



Certified to  
NSF/ANSI/CAN 50  
ANSI/APSP/ICC-16 2017



**UNBLOCKABLE SUCTION OUTLET FITTING ASSEMBLY (SOFA)  
INSTALLATION, OPERATION, AND MAINTENANCE INSTRUCTIONS**  
FOR MODEL 32PDxxx (xxx = COLOR SUFFIX), MEETS OR EXCEEDS ANSI/APSP/ICC-16 2017  
U.S. PATENT D663,387

When installing and using this equipment, basic safety precautions shall always be followed, including the following:

**IMPORTANT SAFETY INSTRUCTIONS**

**READ, FOLLOW, AND UNDERSTAND ALL INSTRUCTIONS AND WARNINGS**

Any modification that increases the flow rate of the circulation system shall require re-evaluation of the cover/grate and sump to ensure that the flow rating of the Suction Outlet Fitting Assembly (SOFA) is not exceeded.

Missing, broken, or cracked cover/grates, sumps, mud-frames, or any other SOFA component shall be replaced before bathers are allowed to use the pool.

Loose cover/grates shall be reattached before bathers are allowed to use the pool.

**SAVE THESE INSTRUCTIONS**

**INSTALLATION REQUIREMENTS AND LIMITATIONS**

All SOFAs shall be installed in accordance with AquaStar's installation instructions.

No modification shall be made to a SOFA structure or flow path unless the new configuration has been certified to the original SOFA.

SOFA-configuration specific flow ratings are NOT to be exceeded at any time the pool is open to bathers.

Cover/grates marked unblockable are permitted for use in multiple SOFA systems, and single SOFA system.

The flow rating for pools with single, or multiple unblockable SOFAs shall be determined by combining the flow rating of all SOFAs piped together in one body of water.

Select and install a SOFA, or combination of SOFAs, such that the resulting individual suction system flow rating is greater than the pumping system's maximum system flow rate.

Skimmers, gutters, and other overflow systems may not always be operational and could divert all the pump(s) flow through the SOFA suction system, therefore the flow capacity of these systems shall not be included when evaluating an individual suction system flow rating.

SOFAs shall not be located on seats or the backrests for seats.

The Propeller® drain sump must attach to the pool using two-part epoxy and the eight (8) concrete anchors and screws provided by or sourced from AquaStar.

Do not use epoxy or other adhesives to attach the pinhole cover to the sump.

Installation requires Phillips screwdriver. Hand tighten only. Start installation of screws by hand to ensure proper thread engagement and to prevent cross-threading. Use a hand-held Phillips screwdriver to hand tighten each screw until the screw and SOFA component fit snugly together. The parts and fasteners are snug when there are no visible gaps and they do not move when pulled or pushed by hand. **DO NOT USE POWER TOOLS TO INSTALL FASTENERS.**

Covers, when installed, shall not protrude more than 2 in. (51 mm) from the finished surface of the pool in which the SOFA is installed.

**MAINTENANCE INSTRUCTIONS**

**FIELD AND CONFIGURATION MODIFICATION**

Any field modification made to this product not authorized by AquaStar Pool Products shall void the VGBA-2017 certification.

No modification shall be made to a SOFA structure or flow path unless the new configuration has been certified as a new SOFA.

**SERVICE LIFE**

Replace cover and fasteners within five years. Replace sump within thirty years or if damaged. If cover or SOFA components become brittle, show significant color change, or are damaged in any way, remove and replace as it is an indication that they have reached the end of their service life.

Cover and all other SOFA components shall be replaced at or before the end of their service life and that service life begins the month and year in which a SOFA component is installed with or without water.

**WINTERIZING**

Covers and screws may be removed to access suction piping — Save and store these OEM components in a safe location for reinstallation when not immediately reinstalled after winterizing. Lost or damaged components must be replaced with components sourced from AquaStar for the VGBA-2017 certification of this product to remain valid.

