Crompton

Product ExplorGr

Mini Series

Pressure Pump

SWJ Series

MBG Series

Submersible Pumps

Pumps Division: An Overview

Crompton, is the leading manufacturer of all types of pumps suitable for handling water, finding applications in Agricultural, Residential and Commercial Sectors.
Pumps manufactured by CG are customer friendly and are very reliable. CG has an ever increasing range of energy efficient pumps.

Today Crompton is the only company having a wide product range of more than 2000 varied pump models catering to different areas of application i.e. Residential, Agricultural & Commercial Sectors under one roof.
Our product range broadly covers :
Submersible pump sets: Suitable for Openwell and Borewell ranging from diameter 75mm to 250 mm Panels: Suitable for Openwell and Borewell pumps upto 100 mm diameter
GSM Controller
Cables: Submersible cables up to 6 sq mm
Surface mounted pumps: Monosets in self-priming and non-self priming Solar Pumping System
Jet Pumps : Shallow well,Multi stage, Twin Type and Packer Type Diesel engine driven Pump sets
Pressure Boosting System Horizontal Split case pumps
End Suction Pumps in accordance with DIN 24255

Non Clog Dewatering Self priming pumps in bare shaft, monosets and coupled
With a view to augment our manufacturing capabilities we have set up a large state of the art manufacturing plant, at MIDC Ahmednagar , with complete computerized testing facilities and adherence to latest quality standards to meet the varied needs of customers.

The company has more than 350 models in the 4 star and 5 star category duly approved by the Bureau of Energy Efficiency a nodal agency under the Ministry of Power to serve varied needs in Agriculture and Industries.

Contents

Mini Series I Self Priming Monoset Pumps

Features

- Self priming up to 8.0 meters at mean sea level.
- Aluminum pressure die cast/Aluminium extruded motor body.
- Brass Impeller.
- High quality and long life mechanical seal.
- Fitted with Thermal Overload Protector.

Standard Specifications

- Range : 0.37 to 1.10 KW (0.5 to 1.5 HP)
- Pipe Size : 25 x 25mm
- Total Head : 6 to 54 meters
- Capacity : Upto 5200 LPH
- Operating Temperature : Suitable for 60^0 C water.

Applications

• Water supply to Residential Bungalows, Garages, Flats, Laundries, Clubs • Gardening • Lawn sprinklers • Booster applications

Performance at 220 volts, 50 Hz Ac Supply

Rating	Motor		Pipe Size (MM)	Head in Meters										
				6	12	18	24	30	36	39	45	48	51	54
	KW	HP		Discharge in LPH										
MINIMASTER I	0.75	1	25 X 25	4000	3560	3120	2690	2250	1810	1590		950		
MINIMARVEL I	0.75	1	25 X 25	3000	2600	2200	1800	1400	1000	750				
MINI SAMUDRA I	0.75	1	25 X 25	2800	2150	1680	1200							
MINI SAPPHIRE I	0.75	1	25 X 25	2880	2550	2150	1800	1450	980	750				
MINI CREST I	0.75	1	25 X 25			1800	1400	1050	750 @ 33 Mtrs					
MINI XTRAA	1.1	1.5	25 X 25				5200	4500	3820	3500	2800	2480	2120	1800
MINIMASTER II	0.37	0.5	25 X 25	2600	2100	1610	1100	600						
MINIMARVEL II	0.37	0.5	25 X 25	2000	1460	930	400							
MINI SAPPHIRE II	0.37	0.5	25 X 25	1830	1450	1000	510	425 @ 25 Mtrs						

Aquagold Series I Self Priming Super Suction

Features

- SS Casing and Brass impeller - No corrosion
- High quality and long life mechanical seal
- Self priming regenerative pump
- Provided handle for easy lifting
- Fitted with terminal box

Standard Specifications

- Range: 0.5 HP to 1 HP (0.37kW to 0.75kW)
- Pipe Size: 15 x 15 mm to 25 X 25 mm
- Total Head: Upto 36 meters
- Capacity: Upto 2150 LPH
- Operating temperature: Suitable upto 60°C

Applications

- Water supply to Residential Areas from Municipal Distributions Line.

Performance at 220 volts, 50 Hz Ac Supply

Rating	Motor		Pipe Size MM	Head in Meters										
				6	12	18	24	30	36	39	45	48	51	54
	KW	HP		Discharge in LPH										
AQUAGOLD I	0.75	1	25 x 25	2150	1850	1550	1220	850	400					

SWJSS Series I Self Priming Centrifugal Jet

Features

- High performance as compared to conventional Centrifugal and Mini Monoset Pumps.
- Self priming upto 8.0 metres at mean sea level.
- Optimally designed for higher efficiency in wide range of operation.
- Fitted with Thermal Overload Protector (T.O.P.)
- No jamming-Centrifugal Impeller with adequate clearance.
- Unique Motor Design-Cap Start and Run (PSC Motor) avoiding centrifugal switch.
- Non overloading characteristics through out the range.
- Extruded aluminium motor body and two tone colour-Better aesthetics.

Standard Specifications

- Range : 0.37 to 0.75 kW (0.5 to 1.0 HP)
- Pipe Size : 25 x 25 mm.
- Speed : 3000 RPM (Syn.)
- Total Head : Upto 36 metres.
- Capacity : Upto 60 LPM.
- Liquid : Clear water.
- Motor : TEFC suitable for 220V, 1PH, 50Hz, AC supply, suitable for ambient temperature upto 50°C ulating Systems
- Voltage Band : 180 to 240 volts

Applications

- Residential Bungalows • Storage Water Tanks
- Lawns and Gardens • Water Ci

Performance at 220 volts, 50 Hz Ac Supply

Rating	Motor		Pipe Size MM	Head in Meters							
				6	12	18	21	24	27	30	36
	KW	HP		Discharge in LPM							
SWJ1SS	0.75	1	25 x 25				51	50	46	36	15

DMB Series | Self Priming Monoset Pumps

Features
- Monoset construction.
- Self priming upto 8.0 metres at mean sea level.
- High quality and long life Mechanical seal.
- Electric motor for single phase or three phase supply.
- Capacitor Start Induction Run Single phase Motor for high torque.

Applications
- Bungalows, Buildings, Flats, Garages, Laundries and Industries.
- Car washing.
- Booster application.
- Water circulation in solar heater systems.

