2”	102	98938599	FSV15043
CR(i) 15-5	610	1000	1000	370	960	123	2”	2”	103	98938600	FSV15053
CR(i) 15-6	610	1000	1000	370	1054	123	2”	2”	125	98938662	FSV15063
CR(i) 15-7	610	1000	1000	370	1099	123	2”	2”	127	98938664	FSV15073
CR(i) 15-8	610	1000	1000	370	1132	123	2”	2”	139	98938681	FSV15083
CR(i) 15-9	610	1000	1000	370	1177	123	2”	2”	142	98938683	FSV15093
CR(i) 20-7	610	1000	1000	370	1090	123	2”	2”	139	98938701	FSV20073

FireSAFE Domestic Range

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

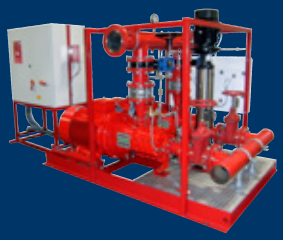
High Hazard Fire Sets

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



FM / UL Fire Sets

FM / UL certified sets for use with sprinkler installations for a wide range of properties.



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.

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