

# Single Phase Jet Monoblocks

Instruction &  
Operating Manual



**Texmo  
Industries**  
Est. 1956







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# 1. Introduction

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Thank you for choosing a quality product manufactured by Texmo Industries. We request you to read this manual carefully to ensure that the system you have purchased will be operated correctly.

This manual is intended to provide you with information on your product and information on installation and operation. You will also find information on how you could contact Texmo Industries, should you need further information or help and support.

## 2. Warranty information

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Please refer to your warranty card or visit **[www.taropumps.com](http://www.taropumps.com)** for more information on your warranty.

## 3. Complying with standards

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IS 996: Single phase A.C. Induction motors for general purpose  
IS 3043: Code of Practice for earthing: Specification  
IS 12225: Centrifugal jet pump: Specification  
IS 13730: Specifications for particular types of winding wires

## 4. Contents of the packing box

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Based on the model you have purchased, your Single Phase Jet Monoblock is packed along with the instruction manual and warranty card in either a corrugated box or in a wooden crate.

## 5. Information about your pump

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Taro Single Phase Jet Monoblocks are manufactured using high quality raw materials and components using state-of-the-art manufacturing facilities and will give trouble-free performance if properly installed and maintained. These Jet Monoblocks are compact pumping systems with the pump and motor mounted on a common shaft. As a coupling is not required, alignment of the pump and motor is assured. Installation therefore is quick.

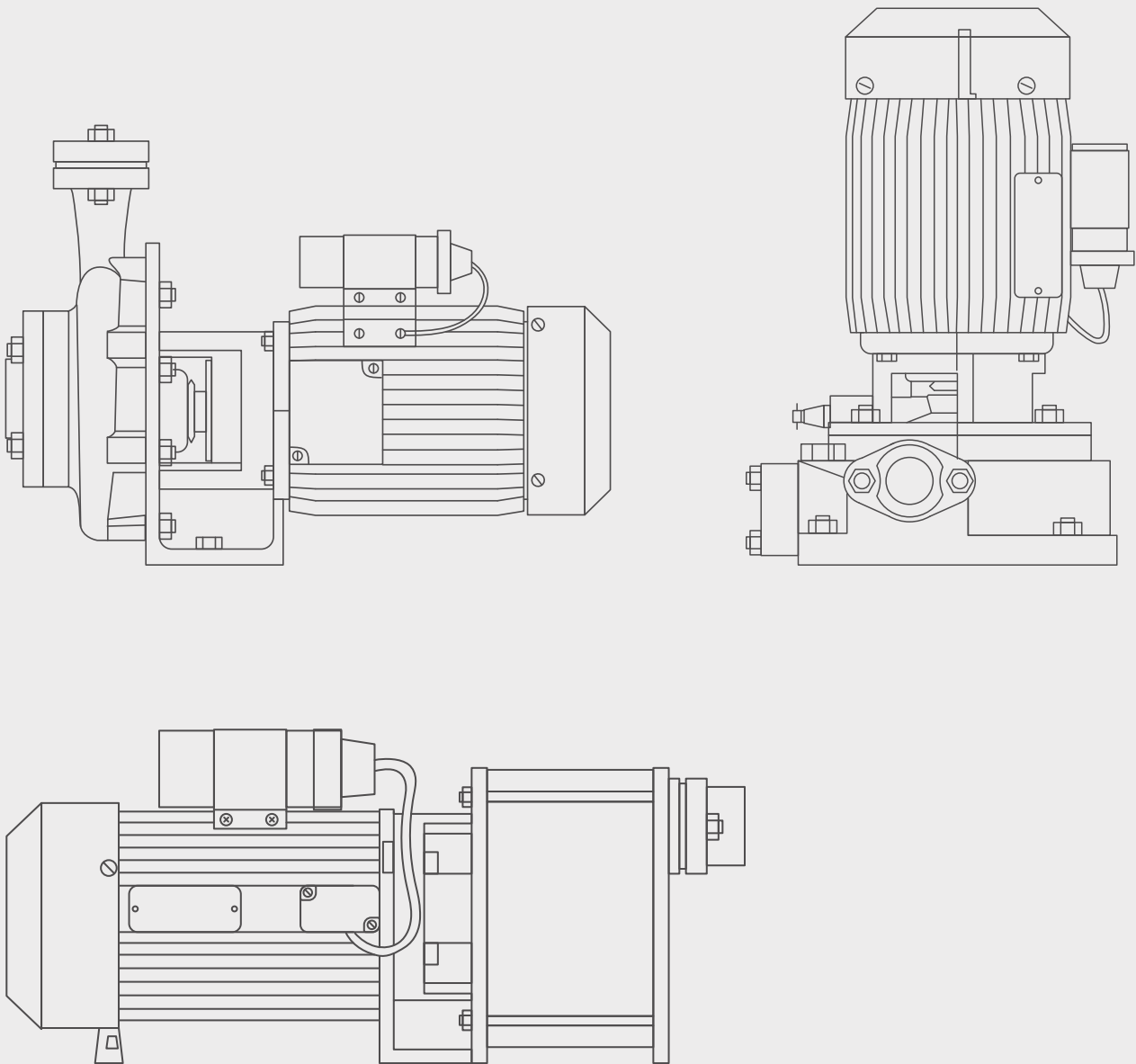
The Jet Pump consists of a horizontal / vertical monoblock, jet unit and pressure valve which operates in combination to pump water from deep wells. Water is forced under pressure through a nozzle and venturi arrangement. The water surrounding the nozzle area is trapped along with the high speed stream and in this way water is pumped out. Therefore, two pipes are required to be inserted into the well, one for injecting high pressure water into the well and one for bringing the water out of the well.

## 6. Schematic drawing

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View of a Single Phase Jet Monoblock is shown below in Fig. 1:

**Fig. 1 View of Single Phase Jet Monoblock**



## 7. Key specifications & features

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Standard specifications of Single Phase Jet Monoblock are shown below in TABLE 1:

Phase	Single
Power	0.5 - 1.5 HP
Motor Type	Squirrel-cage Induction Motor - CSR
Operating Voltage	180 – 240V
Frequency	50 Hz
Speed	2900 rpm
Duty	S1 Continuous
Insulation Class	A
Type of Enclosure	TEFC
Impeller Type	Radial
Max. Fluid Temperature	33°C
Thermal Overload Protection (TOP)	Provided

### Product Performance Specification

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Texmo Industries has a wide variety of Single Phase Jet Monoblocks to meet your requirements. Please consult our sales team / your nearest dealer to meet your specific requirements.

## Key features: Motor

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- ✓ The motor houses shielded type Deep Groove Ball Bearings, pre-filled with grease, to take up the radial and axial thrust loads
- ✓ The rotors are dynamically balanced
- ✓ Adequate motor surface area is provided for effective cooling
- ✓ Energy efficient motor for low power consumption
- ✓ To protect the motor from overload, Thermal Overload Protector (TOP) is provided

## Key features: Pump

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- ✓ Impellers are dynamically balanced
- ✓ 45C8 / AISI 410 shaft for long life
- ✓ Both suction and delivery flanges with rubber gaskets are assembled on the pump casing
- ✓ In case of leak past the mechanical seal, a water slinger assembled on the shaft and in the space between the mechanical seal and front bearing, prevents water entry into the motor
- ✓ To reduce friction, the stuffing box – gland assembly is replaced with a mechanical seal
- ✓ Pressure valve provided for easy adjustment of pump output to match the bore well yield
- ✓ Jet unit with foot valve and strainer

## Electrical connection

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- ✓ The motors are internally wired and pre-connected with the capacitor leads
- ✓ Connect the phase and neutral to the terminal board



## Mounting

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Can be installed near the borewell or in an adjacent building without the need for a separate pump house