Standard Specifications
- Range : 0.37 kW to 0.75 kW (0.5 to 1.0 HP).
- Pipe size : 25 x 25 mm.
- Total head : Upto 45 metres.
- Capacity : Upto 2860 LPH.
- Liquid : Clear water
- Rotation : Clockwise as viewed from motor end.
- Operating temperature : Suitable upto 65°C water.
- Voltage Band : 180 to 240 volts for single phase.

Electric Motor
- Dripproof/Totally Enclosed Fan Cooled, 4 pole (1500 RPM Syn. Speed) Electric Motor for 1 phase, 220Volts, 50 Hz, AC supply, suitable for ambient temperature upto50°C.

Performance at 220 volts, 50 Hz Ac Supply

Rating	Motor		Pipe Size MM	Head in Meters							
				6	12	18	24	30	36	42	45
	KW	HP		Discharge in LPH							
DMB10DCSL	0.75	1	25 x 25			2800	2300	1860	1440	1060	880

STP Series | Submersible Pump

Standard Specification
STPM Series
- Impellers: Vortex type
- Solid Handling: Upto 35mm
- Motor Housing: Stainless steel

Feature
- Single phase pumps are fitted with thermal overload protector (TOP)
- Single phase pumps are fitted with float switch for automatic operation

Applications
- Construction Sites
- Swimming Pools
- Food processing industries
- Hotels and restaurants
- Paper mills
- Sewage treatment plants
- Sugar factories
- Waste water treatment plants

Performance at 220 volts, 50 Hz Ac Supply

Rating	Motor		Outlet MM	Max. Solid MM	Flow LPM	100	200	300	400	600
	KW	HP								
STPM22	1.5	2	50	35	Head in Meters	14	12	10	8	3

Single Pressure Booster

Applications
- Domestic pressure boosting applications.
- Pressure boosting applications in bungalows, apartments, hotels etc.
- Lawn sprinklers, fountains and small farm irrigation.

Features
- Automatic ON and OFF (Based on demand of the system when taps are opened and closed.
- Pump fitted with thermal overload protector (TOP).
- Noiseless Operation
- Low Power consumption
- Easy for maintenance
- IP Protection : Ip55
- Class of Insulation F
- Y type brass strainer and float switch supplied as a standard scope of supply
- Pressure setting can be changed as per requirement

Standard Specification
- Range : 0.55 KW to 0.75 KW (0.75HP - 1.0 HP)
- Power supply : Single phase 230 V, 50 Hz AC suppy
- Motor : Capacitor start and run motor, TEFC type
- Speed : 2900 PRM
- Degree of protection : IP 55
- Class of Insulation : 'F' Class
- Flow rate : Upto 7 m^3/hr
- Head : Upto 55 m
- Liquid temperature : Maximum 60° C
- Suction lift : Maximum 7 m
- Operating pressure : Maximum 7 Bar

Performance at 220 volts, 50 Hz Ac Supply

Rating	Motor		Pipe Size MM	Pressure Setting-Bar	Tank Precharge (Bar)	Tank Size (ltr)	Flow LPM	10	20	30	40	60
	KW	HP										
CFCHM2-6C-V24	0.75	1	25 X 25	3 - 4.8	2.7	24	Head In Meters	53	49	45	39	23

Rating	Motor		Pipe Size MM	No. of Bathrooms	Discharge in LPH						
					20	30	50	60	80	100	120
	KW	HP			Head in Meters						
IPCHM4-4C	0.75	1	32 X 25	6	36	35	34	32	26	22	20
IPCHM4-6C	1.1	1.5	32 X 25	6	55	53	50	48	43	37	32

Mini Force | Self Priming Monoset Pumps

Accessories
- Two litre pressure tank.
- Pressure switch.

Electric Motor
- TEFC, 2 pole (3000 RPM Syn. Speed) Electric Motor for Single/ Three Phase, 50 Hz AC Supply, suitable for ambient temperature upto 50°C.

Features
- Brass insert provided in casing & adaptor to avoid pump jamming.
- Light weight and compact design.
- Motor fitted with thermal overload protector (TOP).
- Two liter pressure tank with special rubber bladder and pressure switch.
- Wear resistant shaft and impeller.

Working method
- The automatic pressure system is designed to automatically start & stop the pump on opening and closing of taps and maintains the system pressure.

Standard Specifications
- Range : 0.37 KW (0.5HP)
- Pipe size : 25x25mm
- Total head : 6 to 24 meters.
- Capacity : Upto 2000 LPH
- Liquid : Clear water
- Operating temperature : Suitable for 65°C water.
- Rotation : Clockwise when viewed from motor end.
- Voltage band : 180 to 240 volts

Crompton Mini Force pumps will cater your requirement of having constant pressure in home/apartment.This system will start automatically when system (Cut in) pressure will be 1.1 bar and will stop automatically when system (Cut off) pressure will be 1.8 bar.

Performance at 220 volts, 50 Hz Ac Supply

Rating	Motor		Pipe Size MM	Head in Meters						
				6	9	12	15	18	21	24
	KW	HP		Discharge in LPH						
MINI FORCE II	0.37	1	25 x 25	2000	1730	1460	1200	930	660	400

Openwell Submersible Pumps

Features

- Easy Installation & Low Operating Cost
- Motor - Fitted With Gun Metal Bushes
- All Internal Parts - Coated with Primer to Avoid Corrosion
- Provided with High Quality Bend & Strainer

Application

- Domestic Water Supply
- Farms & Gardens
- Car Washing
- Water supply in Hotels, Flats & Garages

Standard Specifications

- Range: 1.0 HP (0.75 KW)
- Supply : 220 V for 1 Phase
- Pipe size (mm) :: 25 x 25
- Total head : Upto 30 Metres
- Liquid : Clear Water
- Capacity: Upto 170 LPM
- Rotation : Clockwise as viewed from motor end

Electric Motor

- Thrust Bearing - Carbon v/s Stainless Steel for Low Wear
- Motor Body: Stainless Steel • Water Filled Motor

Performance at 220 volts, 50 Hz Ac Supply

Rating	Motor		Outlet MM	Head in Meters						
				12	15	18	20	24	27	30
	KW	HP		Discharge in LPM						
OWHE12-30	0.75	1	25				140	115	90	60

Rating	Motor		Outlet MM	Head in Meters						
				21	24	27	30	33	36	39
	KW	HP		Discharge in LPM						
OWHE1.52	1.1	1.5	25	135	125	115	105	90	65	36

Note : 1. Performance figure given above are approximate and may differ on site conditions.

