EBARA PUMP

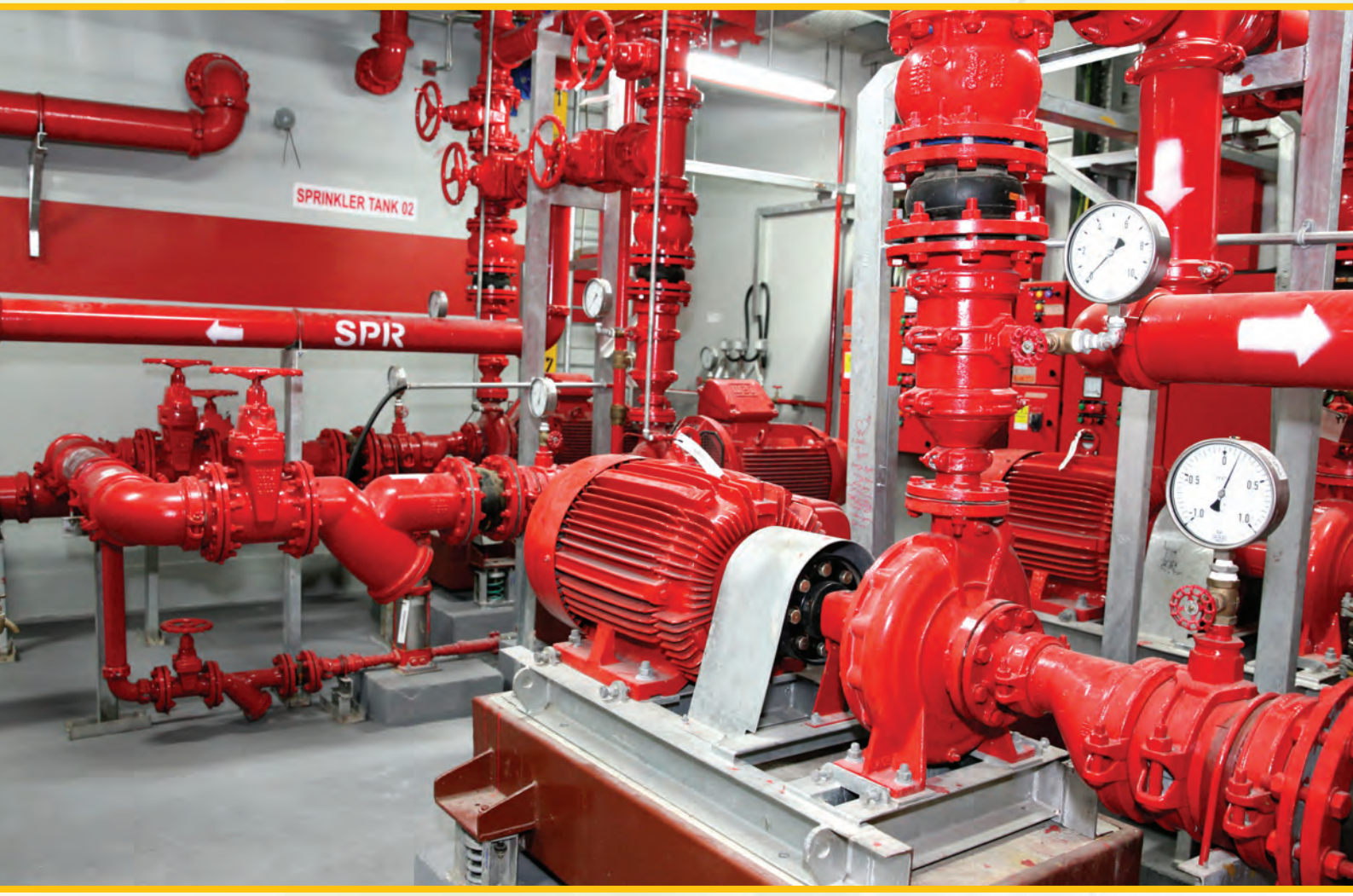
Quality since 1912

EBARA
FIRE PUMP SYSTEM

NFPA®

LLOYD'S REGISTER QUALITY ASSURANCE · ISO9001

UL



Ahead Beyond

EBARA Fire Pumps

Protecting Your Most Important Asset at All Times

When it comes to fire safety for your building, the fire pumps remain the cornerstone of your internal and external fire fighting protection system. EBARA offers a complete range of quality Fire Pumps for your complete peace of mind without any compromise on performance or reliability, ensuring your buildings are constantly protected with the most reliable pump system in any emergency situations whenever it's called for. A high quality manufacturing standard coupled with compliance to various international fire standards such as FM, UL, NFPA and local Malaysian BOMBA guidelines, Ebara ensures all its fire standard pumps meet regulatory standards that are required for a safe working system at all times.

