



**MECHLION**<sup>®</sup>  
**PUMPS**



**SUBVAR**

Submersible Variable drive Booster system 50 Hz

**No More**

**Pressure problems**

**Nagging noise**

**Space constraint**

**Pump flooding**

**The most Versatile and advanced  
Booster system for your homes**



**Packaged Submersible Variable  
Drive Booster system**

The **MECHLION™ SUBVAR** Submersible Variable frequency drive booster system was built with one simple goal in mind - to be the Most Unique, compact, Silent and reliable Residential Booster sets in the market for residential, light commercial and irrigation use.

**MECHLION™ SUBVAR** drive is All-in-one Packaged submersible booster designed system. It uses latest New-Gen Variable frequency technology to give you a constant desired pressure throughout your homes. SUBVAR drive continuously monitors system, making sure that you have good, reliable pressure when you want it

**MECHLION™ SUBVAR** drive ensure constant pressure by advanced variable frequency drives regardless of the demand. No more worrying of the pres

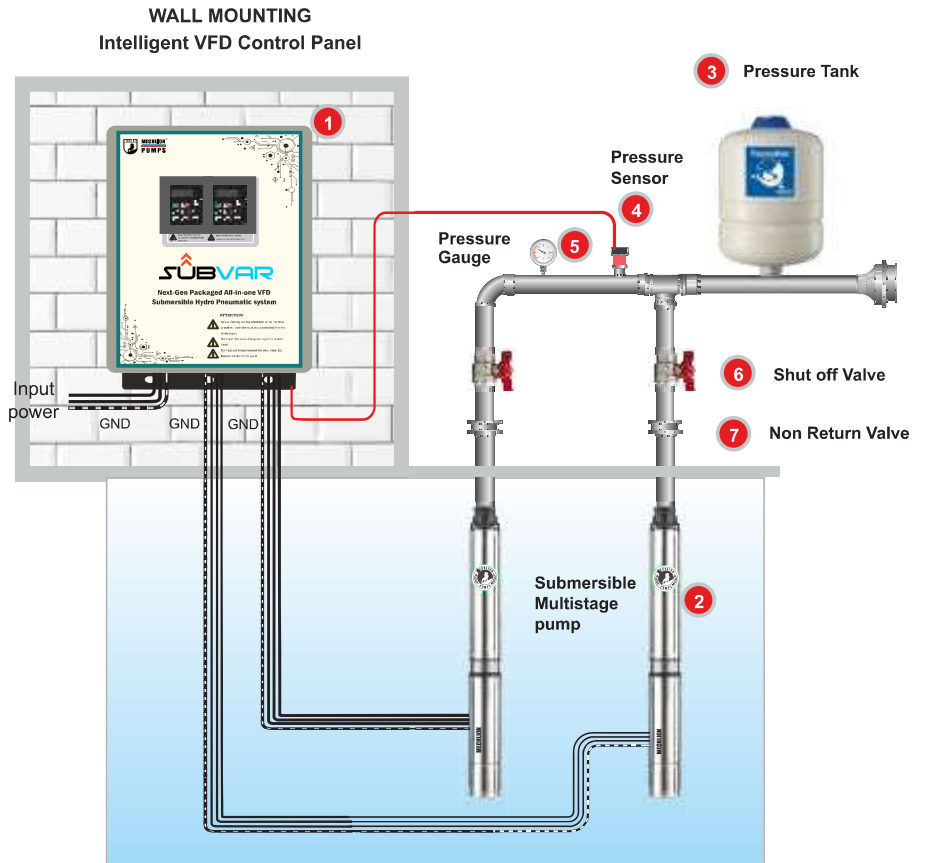




# Constant & Equal Pressure, Everywhere

No matter whether you take shower, do your laundry, water your garden and use in your kitchen, all at the same time. The pressure remains exactly what you desired for and that too consistently without any fluctuations.

**MECHLION™ SUBVAR** drive is a easy to install All-in-one fully packaged system complete with Pump set, controller, Pressure sensor, Pressure switch, Valves and pressure tank. So that the installer needn't worry on missing specified accessories. The installer has to complete the plumbing and Installation with the given accessories as per instructions and start using it.