Vertical Multistage Pumps | CVM Series

Features
- Motor: 2 Pole TEFC Type
- Single phase Motors- fitted with thermal overload protector (TOP)
- Max. Liquid Temperature: Upto 120 Degree Centigrade

Applications
- Boiler feed applications
- Raw water feed application in RO plants etc.
- Pressure boosting and Air-Conditioning systems application

Standard Specifications
- Head: Up to 121 m (Max)
- Discharge: Up to 58 LPM (3.5 m^3/hr)
- Power Range: 0.75kW to 1.5kW (1HP to 2HP)

Material of Construction
- Inlet-Outlet Flanges :Cast Iron
- Shaft: SS 420
- Impeller, Diffuser and Outer Sleeve: SS 304
- Motor Body: Aluminium

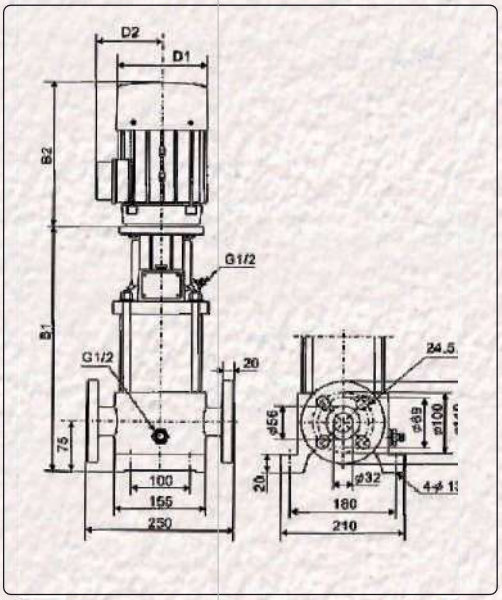
Performance at 220 volts, 50 Hz Ac Supply

Rating	Motor		Stages	Pipe Size MM	Discharge								
	KW	HP			(m3/hr)	1.0	1.2	1.6	2.0	2.4	2.8	3.2	3.5
					LPM	16	20	26	33	40	46	53	58
CVM2-11C	1.1	1.5	11	32 X 32	Head in Meter	87	85	80	74	67	59	50	42
CVM2 -15C	1.5	2	15	32 X 32		121	119	112	105	96	85	72	61

Dimensions

Rating	Power		Pipe Size MM	All Dimensions are in mm				
	KW	HP		B1	B2	B1+B2	D1	D2
CVM2-11C	1.1	1.5	32 X 32	430	260	690	130	150
CVM2-15C	1.5	2	32 X 32	505	300	805	170	150

Dimensional Drawing



MBG Series | Agriculture Pumps

Features
- Monoset Construction with High Quality Mechanical Seal
- Totally Enclosed Fan Cooled Motor For Better Safety
- Unique Motor Design with Capacitor Start & Run - Eliminating Centrifugal Switch

Applications
- Bungalows, Buildings, Flats
- Hotels, Garages, Laundries
- Car Washing & Booster Application
- Small Farms & Lawn Sprinklers
- Auxiliary Equipment For Machinery
- Ornamental Fountains

Standard Specifications
- Range : 0.37 KW to 1.5 kW 0.5 to 2.0 HP
- Supply : 220/415 Volts, 50 Hz, 1 PH/3 PH AC
- Pipe size : 25 x 25 mm to 80 x 80 mm
- Total head : Upto 48 Meters
- Capacity : Upto 950 LPM
- Liquid : Clear water
- Rotation : Clockwise as viewed from motor end

Performance at 220 volts, 50 Hz Ac Supply

Rating			Pipe Size MM	Head in Meters												
	KW	HP		3	6	8	9	10	12	15	18	21	24	27	30	33
MBD052 - VX	0.37	0.5	25 x 25				110		95	75	25					
MBJ052(1PH)Y-12	0.37	0.5	40 x 40		285	245	225		135							
MBD12 - VX	0.75	1	25 x 25									100	85	70	30	
MBJ12	0.75	1	40 x 40				175		165	150	130	100	85 @ 22 Mtrs			
MBM12 (1PH)-15FS	0.75	1	50 x 50				320		250	150						
MAQ12/MAQ12LV	0.75	1	80 x 80		510		365									
MBM1.52C	1.1	1.5	50 x 50				430		355	250	160 @ 16 meters					
MBJ22	1.5	2	40 x 40									210	190	160	130	
MBK22	1.5	2	50 x 40				410		395	355	310	250	200			
MBM22	1.5	2	50 x 50						550	500	400	200				
MBQ22(1PH)-13	1.5	2	80 x 80		1020		845	450	640			260 @ 11Mtrs				
MBQ32	2.2	3	80 x 80		1130		1020		810	500						

TMEP2 Series

Performance at 220/415 volts, 50 Hz Ac Supply

Rating	Motor		Pipe Size MM	Head in Meters					
				21	27	30	36	42	48
	KW	HP		Discharge in LPM					
TMEP2	1.5	2	32 x 25	155	144	135	118	93	50

MB Series | Centrifugal Monoset Pumps

Features

- Monoset Construction
- Wide Voltage Band
- High Efficiency - Less Power Consumption
- Stainless Steel Sleeve - Less Shaft Wear
- Trouble Free Operations - Low Maintenance
- Compact Size - Less Space
- Robust Design Suitable for Adverse Conditions
- Sealing - Gland Packing

Applications

- Irrigation
- Lift Irrigation
- Hotels, Dairies, Hospitals
- Ornamental Fountains
- Sprinkler And Drip Irrigation
- Construction Sites
- Gardens, Small Farms
- Industries

Standard Specifications

- Range : 2.2 kW to 11.0 kW (3.0 HP to 15.0 HP)
- Supply : 415 V, 50Hz, 3 phase AC
- Pipe size : 50 x 40 mm to 100 x 100 mm
- Total head : Upto 60 Meters
- Capacity : Upto 1850 LPM
- Liquid : Clear Water
- Rotation : Clockwise as viewed from motor end

Electric Motor

- TEFC, SCR, 2 Pole (3000 RPM Syn. Speed). Electric Motor for 415V, 50Hz, 3 phase AC supply

