

Zirantec

Control Panels

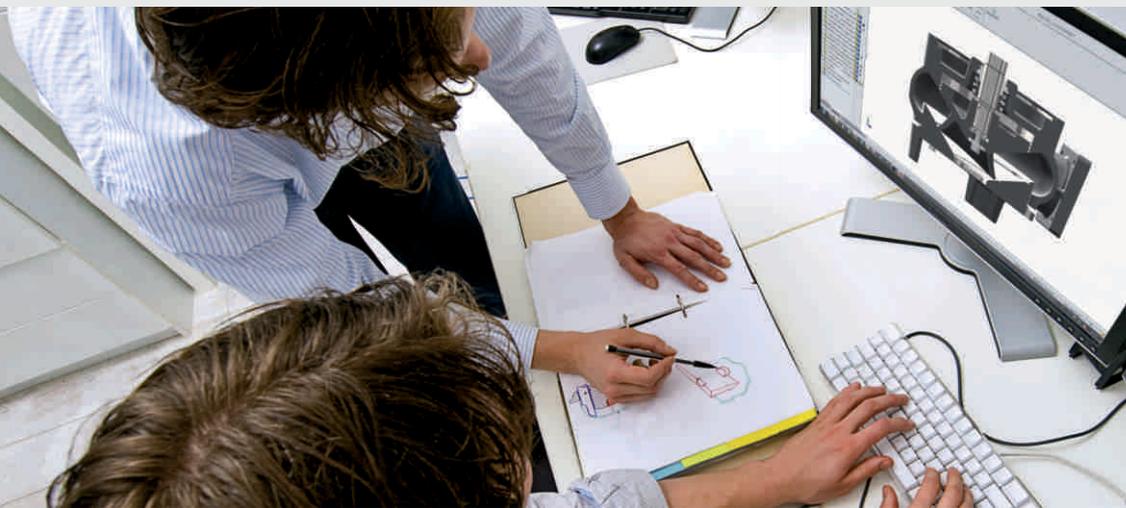


www.zirantec.com



FABBRICA ITALIANA POMPE SOMMERSIBILI S.r.l

Zirantec



ZIRANTEC products are manufactured by well qualified and experienced Italian Pump Engineers in state of the art manufacturing facilities in Italy

CERTIFICATION



ZIRANTEC Pumps & Motors are from the house of **Fabbrica Italiana Pompe Sommergibili S.r.l.** a four decades old Italian company of high repute, offering complete waste water solutions around the world. Its current product portfolio includes world class Waste Water Pumps of various types, Multistage Centrifugal Pressure Booster Pumps, Borehole Submersible Pumps & Motors, End Suction Centrifugal Pumps, Industrial Pumps for various applications.

Founded as early as 1978 in Rozzano, South of Milan, Italy by Mr.Orfeo Agostini, the company has witnessed steady growth and market expansion continuously ever since. In these four decades of existence, the company has carved a niche for itself in the waste water and sewage pump market in Italy and other countries. Its products are employed in Municipal, Domestic and Industrial applications. The Company is well known for the unique and robust designs of its products and their workmanship. Due to its superior quality ZIRANTEC products are also exported to many European, African and Asian countries.

ZIRANTEC's products are conceived, designed and manufactured by well qualified and experienced Italian Pump Engineers in state of the art manufacturing facilities in Italy. These manufacturing plants are accredited with UNI EN ISO 9001:2008 Certification.