Ebara offers a complete range of both Motor Driven, Engine Driven or Jockey pumps for these applications:

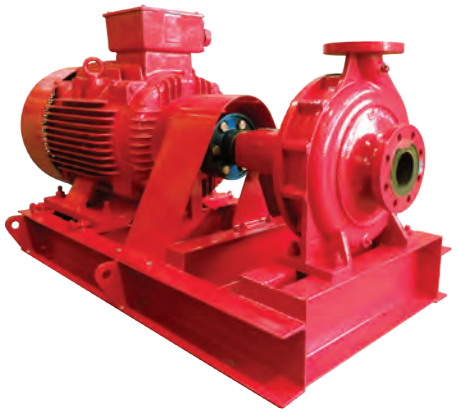
- Sprinkler Pumps
- Wet Riser Systems
- Hose Reel Systems
- External Reticulation Hydrants
- And all kinds of other applications where pressurized water systems are required

EBARA has also established a fully comprehensive testing facility in Malaysia with advanced testing and calibration devices to accurately inspect and test the operation of each fire pump system to the required level of compliance and ensure the quality standard expected to your installation.

Talk to us today to ensure peace of mind on your building safety.

EBARA Fire Pump Systems

TYPES OF FIRE PUMPS AVAILABLE



End-Suction Pumps - FS/GS series

- Conforming to Japan JIS B-8301 or international standards of EN 733 (DIN 24255)
- Flow Rate from 300 to 18,000 lit/m
- Working Pressure up to 14 bar
- Easy removal and maintenance with BPO(Back Pull Out) design enables disassembly and inspection of rotating elements without disconnecting suction and discharge pipework
- Top centerline discharge, foot support under casing for maximum resistance to misalignment and distortion from pipe loads
- Available with gland packing or mechanical sealing
- With approved UL Listing for some models

Horizontal Split Case Pumps - CNA/CNPA

- Flow Rate from 60 to 1,200 m^3/hr
- Working Pressure up to 15 bar
- Compact design for easy installation and space saving
- Axially split casing allows easy removal of the top casing for inspection and service
- Available in horizontal, vertical configuration as well as clockwise or counter clockwise rotation to simplify pump room layout
- With approved UL Listing for some models

UL LISTED

FM APPROVED

Diesel Engine Driven Pumps

- Pumps driven by diesel engines for backup in case of power supply cut-off in case of emergencies
- With End-suction or Split Case pumps depending on flow and pressure requirements
- Engine and pump combination conforming to international fire standards (where applicable)
- Fully operationally ready with main line pressure actuation and automatic start up
- Complete with local and remote control for fully automatic operation

Vertical Multistage Pumps

- For Hosereel or Jockey pump system
- Used for small to medium flow with high head application
- Typically also as Jockey pumps to maintain continuous pressure in the system caused by small leakages, as well as prevent main fire pumps from starting due to non-fire related need.
- Flow Rate from 30 to 1,000 lit/min
- Working Pressure up to 16 bar
- Compact design for easy and space saving installation with in-line pipework
- Robust and reliable maintenance free design

FIRE PUMP SELECTION

According to Occupancy Classification of Buildings

Conforming to BS 5306 : Part 2 (1990) and LPC Rules for Automatic Sprinkler Installations