Performance at 415 volts, 50 Hz Ac Supply

Rating	Motor		Pipe Size MM	ISI Marking	Head in Meters										
					24	30	33	36	38	42	45	48	51	54	60
	KW	HP			Discharge in LPM										
MIKS32B	2.2	3	50 x 40	ISI	250	205	170	110							
MIKS52B	3.7	5	50 x 40	ISI				260	250	215	190	160	120		
MBK7.52	5.5	7.5	50 x 40	ISI			450	420	395	365	335	300	260	200	
MBNH10.2	7.5	10	65 x 50	ISI							550	520	480		300
MBP15.2 FS	11	15	80 x 65	ISI	1480	1360	1290	1220	1140	1050	950	840	700		

Rating	Motor		Pipe Size MM	Head in Meters						
				6	9	12	15	21	24	27
	KW	HP		Discharge in LPM						
MIS52B	3.7	5	100 x 100	1850	1700	1460	1040			
MIS7.52B	5.5	7.5	100 x 100			1680	1540	1170	840	
MIS10.2B	7.5	10	100 x 100				1850	1600	1450	900

100 MM Borewell Submersible Pumps

Features

- Energy Efficient
- Dynamically balanced rotor
- Totally enclosed, water / oil filled, squirrel cage induction motor
- Cap Start & Run (PSC), for AC supply
- Stainless steel stator body
- Special water resistant PVC insulated high quality copper winding wire
- Rotor shaft
- Epoxy coated rotor
- Specially designed thrust pad

Pump

- Corrosion and abrasion resistant parts are made of stainless steel, high strength engineering polymers and special alloy materials
- Designed for optimum efficiency
- Modular construction
- NRV fitted in discharge outlet to prevent backflow

Applications

- Irrigation and Drip Irrigation.
- Sprinkler, Gardening, Nursery and Bungalows.
- High storey buildings & complexes.
- Industrial water supply schemes.

General

- Better design – Better Efficiency – Low power consumption
- Light weigh – Ease in installation
- Silent running
- Reliable in operation

Standard Specification

Suitable for 100 mm or bigger borewell.
Range : 0.37 to 2.2 kW (0.5-3HP)
Max outer dia : 72mm & 96.5 mm
Speed : 3000 rpm (Syn.)
Total head range : Upto 150 Meters
Capacity : Upto 150 1pm Liquid : Clear water
Motor squirrel cage water filled electric motor for 220 Volts, 50 Hz, AC for 1Phase
Voltage Band : 350 to 440 Volts for 3 Phase

Performance at 220 volts, 50 Hz Ac Supply - Water Filled

Rating	Stages	Motor		Outlet MM	Discharge in LPM								
					10	20	30	40	50	60	70	80	90
		KW	HP		Head in Meters								
100W/RJ/1007-40	7	0.75	1	40		53	48	46	38	24	22	12	
100W14RJ2	14	1.5	2	40			105	100	93	82	68	54	42

Performance at 220 volts, 50 Hz Ac Supply - Oil Filled

Rating	Stages	Motor		Outlet MM	Discharge in LPM								
					10	20	30	40	50	60	70	80	90
		KW	HP		Head in Meters								
4VO10RI1	10	0.75	1	32	64	57	47	33					
4VO10RC1	10	0.75	1	32		56	54	52	49	45	40		30
4VO14RC1.5	14	1.1	1.5	32		78	76	73	69	63	56		42

Performance at 415 volts, 50 Hz Ac Supply - Water Filled

Rating	Stages	Motor		Outlet MM	Discharge in LPM				
					70	85	110	130	150
		KW	HP		Head in Meters				
100W15RA3TP-50	15	2.2	3	50	90	80	78	68	50
100W25RA5TP-50	25	3.7	5	50	150	133	129	113	83

150 MM Borewell Submersible Pumps | 50 Feet Per Stage

Features

Motor

- Totally Enclosed, Water Filled, Squirrel Cage, 2 pole (3000 RPM Syn. Speed), suitable for Wide Voltage, 3 Phase, 50 Hz, AC supply
- Ease in Rewinding & Longer Life
- Water Resistant PVC Insulated Copper Wire
- Specially Designed Thrust Bearing - Lower Power Consumption
- Specially Designed Seals & Sand Guard to avoid Sand Entry
- Motor Body - Stainless Steel • Bush - Gun Metal
- Energy Efficient - Saves Power & Electricity Bills • Copper Rotor

Pumps

- Multistage Centrifugal Pump with Radial Type Impeller Design
- Dynamically Balanced Impellers with Pump Shaft – Better Efficiency & Performance
- Impeller - Stainless Steel • Diffuser - Stainless Steel
- Non return valve fitted to discharge outlet to prevent backflow
- Stainless steel Pump shaft – Rust Prevention & Longer Life
- 50 Feet Head per Stage

Standard Specifications

- Range : 3.7 kW to 15 kW (5 HP to 20 HP)
- Pipe Size : Delivery Pipe Size 65 mm • Liquid : Clear Water
- Borewell Size : Suitable for 150 mm Borewells
- Voltage Band : 300 to 415 Volts

Applications

- Agricultural Farms • Sprinkler Irrigation, Drip Irrigation
- Water supply for Industrial / Commercial Establishments & Villages
- Multistoried Buildings • Construction Sites

Material of construction

S.N	Part	Material
1	Bowl	SS304 - ASTM A351-10Gr, CF8
2	Impeller	SS410 - ASTM A CA15
3	Pump Shaft	Stainless Steel AISI 410
4	Suction Housing	Cast Iron, IS 210 Grade FG 260
5	Bush for NRV	Bronze IS 318, Gr LBT-4
6	Bowl Bush	NITRIAL RUBBER
7	N.R.V Housing	Cast Iron, IS 210 Gr. FG 260
8	Pump Coupling	SS410
9	Motor Body	Stainless Steel AISI 202
10	Motor Base	Cast Iron, IS 210 Gr. FG 260
11	Thrust Bearing	Carbon +SS 420
12	Motor Shaft	Stainless Steel AISI 420
13	Bearing bush - Motor	Bronze, IS 318, Gr. LTB-4/Carbon

Performance at 415 volts, 50 Hz Ac Supply - Radial Flow

Rating	Stages	Motor		Outlet MM	Discharge in LPM						
					80	120	140	160	180	220	225
		KW	HP		Head in Meters						
650CS60-0508	8	3.7	5	65	112	105	100	92	82	65	45
650CS60-1016	16	7.5	10	65	220	205	190	186	165	125	95