Over the years, the company has metamorphosed and ventured into manufacturing of high quality water pumps, for domestic, agricultural and industrial applications. In the due process, Fabbrica Italiana Pompe Sommergibili S.r.l. has shed its image of an exclusive sewage and waste water pumps manufacturer to a complete pump production company with an ability to manufacture diverse kinds of pumps for different applications.

contents

CONTROL PANELS

Model Identification Code.....	4
--------------------------------	---

THREE PHASE CONTROL PANELS

Direct - Online Starter

Types & Specifications, Protection, Advantages & Components	5
---	---

Star - Delta Starter

Types & Specifications, Protection, Advantages & Components	6
---	---

Impedance Panel

Types & Specifications, Protection, Advantages & Components	7
---	---

Auto Transformer Starter

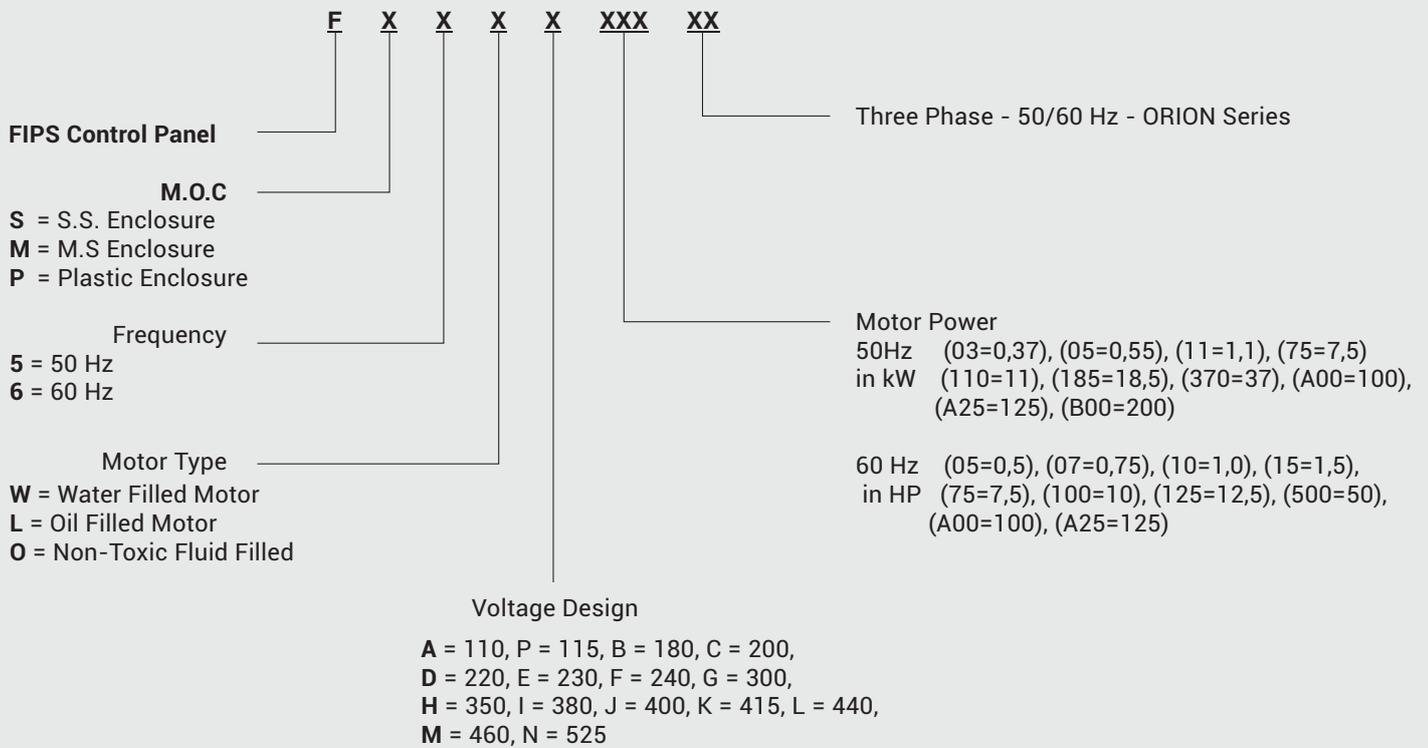
Types & Specifications, Protection, Advantages & Components	8
---	---

Soft Starter

Types & Specifications, Protection, Advantages & Components	9
---	---

Zirantec Control boxes are made of hi-tech components and designed to perfection with various features to give ultimate protection to the prime movers such as Submersible motors, Centrifugal pumps etc. Different types of single-phase and three-phase control boxes are available which can be selected according to the control measures and features required.

