

# CircuPool® TJ-16 Typhoon

16-CHAMBER CENTRIFUGAL PRE-FILTRATION

## Installation and Operation Manual



### **⚠️ WARNING**

This equipment must be installed and serviced by a qualified technician. Improper installation may result in property damage, serious injury or death. Improper installation and/or operation will void the warranty.



### **Notice to Installer**

This manual contains important information about the installation, operation and safe use of this product. Once the product has been installed **this manual must be given to the owner/operator of this equipment.**

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## SAFETY INFORMATION

1. Centrifugal filters are designed to work with water at a temperature > than 32°F and < than 112°F. The filter should never be operated outside of these temperatures or damage may occur.
2. The installation should be carried out in accordance to local safety standards and bylaws.
3. Any modification of the filter requires the prior consent from the manufacturer. Original replacement parts and accessories authorized by the manufacturer ensure a high level of safety. The manufacturer assumes no liability for the damage and injuries caused by unauthorized replacement parts and accessories.
4. The user should make sure that the installation is carried out by qualified authorized persons and that these persons have first carefully read the following instructions.
5. The operating safety of the filter is only guaranteed if the installation and operation instructions are correctly followed.
6. In the event of defective operation or fault, contact the manufacturer or its nearest authorized service agent.
7. To reduce the risk of injury, do not permit children to use this product.
8. Incorrectly installed equipment may fail, causing severe injury or property damage.
9. Chemical spills and fumes can weaken Swimming Pool / Spa equipment. Corrosion can cause filters and other equipment to fail, resulting in severe injury or property damage. Do not store pool chemicals near your equipment.

## ***TJ-16 Typhoon Prefilter***

The Typhoon is a brilliant prefiltration device that can save water and minimize pool filter maintenance. Based on the principals of centrifugal water filtration, the Typhoon filters up to 80% of the pool's dirt load before it reaches the pool filter and only requires 4 gallons of water to cleanse.

- Minimizes filter maintenance and saves water.
- No filter media to clean or replace.
- 16 independent "hydrocyclone" chambers.
- Suitable for new and existing installations.



### **Centrifugal Water Filtration**

Incoming water tangentially enters its multiple hydrocyclones, generating a strong centrifugal effect. Approximately 80% of the incoming dirt load is spiraled down to its clear sediment chamber. The outgoing water is then sent to the pool's secondary filtration system (cartridge filter, sand filter, DE filter, etc...), where it is finally "polished".

### **Simple maintenance**

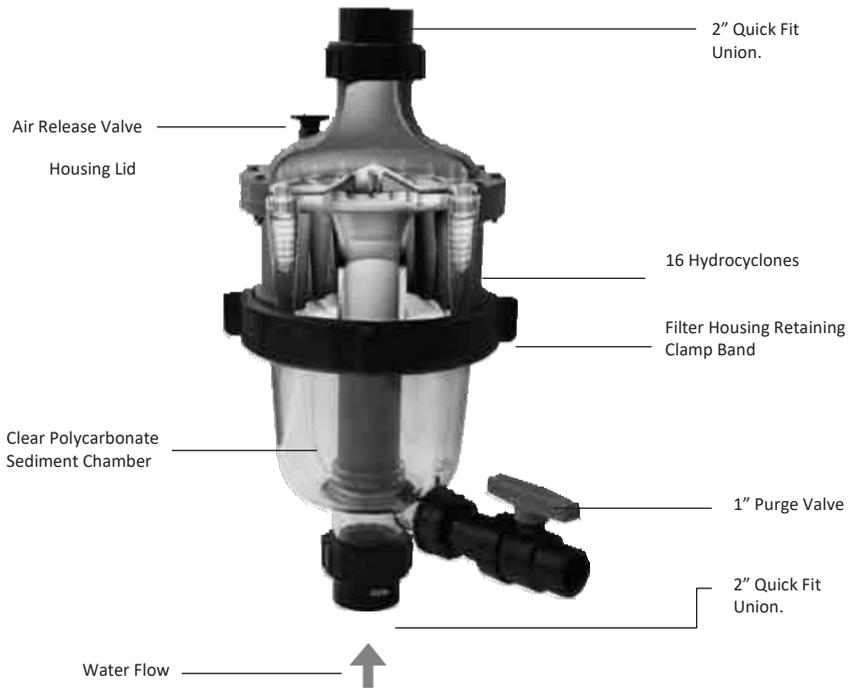
The Typhoon sediment chamber is easily cleaned by opening its purge valve. Only 4 gallons of water is discharged.

### **Minimize Backwash Frequency (Sand / DE Filters)**

The installation of a Typhoon as a pre-filter greatly reduces the workload of your main filter, which can save a lot of water. For example, a sand filter can reduce its backwash frequency to once per year, resulting in a saving of up to 1850 gallons of water per year for an average residential-sized swimming pool.

### **Minimize Cartridge Cleaning and Replacement (Cartridge Filters)**

The installation of a Typhoon as a pre-filter to a cartridge filter can reduce filter cartridge cleaning and replacement to once per swimming season and even up to once per year, depending on the size of the cartridge filter.

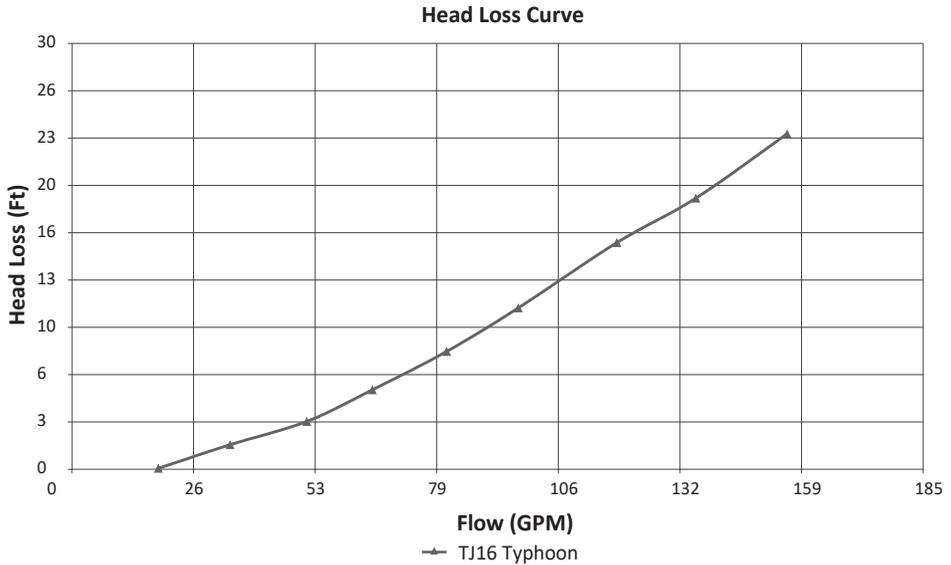


The accumulation of sediment can be visibly monitored through the Typhoon clear sediment chamber. The sediment chamber is cleaned by simply opening the purge valve. Only about 4 gallons of water (or less) is typically discharged to clean the Typhoon of sediment.

**Note:** The centrifugal section is designed to filter sediment that is heavier than water; floating debris cannot be filtered out by centrifugal filtration.

Model	Connection Ports	Minimum Flow	Maximum Flow	Max. Pressure
TJ16 Typhoon	2" Quick Fit Union	13 gallons / minute	132 gallons / minute	50psi

## TJ16 TYPHOON - TOTAL HEAD LOSS CURVE



## INSTALLATION

Be sure to comply with local plumbing codes.

Be sure that all provisions for wastewater disposal meet local, state or national codes. Do not discharge water where it will cause flooding or damage.

If the incoming water pressure is higher than the maximum operating pressure of 50psi, a Pressure Regulating Valve (PRV) must be installed upstream of the filter inlet.

The PRV should be set to 90% of the maximum operating pressure of the tank.

If the incoming water flow is less than the filter's minimum flow requirements, the filter's filtration efficiency will be affected, please consult the manufacturer.

If used with DE Filters, it is recommend to install a 3-way valve prior to pre-filter in order to create a plumbing bypass around the unit for use when adding DE powder.

## Typical Installation

1. Position the filter as close to the Swimming Pool / Spa as possible.
2. Position the filter so that it is free from flooding, away from sumps, gutters, garden hollows, etc.
3. Position the filter so that the piping connection's purge valve and air release valve are convenient and accessible for operation, servicing and winterizing.
4. Ensure that the compliance label is facing the front to allow easy identification.
5. The equipment should be placed on a level concrete slab, very firm ground, or equivalent. Ensure that the ground will not subside, preventing any strain from the attached plumbing.
6. Ensure that there is no movement of the filter during operation of the Purge valve.
7. Allow sufficient clearance around the filter to permit visual inspection of the entire system.



Typical Installation with a Sand Filter



Typical Installation with a Cartridge Filter

## Optional Mounting Stand (TJ-STAND)

An optional mounting stand is also available for situations where the Typhoon cannot be installed directly above your pool pump.



Installation with optional Mounting Stand

## Plumbing

1. Check that the incoming water pressure is within the filter's recommended working pressure and ensure that a pressure limiting valve is installed if using a high-pressure pump or if directly connected to water main (not typical).
2. Ensure that a foot valve / non return valve are installed if the pump is installed 20" above the water level.
3. If the filter is installed below the water level or is directly connected to water main, isolation valves should be installed at the inlet and outlet of the filter. This will prevent water flow during any routine maintenance.
4. Minimize the length of pipe and the number of fittings to minimize restrictions to water flow.
5. Ensure that all plumbing connections are glued and tightened securely to prevent leaking.
6. Ensure solvents are not excessively applied to fittings as this could run into "o"-rings and create sealing problems.
7. Do not over tighten fittings or adapters.

Screw the supplied half barrel unions and collars onto the inlet and outlet **before** gluing the PVC piping onto the filter.

### CAUTION

**Use only recommended glue for connection pipe and fittings**

Cut and fit the pipe and fittings onto the Typhoon and the pump. **Refer** to Pump Installation Manual for correct pump plumbing procedures.

It is **best practice** to fit all the cut pipe and fittings onto the filtration system **before** gluing; this will ensure that the system has **been aligned** correctly.

Glue the pipe and fittings onto the pump, filter, and pool return lines and **allow** the glue to set **for 24 hours** before commissioning the system.

## Plumbing Connection

1. Ensure that a foot valve / non return valve is installed if the pump is installed 20" above the water level.
2. If the filter is installed below the water level or connected to mains water, isolation valves should be installed at the inlet and outlet of the filter. This will prevent water flow during any routine maintenance.
3. Minimize the length of pipe and the number of fittings to minimize restrictions to water flow.
4. Connect the pipe extending from the pump outlet to the inlet of the Typhoon.
5. Connect from the pipe extending from the outlet of the Typhoon to the next component in line with the filtration system.
6. Glue all plumbing to barrel union fittings in accordance with glue (solvent) manufactures specifications and allow 24 hours to set. Ensure glue (solvent) is not excessively applied to fittings as this could run onto "o"-rings and create sealing problems.
 

**Note:** It is recommended that a shut off valve be present after the Typhoon on the pool return line to assist with flushing out the collected debris. Please refer to "Insufficient Water Pressure".
7. Connect to Waste Line. Glue the plumbing from the Sediment Purge Valve to your waste line.
8. Turn on pool pump. Be sure to check that there are no leaks from the connectors. If required, tighten by hand.

## START UP PROCEDURE

The Typhoon is an advanced and highly efficient filter system that will provide years of trouble-free service if the following maintenance procedures are maintained. Starting up the filtration system either from new or after cleaning is exactly the same.

1. Ensure that the Typhoon is plumbed correctly.
2. Ensure that all valves installed before and after the Typhoon are open.
3. Loosen the air release valve on top of the Typhoon filter.
4. Prime the swimming pool pump. (Refer to the pump installation and operation manual).
5. Turn on the swimming pool pump and allow the pump to run until all the air has been expelled from the Typhoon. Water will run from the air release valve.
6. Re-tighten the air release valve.
7. The filter is primed and ready for operation.

**Note:** In some cases this may be required to be done a few times before the unit will remain primed and be fully operational.

### CAUTION

**Do not stand over the top of the Typhoon while adjusting the air release valve to purge the system of air.**

**Injury may occur if air release valve becomes loose.**

## TJ16 TYPHOON FILTER MAINTENANCE

The accumulation of sediment can be visibly monitored through the Typhoon clear sediment chamber. The Typhoon is cleaned by simply opening the purge valve. Only 4 gallons of water is discharged to clean the Typhoon of sediment.

The Typhoon filter maintenance is affected by the following conditions, if:

1. The flow rate through the Typhoon is insufficient to meet the demand.
2. The sediment chamber is half-filled with sediment.

### Flushing out the sediment chamber

#### **With pump running:**

While the water pump is running simply open the sediment purge valve until the sediment has been flushed out. This is visible through the clear sediment chamber. Once the sediment has been flushed out, close the purge valve.

#### **Without pump running:**

Alternatively, switch the pump off. Open the air release valve and then open the purge valve. The water will drop through the Typhoon flushing out most of the debris from the sediment chamber. Then close the air release valve and turn on the pump and the turbulence of the water entering the sediment chamber will flush out the rest of the sediment. Once the sediment chamber has been cleansed, close the purge valve, start the pump and close the air release valve once water is flowing out through the air release valve.

## INSUFFICIENT WATER PRESSURE

In situations where the water flow from the pump is not powerful enough to purge the sediment out of the sediment chamber, it is recommended to fit a 2-way valve after the Typhoon on the pool water return line.

The 2-way valve is used to throttle the flow of water out of the Typhoon, increasing water turbulence through the sediment chamber and improving its purging action.

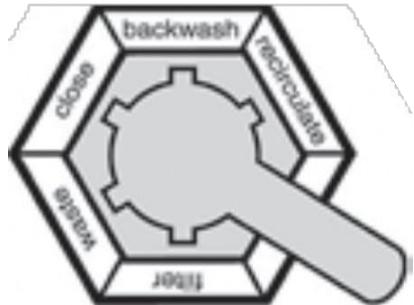
While the pump is operating, open the purge valve, and then partially close the 2-way valve, throttling the water flow sufficiently to purge the sediment chamber of trapped sediment. Once the sediment chamber is clean, open the 2-way valve and then close the purge valve.

### **⚠ CAUTION**

**Do not close the 2 way valve prior to opening the purge valve and do not close the purge valve while the 2 way valve is closed or partially closed. Both valves should never be closed or partially closed at the same time.**



Installation with 2-way shut off valve  
Cartridge Filter



If the Typhoon is installed as a pre-filter to a sand filter, water flow to the sand filter can be closed via the sand filter's multiport valve.\*

**\*NOTE:** This position is not available on 4-Way Multiport Valves.

## GENERAL MAINTENANCE GUIDE

To ensure the maximum life of the Typhoon, please follow the procedures below:

1. Visually monitor through the Typhoon clear sediment chamber. Clean sediment chamber when accumulated sediment is half full.
2. Maintain a correct chemical balance of your pool / spa water. The chemical balance of water is a relationship between its pH, total alkalinity, calcium hardness and water temperature. The water must be maintained at all times to the following

PH LEVEL .....	7.2 - 7.8
TOTAL ALKALINITY .....	80 - 120ppm
CALCIUM HARDNESS .....	200 - 400ppm
LANGELIER SATURATION INDEX (LSI) ...	-0.2 to +0.2

**Note:** Testing kits are available to test the water yourself or alternately bring a sample of the water to a professional pool and spa shop.

3. To prevent damage to the pump and filter and for proper operation of the system, clean pump strainer and skimmer baskets regularly.
4. Replace the secondary filter pressure gauge if faulty readings are observed.

## WINTERIZING

Proper winterizing procedures should always be taken in order to protect your filter in cold climates (temperatures below freezing point).

1. Switch off the Pump / Close the inlet valve.
2. Open the air release valve and open the purge valve to allow water to flow out of the Typhoon.
  - a. Sand Filter, move the Multi Port Valve handle to the winterize position (between filter and waste).
  - b. Cartridge Filter, open air release valve.

This will allow air to through to all ports.

3. Remove any drain plugs from the pump.
4. Drain water from the pipe work.

## TROUBLESHOOTING GUIDE

Symptoms	Possible Problems / Solutions
Water Is Not Clear	Insufficient disinfectant level.
	Incorrect pool chemistry.
	Heavy bathing and/ or dirt loads.
	Incorrect flow.
	Insufficient running times. (Increase pump run time.)
	Filter is dirty. (Clean per instructions.)
	Hole in filter element.
	Air leak on suction line
	Pump impeller vanes blocked
	Other restrictions include (pool suction cleaners) resistance from other inline equipment such as strainers.
Pump not primed.	
Low Water Flow	Check strainer baskets for debris.
	Check for air leaks on suction side.
	Check for restrictions or blockage in either suction or return lines.
	System filter needs to be cleaned or replaced.
	Pool water level too low.
	Pump not primed.
	Pump impeller vanes blocked.
	Strainer baskets not being used and/ or not being cleaned regularly.
Pump operating under speed (low voltage).	
Short Filter Cycles	Presence of algae, check disinfectant content.
	Check pH and total alkalinity.
	Pump output exceeds design flow rate of filter, check pump performance.
	Ineffective cleaning, check conditions of sediment chamber.
High Pressure on Start Up	Small eyeball fitting in Pool/ Spa.
	Partially closed valve on return line.
	Too large of pump, check selection.

## WARRANTY

The Typhoon is covered by a manufacturer 2 year warranty and 1 year warranty on labor. Commercial installations are covered by a 1 year warranty.

Please refer to the manufacturer's warranty terms and conditions.