Occupancy Classification

Category	Description	Types of Buildings	Example of Building Categories
LIGHT HAZARD	Non-industrial premises < 126m between construction of not less than half-hour fire resistance, where the amount and combustibility of contents are low	Non-industrial	Offices, libraries, hospitals, schools, etc
ORDINARY HAZARD	Commercial and industrial premises involving the handling, processing and storage of mainly combustible materials, which are unlikely to burn intensely in the early stages of a fire.	Group 1 (OH 1)	Breweries, dairies and restaurants
		Group 2 (OH 2)	Engineering works, garages, medium size retail shops, etc
		Group 3 (OH 3)	Soap factories, sugar refineries, aircraft factories, etc
		Group 3 Special (OH 3 Special)	Film and television studios, cotton mills, match factories, etc
HIGH HAZARD	Commercial and industrial premises with abnormal fire loads where there are materials of extra hazardous nature likely to develop rapid and intensely-burning fires, or those involving high-piled storage	Category 1	Process high hazards
		Category 2	High-piled storage hazards
		Category 3	Potable spirit storage hazards
		Category 4	Oil and flammable liquids hazard

EBARA Pump Model Selection according to Occupancy Classification

Hazard Class	Sprinkler Height (M)	Nominal Rating		Characteristic not less than				EBARA FIRE PUMP MODEL	Driver Rating (WITH ORIFICE PLATE INSTALLED)		
		Flow (l/min)	Pressure (kPa)	Flow (l/min)	Pressure (kPa)	Flow (l/min)	Pressure (kPa)		Motor kW	RPM	Engine kW
EXTRA LIGHT	15	300	150	225	370	N/A		GS 32-160.1/177	4	2900	3.5 kW @ 2900 RPM
	30	340	180	225	520			GS 32-250/222	5.5	2900	7.5 kW @ 2900 RPM
	45	375	230	225	670			GS 32-250/262	5.5	2900	7.5 kW @ 2900 RPM
ORDINARY GROUP 1 (OH 1)	15	900	120	540	220	375	250	GS 40-160/150	5.5	2900	27 kW @ 2950 RPM
	30	1150	190	540	370	375	400	GS 40-160/177	11	2900	27 kW @ 2950 RPM
	45	1340	260	540	520	375	550	GS 50-200/203	15	2900	27 kW @ 2950 RPM
	60	1500	330	540	670	375	700	GS 50-250/221	18.5	2900	27 kW @ 2950 RPM
	75	1650	400	540	820	375	850	GS 50-250/254	30	2900	42 kW @ 2950 RPM
ORDINARY GROUP 2 (OH 2)	15	1700	130	1000	250	725	290	GS 65-160/165	11	2900	27 kW @ 2950 RPM
	30	2050	200	1000	400	725	440	GS 65-200/203	15	2900	27 kW @ 2950 RPM
	45	2350	260	1000	550	725	590	GS 65-200/219	22	2900	27 kW @ 2950 RPM
	60	2650	320	1000	700	725	740	GS 65-250/254	30	2900	42 kW @ 2950 RPM
	75	2900	380	1000	850	725	890	GS 65-315/258	45	2900	60 kW @ 2950 RPM
ORDINARY GROUP 3 (OH 3)	15	2250	140	1350	290	1100	320	GS 65-160/165	15	2900	27 kW @ 2950 RPM
	30	2700	200	1350	440	1100	470	GS 80-200/200	22	2900	27 kW @ 2950 RPM
	45	3100	250	1350	590	1100	620	GS 80-200/222	30	2900	42 kW @ 2950 RPM
	60	3400	320	1350	740	1100	770	GS 80-250/255	37	2900	42 kW @ 2950 RPM
	75	3700	380	1350	890	1100	920	GS 80-250/270	45	2900	60 kW @ 2950 RPM
ORDINARY GROUP 3 SPECIAL (OH 3 SPECIAL)	15	2650	190	2100	300	1800	350	GS 80-160/177	22	2900	27 kW @ 2950 RPM
	30	3050	240	2100	450	1800	500	GS 80-200/200	30	2900	42 kW @ 2950 RPM
	45	3400	310	2100	600	1800	650	GS 80-200/222	37	2900	42 kW @ 2950 RPM
	60	3750	370	2100	750	1800	800	GS 80-250/255	55	2900	60 kW @ 2950 RPM
	75	4050	430	2100	900	1800	950	GS 80-250/270	75	2900	103 kW @ 2950 RPM