Rating	Stages	Motor		Outlet MM	Discharge in LPM						
					150	180	200	230	270	300	330
		KW	HP		Head in Meters						
650CS80-7510	10	5.5	7.5	65	140	136	128	120	95	75	55
650CS80-2024	24	15	20	65	350	332	312	288	235	185	140

150 MM Stainless Steel Borewell Submersible Pumps | Copper Rotor

Features

Motor

- Suitable in Wide Voltage
- Winding Wire - High Quality Insulation
- Shaft - Stainless Steel
- Thrust Bearing- High Quality Carbon Vs Steel Combination
- All Fasteners - Stainless Steel
- Motor - Water filled, Easy to Rewind
- Higher Efficiency - Higher Water Discharge at Low Power Consumption
- Copper Rotor

Pump

- All Pump Parts - Stainless Steel
- Wear & Abrasion Resistance
- Lower Suction Housing - Precision Cast Stainless Steel
- Hexagonal Pump Shaft - Higher Strength Against Radial Load
- In-built Strainer - Prevent Sand & Particles Entry
- Negligible Maintenance Cost
- Excellent Aesthetics

Standard Specification

- Range: 5.5 kW to 7.5 kW (7.5 HP to 10.0 HP)
- Speed: 3000 (Syn.)
- Total Head Range: Upto 48 M
- Discharge Range: Upto 1290 LPM
- Motor: Water filled, 415 Volts for 3 Phase, 50 Hz, AC Supply

Applications

- Irrigation and Drip Irrigation
- Sprinkler, Gardening and Bungalows
- High Storey Buildings
- Industrial Water Supply Schemes
- Farms • Agricultural usage

Material of construction

S.N	Part	Material
1	Bowl	Stainless Steel AISI 304 - sheet metal
2	Impeller	Stainless Steel AISI 304 - sheet metal
3	Pump Shaft	Stainless Steel AISI 431
4	Suction Housing	SS 304 (Investment Cast)
5	N.R.V. Housing	Stainless Steel AISI 304 - sheet metal
6	Motor Body	Stainless Steel AISI 202
7	Motor Shaft	Stainless Steel AISI 420
8	Bearing Bush	Bronze, IS 318, Gr. LTB-4 /Carbon

Performance at 415 volts, 50 Hz Ac Supply

Rating	Stages	Motor		Outlet MM	Discharge in LPM							
					300	470	650	910	1080	1140	1250	1290
		KW	HP		Head in Meters							
6CSSF60-7503	3	5.5	7.5	100	36	33	30	27	21	18	15	12
6CSSF60-1004	4	7.5	10	100	48	44	40	36	28	24	20	16

Rating	Stages	Motor		Outlet MM	Discharge in LPM						
					660	720	804	930	1020	1110	1200
		KW	HP		Head in Meters						
6W4H10	4	7.5	10	80	37	35	31	29	27	23	18

150 MM Borewell Submersible Pumps | Radial / Mix Flow

Features

Motor

- Totally Enclosed, Water Filled, Squirrel Cage, 2 Pole (3000 RPM Syn. Speed), suitable for Wide Voltage, 3 Phase, 50 Hz, AC supply
- Available in Single Piece as well as Three Piece Construction
- Water Resistant PVC Insulated Copper Wire
- Specially Designed Thrust Bearing - Lower Power Consumption
- Epoxy Coating to All Ferrous Parts - Rust Prevention & Longer Life
- Specially Designed Water Filled & Water Lubricated Motor
- Specially Designed Seals & Sand Guard - To Avoid Sand Entry
- Copper rotor
- Energy Efficient - Saves Power & Electricity Bills

Pump

- Available with Radial / Mix Flow Type Impeller Design
- Epoxy Coating to All Ferrous Parts – Rust Prevention & Longer Life
- Dynamically Balanced Impellers – Better Efficiency & Performance
- Non Return Valve - To Prevent Backflow
- Stainless Steel Pump Shaft – Rust Prevention & Longer Life
- Stainless Steel Impellers – Better Efficiency & Longer Life

Standard Specifications

- Range : 3.7 KW to 13 KW (5.0 HP to 17.5 HP)
- Pipe Size : 50 MM to 80 MM
- Liquid : Clean Water
- Borewell Size : Suitable for 250 MM or Bigger

Applications

- Agricultural Farms
- Multistoried Buildings
- Ornamental Fountains
- Water Supply for Industrial / Commercial Establishments
- Sprinkler Irrigation, Drip Irrigation
- Construction Sites

Material of construction

S.N	Part	Material
1	Bowl	Cast Iron IS 210, Gr FG 200
2	Impeller	SS 410 Cast
3	Pump Shaft	Stainless steel AISI 410
4	NRV	Cast Iron IS 210, Gr FG 200
5	Shaft Sleeve	Stainless steel AISI 410
6	Motor Body	AISI 202, IS 1570, part 5
7	Upper And Lower Housing	Cast Iron IS 210, Gr FG 200
8	Motor Base	Cast Iron IS 210, Gr FG 200
9	Bush	Bronze39, IS 318, Gr LTB 4
10	Motor Shaft	Stainless steel AISI 420 (H & T)

Rating	Stages	Motor		Outlet MM	Discharge in LPM						
		KW	HP		350	450	504	600	660	720	760
					Head in Meters						
150W4D5-80-LX	4	3.7	5	80	34	31	29	24	21	17	14

Rating	Stages	Motor		Outlet MM	Discharge in LPM								
		KW	HP		100	125	150	165	190	225	250	275	300
					Head in Meters								
150W22X15	22	11	15	50	228	215	204	194	176	154	132	144	88

Rating	Stages	Motor		Outlet MM	Discharge in LPM								
		KW	HP		90	110	140	165	180	200	235	260	280
					Head in Meters								
150WT28W15	28	11	15	50	280	270	255	231	210	200	157	125	66
150WT30W17.5	30	13	17.5	50	297	288	267	245	222	213	166	138	81

Control Panels

Features

- Extremely compact, elegant, plastic enciosure
- Fully digital controller
- Provides protection against over Loading, Dry run, Under Voltage and Over Load
- Provides Water Level Controller for Sump and Over Head tank (Optional)
- Work in Auto as well as Manual Mode

