ONE STOP
PUMPING SOLUTIONS

C.R.I. PUMPS

Pumping trust... Worldwide.

PRESSURE BOOSTING SYSTEMS

C.R.I. PUMPS

Pumping trust... Worldwide.

THE BEGINNING

of C.R.I., way back in 1961, was a resolute attempt to produce a few irrigation equipments using the limited facilities of an in-house foundry. Eventually the founder's dream was coming true as the small production unit he started kept growing rapidly. Now, after more than five eventful decades, it is an enormous, widely reputed organization, which produces more than 1500 varieties of perfectly engineered pumps and motors and sells its products in numerous countries spread across 6 continents.

C.R.I. IS ONE AMONG

the few pioneers in the world to produce 100% stainless steel submersible pumps. Having achieved a record production capacity of over 2 million pumps per annum, today C.R.I. is rubbing its shoulders with the best brands in the world, with advanced technology and safety standards as its hallmarks.

THE INFRASTRUCTURE

of C.R.I. is pretty comprehensive with state-of-the-art machineries and high potential in-house R&D recognised by the ministry of science and technology, Govt. of India - all within its own covered area of 300,000 square metres. The production environment is accredited with ISO 9001 & 14001 certifications and the products are CE, UR/UL, IEC, TSE & ISI certified. The R&D team always stays in tune with the changing scenario and seldom fails in coming up with outstanding solutions every time.

NEEDLESS TO SAY,

behind this legendary growth lies the untiring, innovative, enthusiastic and dedicated team work. and, of course, a flawlessly maintained value system too. The name C.R.I. itself encapsulates the company's ethos: " Commitment, Reliability, Innovation".

HYDRO PNEUMATIC
PRESSURE BOOSTING SYSTEM

G E N E R A L

C.R.I's Pressure Booster Systems are built with care using advanced technology and controlling devices/equipments that ensure efficient operation and energy saving. Nowadays pressure booster system becomes an essential part of all buildings including individual houses. C.R.I's pressure booster systems are designed to meet wide range of applications and are customized to meet customer's requirements.

These pressure booster systems are built with all stainless steel C.R.I. vertical/ horizontal multistage pumps powered by C.R.I.'s IE - CLASS MOTORS. The control system is made with PLC / Micro controller / VFD for constant pressure, energy saving and fail-safe automatic operation. These systems are supplied as complete package including, manifold,pressure vessel, control panel with VFD/PLC/Micro controller, check/gate valves, pressure gauge, transmitters etc.

Much importance is given to reduce the noise level to ensure trouble free and quiet operation and intense care is taken to ensure lesser space occupation and make the system affordable across the world. It also serves as a best alternative for traditional over head tank system and thereby reduces water pollution and constructional cost etc.,

Simply saying C.R.I's pressure booster systems are highly reliable, more efficient, silent in operation, affordable, smart and are customized to suit any requirements.

MODEL IDENTIFICATION CODE

MV	HS	-	10/06T	3.0HP	100T	R	2+1	SSV	C	1	MS	CX	5
Pump Series	Hydro System		Pump Model	Motor Power in HP	Pressure Tank (if applicable)	Port Design (Round / PJE)	System Configuration	M. Seal Combination	Pump MOC	Manifold Code	Control Panel Code	Customiziation	Motor IE Class

Mechanical Seal Combinations

SSV*	Sic/Sic/FKM
TCV*	TC/Car/FKM

*Other Combinations available on request

Pump MOC

C	CI Version
S	SS 304 Version
N	SS 316 Version

Manifold Code & MOC

0	MS - Without GI
1	MS - Galvanized
2	SS 202
3	SS 304
4	SS 316
5	Without Manifold

CX	Control Panel Customized
MX	Manifold Customized Design

Motor IE Class

2 - IE2; 3 - IE3; 4 - IE4; 5 - IE5

Control Panel Code & Description

P	Single VFD Multi Pump Control Panel - BooStar
i	Single VFD Multi Pump Control Panel
P+	Single VFD Multi Pump Control Panel - Customized
E	Fixed Speed Control Panel - Isobaric
F	Fixed Speed Control Panel
MS	Multi VFD Multi Pump Control Panel
M	Multi VFD Multi Pump Control Panel - Customized
HS	Multi VFD Multi Pump Control Panel - HVAC
HS+	Multi VFD Multi Pump Control Panel - HVAC - Customized