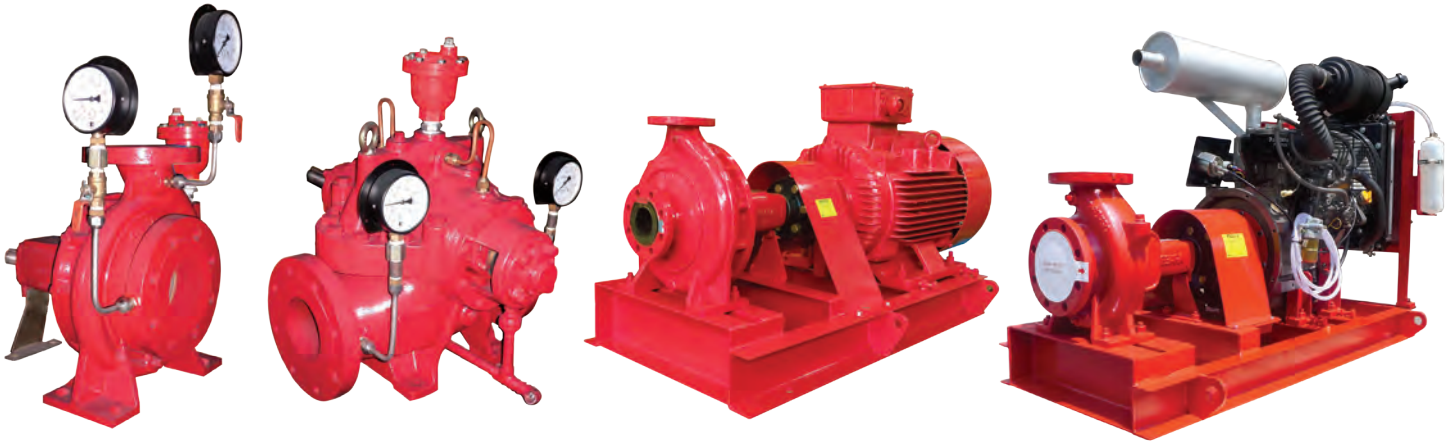
EBARA Fire Pump Systems

EBARA FIRE PUMP SELECTION

According to General Flow and Pressure Guidelines

Flow Range (lit/min)	Pressure Range (mH)	EBARA FIRE PUMP MODEL	MOTOR DRIVEN		ENGINE DRIVEN
			Motor kW Range	RPM	Engine kW (Max)
300-600	20-33	GS 32-160	3-7.5	2900	7.5 kW
400-800	30-50	GS 32-200	5.5-15	2900	27 kW
400-700	60-80	GS 32-250	7.5-18.5	2900	27 kW
600-1200	20-36	GS 40-160	4-11	2900	27 kW
600-1200	40-55	GS 40-200	7.5-18.5	2900	27 kW
600-1200	60-80	GS 40-250	11-30	2900	42 kW
800-1200	80-120	GS 40-315	22-55	2900	60 kW
800-1600	20-34	GS 50-160	5.5-15	2900	27 kW
900-1800	40-60	GS 50-200	11-30	2900	42 kW
1000-1800	70-90	GS 50-250	22-45	2900	60 kW
1200-2000	90-140	GS 50-315	30-90	2900	103 kW
1600-2500	20-34	GS 65-160	11-22	2900	27 kW
1600-2500	35-60	GS 65-200	11-37	2900	42 kW
1600-2500	60-90	GS 65-250	22-75	2900	103 kW
2000-4000	90-120	GS 65-315	55-90	2900	103 kW
2000-4000	30-60	GS 80-200	22-75	2900	103 kW
3000-5000	60-90	GS 80-250	45-90	2900	103 kW
3500-5500	90-140	GS 80-315L	90-160	2900	197 kW
4000-6000	30-55	GS 100-200	22-75	2900	103 kW
4000-6500	50-90	GS 100-250	37-90	2900	103 kW
4000-6500	80-120	GS 100-315L	90-200	2900	246 kW
6000-9000	30-50	GS 125-200	45-90	2900	103 kW
6000-10,000	50-90	GS 125-250L	75-200	2900	246 kW
6000-10,000	75-110	GS 125-315	110-200	2900	246 kW
8000-12,000	30-40	GS 150-200	55-110	2900	125 kW
12,000-18,000	40-60	GS 150-250	132-250	2900	279 kW

Please contact EBARA Pump Malaysia should the flow and pressure range above does not meet your requirement.