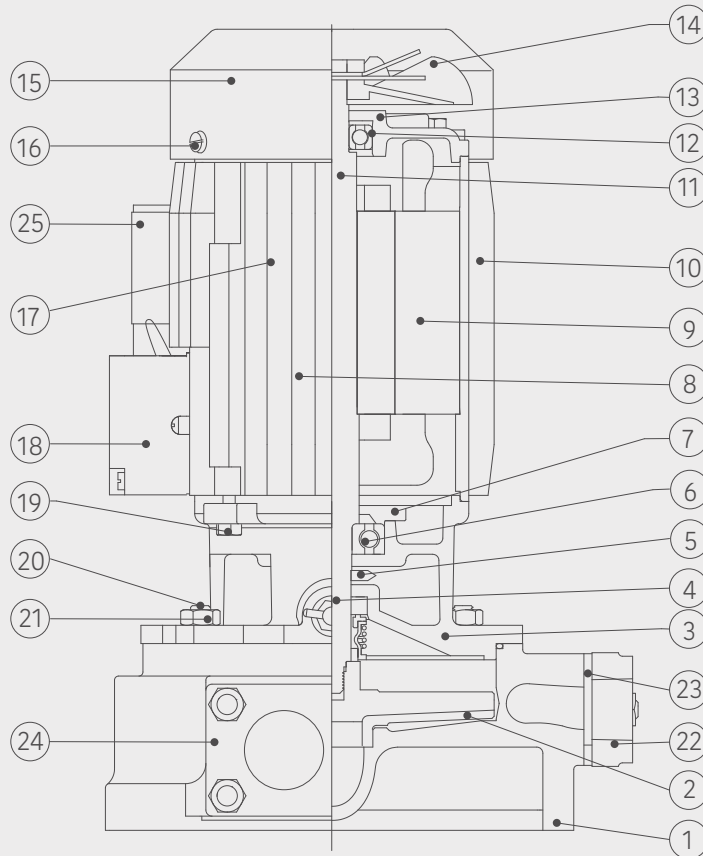


Based on the model opted, the set can be mounted horizontally / vertically

# 8. Cross-section view

Cross-section view of a Single Phase Side-Mounted Vertical Jet Monoblock, HCSJ 40/70/90 Series, is shown below in Fig. 2:

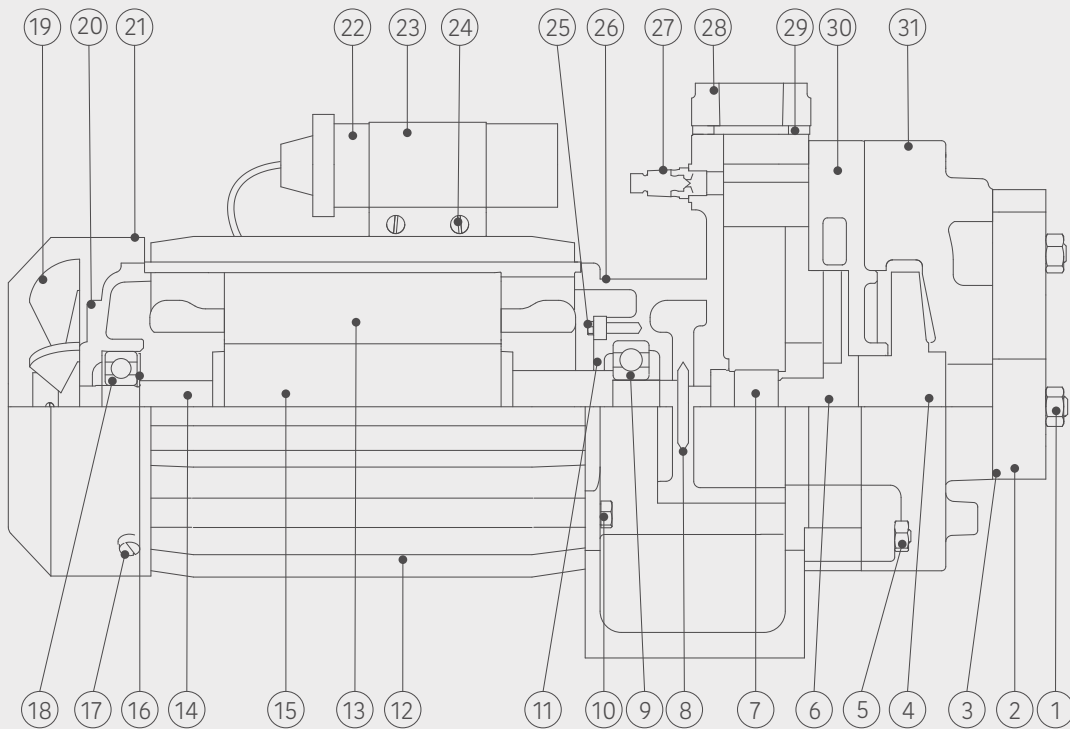
**Fig. 2 Cross-section of 1Ø side-mounted vertical jet monoblock HCSJ 40/70/90 series**



No.	PART NAME	No.	PART NAME	No.	PART NAME
1	Casing	10	Body	19	Hex. Head Bolt
2	Impeller	11	Shaft	20	Stud
3	Cover Dome	12	Ball Bearing	21	Hexagon Nut
4	Mech. Seal Set	13	Rear Cover	22	Flange - Oval
5	Water Slinger	14	Fan	23	Gasket - Oval
6	All Bearing	15	Fan Sheild	24	Flange Rectangular
7	Cap - Front Brg	16	CH. Screw	25	Capacitor
8	Rotor Stack	17	Capacitor		
9	Stator Stack	18	Terminal Box		

Cross-section view of a Single Phase Double Stage Horizontal / Bore-Mounted Jet Monoblock, TDSJ Series, is shown below in Fig. 3:

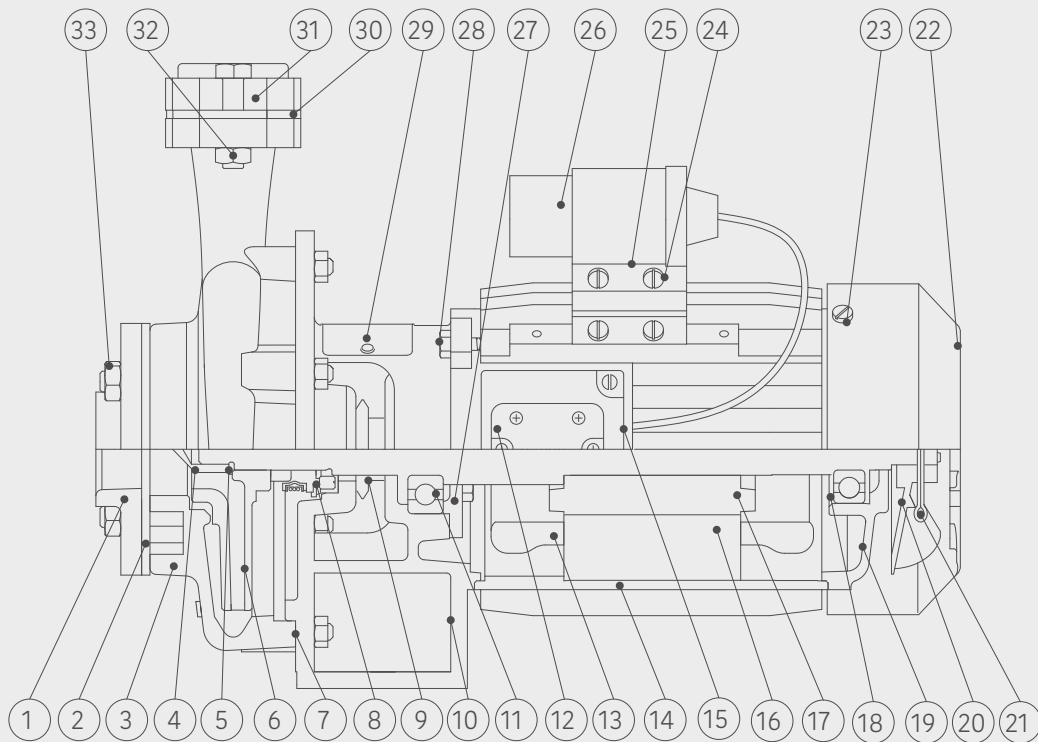
**Fig. 3 Cross-section of 1Ø double stage horizontal / bore-mounted Jet monoblock – TDSJ series**