## Core Components



### Encapsulated Design Motor

Advanced Encapsulated Canned type motor specially designed for VFD application complements to the reliability and long time performance of the pump



### 100 % Stainless Steel pumps

100 % stainless steel ( SS304) submersible multistage pumps ensures rust free , long lasting and high efficiency pumps that guarantees you saving in the long run.



### Next Gen All In One VFD Control

Advanced Encapsulated Canned type motor specially designed for VFD application complements to the reliability and long time performance of the pump



### Pressure tank

The system comes along with Pressure vessel which takes care of the fluctuations in load and ensure a constant pressure delivery throughout.



### Next Gen All In One VFD Control

4-20 mA Pressure transmitter measures changes in system pressure continuously, and sends electronic signals to SUBVAR drive.



### Complete Accessories

The system comes along with complete accessories like Pressure gauge / Shut off valve / NRV , making it easier for the plumber to do hassle free installation.

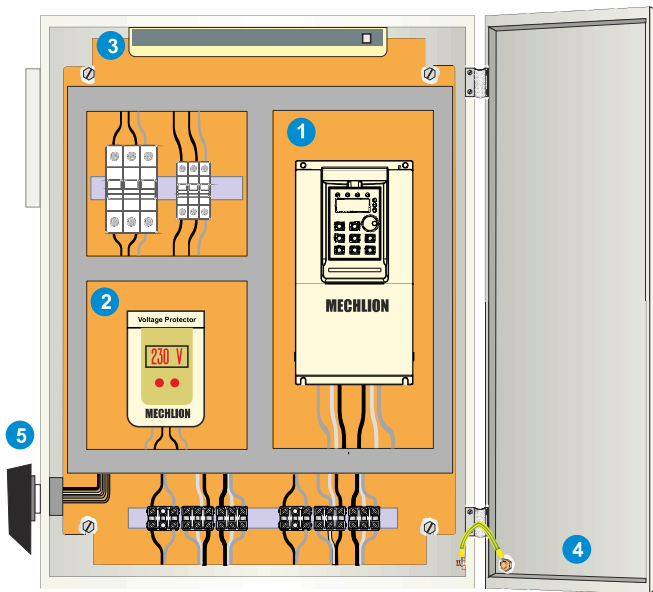
# Technical Superiority

Variable Frequency drive operation for highest efficiency and power savings Completely Built-in protection for worry free operation

**The SubVar drive system has two stage important function**

**Stage 1 :** Complete protections against incoming voltage source voltage and then give a protected supply to the Drives making it a safe and reliable operation.

**Stage 2 :** Dedicated smart all-in-one water boosting VFD, which is the heart of the system and works seamlessly, intelligently in maintaining the constant pressure as required by the user.



## Stage 1



Automatic power switcher/voltage protector is a device preventing damage to system from power fluctuation at source.

- Wide regulated voltage range 140-280V
- Microprocessor controlled PCB board
- Adjustable parameters settings
- High speed response time <200ms
- Auto recovery without user intervention

## Stage 2



The drive system is very easy to operate and cost effective with high reliability and low noise. Each pump is equipped with a pump drive, which can realize multi-pump (host and auxiliary pumps) linked operation. It has built-in complete protections ensuring a trouble free & long lasting reliable system.

### Primary Protection

- LOW VOLTAGE PROTECTION
- HIGH VOLTAGE PROTECTION
- OVER LOAD PROTECTION
- SHORT CIRCUIT PROTECTION
- SURGE/ SPIKE PROTECTION
- DELAY OUTPUT PROTECTION

### Secondary Protection

- LOW VOLTAGE PROTECTION
- HIGH VOLTAGE PROTECTION
- DRY RUN PROTECTION
- SHORT CIRCUIT PROTECTION
- SURGE/ SPIKE PROTECTION
- OVER TEMP. PROTECTION
- OPEN CIRCUIT PROTECTION
- OVER LOAD PROTECTION