EBARA Fire Pump Systems

EBARA LISTED FIRE PUMPS

Fire Pumps with FM/UL Listing and Compliance to NFPA 20 Standards

For a globally recognized fire standard complying to NFPA 20 guidelines and underwriter's insurance requirements, EBARA's range of FM/UL Listed fire pumps are the preferred choice for your facility with a fully recognized approval certificate from UL (Underwriter Laboratories). Ebara's range of FM/UL Listed pumps are supplied as a complete package consisting of UL Listed pumps, motors and stand-by diesel engine driver, Jockey pump, UL Listed control panels and fire accessories to the requirements of NFPA 20 standards.

End Suction Pumps (FSPA)

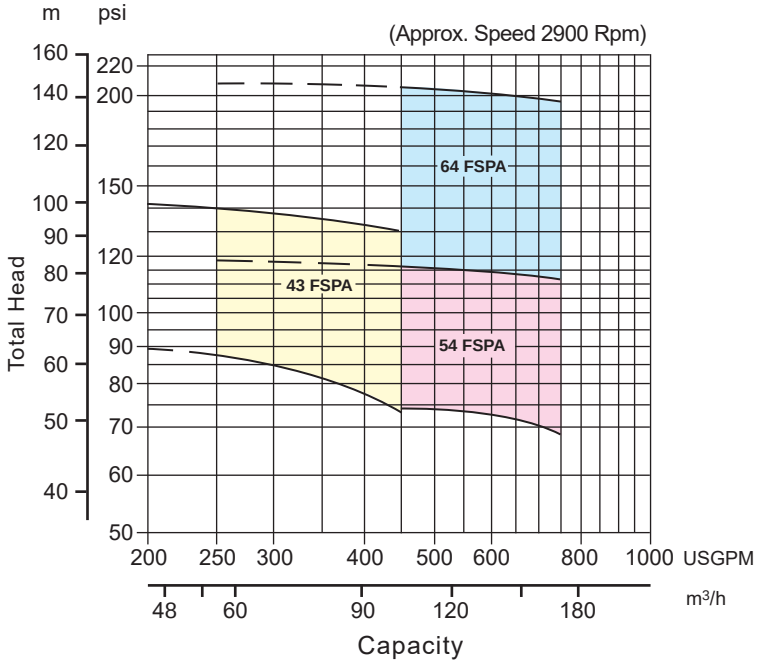
- Flow Rate from 250 to 750 Usgpm
- Working Pressure up to 14 bar
- Easy removal and maintenance with a BPO (Back Pull Out) design
- Top centerline discharge, foot support under casing for maximum resistance to misalignment and distortion from pipe loads
- Complete with air relief valve and suction/discharge pressure gauges

Horizontal Split Case Pumps (CNPA)

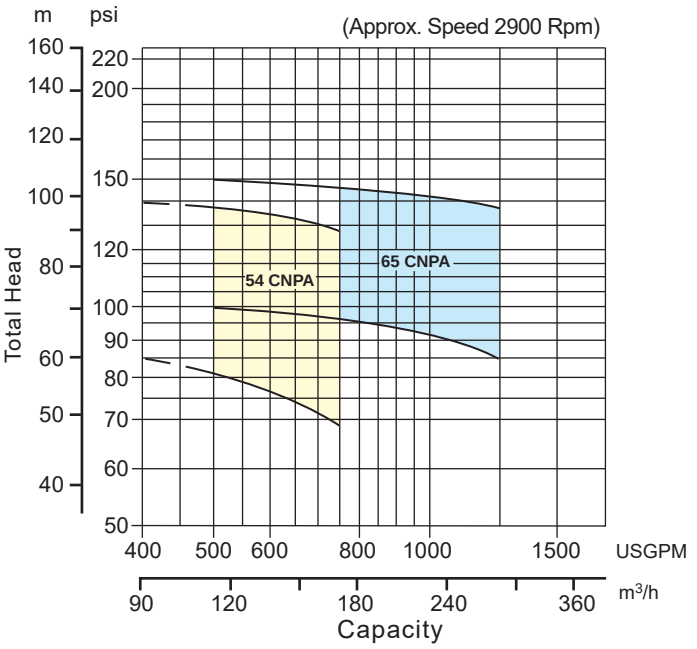
- Flow Rate from 500 to 1,250 Usgpm
- Working Pressure up to 10 bar
- Compact design for easy installation and space saving
- Axially split casing allows easy removal of the top casing for inspection and service
- Available in horizontal or vertical configuration, as well as clockwise or counter clockwise rotation to simplify pump room layout