Model Examples :

Variable Speed	MVHS-10/06T 3.0HP R 3+1 SSV N 4 MS 5
3.0HP, MVN-10/06TR5-SSV; SS316 Manifold, MS Series - Multi VFD Multi Pump Control Panel, IE5 Motors with SS316 Pumpsets; Suitable for 3W+1S Configuration	

Fixed Speed	MVHS-15/08T 10.0HP R 2+1 SSV C 1 E 3
10.0HP, MVC-15/08TR3-SSV; MS-GI Galvanized Manifold, E-Series -Fixed Speed Control Panel; IE3 Motors with Standard Pumpsets; Suitable for 2W+1S Configuration	

MVHS SERIES

APPLICATIONS

Commercial Buildings:

Corporates; Hotels; Offices; Airports; Institutes & Schools; Shopping Malls & Complexes; Leisure Parks & Facilities; etc.,

Irrigation Systems:

Modern Irrigations such as Sprinkler; Drip feeds, etc.,

Automated water supply to Nursery & Green Houses.

Industries:

General Water Supply; Industrial Washing Systems

Industrial washing; high-pressure cleaning; Condensate & Boiler Feed.

General Public Sector:

Apartments; Villas; Small Houses; Landscapes; etc.,

OPERATION RANGES

Max. Flow	:	1200 m^3/h
Max. Head	:	300 m
Max. Power	:	110 Kw
Max. Liquid Temperature	:	70°C

MATERIAL OF CONSTRUCTION

Pump	:	SS
Valves	:	Nickel Plate / CI / SS
NRV	:	Brass / CI
Base frame	:	GI / SS
Manifold	:	GI / SS

ADVANTAGES

- Sophisticated water pressure throughout the building round the clock and ensures Efficient & Constant Water Pressure Management.
- No manual interference to operate the pumping system.
- Low noise & Vibration level, tough & reliable, low operating & maintenance cost
- Pressure comfort for modern bathroom gadgets.
- Due to multiple pumps operating in parallel, failure of single pump does not lead to complete system breakdown.
- Reliable automation.
- It helps to Improve building elevation and overall aesthetics.
- Shorter downtime and low-pressure protection.

KEY FEATURES AND CONTROLS

Pump Operationals

IMS Logic | Cascading | Faulty Pump Isolation | Elapsed Running Hours | Maintenance Call / Life Timer | Auto-manual Selector | Warm Up | RTC

Pressure Feedbacks

Actual Pressure | Set Point | Pressure Transducer Calibration

Protection Functions

Pump Dry Run (CT) | Sump Empty (Float) | Single Phase Prevention | Overload | Phase Reversal Preventer | Phase Sequence | Emergency Off | Limit ON/OFF Frequency | Three Level Passwords | Low Pressure Protection | Pressure Set Lock

Alarms – Visual / Audible

Pump Dry Run (CT) | Sump Empty (Float) | Single Phase Prevention | Overload | Phase Reversal Preventer | Phase Sequence | Emergency Off | Limit ON/OFF Frequency | Three Level Passwords | Low Pressure Protection | Auto Convert VFD Fault To DOL Operation

Communication Protocol

Modbus RS 485 (Optional: Ethernet)

SYSTEM PIPING

The Suction & Delivery manifold is a device that connects the system piping to the pump. It is made of MS/SS material and has a pressure gauge and a pressure transmitter on the delivery side. The pressure gauge is filled with glycerin and the pressure transmitter is made of stainless steel. The suction side has a pressure switch or a float switch (optional) to detect low suction pressure.