MODEL IDENTIFICATION CODE



CONTROL PANELS 3 PHASE

Direct - Online Starter



Direct - Online Starters are the simplest form of motor starter for starting induction motor and these starters basically consist of MCB / Circuit Breaker, Contactor and an overload relay for protection, electromagnetic contactor can be opened by the thermal overload relay under fault conditions. Typically, the contactor will be controlled by separate start and stop buttons, and an auxiliary contact on the contactor is used, across the start button, as a hold in contact. i.e. the contactor is electrically latched / closed while the motor is operating.

TYPES & SPECIFICATIONS

Power Range	0,37 kW to 185 kW
Version	Three Phase, 50/60 Hz, A.C.
Nominal Voltage	380V - 415V
Degree of Protection	IP 54 / IP 55 & 65 (Optional)
Panel Box	MS Powder Coated / S.S (Optional)
Components	Schneider / L&T / ABB / Siemens / Reputed Make

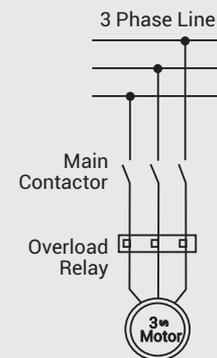
PROTECTION

- Over Voltage
- Under Voltage
- Over Load
- Short Circuit
- No Load
- Dry running
- Phase Failure
- Phase reversal (Optional)
- PT sensor (Optional)
- Level sensors
- Local / remote operation
& customized features against requirement

COMPONENTS

- Contactor
- Pump Protective Relay (PPR)
- CT Coil
- Timer
- On/Off Switch
- MCB / Load Breaking Switch
- Ammeter
- Voltmeter
- Run-Hour meter (Optional)
- Selector Switch
- Indicator Lamps
- Powder Coated MS Box with Lock & Key.
- Hand selector Switch

Schematic Diagram



ADVANTAGES

- Most Economical and Cheapest Starter
- Simple to establish, operate and maintain
- Simple Control Circuitry
- Easy to understand and trouble shoot.
- It provides 100% torque at the time of starting.
- Only one set of cable is required from starter to motor.
- Manual / Auto Operation
- Optional Control Circuit Voltages

CONTROL PANELS 3 PHASE

Star - Delta Starter



Start-Delta starters are the most common starters used widely to start AC motors. In these starters the starting current is controlled by applying reduced voltage, achieved by connecting motor winding in "Star" mode. Theoretically the current is reduced by a factor of $1/\sqrt{3}$ times and once the motor attains its normal running stage, full voltage is applied to the motor by changing the connection to "Delta" mode and remains in the same stage till the motor is stopped.

TYPES & SPECIFICATIONS

Power Range	0,37 kW to 220 kW
Version	Three Phase, 50/60 Hz, A.C.
Nominal Voltage	380V - 415V
Degree of Protection	IP 54 / IP 55 & 65 (Optional)
Panel Box	MS Powder Coated / S.S (Optional)
Components	Schneider / L&T / ABB / Siemens / Reputed Make

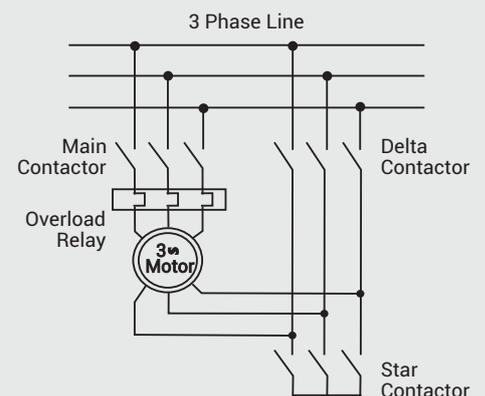
PROTECTION

- Over Voltage
- Under Voltage
- Over Load
- Short Circuit
- No Load
- Dry running
- Phase Failure
- Phase reversal (Optional)
- PT sensor (Optional)
- Level sensors
- Local / remote operation
- & customized features against requirement