No.	PART NAME	No.	PART NAME	No.	PART NAME
1	Hexagon Nut	12	Body	23	Capacitor Clamp
2	Flange Irregular	13	Stator Stack	24	C.H. Screw
3	Gasket Irregular	14	Shaft	25	Hexagon Head Bolt
4	Impeller	15	Rotor Stack	26	Cover Dome
5	Hexagon Nut	16	Shield	27	Air Cock
6	Impeller - Star	17	C.H. Screw	28	Flange Oval - Delivery
7	Mech Seal Set	18	Ball Bearing	29	Gasket Oval
8	Water Slinger	19	Fan	30	Casing Inner
9	Ball Bering	20	Rear Cover	31	Casing Outer
10	Hex. Head Bolt	21	Fan Sheild		
11	Cap	22	Capacitor		

Cross-section view of a Single Phase Horizontal Jet Monoblock, HCSJ 80/11 Series, is shown below in Fig. 4:

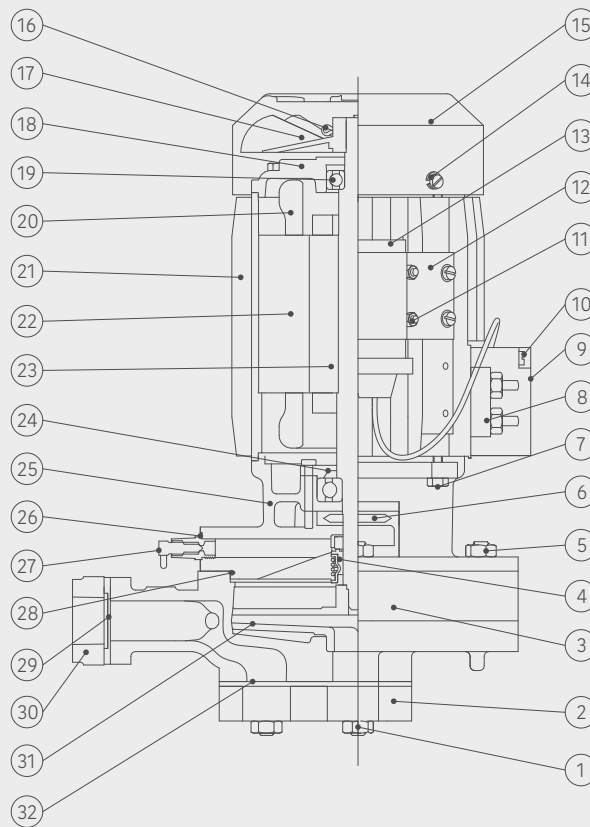
**Fig. 4 Cross-section of 1Ø horizontal jet monoblock – HCSJ 80/11 series**



No.	PART NAME	No.	PART NAME	No.	PART NAME
1	Flange Circular	13	Coil	24	C.H Screw, Spring Washer & Hex Nut
2	Gasket - Circular	14	Body	25	Capacitor Clamp
3	Casing	15	Terminal Box Cover	26	Capacitor
4	Impeller Lock Nut	16	Stator Stack	27	Cap
5	Washer	17	Rotor With Shaft	28	Hex Head Bolt
6	Impeller	18	Shield	29	Name Plate
7	Gasket Circular	19	Rear Cover	30	Gasket - Oval
8	Mech.Seal Set	20	Fan	31	Flange Oval
9	Water Slinger	21	Split Cotter Pin	32	Hex Head Bolt & Nut
10	Cover Dome	22	Fan Shield	33	Stud & Hex Nut
11	Ball Bearing	23	C.H Screw & Spring Washer		
12	Terminal Board				

Cross-section view of a Single Phase Bore-mounted Type Vertical Jet Monoblock, TSJ Series, is shown below in Fig. 5:

**Fig. 5 Cross-section of 10 bore-mounted vertical jet monoblock – TSJ series**

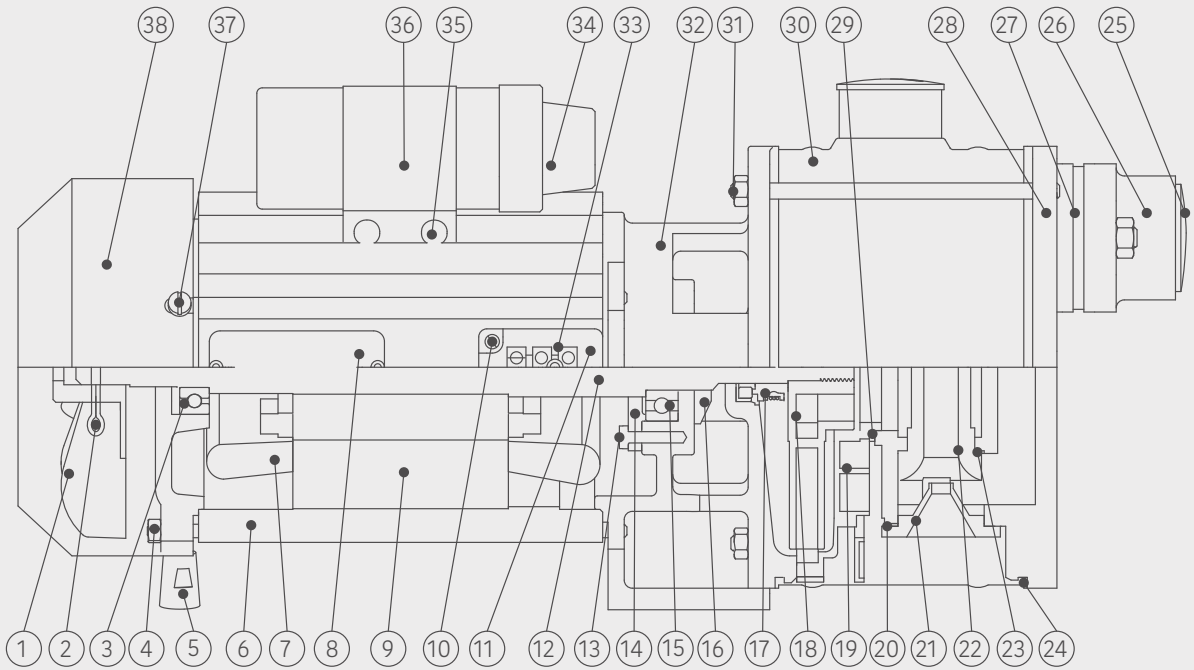


No.	PART NAME	No.	PART NAME	No.	PART NAME
1	Stud & Hex. Nut	12	Capacitor Clamp	24	Cap
2	Flange - Irregular	13	Capacitor	25	Cover Dome
3	Casing	14	C.H Screw & Spring Washer	26	O-Ring
4	Mech Seal Set	15	Fan Shield	27	Air Cock
5	Stud & Hex. Nut	16	Split Cotter Pin	28	O-Ring
6	Water Slinger	17	Fan	29	Gasket - Oval
7	Hex Head Bolt	18	Rear Cover	30	Flange - Oval
8	Terminal Board	19	Deep Groove Ball Bearing	31	Impeller
9	Terminal Box	20	Coil	32	Gasket - Irregular
10	C.H Screw	21	Body		
11	C.H Screw, Spring Washer & Nut	22	Stator Stack		
		23	Rotor With Shaft		



Cross-section view of a Single Phase Shallow Well Jet Monoblock, HCS SJ Series, is shown below in Fig. 6:

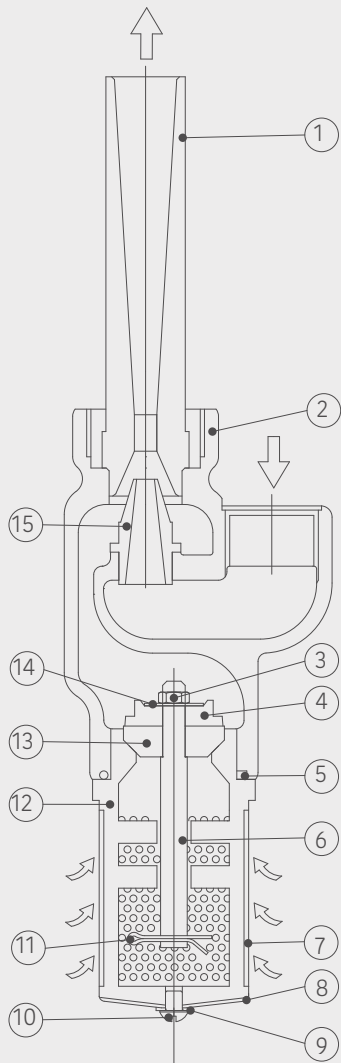
**Fig. 6 Cross-section of 1Ø shallow well jet monoblock – HCS SJ series**



No.	PART NAME	No.	PART NAME	No.	PART NAME
1	FAN	14	CAP	27	NRV
2	SPLIT COTTER PIN	15	DEEP GROOVE BALL BEARING	28	SUCTION CHAMBER
3	DEEP GROOVE BALL BEARING	16	WATER SLINGER	29	GASKET - CIRCULAR
4	STUD & HEX.NUT	17	MECH SEAL SET	30	DELIVERY CHAMBER
5	REAR COVER SUPPORT	18	IMPELLER	31	STUD & HEX.NUT
6	BODY	19	DIFFUSER	32	COVER DOME
7	COIL	20	GASKET - CIRCULAR	33	TERMINAL BOARD
8	NAME PLATE	21	NOZZLE	34	CAPACITOR
9	STATOR STACK	22	VENTURI	35	SELF TAPPING SCREW
10	C.H SCREW	23	O - RING	36	CAPACITOR CLAMP
11	TERMINAL BOX	24	GASKET	37	C.H. SCREW
12	ROTOR WITH SHAFT	25	PLUG	38	FAN SHIELD
13	C.H. SCREW	26	FLANGE - OVAL		

Cross-section view of a typical Jet Unit Assembly, used in HCSJ 40/70/90, HCSJ 80/11, TDSJ and TSJ Series, is shown below in Fig. 7:

**Fig. 7 Jet unit with foot valve and strainer**



No.	PART NAME
1	Venturi
2	Jet Body
3	Hex. Nut
4	Valve Weight
5	O - Ring
6	Valve Stem
7	Strainer
8	Cap - Strainer
9	Washer
10	Round Head Screw
11	Split Cotter Pin
12	Valve Seat
13	Valve Seat Cushion
14	Washer
15	Nozzle

# 9. Pre-installation requirements

## Arrangement for installation

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- ✓ Use the services of a professional and trained mechanic with experience to erect Single Phase Jet Monoblocks
- ✓ Ensure proper safety during installation
- ✓ For Horizontal Jet Monoblocks, ensure that a level foundation is ready before erection. Contact the dealer from whom the pumpset was purchased for details on mounting, before repairing the foundation
- ✓ For Vertical Jet Monoblocks, mount the set on top of the borewell
- ✓ The diameter of the borewell should be checked before lowering the jet unit and pipes into the borewell. This check will ensure that the jet unit does not get stuck in the bore at any point
- ✓ Measure the depth of the well / borewell from the ground level
- ✓ Yield of borewell: this is a measure of the maximum amount of water that can be continuously drawn from the well while maintaining a stable water level
- ✓ Lowest water level: During summer, the water level drops and should be taken into account

## General Installation Precautions

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- ✓ Open the packaging and note down the serial number and model for future reference
- ✓ Ensure all fasteners are tightened properly
- ✓ Use prescribed pipe sizes as mentioned on the product nameplate
- ✓ Fit the supplied jet unit with foot valve and the pressure regulating valve
- ✓ If required, customer can fit a pressure gauge
- ✓ After installation, prime the set before starting the pump
- ✓ It is recommended to assemble the Single Phase Jet Monoblock on a level base with foundation bolts to prevent the pump and piping from getting stressed
- ✓ As the Single Phase Jet Monoblock is air cooled, ensure that air flow to the cooling fan, located at the rear side of the motor, is not blocked

- ✓ Use a single power cable from the power source to the Single Phase Jet Monoblock. Do not use a power cable with large number of joints as this can result in a significant voltage drop
- ✓ During installation, ensure the Single Phase Jet Monoblock is not subject to shock loads which can damage the pumpset parts
- ✓ The Jet Pump can be installed either close to the well or away from it. The pipes from the Jet Pump to the well must slope down
- ✓ The Jet Unit should be located around 3m below the lowest water level in the well

 Note	If you detect damage or discrepancy in the product, contact the dealer from whom the pump was purchased
 Warning	Do not use the Jet Pump for oil, toxic, corrosive and flammable liquids. Pumping flammable liquids could cause explosion
 Caution	Ensure suitable precautions are taken while lifting and lowering the product
 Caution	Use trained professionals to install the Single Phase Jet Monoblock
 Warning	Use a power supply cable that has sufficient rating. Factor in low-voltage operation
 Warning	Provide proper earthing. Improper earthing can cause electrical shock
 Caution	Use a Megger to verify the insulation resistance of the motor. Insulation resistance should be 20MΩ minimum



Caution

Do not place the Single Phase Jet Monoblock in a location subject to flooding as water can enter the motor and damage the windings and bearings



Warning

Based on the type of Jet Pump ordered, mount it with its axis horizontal / vertical

## Operation Precautions



Caution

The pump casing houses a Mechanical Seal. Do not attempt to run the pump dry as the mechanical seal can get damaged during dry operation. Ensure the pump is primed and then run it



Warning

Switch OFF the power before working on electrical lines



Caution

Do not use this pump for pumping liquid exceeding 33°C as this may lead to product failure



# 10. Installation procedure

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Please follow the below procedure to install the Single Phase Jet Monoblock:

	<p>The supply voltage should be within the specified voltage range. Water temperature for operation of the pump should not exceed 33°C Failure to observe the precautions given above could cause the pump to malfunction and may lead to current leakage or electrical shock</p>
	<p>If you find any abnormalities like vibration, noise, smell, etc. from the pump during trial operation, switch OFF the pump and contact the dealer where this pump was purchased</p>

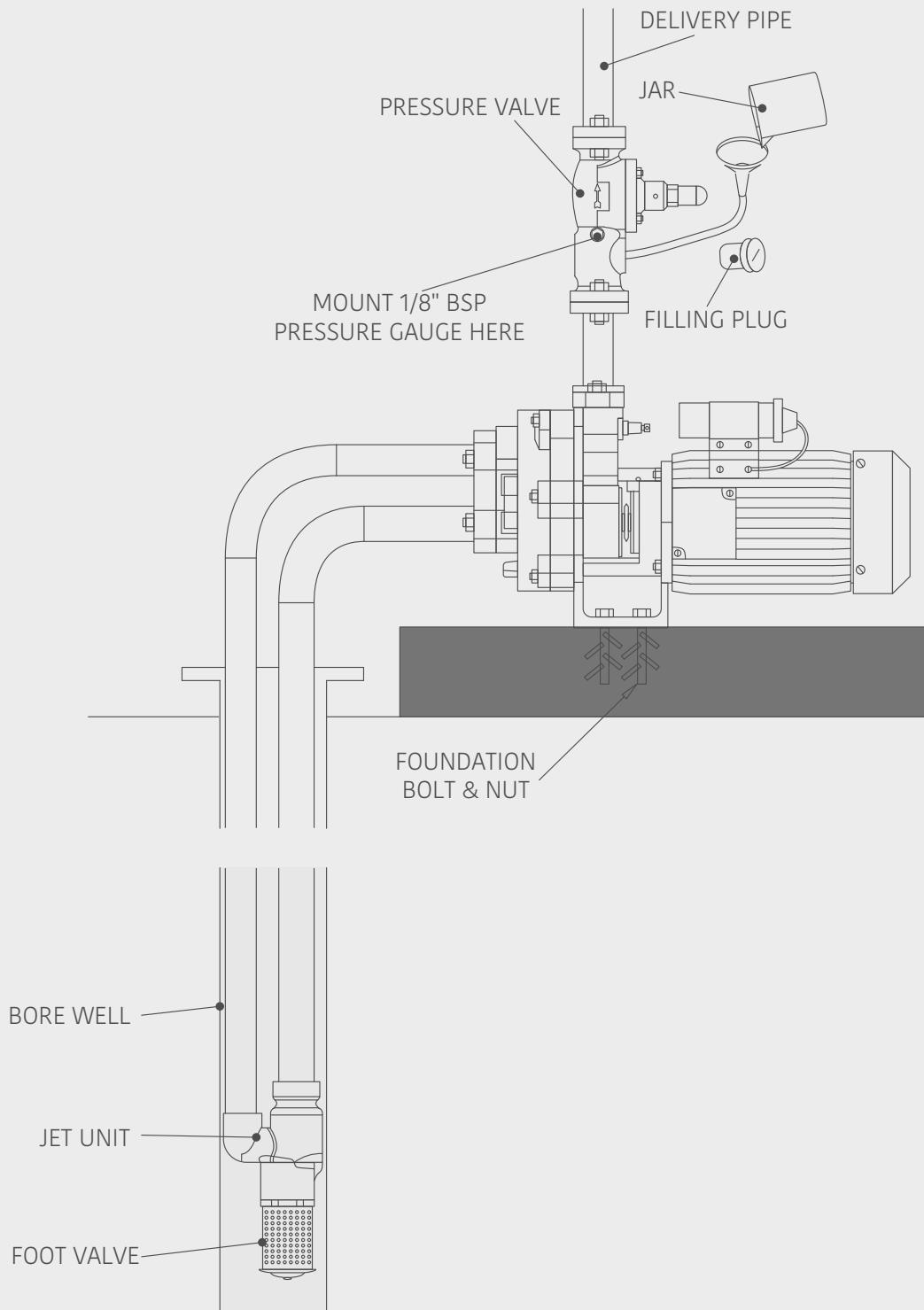
## Installation:

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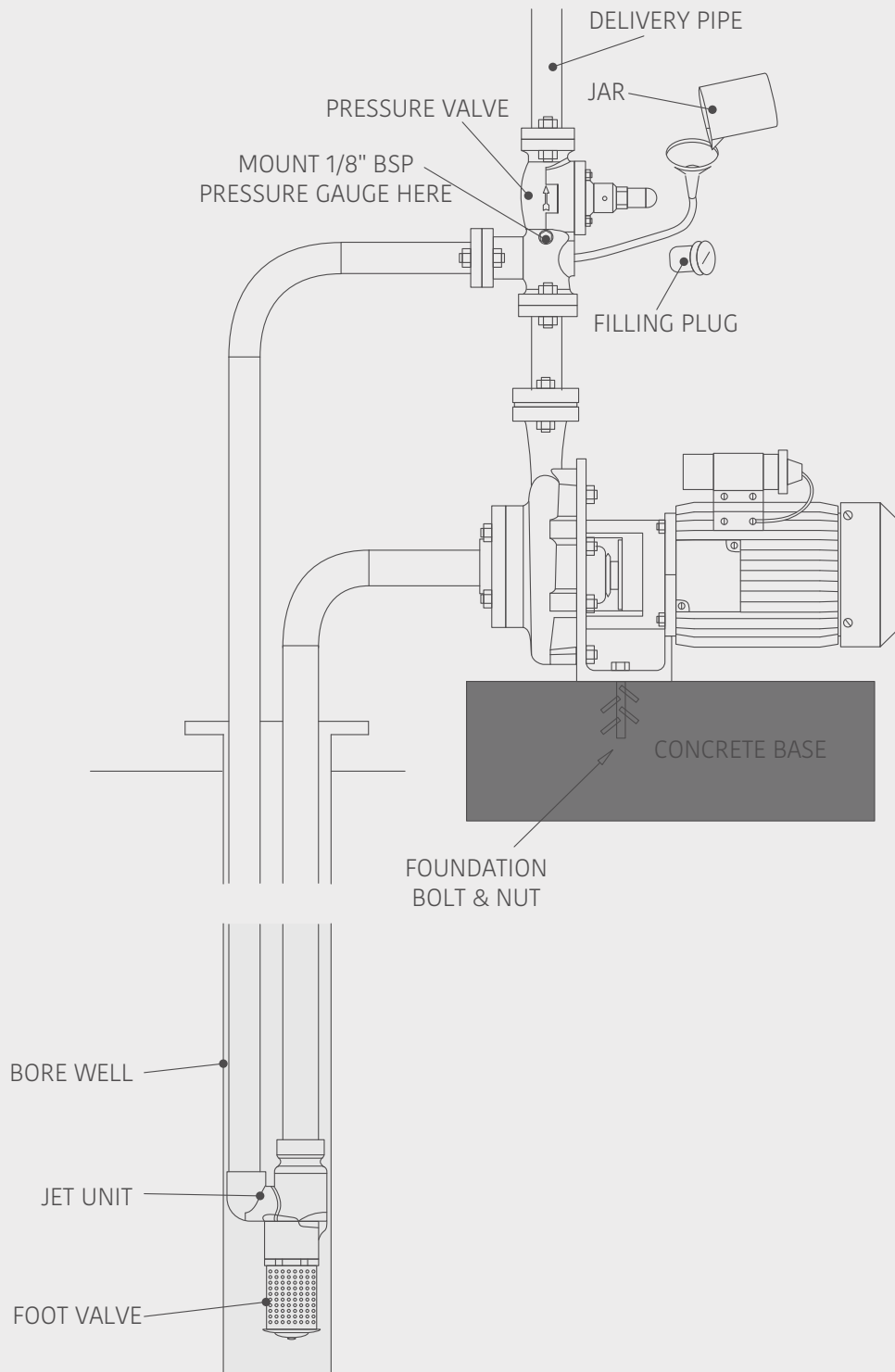
The following steps are executed prior to installation:

- ✓ Measure the Insulation Resistance using a Megger of 500 VDC
- ✓ Ensure contact points are clean
- ✓ Connect the measuring cable to the ground conductor
- ✓ Connect the other measuring cable to phase terminal
- ✓ Ensure that the insulation resistance, as shown on the Megger, is a minimum of 20MΩ
- ✓ For Jet Pumps with base mounting (HCSJ, HCS SJ, TDSJ Series) obtain the foundation details from the dealer from whom the set was purchased and prepare a level concrete foundation for mounting the pump. Tighten the motor base using foundation bolts as shown in Fig. 8(a) to (d).  
For Bore-mounted Type Vertical Jet Monoblock (TSJ Series), mount the set on the bore casing pipe shown in Fig. 8(e).

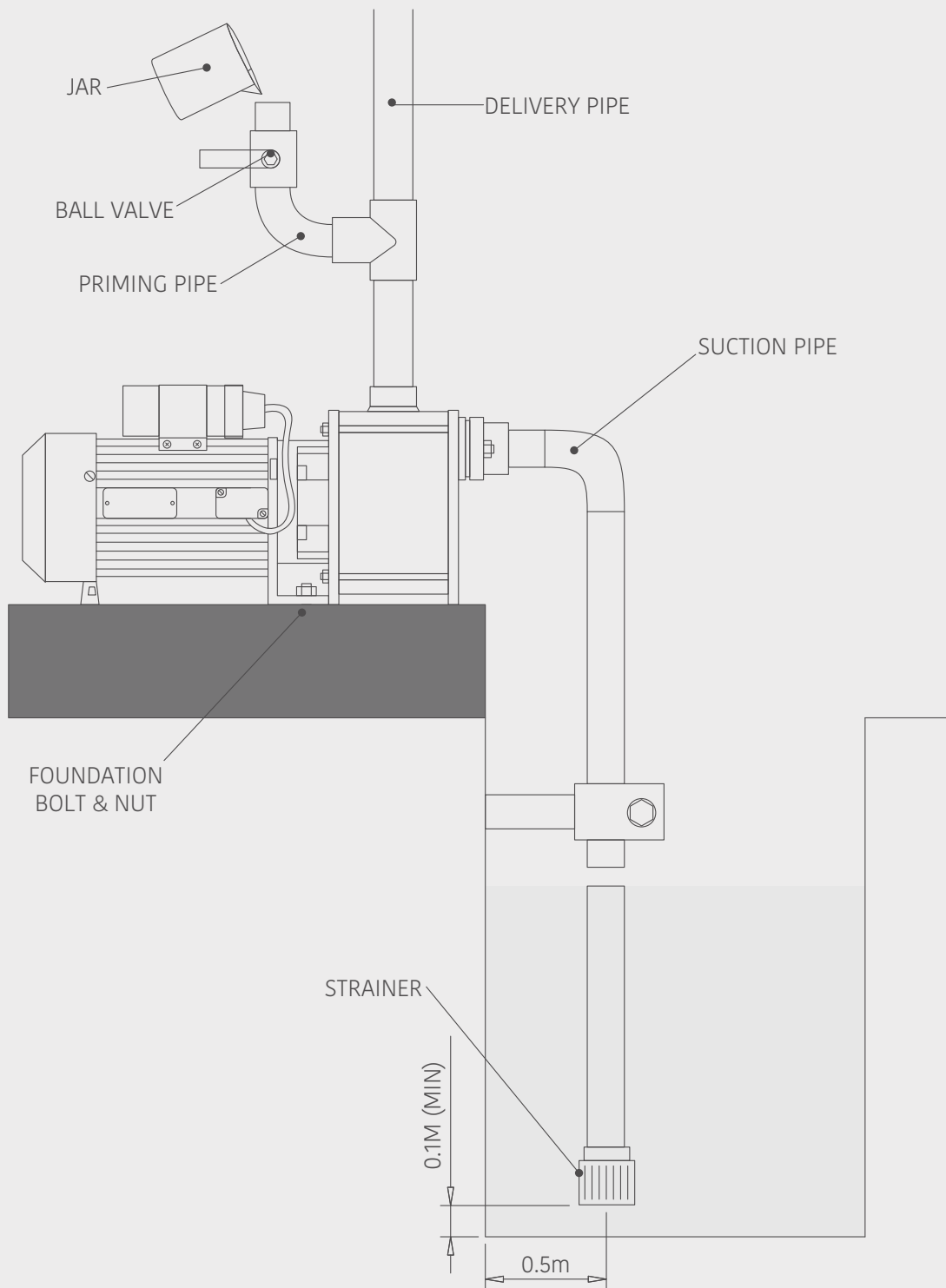
▼ Fig. 8 Jet monoblock erection guide



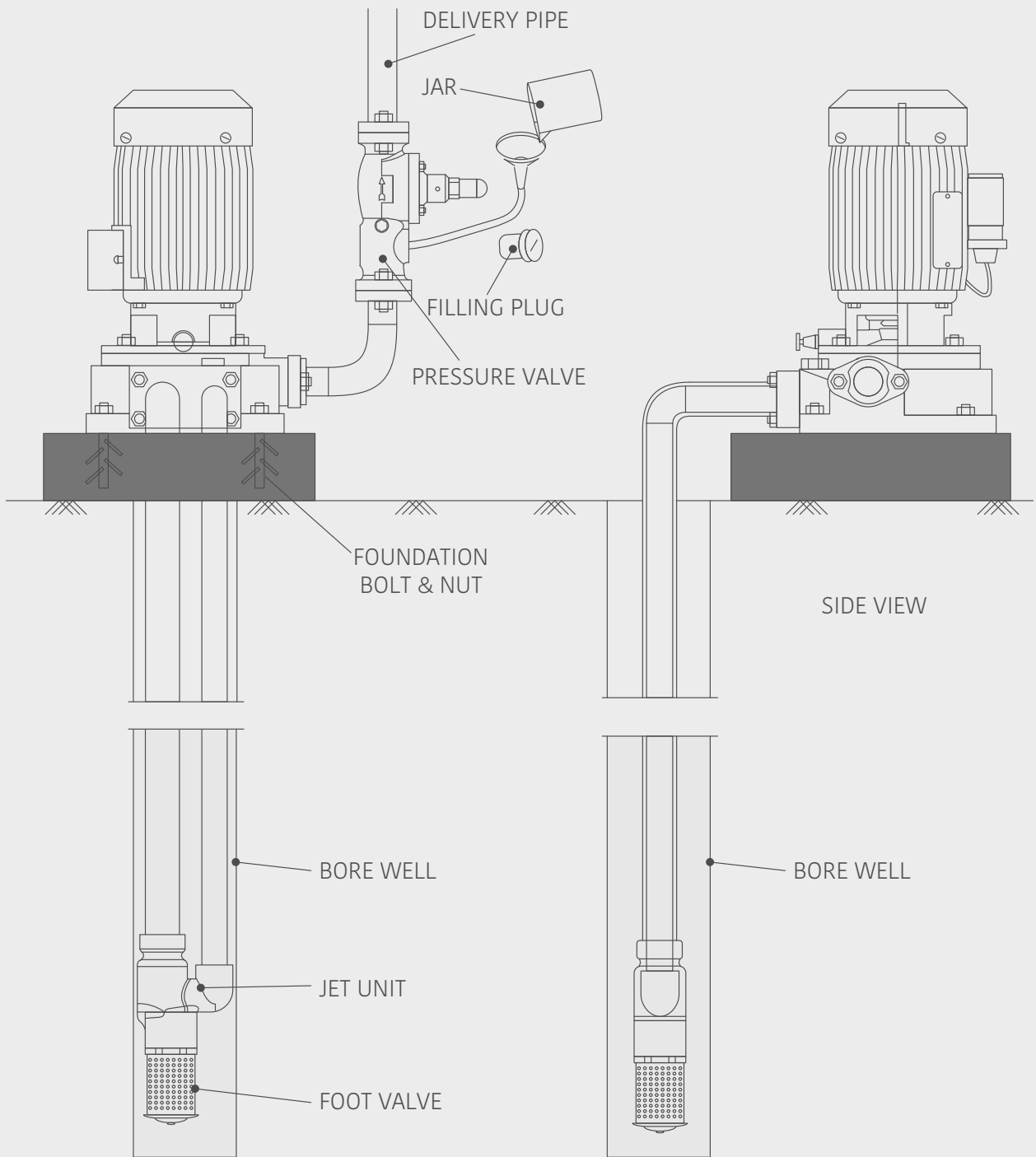
8(a)



8(b)

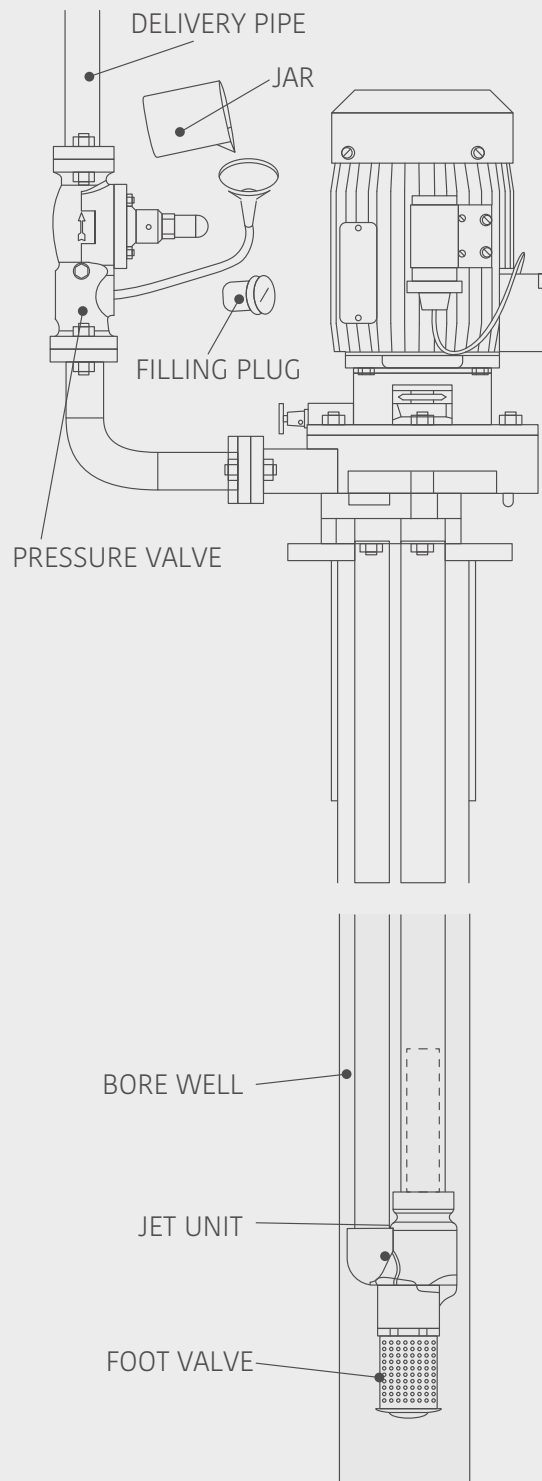


8(c)



8(d)





8(e)



Use prescribed pipe sizes as mentioned on the product nameplate



Ensure the Jet Unit with Foot valve and Strainer is fixed to the end of suction and return pipes located inside the bore well (HCSJ, TSJ, TDSJ Series). For the HCS SJ Series ensure the supplied strainer is fitted at the bottom of the suction pipe located in the well. Refer Fig. 8, shown above, for recommendations

## Priming

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When the pump is started for the first time, it needs to be primed.



In the HCS 80 / 11 and TDSJ Series, air cock is not provided. The volute casing internal design permits air to rise towards the pressure valve during the priming process when pouring water through the removed filling plug on the pressure valve as shown in Fig. 7 (a) and (b). When the pump is primed, further water cannot be added. Stop pouring water and refit the filling plug



In the HCS SJ Series, open the ball valve as shown in Fig. 7 (c), and prime the pump. Shut the valve after priming



In the HCS 40/70/90 and TSJ Series, remove the filling plug on the pressure valve and pouring water into it as shown in Fig. 7 (d) and (e), keeping the air cock open to release air. When the pump is primed, water continuously flows through the air cock. The pump is now primed. Stop pouring water, close the air cock and refit the filling plug



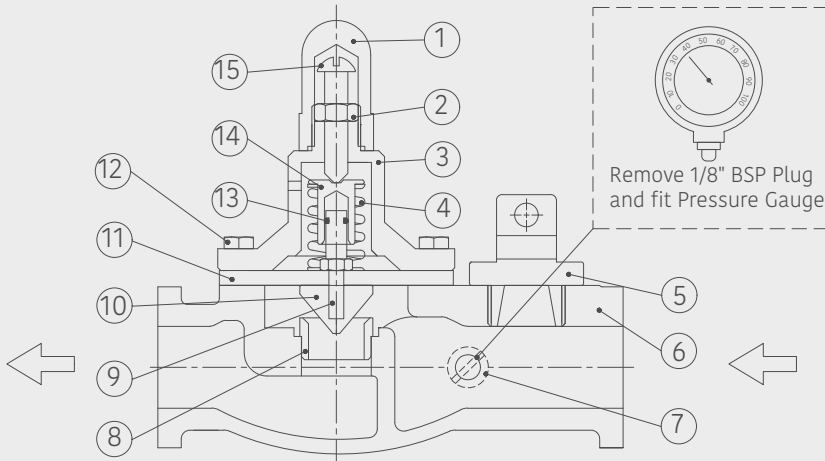
In case the water level, during priming, in the pressure valve continuously falls, this indicates a leak and a mechanic need to be consulted

## Setting the pressure control valve for maximum discharge

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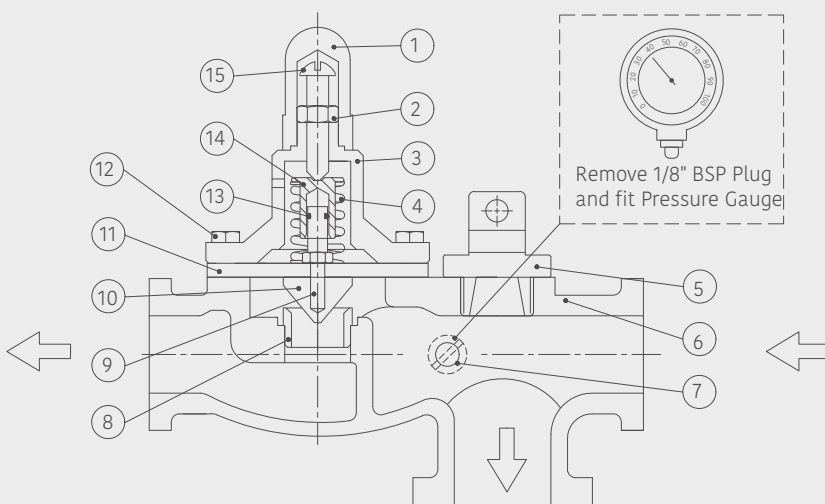
The easiest method of setting the control valve, shown in Fig. 9(a) and (b), for optimum discharge is the visual method. In this method, the pumpset is run and adjusting the Round Head Screw (15) and measuring the discharge. By trial and error, adjust the Round Head Screw (15) till the flow of water in the discharge pipe is a maximum. Now lock the Hex. Nut (2) to prevent the Round Head Screw (15) from loosening. To access the Round Head Screw (15), the pressure valve Cap Nut (1) needs to be removed and then refitted after adjustment to prevent tampering.

▼ Fig. 9(a) Pressure valve – for HCSJ 40/70/90, TSJ, TDSJ series



No.	PART NAME
1	CAP NUT
2	HEX. NUT
3	CAP
4	SPRING
5	PRIMING NIPPLE
6	BODY
7	PLUG
8	BUSH
9	RETAINER
10	PLUNGER
11	DIAPHRAGM
12	HEX. HEAD BOLT
13	"O" RING
14	RETAINER BUSH
15	ROUND HEAD SCREW

▼ Fig. 9(b) Pressure valve with pressure pipe port – for HCSJ 80 / 11 series



No.	PART NAME
1	CAP NUT
2	HEX. NUT
3	CAP
4	SPRING
5	PRIMING NIPPLE
6	BODY
7	PLUG
8	BUSH
9	RETAINER
10	PLUNGER
11	DIAPHRAGM
12	HEX. HEAD BOLT
13	"O" RING
14	RETAINER BUSH
15	ROUND HEAD SCREW

## Electrical Installation

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- ✓ Check the power supply voltage and frequency and compare with the product requirements specified on the nameplate
- ✓ Observe relevant EB regulations while giving power supply to the motor
- ✓ As far as possible, do not use multiple joints in the electrical cabling while connecting the starter to the Single Phase Jet Monoblock
- ✓ Ground the Single Phase Jet Monoblock
- ✓ Ensure electrical joints, if any, are properly and adequately insulated
- ✓ Connect the cable to an MCB
- ✓ Factor in low-voltage operation while selecting cable size

## Electrical wiring work

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Warning

All electrical work must be performed by an authorised electrician in compliance with local electrical equipment standards and internal wiring codes. Improper wiring can lead to electrical leakage, electrical shock, or fire

## Earthing

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Warning

Be sure to install the ground wire securely. Failure to observe this precaution could damage the pump and cause current leakage, which may lead to electrical shock






Caution

Do not connect the ground wire to a gas pipe, water pipe, lightning rod, or telephone ground wire. Improper grounding could cause electrical shock




## Connecting the Power Supply

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	Observe relevant Electricity Board regulations while powering up the pumpset
	Before connecting the wires to the terminal board, make sure the power supply is properly disconnected. Failure to do so may lead to electrical shock, short, or injury caused by the unintended starting of the pump
	Do not use damaged cables, power plugs, or loose power outlets. Failure to observe this precaution could lead to electrical shock, short circuit or fire

## Power cable connection to Jet monoblock

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-  The motors are internally wired and pre-connected with the capacitor leads with two leads emerging out from the Terminal Box Cover
-  Only Phase and Neutral need to be connected to these two leads
-  In case of clarification, please refer to the Connection Diagram displayed in the inner side of the Terminal Box Cover

## Checking direction of rotation of Jet monoblock pump

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Danger

Hazardous voltage will cause death, serious injury, electrocution. All electrical work must be performed by an authorised electrician, in compliance with local electrical equipment standards and internal wiring codes.





Ensure the pump is primed



Power up the pumpset and check the direction of rotation of the motor shaft



If the direction of rotation is in the same direction as that marked on the pump casing, the connections are right



In case the direction of rotation of the motor shaft does not match the marking on the pump casing, bring this to the notice of the dealer from whom the purchase was made and get the set repaired

# 11. Basic troubleshooting






Warning

To prevent serious accidents, disconnect the power supply before inspecting the pump.

Read this Operation Manual carefully before requesting repair. Contact the dealer from whom this equipment was purchased. Servicing and troubleshooting must be handled by qualified persons with proper tools and equipment. Common faults, root cause for these and suggested actions are provided in TABLE 2 below:

Fault	Possible causes	Suggested actions
Pump does not run	No power supply	Check incoming power supply and rectify
	Motor tripping by TOP	Allow the motor to cool
	Very low voltage	Operate in the recommended voltage range
	Pump is jammed	Dismantle the pump and clear the jammed parts
	Capacitor failure	Change the capacitor
	Loose connections	Check the connections
	Pump has been kept idle for long time	Ensure free rotation of shaft by running the pump for few minutes at least every alternate day
Pump does not discharge water	Foot valve leakage	Change the faulty foot valve
	Pump not primed	Prime the pump
	Air leakage on the suction side	Check and correct for leakages
	Foot valve exposed due to large draw down / poor yield of bore	Lower the foot valve and ensure that the foot valve is always submerged after draw down. Wait for water level to rise before pumping
	Low-voltage operation	Operate in the recommended voltage range
	Pump shaft has sheared	Replace the assembly rotor

<b>Fault</b>	<b>Possible causes</b>	<b>Suggested actions</b>
Less discharge from pump	Low-voltage operation	Check and wait for voltage to increase. Contact local EB representative if required
	Wrong direction of rotation	Repair in the nearest authorised service center
	Drop in water table	Adjust the pressure regulating valve
	Increased delivery head	Ensure delivery head within specified value
	Seal leakage	Change the complete mechanical seal assembly
	Smaller pipe size used when compared to nameplate recommendations	Replace with suggested pipe size
	Air lock in the suction line	Ensure that the horizontal portion of the suction line does not slope upwards away from the pump
	Blocked / jammed pressure valve	Check and clean / replace the valves, if necessary
	Impeller is worn out	Check and replace
Total head developed is too low	Abrasive wear of pump hydraulics due to operation in water of higher sand content or corrosiveness	Change the worn-out pump parts
	Capacitor becomes weak	Replace capacitor
	Running on low voltage	Wait for voltage to increase or contact local EB representative
	Defective rotor	Change the rotor
Pump runs rough and noisy	Dry running of pump	Keep pump idle for sometime or lower the jet unit
	Pump not grouted	Grout the pump
	Rotor shaft is bent, resulting in rotor rubbing against stator bore	Replace rotor shaft
	Excessive wear and tear	Service the pump replacing the worn out parts

<b>Fault</b>	<b>Possible causes</b>	<b>Suggested actions</b>
Pump leaks excessively	Damaged mechanical seal	Replace mechanical seal
	Casing gaskets / delivery flange gasket damaged	Check and replace gaskets
	Pipe line / pipe fittings damaged	Check and replace piping
 Note	Conduct trial operation after maintenance	
 Note	Dispose replaced components with appropriate care so as to protect the environment	
 Warning	Do not try to solve unspecified troubles of the pumpset as it may lead to severe damage to the pump or injury to personnel. Contact the dealer from whom this pump was purchased	







# 12. Preventive maintenance checks

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## PRECAUTIONS TO BE TAKEN



Warning

Disconnect the power supply before starting maintenance or inspection of the pump to avoid electrical shock



Note

If you find any damages or abnormalities, switch OFF the pump and report the problem to the dealer from whom the set was purchased

NOTE: The manufacturer assumes no responsibility for damage or injury due to disassembly in the field.

A definite schedule of preventive maintenance inspections should be established to avoid breakdown, serious damage and extensive downtime. The schedule will depend on operating conditions and experience with similar equipment. The checklist below does not represent an exhaustive survey of maintenance steps necessary to ensure safe operation of the Single Phase Jet Monoblock.



Warning

Utilise the services of an electrician to carry out electrical measurements / checking the functioning of the control panel

It is good practice to monitor the conditions and performance of the Single Phase Jet Monoblock. Diagnosis may be carried out by checking the following:

- ✓ Check the current drawn by the pump at the duty flow rate
- ✓ Compare with data recorded when the unit was initially installed
- ✓ Any increase in motor current at duty flow rate may indicate a overload condition, possibly due to impeller rubbing against the stationary pump casing
- ✓ Measure the insulation resistance of the winding to check the condition of the motor
- ✓ Check for leakage from the mechanical seal location
- ✓ Check the capacitance of the capacitor

## 13. Do's and don'ts

Do's	Don'ts
Use the Jet Unit with Foot valve provided with the pump	Do not use piping smaller than what is mentioned on the nameplate
Ensure leak proof joints on the suction side to prevent air entry and therefore loss of priming	Provide sufficient space around the pumpset so as to ensure proper airflow required for cooling of the motor
Use as few joints as possible on the suction line	Restrict the number of joints on the cable. More the cable joints, more will be the voltage drop
After installation, prime the pump	Do not place the jet unit right near the bottom of the borewell / well as there is possibility for solids to be entrained with water.
Rotate the shaft to ensure that pump is not jammed	Do not use pump for corrosive and flammable liquids
Ensure proper earthing is provided	Do not earth to a water line or gas line
Horizontal Jet Pumps are to be placed on a level foundation. Grout the pump	Do not use undersized electric cables between Pump and starter panel. Factor in low-voltage usage
While powering up the pumpset, ensure the direction of rotation of the shaft matches the arrow marked on the casing	Do not cover the product as this will prevent effective cooling of the motor
Rubber gaskets assembled on the pumpset do not have a central hole. Cut out the central hole and re-install	Do not keep the pump suction pipe tapering down towards the pump suction to prevent air lock
Check if all fasteners are tight	Do not operate the pump at shut-off conditions
Motor portion of pumpset is IP44 protected. Provide protection from rain	As far as possible, avoid the usage of elbows. Prefer long radius bends
Operate the pump in the specified operating head range	Do not use flexible pipes on the suction side as they can get pinched and thereby affect the flow
Pump shall be used for pumping cold, clear water	Do not operate the pump beyond the specified operating range



# 14. Important safety instructions

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Only qualified personnel should be involved for inspection, maintenance and repairs. The successful and safe operation of such a product depends on proper handling, installation and maintenance. It is suggested that in case of non-functioning of the product, the customer is requested to contact the dealer through whom the purchase was made.



Danger

Hazardous voltage will cause death, serious injury, electrocution.  
Disconnect all power before working on this equipment.  
Maintenance should be performed by only qualified personnel.

# 15. Storage & handling

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The Single Phase Jet Monoblock is supplied from the factory in proper packing in which it should remain until it is to be installed



The product should be stored in a closed, dry and well ventilated room



Do not store the products in direct sunlight



Handle the pumps with care and do not expose the product to unnecessary impact and shocks



During unpacking and prior to installation, care must be taken when handling the pump to ensure that the product is not subjected to shock loads



If the product has been stored for a very long period, check the condition of the rubber components like suction and delivery flange gaskets and those with the mechanical seal



Caution

If the pumpset are stored, the shaft must be turned by hand at least once a month



Caution

If the Jet Pump has been stored for more than one year before installation, dismantle the motor and check the rotating parts before use. Re-assemble and check for free rotation of shaft



Caution

The pump casing houses a mechanical seal. Do not attempt to run the pump dry as the mechanical seal can get damaged. Ensure the pump is primed and then run it

# 16. Company contact information

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For most up to date information on Industries, please visit [www.taropumps.com](http://www.taropumps.com)



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