SELECTION CHART

End Suction Pump type FSPA



Split Case Pump type CNPA



For actual pump model selection, please ask for our NFPA 20 compliance curves for each pump model from your EBARA representat

EBARA Fire Pump Systems

EBARA LISTED FIRE PUMPS

Fire Pump Controllers and Diesel Engines with FM/UL Listing complying to NFPA 20 Standards

EBARA offers a complete line of UL Listed controller panels for automatic control of your fire pumps, ensuring a dedicated package conforming to full NFPA compliance standards. The range consists of Electric, Diesel Engine and Jockey Pump controllers with advanced electronic sensing, monitoring and protection capability with a host of safety features designed to ensure a complete and safe fire protection system for your facility.

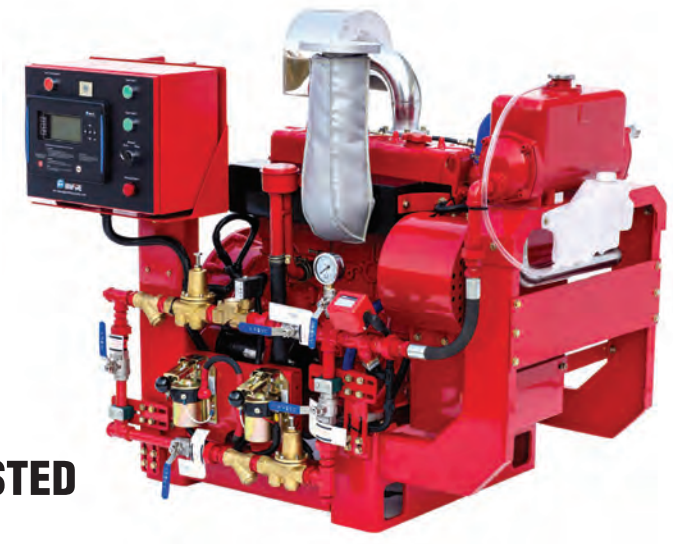
Electric Fire Pump Controller Panels

Diesel Engine Pump Controller Panels

Jockey Pump Controller Panels

Diesel Engines

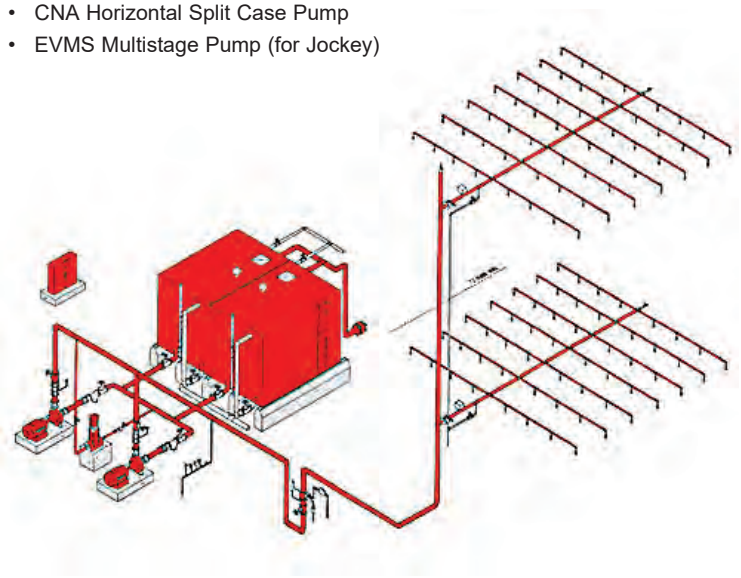
Where a power blackout can render the main pumps un-operational during a fire, EBARA offers a complete range of UL Listed Diesel Engine drivers for emergency operation with automatic starting capability when the line pressure drops below its setting. With engine availability from 27 kW up to 270 kW in 2900 rpm and even larger kW powers in reduced speed, a full range of power options are available for all our fire pumps to ensure pump availability at all times to fight the worst fire. And depending on your facility requirements, all engines can come with either heat exchanger system OR fan/radiator cooling combination and are equipped with various parameter sensors and electronic management to ensure a completely safe and dedicated working fire protection system.