SELECTION CRITERIA

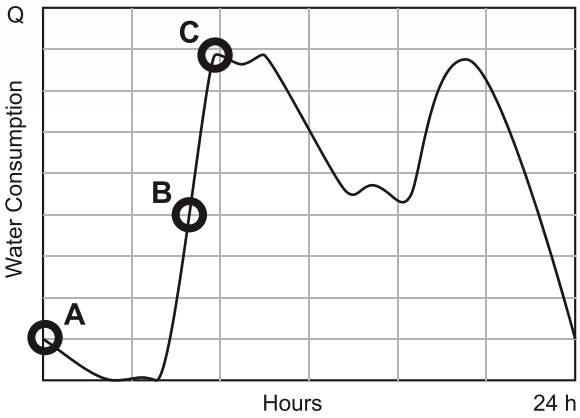
The efficiency of a booster system depends on how well it is selected or sized for the specific application. To select or size a booster system, several parameters need to be considered and calculated, such as the type of application, discharge, head, required outlet pressure, piping system etc.

The water discharge or requirement for a given application varies depending on whether it is for hotels, schools, hospitals, offices, etc. The peak consumption and part load conditions should be estimated and used to determine the capacity and number of pumps needed.

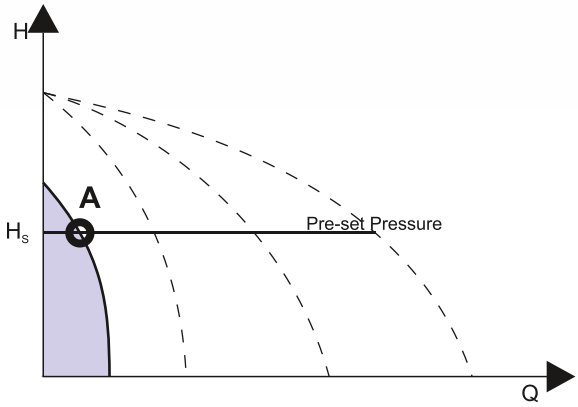
The pressure required for a given system also depends on the application and numerous factors that affect it, such as the top point of the building, friction losses in the pipes and fittings, suction conditions, and desired output pressure etc.

LOAD PATTERNS

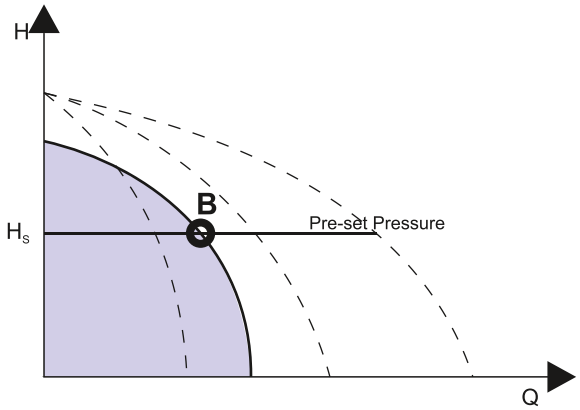
The system intelligently manages the variation in water consumption during the day, which depends on the type of application. It does this by adjusting the frequency of the pumps and activating or deactivating them as needed. The system maintains the pressure within the pre-set level by switching off the excess pumps.