**SERVICE INSTRUCTIONS**

Service tool required: Phillips screwdriver (*hand-tools only*).

Cover/grate, including fasteners, shall be observed for damage or tampering each operational day.

## SERVICE INSTRUCTIONS *(continued)*

Missing, broken, or cracked covers/grates shall be replaced before bathers are allowed to use the pool.

Loose cover/grates and associated components shall be reattached before bathers are allowed to use the pool.

Sump and fastener receptacles shall be clean and free of debris or obstructions during installation of covers and fasteners.

Install drain covers in order of the assembly drawings provided in section "SOFA MODEL SPECIFIC FLOW RATES AND NSF ANSI/APSP/ICC 16-2017 CERTIFICATION DOCUMENTATION" of these instructions.

Start installation of screws by hand to ensure proper thread engagement and to prevent cross-threading, then continue to tighten using hand tools only. **DO NOT USE POWER TOOLS TO INSTALL FASTENERS.**

Hand-check cover/grate for snugness to the sump/frame after installation. Do not over-tighten screws.

Replace covers if components have become brittle, show significant color change, or are damaged in any way.

When any SOFA component is held in place by the interior finish of the pool, that surface shall be free of deterioration and voids.

If mud frame or manufactured sump have become brittle, show significant color change, are stripped, or damaged in any way, replace. If plastic anchor or brass anchor kit (BIK4) is stripped or damaged in any way, replace.

## REPLACEMENT COVER FOR EXISTING POOLS

When installing covers on existing components ensure that the component is in good condition, and does not show signs of brittleness, significant color change, or damage in any way. If damaged, replace the component.

### EXISTING FASTENER SECURITY CHECK

When installing fasteners ensure that the screw hole is not loose (see Fig. 1), has damaged threads (see Fig. 2), is the wrong thread size (see Fig. 3), or does not align with the cover screw hole. For each location that appears to be reusable, test fastener security by partially installing screw in each location and then pulling firmly by hand. If the screw cannot be installed or pulls out, the component is to be considered damaged and should be replaced. Drilling holes into an existing component is not permitted.

When properly secured, the screw shall have at least 3 threads of engagement (see Fig 4). Use a hand-held Phillips screwdriver to hand tighten each screw until the screw and SOFA component fit snugly together. The parts and fasteners are snug when there are no visible gaps and they do not move when pulled or pushed by hand. **DO NOT USE POWER TOOLS TO INSTALL FASTENERS.**



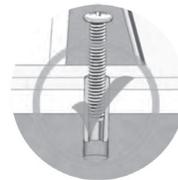
**FIGURE 1**  
IF SCREW HOLE  
IS LOOSE



**FIGURE 2**  
IF SCREW HOLE  
HAS DAMAGED  
THREADS



**FIGURE 3**  
IF SCREW IS  
THE WRONG  
THREAD SIZE



**FIGURE 4**  
ENSURE AT LEAST  
THREE THREADS OF  
ENGAGEMENT AND  
HAND CHECK TO  
ENSURE SCREW IS  
SECURE

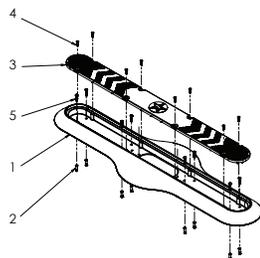
## SOFA MODEL SPECIFIC FLOW RATES AND NSF ANSI/APSP/ICC 16-2017 CERTIFICATION DOCUMENTATION

Please use the QR code or link listed below to look up the SOFA-Configuration specific certification and flow rating of the cover that is to be installed. Please remember to fill out the VGBA DRAIN COVER IDENTIFICATION INFORMATION document that was included with the cover. Permanently post as near as feasible to the pump control and provide a copy of this information to the pool owner to be kept with other important pool-related documents.