Digital Control panel

- Digital Display for current & Voltage
- Over load protector through circuit breaker
- MCB for short circuit protection
- Fitted with 2- pole contactor
- ON/OFF indicator & ON/OFF switch
- Start & Run Capacitor

Benefits

- Increase motor life
- Increase in safety
- Easy to handling
- Easy to monitoring

Model	HP	Start CAP (mfd)	Run CAP (mfd
DCP1-CS	1	100 - 120	72
DCP2-ET	2	150 - 200	100
DCP3-FU	3	200 - 250	108
ODCP1	1	NA	36
ODCP1.5	1.5	NA	36

DOL Starters

Features

- Excellent Aesthetics
- Flush Mounted Push Buttons
- Built in Overload Relay
- Copper & Aluminum cable terminations possible
- As per IS: 13947-4-1 and IEC: 60947-1 standards
- Wide Relay Range
- Silver Contacts for Long Life
- Proven Crompton Technology

Applications

- Suitable for Pumpsets up to HP
- Used for Submersible, Surface Mounted Pumpsets
- Thresher Motors, Wheat Flour Mill Motors etc.

Technical Specifications

Model	Relay Range	Centrifugal Pump HP	Submersible Pump HP
CG1D4065	4 - 6.5 A	3	2
CG1D60100	6 - 10 A	5	3
CG1D90140	9 - 14 A	7.5	5
CG1D130220	13 - 22 A	10	7.5

STAR DELTA Starters

Features

- Robust construction
- Heavy Duty Deep Drawn sheet metal box
- Excellent powder coated painting for long life
- Excellent aesthetics look
- 16A, Ac3 Duty, 4 Pole Contactor, Sliver contacts for longer life
- Wide voltage range from 240V to 450V
- Wide range of relay setting
- Electronic Timer for excellent accuracy & low maintenance
- Flush mounted Twin Push Buttons specially designed for Star Delta Starter

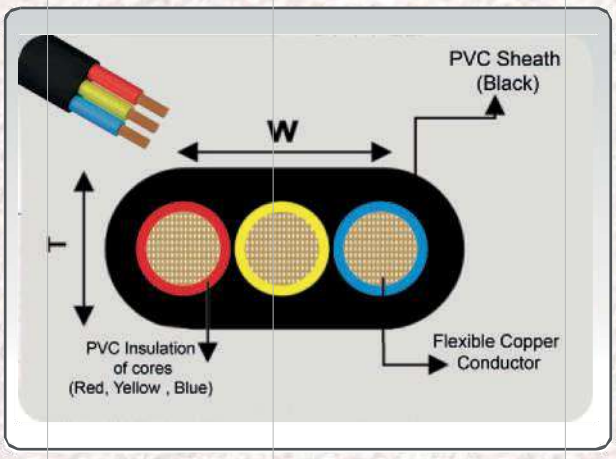
Applications

- Suitable for Pumpsets upto 17.5 HP
- Used for Submersible, Surface Mounted Pumpsets
- Higer HP Motors

Technical Specifications

Model	Relay Range	Centrifugal Pump HP	Submersible Pump HP
CG1SD110180	11 - 18 A	15	10
CG1SD130220	13 - 22 A	17.5	12.5, 15 , 17.5

Submersible Cables



Features

- Conforming to : ISI 694
- Excellent Resistant to Moisture, Abrasion, Grease, Oil
- Longer Flex Life
- Excellent Mechanical & Electrical Properties
- Temperature Range -150 to +700

Note

- The number of wires is approximate and wire diameter is nominal. They shall be so as to satisfy the requirements of conductor resistance as per
- Class 2 of ISI 8130 : 1984 (For 1.5 & 2.5 sq. mm) &
- Class 5 of ISI 8130 : 1984 (For 4.0 & 25 sq. mm)

Conductor		PVC Insulation	PVC Sheath Conductor			Resistance at 200 (max.)	Current Rating at 400C
Nominal Area in	Nos. Dia of wire	Nominal Thickness	Nominal Thickness	Approx. overall Dimensions			
				Thickness	Thickness		
sq. mm.	Nos./mm	mm	mm	mm	mm	Ohms/km	Amps.
1.5	22/0.3	0.6	0.9	5.2	11.3	12.1	14
2.5	36/0.3	0.7	1	6.2	13.3	7.41	18
4	56/0.3	0.8	1	7	15.6	4.95	26
6	84/0.3	8.8	1.1	7.4	17.7	3.3	31

Knowledge Center

Features Overview & Specification

1. **CAPACITY (Discharge)**: Rate of flow of liquid measured in litres per minute or gallons per minute.
2. **TOTAL HEAD**: The increase in the pressure energy of the liquid between the suction and delivery flanges measured in meter. (For Water, Head in Mtr= kg/cm2*10)
3. **FRICTIONAL LOSSES**: Resistance by inner surface of the pipe and fitting through which liquid is being pumped.
4. **CAVITATION**: The formation of vapour bubbles in the liquid, is phenomenon involving the appearance and subsequent sudden collapse of vapour bubbles in a flow of liquid.
5. **SUCTION LIFT (Hs)**: Is the vertical distance between pump centre line and water level.
6. **DELIVERY HEAD (Hd)**: Vertical distance above the pump centre line to the top most point of the delivery pipe.
7. **N.P.S.H**: Net Positive Section Head, it is the pressure in terms of absolute head in meters or in feet at a pump suction branch less vapour pressure of the liquid and frictional losses in suction at its working temperature.
   NPSH has got two components. First one is NPSHa which is site dependent and second one is NPSHr which is derivative of pump design.
   NPSHa should always be greater that NPSHr by minimum 0.5m.
8. **DUTY POINT**: The pump is designed for one point where the maximum pump efficiency/ overall efficiency is achieved. This point is called Duty Point or Operating Point.
9. **PUMP EFFICIENCY**: The ratio of the pump output to the pump input.

$$\text{Thus Pump Efficiency} = \frac{\text{Pump Out put in kW}}{\text{Pump In put (Motor Outpur in kW)}} \times 100 = \frac{\left[\frac{\text{Total Head (M) X Discharge (LPM)}}{6120}\right]}{\text{Motor Outpur in kW}}$$

10. **OVERALL EFFICIENCY:** The ratio of the pump output to the motor input.

$$\text{Thus Pump Efficiency} = \text{Pump Efficiency} \times \text{Motor Efficiency}$$

$$= \frac{\text{Pump Output}}{\text{Pump Input}} \times \frac{\text{Motor Output}}{\text{Motor Input}} \times \frac{\text{Pump Output}}{\text{Motor Input}}$$

11. **SPECIFIC GRAVITY:** Ratio of weight of given volume of liquid compared to same weight of equal volume of water at standard temperature & pressure. Specific Gravity of water is 1.0. If liquid has Specific Gravity other than water (1.0) multiply brake kW for water by specific gravity of liquid to obtain kW required.
12. **VISCOSITY:** Property of Internal Friction of a liquid or resistance to motion of its particles. Measuring a liquid's resistance to flow will give coefficient of viscosity. High viscosity liquids are resistant to flow and appear thick and sluggish. Viscosity is independent of specific gravity and decrease with increase in temperature. Viscous liquid tend to reduce the capacity, head and efficiency while increasing the brake kW required. Centrifugal Pumps may be used for viscosities up to 1000 SSU. Above this limit Rotary positive displacement Pumps are used.