## Technical Specification

220-240V & 380-415V										Three Phase		50Hz	
Motor	P2		Voltage V	In A	Istart A	PF% COSφ	Efficiency %	Nn RPM	Thrust N	Cable		N.W kg	G.W kg
	HP	KW								M	mm <sup>2</sup>		
4CF3225	1.0	0.75	220	3.4	19.2	0.75	74.1	2850	3000N	1.7	1.5	10.23	10.62
			230	3.6	20.4	0.71							
			240	3.6	21.4	0.67							
4CF3235	1.5	1.1	220	5.0	24.8	0.79	71.8	2850	3000N	1.7	1.5	10.31	10.70
			230	5.1	26.0	0.75							
			240	5.3	27.2	0.70							
4CF3245	2.0	1.5	220	6.9	21.0	0.76	75.4	2850	3000N	1.7	1.5	14.08	14.47
			230	7.1	43.0	0.70							
			240	7.5	44.8	0.65							
4CF4155	3.0	2.2	380	5.5	24.5	0.85	72.0	2850	4000N	2.5	1.5	14.87	15.42
			400	5.8	26.1	0.76							
			415	6.0	27.4	0.71							
4CF6165	4.0	3.0	380	7.4	47.0	0.82	75.0	2850	6000N	2.5	1.5	21.96	22.77
			400	7.5	49.5	0.77							
			415	7.6	51.9	0.73							
4CF6175	5.5	4.0	380	10.4	61.4	0.78	75.2	2850	6000N	2.5	1.5	24.92	25.76
			400	10.7	64.5	0.72							
			415	10.8	67.6	0.68							



## Next-Gen Packaged All-in-one VFD Submersible Hydro Pneumatic system

### Longer Pump and Motor Life

“Soft Start/Coast to Stop” design by intelligent SUBVAR controller system minimizes stress on the pump motor, extending its overall life.

### Optimum fittings and appliance Performance

Your shower and body jet and jacuzzi along with other appliances like dishwasher and washing machine depend on adequate water pressure. SUBVAR drive helps ensure that your fittings and appliances work as they should.

### Space-Saving

SUBVAR drive uses a small tank and absolutely less footprint thereby saving space and money. SUBVAR pumps are installed directly in the sump and doesn't require any physical space for installation.

### No Noise operation

No more annoying start / Stop noise and vibration emanating out of regular booster pumps. SUBVAR drive with Next gen Intelligent drive coupled with submersible pumps inside the tank ensure that it always offers you a Zero noise operation so you can sleep peacefully.

### No worrying of flooding

As the SUBVAR pumps are installed directly in the sump, the flooding of pump option doesn't arise as in the case of regular surface pumps

### Hygienic water source

The SUBVAR pumps are made of high-grade corrosion resistant stainless steel material thus ensuring Hygiene water supply

### No more negative suction problems

No more pump failure because of negative suction and consistent foot valve failure

### LCD Information Center

The **MECHLION™ SUBVAR** control features an easy-to-understand display of information that makes monitoring status and troubleshooting easy.



## Benefits and Features:

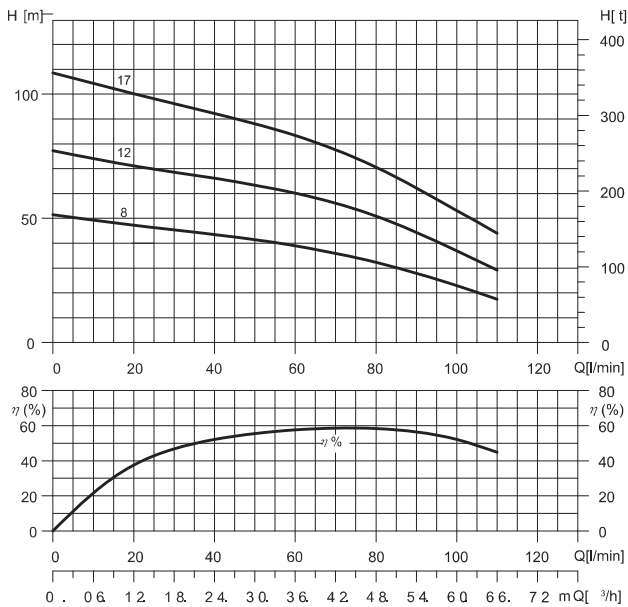
### Constant and Equal Pressure, Everywhere

You'll recognize the difference right away. Water pressure stays the same in every part of your home: in the shower, fittings and appliances like dishwasher. And when you're outside, you'll enjoy a lush, green lawn. Sprinkler systems will perform at their best, with consistent spray patterns and complete coverage.