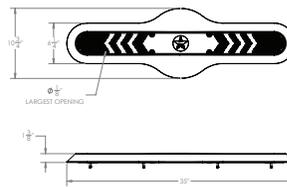
### 32" Propeller® Drain FOR CONCRETE INSTALLATIONS



Cover Model #  
32PDxxx



1. 32" Propeller Sump Frame
2. 1/4" Concrete Anchor
3. 32" Channel Drain Anti-Entrapment Suction Outlet "Pinhole" Cover
4. #10 x 3/4" LG. Flat Head Phillips, Type A Screw, 316 SS
5. #10 x 1" LG. Pan Head Phillips, 316 SS



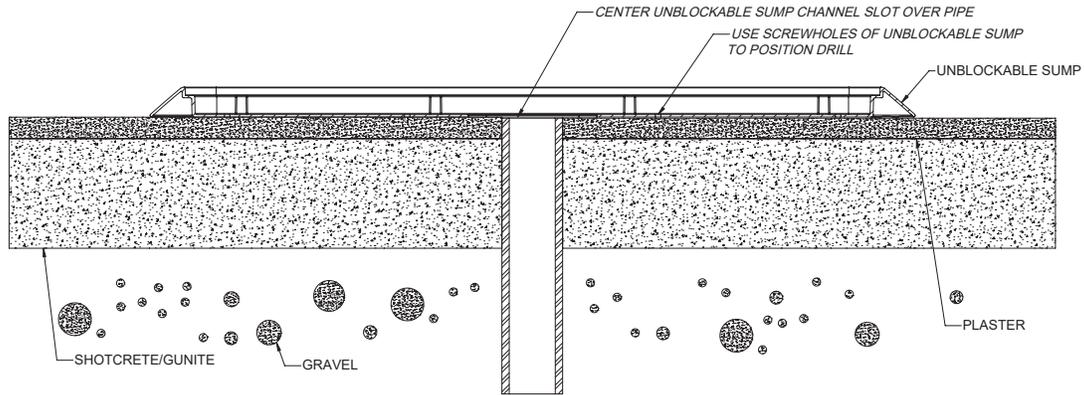
NOTE: USE 1/4" MASONRY DRILL BIT.  
OPTIONAL: BIK4 BRASS ANCHOR KIT

For SOFA Specific Flow Ratings  
Please scan QR code or visit [www.aquastarpoolproducts.com/flowcode](http://www.aquastarpoolproducts.com/flowcode)



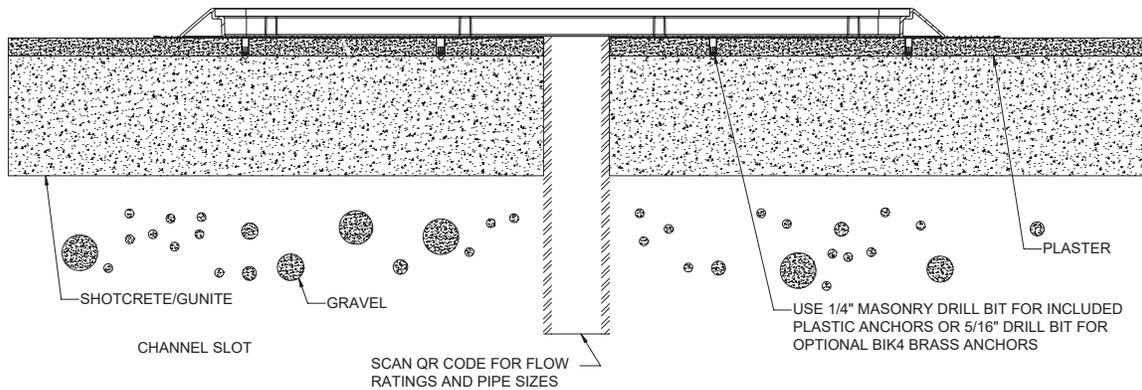
### STEP 1 - Position plastic or brass anchor screw holes

Center unblockable sump channel slot over pipe, and use screw holes of unblockable sump to position drill.