DIAGRAMMATIC EXAMPLES OF VARIOUS FIRE PUMP INSTALLATIONS

Types of EBARA Pump for Sprinkler Application:

- GS End-Suction Fire Pump (Motor and Engine Driven)
- CNA Horizontal Split Case Pump
- EVMS Multistage Pump (for Jockey)



Sprinkler System

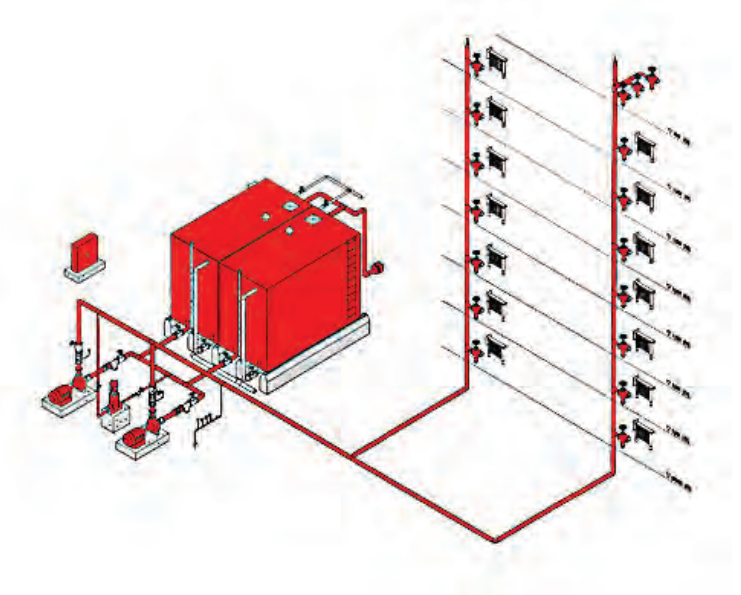
A sprinkler system is an integrated system of pipings, connected to a water supply, with listed sprinklers that automatically initiate water discharge over a fire area. Usually the sprinkler system also includes a control valve and a device for activating an alarm when the system operates.

Each sprinkler has its own individual heat sensitive element (such as a glass bulb filled with a fluid consisting of a non-toxic proprietary glycerine solution) to detect a fixed temperature of approximately 68°C/155°F. When the room or space temperature reaches this point, the sprinkler element is activated.

As the fluid is heated it expands and shatters the glass bulb enclosure. Sprinklers are extremely reliable and do not activate without heat and only the sprinkler closest to the fire will operate, thus the phrase “One-At-A-Time Activation”.

Types of EBARA Pump for Dry and Wet Riser Application:

- CDX Close-coupled or EVMS Multistage Pump
- 3D Series Close-Coupled Pump



Wet Riser System

Dry and Wet Riser Mains are intended for use by the Fire Service to provide a readily available means of delivering considerable quantities of water to extinguish or prevent the spread of fire in large buildings.

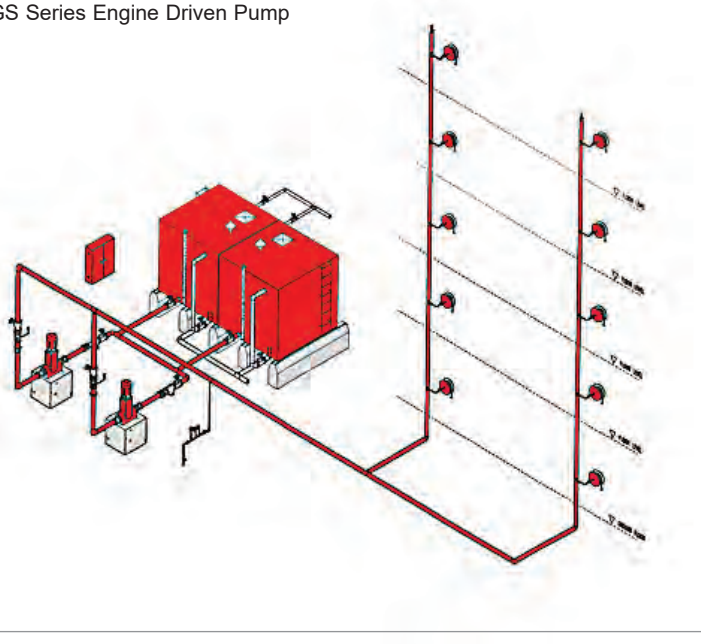
Typically, Dry Risers are used in low level buildings where there are excessive distances from entrances (above 60 m) OR in buildings where there are floors higher than 18m above Fire Service access level (to a maximum of 50m).