CALCULATION OF TOTAL HEAD

Total head H of the Pumpset is given by :
(Ref. Sketch)

$$H = Hs^* + Hd + hfs^* + hfs + Hlf + \frac{Vd2}{2g}$$

*In case of submersible pumpset Hs & hfs = 0

Where Hs = Static suction lift, the difference in level between the center line of pump and the water level in the sump in feet or meters.
Hd = Friction losses in suction pipe line in feet or meters.
hfd = Friction losses in delivery pipe line in feet or meters.
HLf = Total friction losses due to pipe fittings in suction and delivery pipeline in feet or meters, e.g. strainer with foot valve, bends, valves, etc.
$\frac{Vd2}{2g}$ = Velocity head of water in the delivery pipe in feet or meters.

Where Vd = Velocity of water in delivery pipe = $\frac{\text{Discharge}}{\text{Area of pipe}}$ in ft / sec or m/sec

g = Acceleration due to gravity = 9.81 m / sec2
= 32.2 ft/ sec2

To calculate the above parameters, the following details are required.

- Required discharge in LPM or GPM.
- Size and length of the suction & delivery pipes.
- Size, type and number of pipe fittings on suction and delivery sides.
- Variation in water level on suction side.

In working out the above, care has to be taken to see that constant units are used.

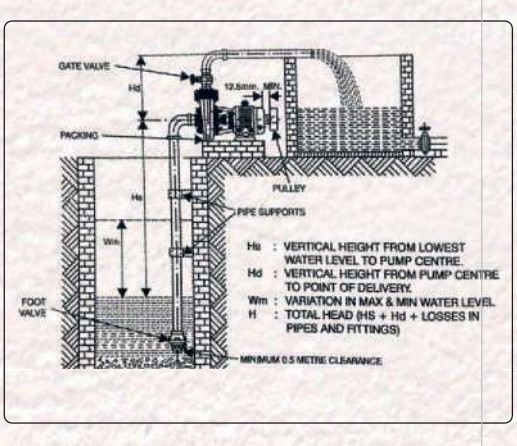


TABLE 1 : Length of straight pipe in meters giving equivalent resistance of flow in valves and fittings.

Pipe Size mm	90o Elbow (Std)	90o Medium Elbow	90o Long Elbow	45o Elbow	TEE	Return Bend	Gate Valve	Gate Valve	Angle Valve	Foot Valve or Check Valve (NRV)
13	0.46	0.43	0.34	0.24	1.04	1.16	0.107	4.9	2.56	1.01
20	0.61	0.55	0.43	0.31	1.37	1.53	0.143	4.7	3.66	1.53
25	0.82	0.7	0.52	0.4	1.77	1.86	0.18	8.24	4.57	2.04
40	1.31	1.1	0.85	0.61	2.74	3.05	0.29	13.4	6.71	3.05
50	1.67	1.4	1.07	0.76	3.35	3.96	0.37	17.4	8.54	3.96
63	1.98	1.65	1.28	0.92	4.26	4.57	0.42	20.1	10	5.18
76	2.47	2	1.55	1.15	5.18	5.49	0.52	25.9	12	6.1
100	3.35	2.77	2.13	1.53	6.71	7.31	0.7	33.5	17.7	8.23
125	4.26	3.66	2.78	1.86	8.24	9.45	0.88	42.6	21.3	10
150	4.87	4.26	3.35	2.35	10.8	11.5	1.07	47.7	25.3	12.2
200	6.40	5.48	4.26	3.05	13.1	14.9	1.37	68.1	33.5	16.2
250	7.62	6.71	5.18	3.96	17.1	19	1.74	88.5	42.6	20.4
300	9.75	7.92	6.1	4.57	20.1	23	2.04	100.5	51.8	24.4

Friction in long pipeline is to be calculate.

TABLE 2 : Frictional head loss in GI pipe

Q	Head loss in mtr/ 100mtr				
LPM / Norminal dia mm	40	50	65	80	100
40	1.15	0.38	0.1	0.03	0.01
60	2.57	0.84	0.22	0.08	0.03
80	4.58	1.5	0.4	0.14	0.05
100	7.16	2.36	0.63	0.22	0.07
120	10.3	3.38	0.91	0.32	0.11
150	16.1	5.38	1.42	0.5	0.17
180	23.2	7.6	2.05	0.72	0.24
240	41.25	13.52	3.64	1.29	0.42
300	64.45	21.12	5.69	2.01	0.66
360	-	30.41	8.19	2.9	0.95
400	-	37.55	10.11	3.58	1.17
500	-	-	15.8	5.59	1.83

Conversion Table

Discharge:	
1ImpGallon	4.546ltrs.
1USGallon	3.785ltrs.
1Cum.	1000ltrs.
1Cuft.	28.32ltrs.
Discharge Rate	
$1m^3/h$	16.67l/min.
$1m^3/s$	60,000l/min.
1l/s	60l/min.
1Cuft/s	1699.2l/min
1Imp.GPH	0.0757l/min.
	0.00126l/sec
Head	
1mtrs.	3.28ft.
1ft	0.3048m
$1kg/cm^2$	10mtrs.