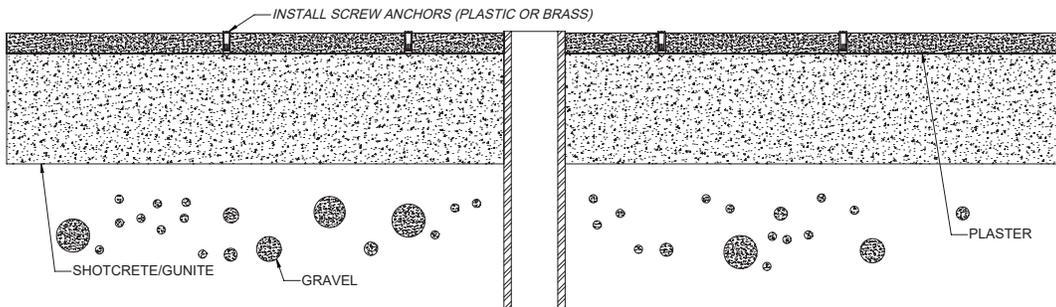
### STEP 2 - Drill plastic or brass anchor screw holes

Use 1/4" masonry drill bit for included plastic anchors or 5/16" drill bit for optional BIK4 brass anchors.



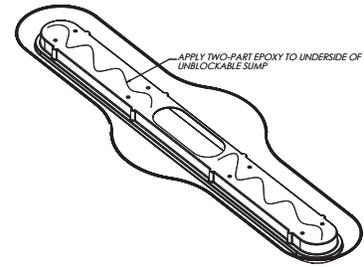
### STEP 3 - Install plastic or brass anchors

Install the plastic or brass anchors into the holes drilled in step 2. If using the BIK4 brass anchors, mount the anchors using a two-part wet/dry epoxy.



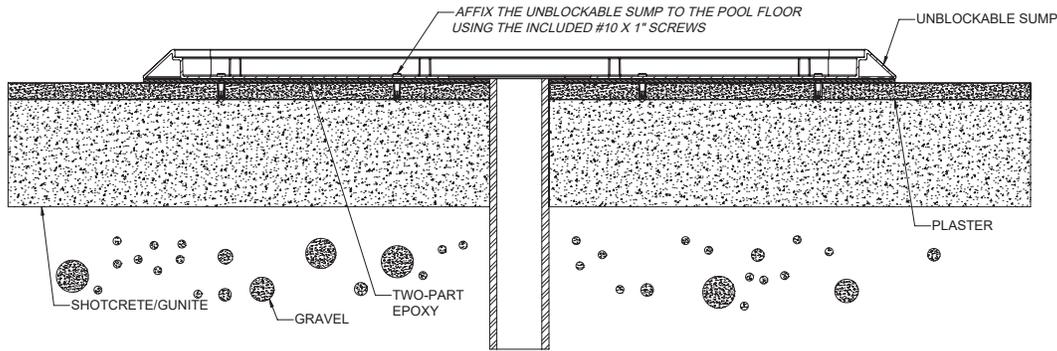
#### STEP 4 - Apply two-part epoxy to underside of unblockable sump

Apply two-part epoxy on the marked epoxy area.



