



**HIGH FLOW SAFETY DRAIN**

**SDX RETRO HIGH FLOW SAFETY DRAIN**  
INSTALLATION MANUAL

U.S. Patent No.: D531,888, D532,684, 7,178,179,  
& Other U.S. Patents Pending



ASME/ANSI A112.19.8M-1987 LISTED

**Notice to Installers:**

Read and follow these instructions. Give these instructions to the facility owner. Follow all codes and regulations that apply to the design, installation and use of suction outlet fittings.

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The Paramount logo consists of a stylized swirl icon above the word 'Paramount' in a bold, sans-serif font. Below the name is the tagline 'Pool Life. Simplified.'

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# IMPORTANT NOTICES: PLEASE READ



## **WARNING**

**KNOWN DROWNING HAZARD.**

**DO NOT GO NEAR THE SUCTION FITTINGS OR DRAINS OF YOUR POOL OR SPA. YOUR HAIR OR BODY MAY BECOME TRAPPED CAUSING PERMANENT INJURY OR DROWNING.**

**DO NOT ENTER THE POOL OR SPA IF SUCTION FITTINGS OR DRAIN COVERS ARE LOOSE, BROKEN, OR MISSING.**



## **WARNING**

**RISK OF SEVERE INJURY OR DROWNING IF SUCTION SYSTEMS ARE NOT INSTALLED PROPERLY!**



## **NOTICE TO OWNER:**

**READ, FOLLOW, AND SAVE THESE SAFETY INSTRUCTIONS.**

While suction injuries are extremely rare, drowning and diving injuries are far too common and there is little your certified builder can do to eliminate these hazards. You must educate yourself and your guests. Below are some important safety issues every swimmer must know and recognize.

- **PREVENT DROWNING:** Watch children at all times, no swimming alone.
- **NO DIVING IN SHALLOW WATER:** You can be permanently injured.
- **PREVENT SUCTION ENTRAPMENT:** Inspect suction covers before swimming, keep swimmers away from suction fittings, protect long hair, don't swim with loose clothing or large and dangling jewelry.

## HOW SDX RETRO WORKS BETTER

The SDX RETRO high flow drain system is a dual-drain system designed and tested to safely deliver water to modern high flow pumps.

### **EACH DRAIN ADDRESSES ALL ENTRAPMENT HAZARDS**

**Hair Entrapment Avoidance.** At the heart of the Patent Pending design is a cover that acts much like sixty self-regulating drains. This is significant because as some of the 'little' drains are covered, excessive suction does not transfer to the remaining openings. When excessive suction is transferred to unblocked openings in a traditional drain grate, the suction causes hair to enter multiple openings, creating a potential entrapment hazard if the hair tangles or puffs up inside the drain, making it impossible to pull free.

**Body Entrapment Avoidance.** The same self-regulating openings that protect against hair entrapment hazards, also provides body entrapment protection. When the self-regulating openings built into the SDX RETRO cover are combined with its domed, anti-vortex shape, forming a seal with the cover is difficult.

**Security.** The SDX RETRO cover is held firmly in place with three recessed security screws which are made from top quality 316 Stainless Steel. And behind the SDX RETRO cover are at least three more screws to hold the whole assembly in place, providing multiple layers of anti-entrapment protection.

**Durability.** The SDX RETRO cover and support materials are far more durable than ABS, the typical plastic used in swimming pool drain covers. In addition to fading, the Buna in ABS is prone to UV degradation resulting in structural failures which contribute significantly to suction entrapment hazards.

# HOW SDX RETRO WORKS BETTER

## DUAL-DRAIN SYSTEM

**Vacuum Breaker Backup.** As with any dual-drain system, one drain is intended to be a vacuum breaker for the other in the unlikely event a swimmer completely blocks one of the SDX RETRO drains. If this were to happen, the pump is able to safely draw water from the second drain.

**Dual-Drain Spacing.** Most suction safety codes require dual-drains to be installed three feet apart, pipe to pipe, however some codes require three feet between drain covers. For this reason, Dual SDX RETRO piping is spaced three (3) feet, ten (10) inches apart.

**Vertical Dual-Drain Installation.** The purpose of the vertical dual-drain installation is to make it less likely two people can approach two drains at once. Effectively, the second drain would be at an individual's feet.

## SDX RETRO HIGH FLOW SAFETY DRAIN SYSTEM DESIGN

SDX RETRO is a circulation drain, not intended to remove debris. For this reason it is suggested SDX RETRO be installed on walls whenever possible. This is to keep debris and sand from collecting on and around the low velocity SDX RETRO cover.

The maximum flow rate for each pair of SDX RETRO drains is 200 gpm. This flow rating allows for pumps up to 3 hp to operate efficiently. For pumps with higher flow rates or systems with multiple pumps on a common manifold, additional SDX RETRO drains may be added.

Two SDX Retro High Flow Safety Drains	200 gpm maximum system flow
Three SDX Retro High Flow Safety Drains	300 gpm maximum system flow
Four SDX Retro High Flow Safety Drains	400 gpm maximum system flow

**Pipe size.** To design an efficient suction system in accordance with national swimming pool standards, the following pipe sizing guideline should be followed:

Suction Pipe Size	Max Residential GPM	Max Public GPM
1 1/2"	50	37
2"	82	62
2 1/2"	117	88
3"	181	136
4"	313 (200 Max GPM)	234 (200 Max GPM)

# SDX RETRO INSTRUCTIONS

## System Design:

SDX RETRO is an underwater suction drain cover system intended to replace any drain cover up to 10 inches in diameter.

The maximum flow rate for SDX RETRO is 200 gallons per minute (gpm) or 756 liters per minute (lpm). SDX RETRO should operate best when used with residential pumps of up to 3HP. Please ensure your pool or spa pump system meets this specification.

**CAUTION: IF YOU DO NOT HAVE TWO UNDERWATER POINTS OF SUCTION IN YOUR POOL OR SPA FOR EACH PUMP, SAFETY ISSUES REGARDING SUCTION ENTRAPMENT EXIST AND COULD CAUSE SERIOUS INJURY OR DEATH. ALTHOUGH SDX RETRO INCORPORATES SEVERAL PATENT-PENDING FEATURES TO BETTER PROTECT FROM SUCTION ENTRAPMENT, THIS PRODUCT MAY NOT RESOLVE ALL SINGLE POINT OF SUCTION ISSUES. IF YOU DO NOT HAVE TWO UNDERWATER POINTS OF SUCTION FOR EACH PUMP IN YOUR POOL OR SPA, WE RECOMMEND YOU CONTACT A LICENSED POOL BUILDER OR REMODELER TO INSTALL A SECOND POINT OF SUCTION.**

Your SDX RETRO includes five important components; all of components 1-4 below must be used for proper installation. These components are as follows:

1. Black drain cover support plate;
2. Drain cover;
3. Six black plastic oval slot plugs that must be installed in the drain cover support plate after it is affixed to the pool or spa surface;
4. Three 10x7/8 security screws to secure drain cover to drain cover support plate, together with a tool for installing these screws; and
5. Assorted screws, fasteners, and plastic spacers for attaching drain cover support plate to pool or spa surface. See Installation Instructions below to determine which components you will need to use.

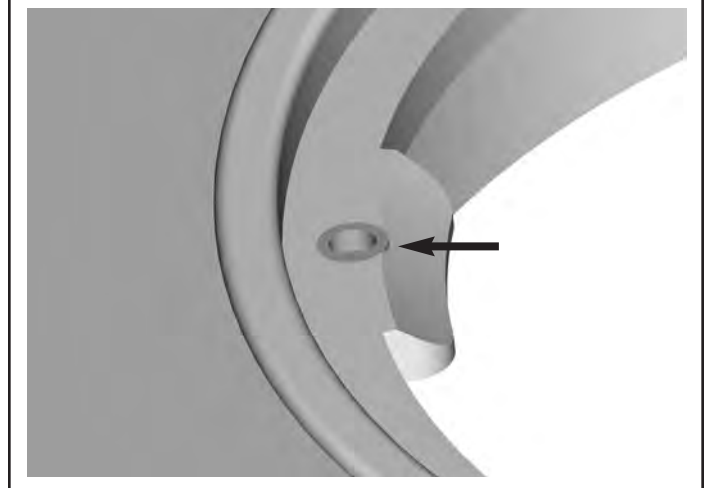
# INSTALLATION INSTRUCTIONS

1. Turn off all power to pool or spa and pump systems. Installation is easiest when pool or spa is drained. CAUTION DRAINING A POOL OR SPA MAY CAUSE STRUCTURAL DAMAGE. BEFORE DRAINING CONTACT YOUR LOCAL LICENSED POOL BUILDER OR REMODELER.
2. Remove existing drain cover (Fig. 1).
3. Determine from the following choices which provided screws, fasteners, and spacers to use to attach the drain cover support plate to the pool or spa surface.
  - 3a. If the pool or spa surface has an embedded ring around the suction pipe, which ring has threaded screw hole inserts, use the provided two 8-32x3/4 screws (Fig. 2). Use the appropriate provided spacers A or B (Fig. 9) (small end up) to close the gap between the drain cover support plate and the embedded ring. For example, if you are replacing a Pentair drain cover use spacer B.275; if you are replacing a Waterway drain cover use spacer A.250. CAUTION: FAILURE TO USE THE CORRECT SPACERS MAY CAUSE THE POOL COVER SUPPORT PLATE TO BE PULLED FROM THE POOL OR SPA SURFACE.
  - 3b. If the pool or spa surface has an embedded ring around the suction pipe, which ring does not have threaded screw hole inserts, or the pool or spa surface has an indented sump without threaded screw hole inserts, and the distance between the pool or spa surface and the tops of the screw holes is shallower than 1/4", use the two provided 10x5/8 self threading screws. No spacers will be needed (Fig. 3).

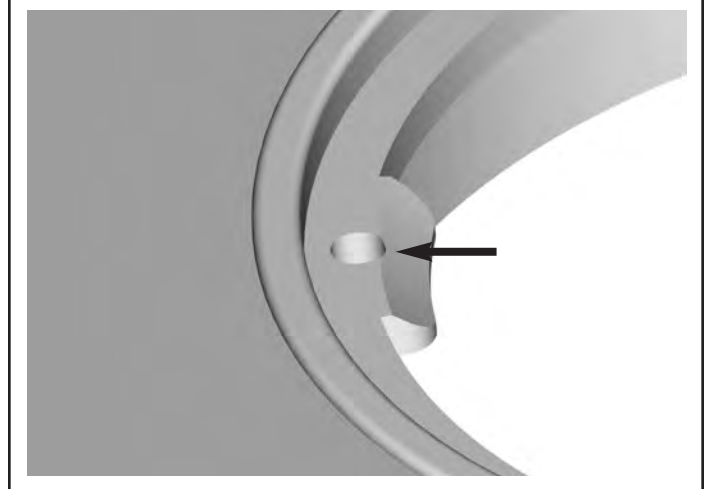
**Fig. 1: Existing Drain Cover**



**Fig. 2: Ring with Threaded Screw Hole Inserts**



**Fig. 3: Shallow Ring without Threaded Inserts**



# INSTALLATION INSTRUCTIONS

- 3c. If the pool or spa surface has an embedded ring around the suction pipe, which ring does not have threaded screw hole inserts, or the pool or spa surface has an indented sump without threaded screw hole inserts, and the distance between pool or spa surface and the tops of the screw holes is deeper than 1/4", use the two provided 10x1-1/4 self-threading screws. No spacers will be needed (Fig. 4).
- 3d. If the pool or spa surface has no usable drill holes around the suction pipe, drill two new holes in the plastic or concrete pool or spa surface and use the two provided 10x5/8 self-threading screws for installing the drain cover support plate to a plastic surface, or use the two provided plastic anchors and the enclosed two 10x5/8 self-threading screws to install the drain cover support plate to a concrete surface. No spacers will be needed (Fig. 5).
4. Align the drain cover support plate over the ring or sump (Fig. 6). The top of the outlet pipe should be recessed a minimum of 1 inch from the back of the plate (Fig. 7).
5. Attach the drain cover support plate to the pool or spa surface with the appropriate screws, fasteners, and spacers as described in 2 above (Fig. 8 or 9). Once installed, be sure that the drain cover support plate is firmly in place and cannot be pulled out of the pool or spa surface. If the drain cover support plate is not firmly in place, re-read these instructions and try another installation method (perhaps 3d above) (Fig. 5).

**Fig. 4: Deep Set Ring without Threaded Inserts**



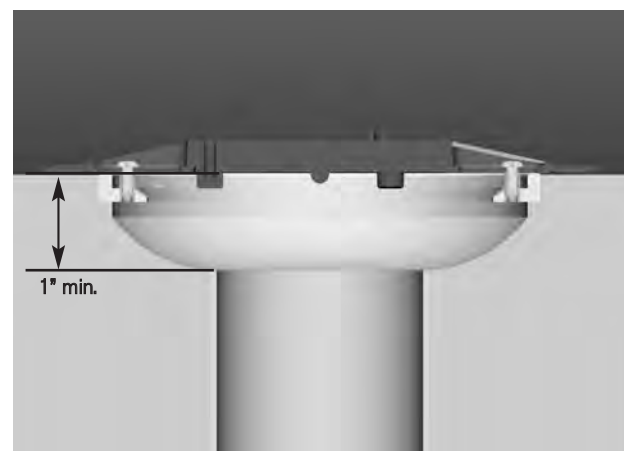
**Fig. 5: Ring without Usable Screw Insert**



**Fig. 6: Support Plate**

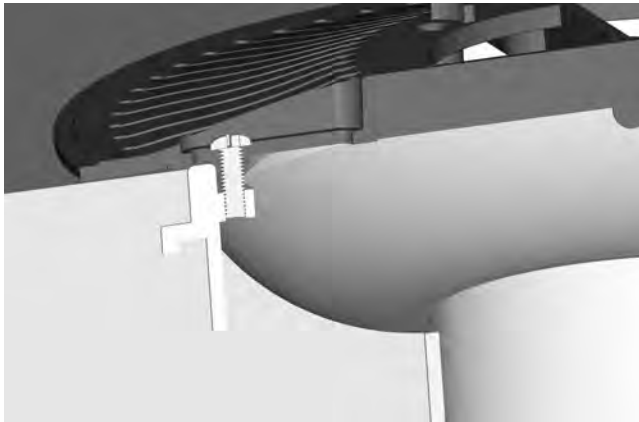


**Fig. 7: Support Plate Aligned Over Screw Holes**

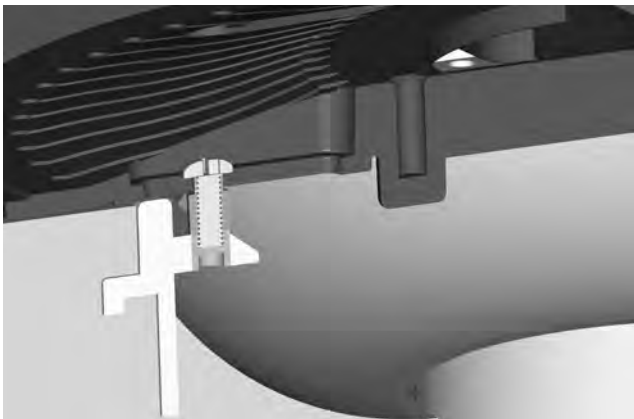


# INSTALLATION INSTRUCTIONS

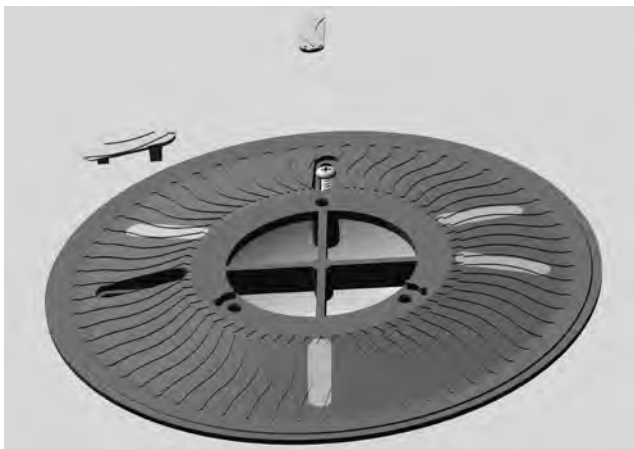
**Fig. 8: Attached without Spacers and Threaded Inserts**



**Fig. 9: Attached with Both Spacers and Threaded Inserts**



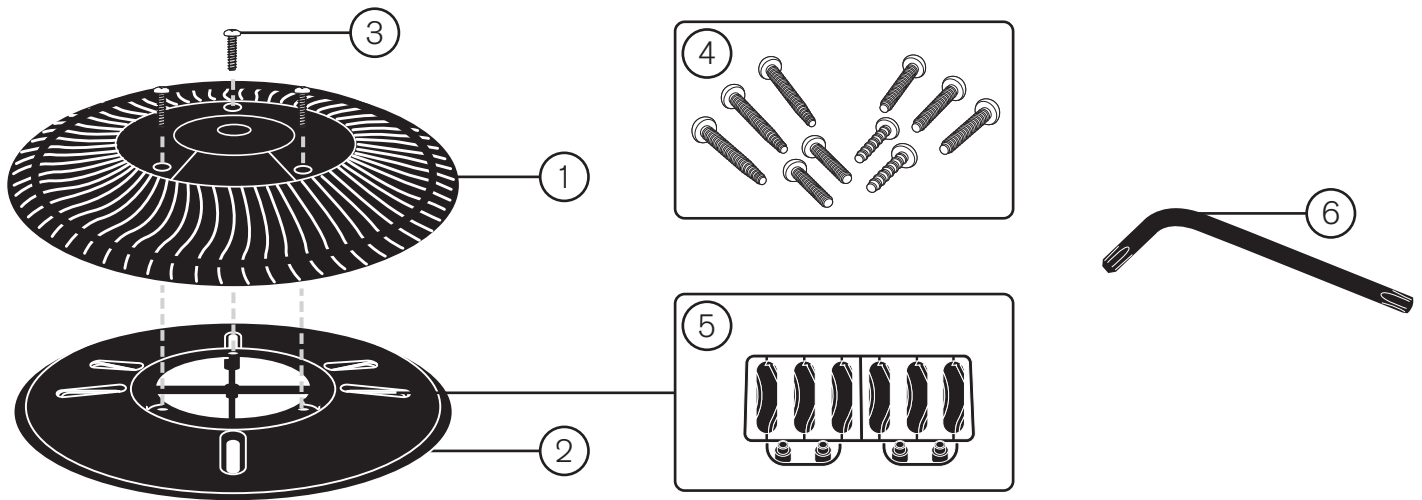
**Fig. 10: Install Slot Plugs**



- Securely snap all six oval slot plugs provided into the six slots in the drain cover support plate. Use the plugs without tabs (marked C) over screws (tabs may be broken off if necessary). **CAUTION: FAILURE TO PROPERLY INSTALL THE PLUGS COULD DISABLE THE SAFETY FEATURES OF THE SDX RETRO (Fig. 10).**
- Attach the drain cover to the drain cover support plate using the tool and the three 10x7/8 security screws provided **(Fig. 11).**

**Fig. 11: Attach SDX RETRO Drain Cover**





Item	Part Number	Description
1	005-252-2087-XX	SDX Retro Cover
2	005-252-2067-00	SDX Retro Support
3	005-252-0828-00	Screw 10x7/8 TORX w/ Pin SS B (12 pieces)
4	005-252-0886-00	SDX Retro Screw Set
5	005-252-2006-00	Trim Pack SDX Retro
6	005-252-5489-00	TORX Wrench T-25 Security

PROPER INSTALLATION OF THE SDX RETRO IS ESSENTIAL. IF YOU HAVE ANY QUESTIONS, PLEASE CALL PARAMOUNT AT 1.800.621.5886  
PLEASE FOLLOW ALL LOCAL CODES AND POOL SAFETY GUIDELINES.

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