Pressure:	
1 Atmosphere	$1.033kg/cm^2$
1 Atmosphere	$14.7lb/in^2$
1 Atmosphere	10.34mwc
$1\ lb/in^2$	0.704mwc
$1\ lb/in^2$	2.31ftwc
$1\ lb/in^2$	51.6mmofmercury.
1Cumsec.	1705lpm
	1Acreinch/hr
1 Cumec.	20558.3lpm.
	1Acreft/hr.
Power	
1HP(Si)	0746KW.
	746W
1HP(Metric)	0.736KW
	736W
1KW	1000W
Head	
1mtrs.	3.28ft.
1ft	0.3048m
$1kg/cm^2$	10mtrs.

Technical Details for Submersible Motor, HP, KW, Standard Cable Connection, Maximum Amperes.

SUBMERSIBLE MOTOR 5" & 6"							
S.N	HP	KW	Starting	415v & 380v		350(LV Motor)	
				Max.Amp.	Cable Details (N0.x Mtr. x Size in sq.mm.) CG specification	Max.Amp.	Cable Details (N0.x Mtr. x Size in sq.mm.) CG specification
1	3	2.2	DOL	6.5	1 x 3 x 1.5	7.5	1 x 3 x 1.5
2	4	3.0	DOL	8.5	1 x 3 x 1.5	10	1 x 3 x 1.5
3	5	3.7	DOL	10	1 x 3 x 2.5	11.5	1 x 3 x 4
4	6	4.5	DOL	12	1 x 3 x 4	14	1 x 3 x 4
5	7.5	5.5	DOL	14.5	1 x 3 x 6	17	1 x 3 x 6
6	7.5	5.5	DOL	14.5	2 x 3 x 4	17	2 x 3 x 4
7	10	7.5	DOL	19.5	2 x 3 x 4	23	2 x 3 x 4
8	12.5	9.3	DOL	25	2 x 3 x 4	29	2 x 3 x 4
9	15	11	DOL	29	2 x 3 x 4	34	2 x 3 x 4
10	17.5	13	DOL	34	2 x 3 x 6	40	2 x 3 x 6
11	20	15	DOL	39	2 x 3 x 6	46	2 x 3 x 6
12	25	18.6	DOL	48	2 x 3 x 6	56.5	2 x 3 x 6
13	30	22.4	DOL	58	2 x 3 x 6	68.5	2 x 3 x 6

Cable Selection Chart

Submersible Pump Cable Selection Chart for 220V , 50Hz

	Length in Metres																				
HP	10	20	30	40	50	60	70	80	90	100	120	140	160	180	200	250	300	350	400	450	500
0.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.5	2.5	2.5	4.0	4.0	4.0	6.0	6.0	6.0	10.0	10.0
1.00	1.5	1.5	1.5	1.5	1.5	1.5	2.5	2.5	2.5	2.5	4.0	4.0	4.0	6.0	6.0	6.0	10.0	10.0	10.0	16.0	16.0
1.50	1.5	1.5	1.5	2.5	2.5	2.5	4.0	4.0	4.0	6.0	6.0	10.0	10.0	10.0	10.0	16.0	16.0	16.0	25.0	25.0	25.0
2.00	2.5	2.5	2.5	2.5	4.0	4.0	4.0	6.0	6.0	6.0	10.0	10.0	10.0	16.0	16.0	16.0	25.0	25.0	25.0	35.0	35.0
3.00	2.5	2.5	2.5	2.5	4.0	4.0	6.0	6.0	6.0	10.0	10.0	10.0	16.0	16.0	16.0	16.0	25.0	25.0	25.0	35.0	35.0
4.00	2.5	2.5	2.5	4.0	4.0	6.0	6.0	10.0	10.0	10.0	10.0	16.0	16.0	16.0	16.0	25.0	25.0	25.0	35.0	35.0	35.0
5.00	2.5	2.5	4.0	4.0	6.0	6.0	10.0	10.0	10.0	10.0	10.0	16.0	16.0	25.0	25.0	25.0	35.0	35.0	50.0	50.0	50.0

Cable Size sq. mm

For other Voltages cable size calculation to be done as per below:

$$\text{Calculated Length} = \frac{220}{\text{Actual Voltage}} \text{ X Acutal Length}$$

Submersible Pump Cable Selection Chart for 415V, 50Hz

	Length in Metres																				
HP	10	20	30	40	50	60	70	80	90	100	120	140	160	180	200	250	300	350	400	450	500
1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.5	2.5	2.5	4.0	4.0
2.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.5	2.5	2.5	2.5	4.0	4.0	4.0	4.0
3.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.5	2.5	4.0	4.0	4.0	6.0	6.0	6.0
4.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.5	2.5	2.5	4.0	4.0	4.0	6.0	6.0	6.0	10.0	10.0
5.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.5	2.5	2.5	2.5	4.0	4.0	4.0	6.0	6.0	10.0	10.0	10.0	10.0
6.0	1.5	1.5	1.5	1.5	1.5	1.5	2.5	2.5	2.5	2.5	2.5	4.0	4.0	4.0	6.0	6.0	10.0	10.0	10.0	10.0	10.0
7.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.5	2.5	2.5	4.0	4.0	4.0	6.0	6.0	10.0	10.0	10.0
10.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4.0	4.0	4.0	6.0	6.0	10.0	10.0	10.0	10.0	16.0
12.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4.0	4.0	4.0	4.0	4.0	6.0	6.0	10.0	10.0	10.0	16.0	16.0	16.0
15.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4.0	4.0	4.0	4.0	6.0	6.0	6.0	10.0	10.0	10.0	16.0	16.0	16.0	16.0
17.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	6.0	6.0	10.0	10.0	10.0	16.0	16.0	16.0	25.0	25.0
20.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	10.0	10.0	10.0	10.0	16.0	16.0	16.0	25.0	25.0	25.0
25.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	10.0	10.0	10.0	16.0	16.0	16.0	25.0	25.0	25.0	25.0
30.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	10.0	10.0	10.0	10.0	16.0	16.0	25.0	25.0	25.0	35.0	35.0
40.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	16.0	16.0	16.0	25.0	25.0	25.0	35.0	35.0	50.0	50.0
50.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	25.0	25.0	35.0	35.0	50.0	50.0	50.0	70.0
60.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	35.0	35.0	50.0	50.0	50.0	70.0	70.0
70.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	35.0	50.0	50.0	50.0	50.0	70.0	70.0
80.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	50.0	50.0	50.0	70.0	95.0	95.0

Cable Size sq. mm

For other Voltages cable size calculation to be done as per below:

$$\text{Calculated Length} = \frac{415}{\text{Actual Voltage}} \text{ X Acutal Length}$$

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