#### STEP 5 - Affix unblockable sump to the pool floor

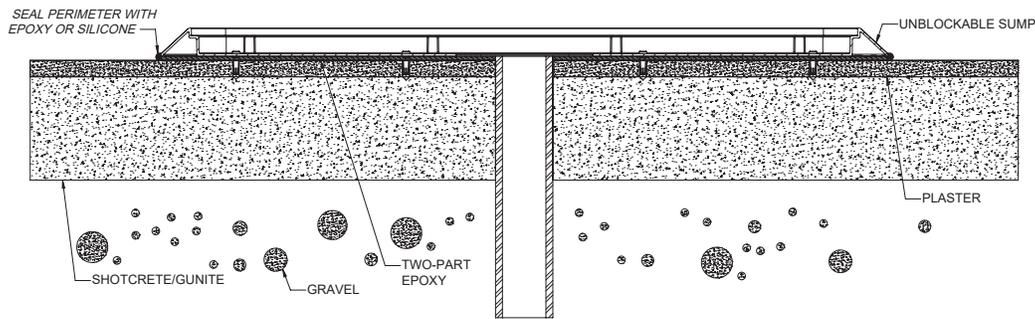
Affix the unblockable sump to the pool floor using the included #10 x 1" screws into plastic anchors, or 10-23 x 5/8" screws into optional BIK4 brass anchors before epoxy sets.



#### STEP 6 - Seal perimeter with epoxy or silicone

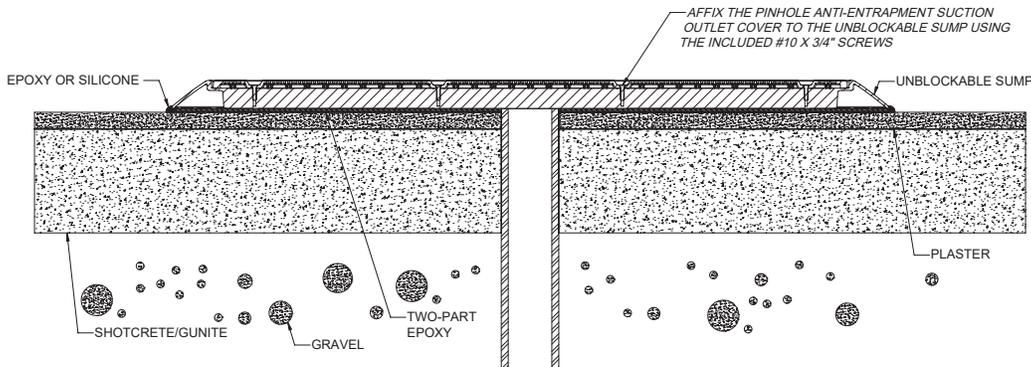
Seal perimeter of unblockable sump with epoxy or silicone. Ensure there are no gaps between the unblockable sump and pool floor. If a gap exists use additional epoxy or silicone until gap is closed.

**WARNING! Hair entanglement hazard. The sump must be installed on a substantially flat surface that does not allow water to flow underneath the outer edge of the sump and this edge must be fully sealed with epoxy or equivalent. Failure to seal any outer gaps voids the VGBA-2017 certification and could result in serious injury or death.**



#### STEP 7 - Attach the drain cover

Using a hand-screwdriver secure the drain cover to the unblockable sump using the included #10 x 3/4" screws.



## **WARNING! SUCTION ENTRAPMENT HAZARD**

INCREASING PUMP SIZE WILL INCREASE FLOW. When in doubt, consult your pool and spa professional. NEVER use a pool or spa that has a missing or broken suction outlet cover. USING A POOL OR SPA WITH A MISSING OR BROKEN SUCTION OUTLET COVER CAN RESULT IN HAIR OR BODY ENTRAPMENT WHICH CAN CAUSE SEVERE BODILY INJURY OR DEATH. THE VACUUM IN SUCTION OUTLETS AND/OR SUCTION OUTLET COVERS WHICH ARE DAMAGED, BROKEN, CRACKED, MISSING, OR UNSECURED CAN CAUSE SEVERE INJURY AND/OR DEATH DUE TO THE FOLLOWING ENTRAPMENT HAZARDS: HAIR ENTRAPMENT – Hair can become entangled in suction outlet cover. LIMB ENTRAPMENT – A limb inserted into an opening of a suction outlet sump or suction outlet cover that is damaged, broken, cracked, missing or not securely attached can result in a mechanical bind or swelling of the limb. BODY SUCTION ENTRAPMENT – A negative pressure applied to a large portion of the body or limbs can result in an entrapment. EVISCERATION/ DISEMBOWELMENT ENTRAPMENT – A negative pressure applied directly to the intestines through an unprotected suction outlet sump or suction outlet cover which is damaged, broken, cracked, missing, or unsecured can result in evisceration/disembowelment entrapment. MECHANICAL ENTRAPMENT – There is a potential for jewelry, swimsuit, hair decorations, finger, toe or knuckle to be caught in an opening of a suction outlet cover resulting in mechanical entrapment. AFTER INSTALLATION OF FITTINGS, IF A GAP EXISTS BETWEEN POOL FINISH AND BASE OF COVER IT MUST BE FILLED IN TO AVOID FINGER OR OTHER ENTRAPMENT.