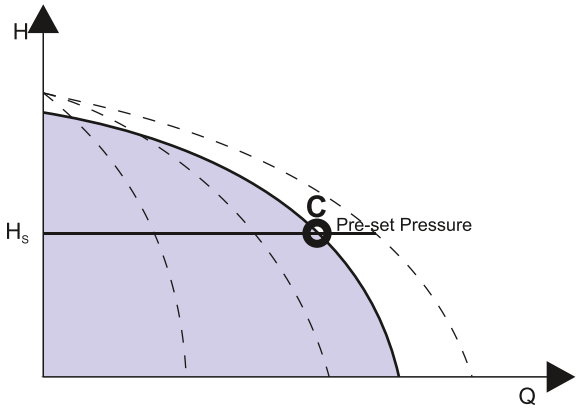
LOAD / CONSUMPTION PROFILE



MINIMUM CONSUMPTION - 1 PUMP OPERATION



MODERATE CONSUMPTION - 2 PUMP OPERATION



PEAK CONSUMPTION - 3 PUMP OPERATION

MHHS SERIES

KEY FEATURES

- Automatic cascade control of pumps by means of one / two pressure switch(es).
- Automatic change-over at any start / stop cycle
- Start & Stop delays to prevent simultaneous starting / stopping of the 2 pumps.
- Dry running protection by means of current sensing program.
- Automatic circuit breaker protecting the motor against short circuit and overload.
- Simple & Robust construction.

APPLICATIONS

Residential	Gardening
Apartments	Hospitals, Hotels, Schools
Small Farms	Small Industries
Washing System	Sprinkler System

OPERATION RANGES

Max. Flow	:	56 m^3/h
Max. Head	:	50 m
Max. Power	:	2.2 Kw
Max. Liquid Temperature	:	70° C

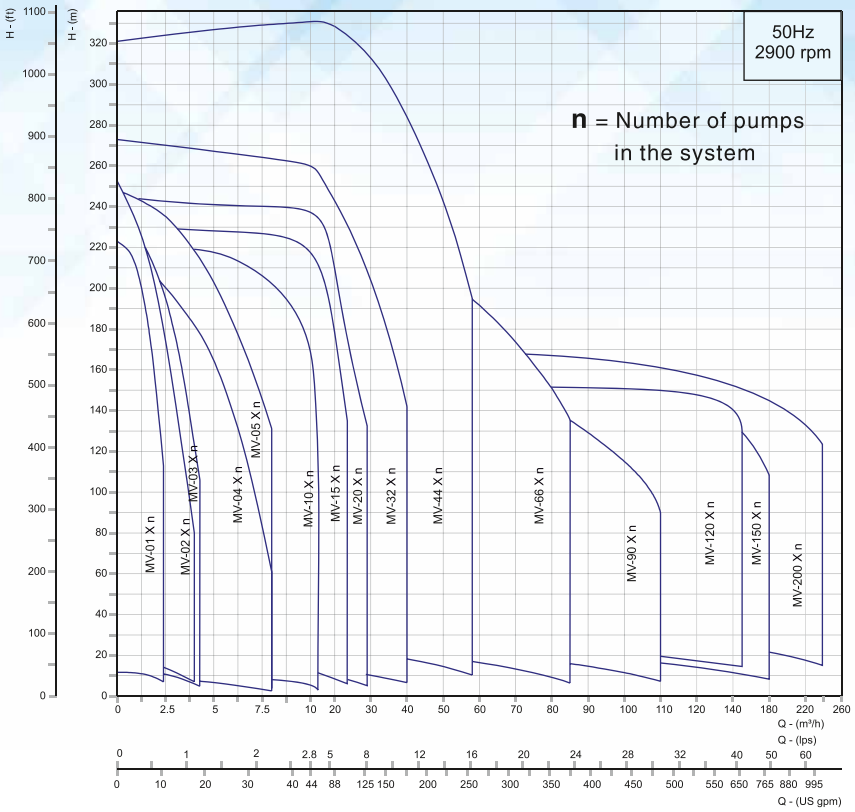
MATERIAL OF CONSTRUCTION

Pump	:	SS
Ball Valves	:	Nickel Plate / SS
NRV	:	Brass
Base frame	:	GI / SS
Manifold	:	GI / SS