Wet Risers are used in high storey buildings where there are floors higher than 50m above Fire Service access level.

DIAGRAMMATIC EXAMPLES OF VARIOUS FIRE PUMP INSTALLATIONS

Types of EBARA Pump for Hose Reel Application:

- EVMS Multistage Pump
- 3D Series Close-Coupled Pump
- GS Series Engine Driven Pump



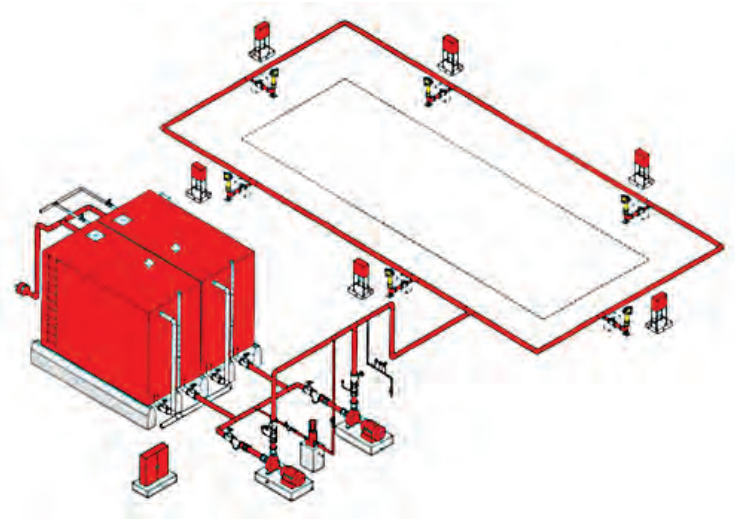
Hose Reel System

Hose Reel systems are intended for the occupant to use during the early stages of fire before it spreads. It comprises of hose reel pumps, fire water tank, hose reels, pipe work and valves. The hose reel system generally serves as an initial fire-fighting aid. When the hose reel is brought into use the pressure in the pipe immediately downstream of the pump check valves will drop below the pressure setting of the hosereel line, thereby triggering the pump to come into operation automatically to feed a steady supply of water to discharge through the hose.

Fire-fighting hose reels must be easily accessible throughout the building for easy access and should be properly housed in glass fronted cabinet secured under lock and key.

Types of EBARA Pump for Hydrant System:

- GS Series (Motor or Engine Driven)
- CNA Series (Motor or Engine Driven)



Reticulated Hydrant System

Usually designed for buildings with a large land area or where there are no nearby public hydrants, the Fire Hydrant installation consists of pipework connected directly to the water supply mains to provide water to each and every hydrant outlet and is intended to provide water for the fireman to fight a fire. The water is discharged into the fire engine from which it is then pumped and sprayed over a fire.

Where the water supply is not reliable or inadequate, hydrant pumps should be provided to pressurize the fire mains. These are typically pumps with large flow capacities and can be driven by both motor and a diesel engine as stand-by.

EBARA in Malaysia

Ebara Pumps Malaysia (EPM) in Subang Jaya, Selangor

Testing facilities in EPM

Founded in 1912, EBARA Corporation Japan has grown to become one of the world's principal manufacturers of industrial machinery, specializing in pumps and other related products. As a leading global pump manufacturer today, EBARA owns major manufacturing facilities around the world duly certified to ISO quality standards and are able to offer all kinds of Standard, Custom, Engineered and API Process pumps for a wide ranging applications within Building Services, General Industries, Water Supply, Sewage/Wastewater Treatment and many others.

EBARA PUMPS MALAYSIA Sdn Bhd (EPM), incorporated in January 2001 as a subsidiary of EBARA Corporation, Japan is responsible for the sales and marketing of EBARA pumps and related equipment in Malaysia. By providing value-added products through continuous innovation, EPM strives to offer high quality pumping solutions to meet and fulfil customer needs and expectations at all times.

* Dimensional details are provided for reference only.
* All specifications are subject to change without prior notice.

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Approval No.0048594
Approval No.0049022

Authorised dealer: