DEBRIS **REMOVAL** SYSTEM

MDX DEBRIS REMOVAL SYSTEM MANUAL:
FIBERGLASS LOW FLANGE POOLS (AUSTRALIA)

U.S. Patent No.: 6,810,537, 7,089,607, 7,178,179

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.

MDX0810 004-027-8766-00 2/07

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Important! 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.

Suction can pose a serious hazard to swimmers just as electricity can be a hazard. Both are important for proper water filtration and both must be treated with respect. Suction safety begins with a professional design that includes a quality suction system installed by a certified contractor.
The MDX Debris Removal System™ is only available to certified contractors for the same reason certified electricians are required to connect filtration pumps to public utilities; both require proper training and certification to assure no hidden hazards are built into the project.

Certified builders will address the following issues when designing and installing a proper filtration system:

- Properly bond-grounded pumps, time clocks, switches and any other metal in or near water. This is required to address Electrical Shock Hazards.
- Design the suction piping so there are no single-point suction hazards; single-point suction (one drain) is a leading cause of Body Suction Entrapment Hazards. Note: your certified builder has many effective options for addressing this hazard; they may include dual-drain systems, like MDX, skimmers, gutters, negative edge features and many more products and piping designs known to professionals.
- Install ASME/ANSI A112.19.8M listed drains, suction covers and debris removal systems. This is the ONLY approved option for preventing Hair Entrapment Hazards, the leading cause of suction related injuries.
- Design and install an effective circulation system (including optional cleaning systems), to direct filtered water to all areas and interior surfaces. NOTE: Suction fittings can NOT clean or direct filtered water for proper sanitation; that can only be done on the pressure (return) side of the filtration system.

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.

MDX Debris Removal System Design

NOTICE: The MDX Debris Removal System™ requires the proper installation of all anti-entrapment features including the 2nd Suction Outlet and at least one of the Vacuum Breaker installations illustrated in the two options.* Install 75mm pipe between MDX and the Debris Collection Point which may be the optional Paramount Debris Canister, or a self-priming pump basket.

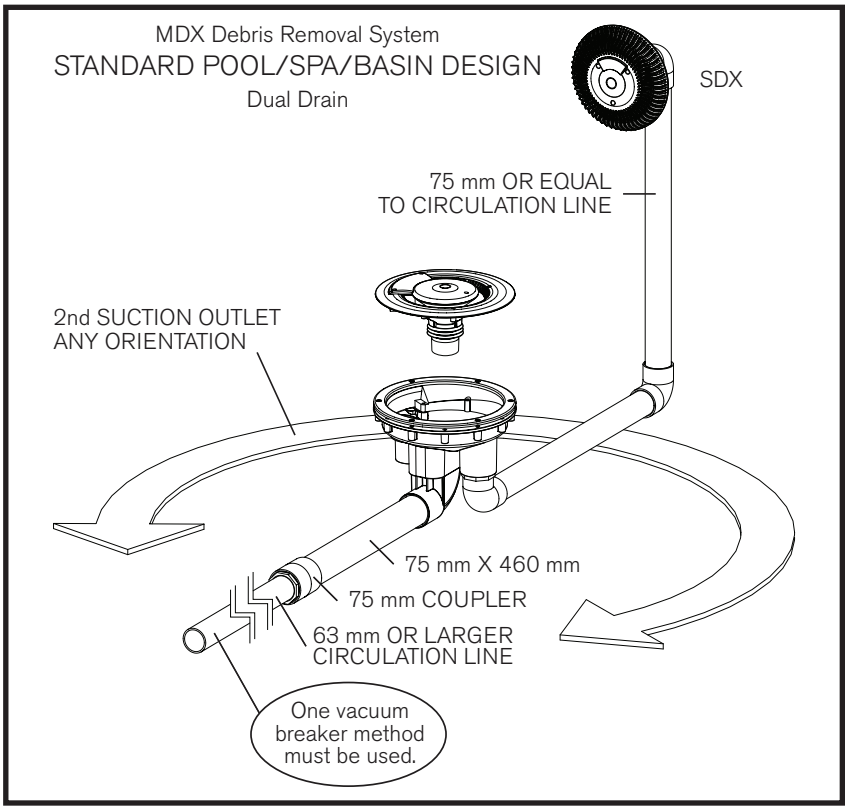
NOTICE: MaximumPump Size: MDX is rated for a maximum of 90 GPM. While system flow rate will vary with pump size and the Total Head Loss for a given system, virtually any modern pump is capable of exceeding this limit, therefore it is the responsibility of the system designer to make sure it is not possible to exceed 90 GPM.

**The MDX instructions provide two design options to choose from: other methods may be available depending on your local codes. Follow all regulations requiring specific plumbing solutions and you may use officially approved vacuum-breaker products and vacuum breaker methods. Additional ways to prevent a single-point-suction hazard are available through NSPI's Standard for Residential Swimming Pools. Any of these options may be used as long as it is NOT possible for a swimmer to be exposed to single-point-suction when drains are fully disassembled. NOTE: Paramount Pool & Spa Systems and its representatives can not recommend nor endorse installation methods beyond those provided in the MDX Debris Removal System instructions.*

Design Flow Rate = 340 LPM
Maximum LPM = 340
Velocity Through Cover
Opening at 340 LPM = 0.422 MPS

MDX Debris Removal System Installation

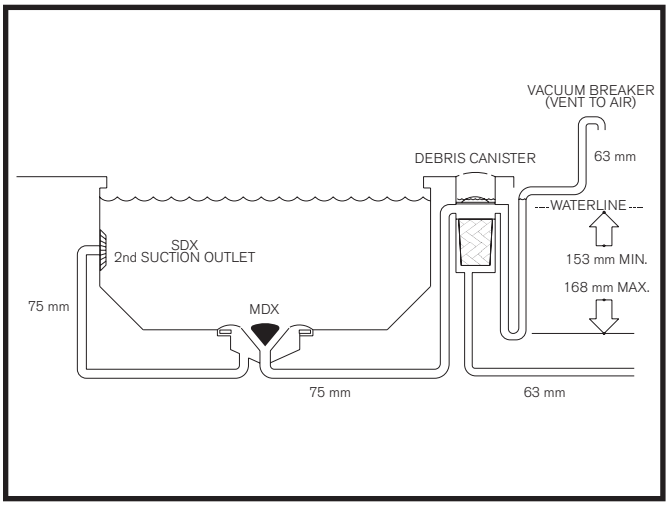
NOTICE: 0.5m of 75mm pipe is required to be connected to the center outlet of the MDX Debris Removal System. After the 0.5m of 75mm pipe you may reduce to a smaller pipe size, although it is not recommended. Use of 75mm pipe throughout the suction side of the system is strongly encouraged for optimum performance. For your convenience, Paramount Pool & Spa Systems includes the 0.5m of 75mm pipe plus coupler with the MDX Debris Removal System. To order separately, please see page 6 for the part number.



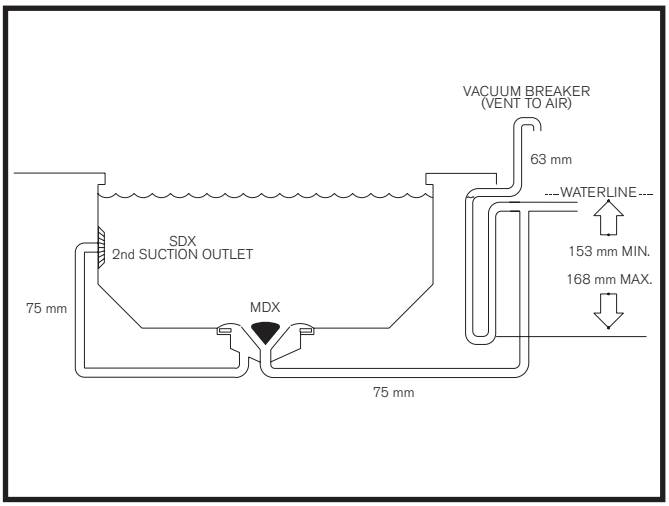
MDX Debris Removal System Installation

Vacuum Breaker Option 1: (Recommended for best debris removal performance.)

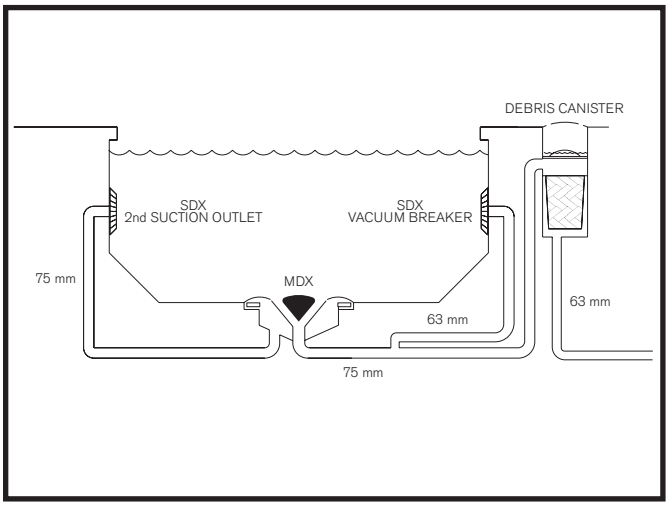
WITH CANISTER

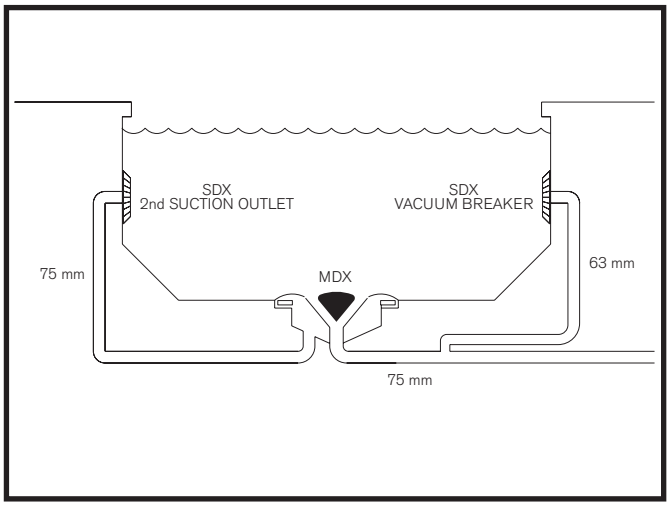


WITHOUT CANISTER



Vacuum Breaker Option 2:





Sump Installation to Shell

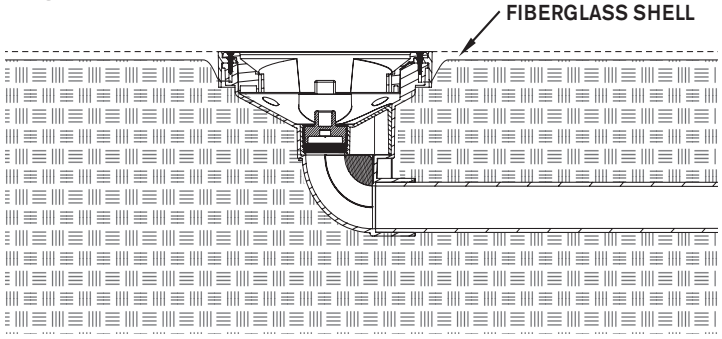
1. Apply sealing compound to top surface of MDX sump flange.

2. From outside of pool shell, align sump with screw holes in mounting ring and sweep ninety pointing to back wall of pool shell.

3. From inside of pool shell, align seal ring with tab in sump and press into place. (Fig. 2)

4. Secure seal ring and sump together with six (6) 12 x 1½" flathead screws.

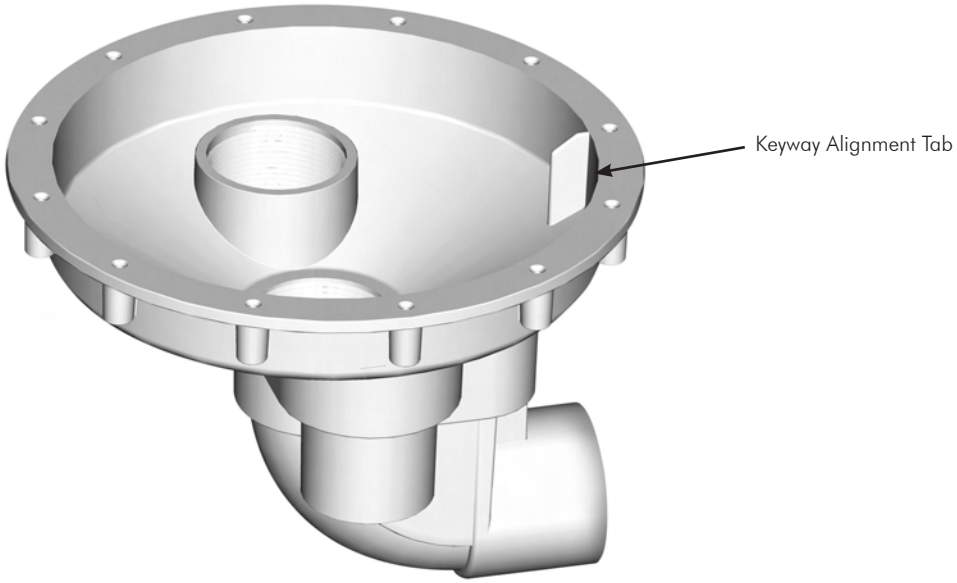
Fig. 1



5. Secure 2nd Suction Outlet fitting through sidewall in desired locations.

6. Make plumbing connection between 2nd Suction Outlet and 75mm outlet on bottom of MDX Sump. Pipe must be equal to circulation line.

Fig. 2



Hydrostatic Fitting:

The hydrostatic port inside the MDX Sump is equivalent to a 2" Threaded Female Adapter and a 2" Slip Fitting Outside the MDX Sump. For non-hydrostatic installations, install the 2" plug provided.
Assemble the drain **PRIOR TO ADDING WATER**
(See illustration below for reference):

1 Install the Funnel Assembly **(No. 6)** into the sump **(No. 11)** by pressing the flexible Funnel Adapter inside the center 2½" female threaded fitting. Press down and hold the Funnel Assembly to install screws.
2 Install the two (2) large screws **(No. 5)** in the Support **(No. 7)** with screwdriver security T25.
3 Install the two (2) medium screws **(No. 4)** in the Funnel Assembly **(No. 6)**, tightening them until the Funnel Assembly (No. 6) contacts the interior finish of the pool with screwdriver security T25.
4 Place the Anti-Vortex Cover **(No. 2)** on the Funnel Assembly **(No. 6)** and install the three (3) small screws **(No. 1)** with Phillips screwdriver.

Pressure Testing:

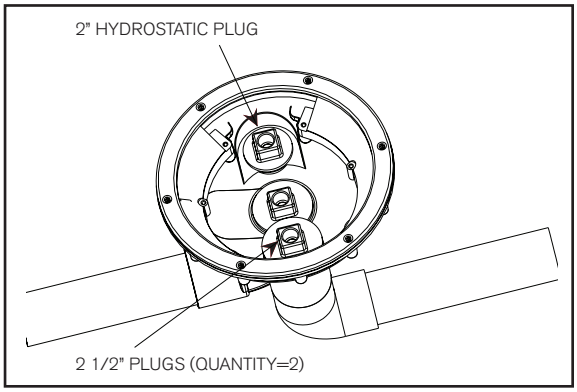
New Style Test Plug
The new style 2 ½" pressure test plugs (005-252-1611-00) use an O-Ring to make the seal.

Wrap once with Teflon tape to prevent plastic threads from binding. Insert the plug into the threaded socket. Set the plug wrench on the lug and tighten by hand until snug. Apply the handle to the wrench and turn until snug. Over-tightening may cause parts to break.

NOTE: If you have a sump without the o-ring groove around the sockets, proceed with one of the alternate methods below to make the seal.

Old Style Test Plug

1. Use four wraps of Teflon tape. Insert plug into threaded socket. Set plug wrench on lug and tighten by hand until snug. Apply handle to wrench and turn 1.5 to 2 turns. Do not under or over tighten plug.
   OR USE ALTERNATE METHOD
   If using silicone sealant, install plug a day before using. Remove Teflon tape. Apply silicone liberally to threads of plug. Insert plug into threaded socket. Tighten by hand until snug. Do not over tighten plug. Allow silicone to set for 24 hours before putting under pressure.



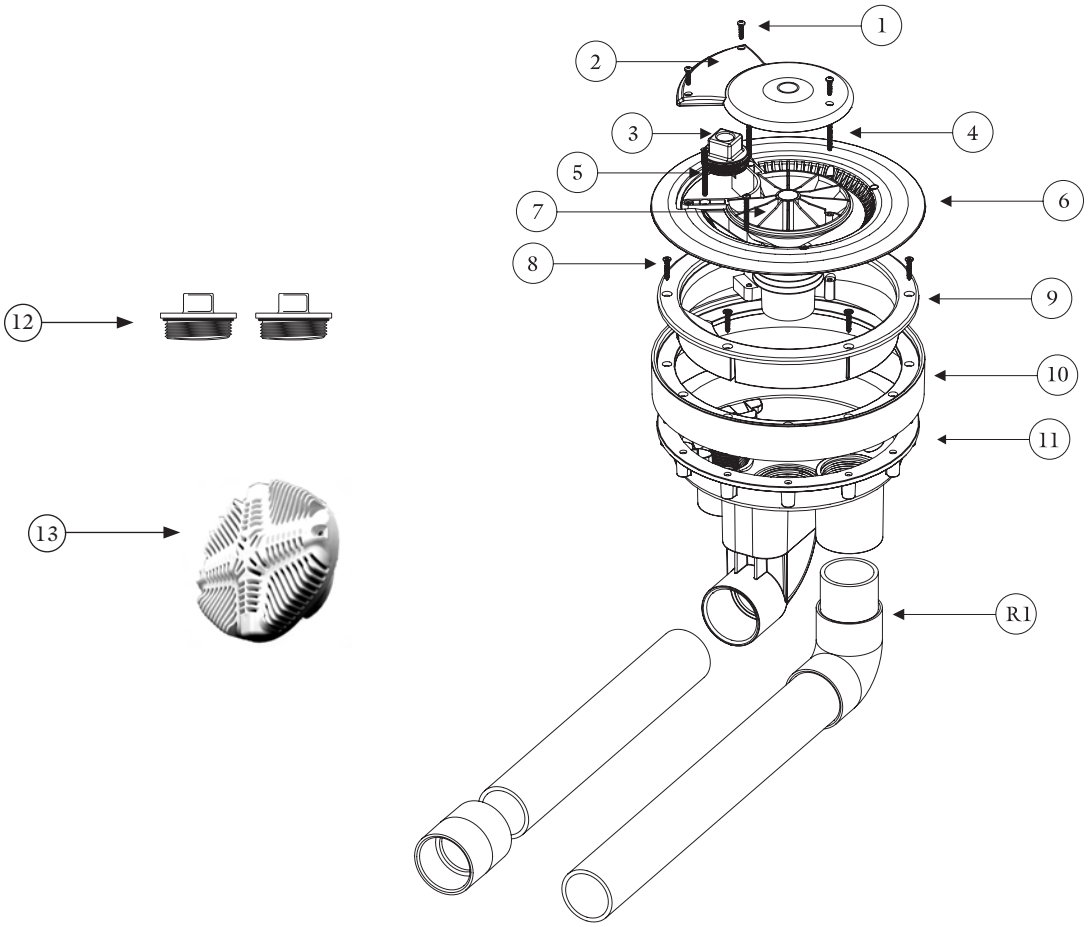
2. Install a pressure stack to both lines at a location away from the MDX Debris Removal System Sump.

3. Pressure should remain on the system through construction until interior cleanup.

NOTICE:
Release pressure on the system before removing plugs

To winterize MDX, blow out and air lock the vacuum line and second suction outlet. Then, blow out and air lock the main line.

004-222-2206-XX 75mm MDX Debris Removal System Fiberglass



Item	Part Number	Description	Material
1	005-252-0826-00	Screw: No. 10-7/8" Phillips Head (12 PK)	316-SS
2	005-252-2080-XX	Anti Vortex Cover (XX = Color Code)	
3	005-252-1605-00	Plug 2" (6 PK)	
4	005-252-0822-00	Screw: No. 10-1 7/8" Security Head (12 PK)	316-SS
5	005-252-0834-00	Screw: 12 x 2-5/8" Security Head (12 PK)	316-SS
6	005-252-2075-XX	Funnel Assembly (XX =Color Code)	
7	N/A	Support	
8	005-252-0818-00	Screw: 12-14 x 1½" Vinyl/Fiberglass Sump (12 PK)	316-SS
9	005-252-2046-00	Seal Ring	
10	005-252-2048-00	Mounting Ring	
11	005-252-2017-00	Sump Assembly - 75mm	PVC - 1
12	005-252-1608-00	Plug Pressure Test 2½" w/ O-Ring (4 pcs)	
14	005-252-2246-XX	Fiberglass Second Point of Suction Drain (XX = Color Code)	
*R1	N/A	REQUIRED CONNECTION TO A 2nd Suction Outlet 75mm pipe	PVC, SCH. 40
*N/A	004-252-5476-00	Plug Wrench	

* Not part of MDX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