### Completely Packaged system

The SUBVAR comes with complete all in on packaged booster system. with all necessary accessories, so that you need not worry about them at site. Thus, making it easier to install and run at site without any complications





### Performance curve SVBP - 25 Series

SVBP 2508 - 1.0 HP - 8 stage  
Flow range : 35 - 90 lpm  
Head Range : 28-44 m

SVBP 2512 - 1.5 HP - 12 stage  
Flow range : 35 - 90 lpm  
Head Range : 44-67 m

SVBP 2517 - 2.0 HP - 17 stage  
Flow range : 35 - 90 lpm  
Head Range : 63-94 m



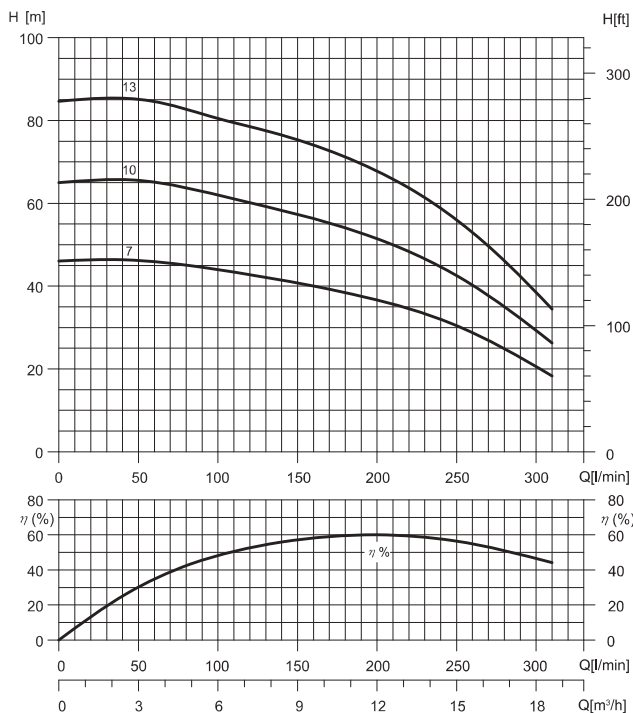
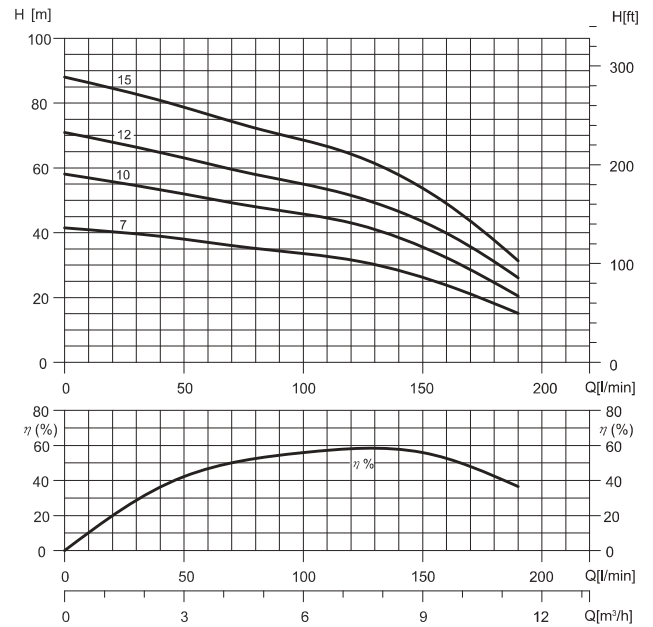
### Performance curve SVBP - 40 Series

SVBP 4007 - 1.5 HP - 8 stage  
Flow range : 50 - 140 lpm  
Head Range : 27-36 m

SVBP 4012 - 2.0 HP - 12 stage  
Flow range : 50 - 140 lpm  
Head Range : 38-52 m

SVBP 4010 - 3.0 HP - 10 stage  
Flow range : 50 - 140 lpm  
Head Range : 47-63 m

SVBP 4015 - 3.0 HP - 15 stage  
Flow range : 50 - 140 lpm  
Head Range : 57-78 m



### Performance curve SVBP - 70 Series

SVBP 7007 - 3.0 HP - 7 stage  
Flow range : 120 - 250 lpm  
Head Range : 30-44 m

SVBP 7010 - 4.0 HP - 10 stage  
Flow range : 120 - 250 lpm  
Head Range : 43-60 m

SVBP 7013 - 5.5 HP - 13 stage  
Flow range : 120 - 250 lpm  
Head Range : 56-78 m