COMPONENTS

- Contactor
- Pump Protective Relay (PPR)
- CT Coil
- Timer
- On/Off Switch
- MCB / Load Breaking Switch
- Ammeter
- Voltmeter
- Run-Hour meter (Optional)
- Selector Switch
- Indicator Lamps
- Powder Coated MS Box with Lock & Key.
- Hand selector Switch

Schematic Diagram



ADVANTAGES

- The operation of the star-delta method is simple and rugged
- It is relatively cheap compared to other reduced voltage methods.
- Good Torque/Current Performance.
- It draws 2 times starting current of the full load ampere of the motor connected
- Manual / Auto Operation
- Optional Control Circuit Voltages

CONTROL PANELS 3 PHASE

Impedance Panel

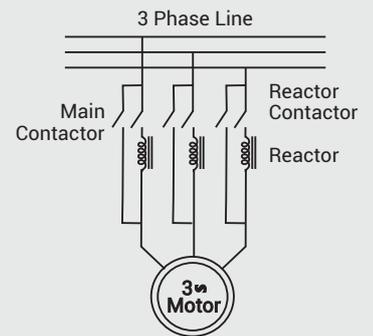


Starter is similar to Start- Delta Starter but a set of Series Reactors are connected in series with the motor winding while starting. So this method is often called as Series Reactor Starter. Once the motor comes to its running mode these reactors are disconnected and the motor runs like DOL method. The starting current is controlled by the Impedance produced by reactors connected in series.

TYPES & SPECIFICATIONS

Power Range	0,37 kW to 530 kW
Version	Three Phase, 50/60 Hz, A.C.
Nominal Voltage	380V - 415V
Degree of Protection	IP 54 / IP 55 (Optional)
Panel Box	MS Powder Coated
Componants	Schneider / L&T / GIC / Minelec / Reputed Make

Schematic Diagram



PROTECTION

- Over Voltage
- Under Voltage
- Over Load
- Short Circuit
- No Load
- Dry running
- Phase Failure
- Phase reversal (Optional)
- PT sensor (Optional)
- Level sensors
- Local / remote operation
& customized features against requirement

ADVANTAGES

- Simple /Rugged Construction
- Reduced Starting Current
- Good Current / Torque properties
- Only one set of cable is required from starter to motor
- Manual / Auto Operation
- Optional Control Circuit Voltages

COMPONENTS

- Reactors
- Contactor
- Pump Protective Relay (PPR)
- CT Coil
- Timer
- On/Off Switch
- MCB / Load Breaking Switch
- Ammeter | Voltmeter
- Run-Hour meter (Optional)
- Selector Switch
- Indicator Lamps
- Powder Coated MS Box with Lock & Key
- Hand selector Switch

CONTROL PANELS 3 PHASE

Auto Transformer Starter

An Auto-Transformer starter is another type of conventional method of starting AC motors with the aid of Auto-Transformer. In this method the starting current is reduced by applying reduced voltage by means of Auto-Transformer for a while and once the motor comes to normal running condition the full voltage is applied across the motor winding.

TYPES & SPECIFICATIONS

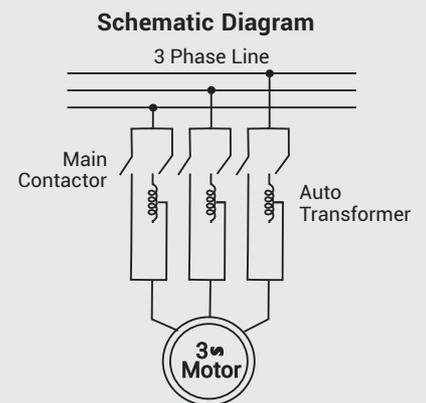
Power Range	0,37 kW to 530 kW
Version	Three Phase, 50/60 Hz, A.C.
Nominal Voltage	380V - 415V
Degree of Protection	IP 54 / IP 55 (Optional)
Panel Box	MS Powder Coated
Components	Schneider / L&T / GIC / Minelec / Reputed Make