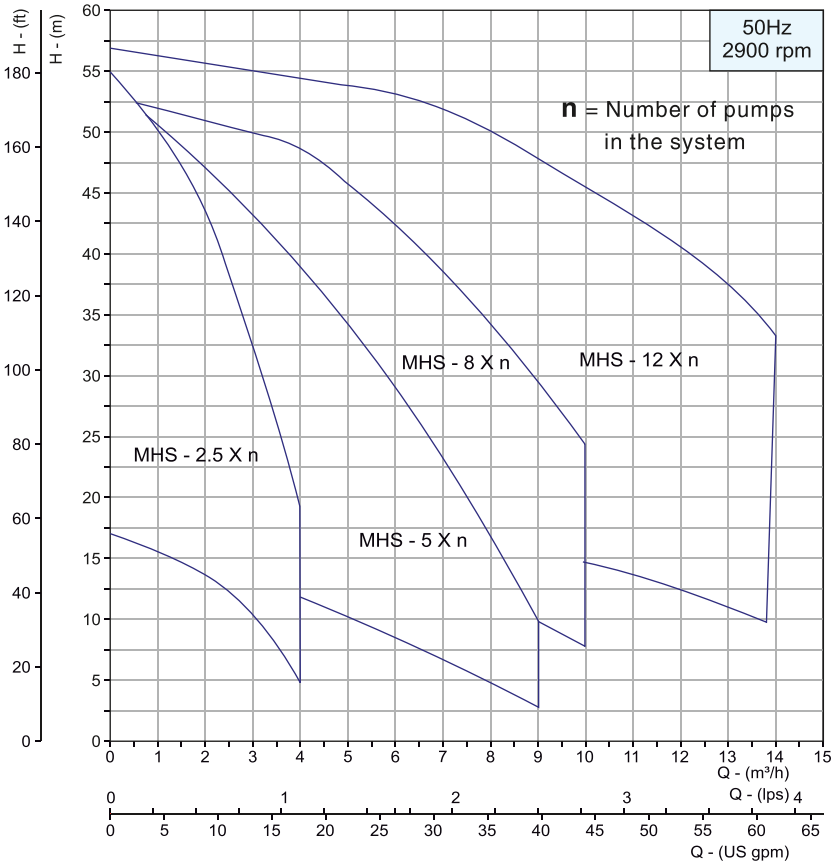
LOGICAL CONTROL PANELS

FEATURES	P Series	MS Series	Smart Panels	E Series
Controller Interface				
iOT Solutions	✗	✗	✓	✗
Ammeter & Voltmeter	✓	✗	✓	✓
BMS Alert & Test Run	✓	✗	✓	✓
IMS Logic	✓	✓	✓	✓
Dry Run	CT/Float	CT/Float	CT/Float	CT
Emergency Off	✓	✓	✓	✓
Error Log	✓	✓	✓	✗
Faulty Pump Isolation	✓	✓	✓	✓
Float Switch Provision	✓	✓	✓	✓
Graphical Interface	✓	✗	✓	✗
HMI	✓	✗	✓	✗
ON/OFF Frequency Limit	✓	✗	✓	✓
Maintanence Call	✓	✓	✓	✗
Overload Protection	✓	✓	✓	✓
Password Protection	✓	✓	✓	✓
Pressure Lock	✓	✗	✓	✗
Pressure Switch	✗	✗	✗	✓
Pressure Transmitter	✓	✓	✓	✗
RS 485 Modbus	✓	✗	✓	✗
Single Phase Design	✗	✗	✗	✓
Single Phase Preventer	✓	✓	✓	✓
Phase Reversal	✓	✓	✓	✓
Standby Pump Selection	✓	✗	✓	✗
Warm Up	✓	✗	✓	✗

PERFORMANCE CURVE
MVHS SERIES



PERFORMANCE CURVE
MHHS SERIES



W I N N I N G W A Y S

When you have a good thing going it is quite in the fitting of things that recognitions come our way. Several prestigious awards, which decorate our shelf, say it all. These rewards not only acknowledge our position as a leader in the water pump industry but also serve as reminders about what the customer expects from a winner. And we, as ever, have our ears perfectly tuned to customer expectations.

C.R.I. PUMPS PRIVATE LIMITED

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