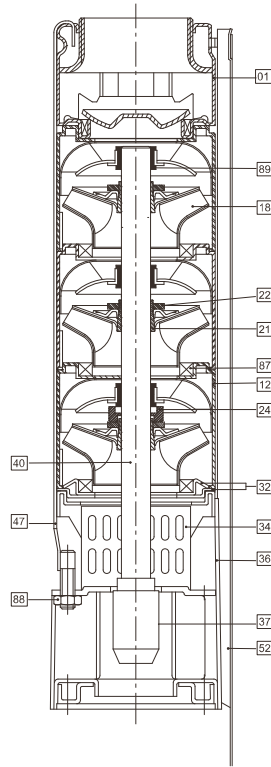




## Pump material Specification

NO.	Component	Standard
01	Discharge	SUS 304
12	Diffuser	SUS 304
18	Impeller	SUS 304
21	Split Cone	SUS 304
22	Split Cone Nut	SUS 304
24	Stop Ring	Graphite/PTFE
32	Neck Ring Retainer	SUS 304
34	Strainer	SUS 304
36	Suction Interconnector	SUS 304
40	Pump Shaft	SUS 304
37	Coupling	SUS 304
47	Strap	SUS 304
52	Cable Guard	SUS 304
87	Neck Ring	SUS304+NBR
88	Nut	SUS 304
89	Bearing	NBR

\*AISI 316 stainless steel pumps are available on request.



## Applications

High Pressure Shower



Car Washing



Garden Sprinklers



Dish Washing

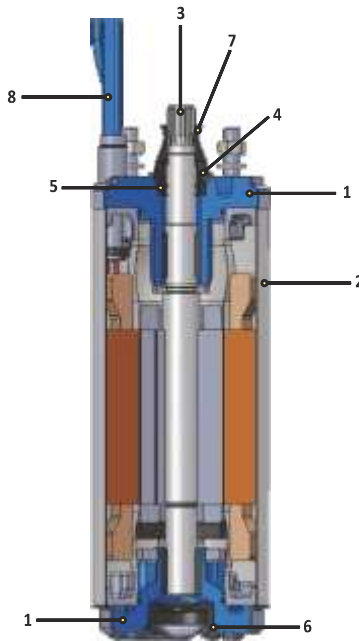


Body / Shower jets



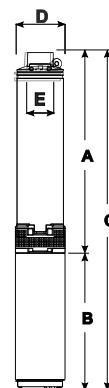
## Motor material Specification

NO.	Component	4CF
1	Upper/Lower Bracket	AISI 304 Over Iron
2	Stator Shell	AISI 304
3	Shaft	AISI 420
4	Seal Cover	Nylon
5	Lip Seal	NBR
6	Diaphragm	NBR
7	Sand Slinger	NBR
8	Lead Wire (Cable)	XLPE
9	Bolts and Screws	AISI 304
10	Lead Potting	Epoxy
11	Thrust Pad	AISI 420



## Dimension & Weight

Model No	KW Rating	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)	Net Weight(kg)
SP-2508	0.75	335	298	633	98	NPT 1-1/2"(40)	2.8
SP-2512	1.1	419	298	717	98	NPT 1-1/2"(40)	3.6
SP-2517	1.5	524	352	876	98	NPT 1-1/2"(40)	4.5
SP-4007	1.1	496	298	794	98	NPT 2"(50)	5.3
SP-4010	1.5	622	352	974	98	NPT 2"(50)	6.8
SP-4012	2.2	706	396	1102	98	NPT 2"(50)	7.8
SP-4015	2.2	832	396	1228	98	NPT 2"(50)	9.3
SP-7007	2.2	635	396	1031	98	NPT 2"(50)	6.3
SP-7010	3.0	830	551	1381	98	NPT 2"(50)	8.2
SP-7013	4.0	1025	614	1639	98	NPT 2"(50)	10.2





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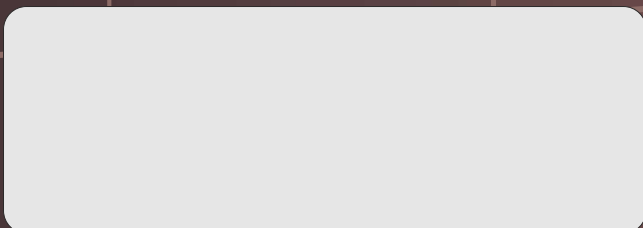


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