PROTECTION

- Over Voltage
- Under Voltage
- Over Load
- Short Circuit
- No Load
- Dry running
- Phase Failure
- Phase reversal (Optional)
- PT sensor (Optional)
- Level sensors
- Local / remote operation
& customized features against requirement

COMPONENTS

- Auto Transformer
- Contactor
- Pump Protective Relay (PPR)
- CT Coil
- Timer
- On/Off Switch
- MCB / Load Breaking Switch
- Ammeter
- Voltmeter
- Run-Hour meter (Optional)
- Selector Switch
- Indicator Lamps
- Powder Coated MS Box with Lock & Key
- Hand selector Switch



ADVANTAGES

- Can set desired starting voltage
- Simple / Rugged Construction
- Reduced Starting Current
- Good Current / Torque properties
- Only one set of cable is required from starter to motor
- Manual / Auto Operation
- Optional Control Circuit Voltages

CONTROL PANELS 3 PHASE

Soft Starters

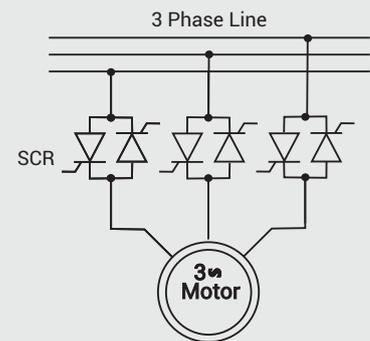


Soft starter is an advanced method of starting electrical motors by application of electronic devices like micro processor, SCR / Thyristor etc., and provides numerous advantages over other types of starters. In this panel voltage reduction and other vital features like controlled acceleration of motor are achieved by triggering SCRs at the desired firing angle by microprocessor. Once triggered the SCR allows current in one direction and turns off at zero current.

TYPES & SPECIFICATIONS

Power Range	0,37 kW to 530 kW
Version	Three Phase, 50/60 Hz, A.C.
Nominal Voltage	380V - 415V
Degree of Protection	IP 54 / IP 55 (Optional)
Panel Box	MS Powder Coated
Components	Schneider / L&T / GIC / Minelec / Reputed Make

Schematic Diagram



PROTECTION

- Over Voltage
- Under Voltage
- Over Load
- Short Circuit
- No Load
- Dry running
- Phase Failure
- Phase reversal (Optional)
- PT sensor (Optional)
- Level sensors
- Local / remote operation
& customized features against requirement

ADVANTAGES

- Reduced stresses and wear on the mechanics of the system
- Reduced starting currents
- Reduced peak inrush starting currents.
- Ramp profiling to better match type of load such as variable torque loads
- Reduced heating in motor at low speeds
- Minimize voltage dips on the supply
- Lowered Peak demand charges
- Smooth acceleration of motor / load
- No instability due to changing power factor
- No instability due to slot ripple in 3 wire and 6 wire operation
- Better control of deceleration through closed loop torque control system.

COMPONENTS

- Reactors
- Contactors
- Pump Protective Relay (PPR)
- CT Coil
- Timer
- On/Off Switch
- MCB / Load Breaking Switch
- Ammeter | Voltmeter
- Run-Hour meter (Optional)
- Selector Switch
- Indicator Lamps
- Powder Coated MS Box with Lock & Key



Zirantec

Fabbrica Italiana Pompe Sommergibili S.r.l.

Viale Toscana, 46 - 20089 Rozzano (MI) - Italy
Tel. (+39) 02 8258923 - 02 57510371 Fax 02 57512095

E-mail: info@fips-pumps.it

www.zirantec.com; www.fips-pumps.it