**WARNING!** – Failure to remove pressure test plugs and/or plugs used in winterization of the pool/spa from the suction outlets can result in an increased potential for suction entrapment as described above.

**WARNING!** – Failure to keep suction outlet components clear of debris, such as leaves, dirt, hair, paper and other material can result in an increased potential for suction entrapment as described above.

**WARNING!** – Suction outlet components have a finite life. The cover/grate should be inspected before each use of facility and replaced at least every five years or if found to be damaged, broken, cracked, missing, not securely attached or missing screws. **DO NOT** use facility until corrected!

## **WARNING! TO REDUCE THE RISK OF ENTRAPMENT HAZARDS**

This is a VGBA-2017 Unblockable SOFA approved single unblockable outlet that is certified for floor use only. Suction fittings shall not be located on seating areas or on the backrest for such seating areas. The maximum operating flow rate of a pump or pumps shall not exceed the flow rating of the SOFA Configuration. Never use pool or spa if any suction outlet component is damaged, broken, cracked, missing or not securely attached. Replace damaged, broken, cracked, missing or not securely attached suction outlet components immediately. This suction outlet must be installed in accordance all applicable national, state and local laws, codes and ordinances. Use gray medium set glue is recommended when attaching PVC pipe to AquaStar's PVC based sump buckets. The use of blue glue or related hot glues, clear glues or any fast-setting cement are not recommended.

As the manufacturer, AquaStar Pool Products, Inc., hereby certifies that their suction outlet fitting assemblies and drain covers manufactured on or after May 24, 2021 meet or exceed the requirements of ANSI/APSP/ICC-16 2017. Products manufactured before May 24, 2021 meet or exceed the requirements of the Virginia Graeme Baker Pool & Spa Safety Act, ASME/ANSI A112.19.8-2007, VGBA 2008 and ANSI/APSP 16-2011 standards and safety regulations as set forth by the Consumer Products Safety Commission. A copy of this certificate of compliance is available on AquaStar Pool Products Inc.'s website, [www.aquastarpoolproducts.com](http://www.aquastarpoolproducts.com).

*A Safe Drain is No Accident™*





### VGBA DRAIN COVER IDENTIFICATION INFORMATION

**ATTENTION INSTALLER** - Please carefully cut along the dashed line and remove from instructions. Fill in the blank spaces below upon installing drain cover. Permanently post as near as feasible to the pump control and provide a copy of this information to the pool owner to be kept with other important pool-related documents.

**Manufacturers Name:**  
AquaStar Pool Products Inc.

**Cover/Grate Part Number:**  
Please check the box (  ) of the cover being installed:  
 32PDxxx

**Service Life of the Cover Grate:**  
5 years from the date of installation

**Certified Suction Outlet Fitting Assembly (SOFA) Flow Ratings:**  
Please use the QR Code or Link to find the SOFA Specific flow rate for your configuration.

**SOFA Model #:** \_\_\_\_\_

**Orientation:** \_\_\_\_\_ (wall or floor) **SOFA Flow Rating:** \_\_\_\_\_ GPM

**Location of the Installed Suction Outlet Fitting Assembly:**  
Please describe the location of the suction outlet fitting assembly.

**Location:** \_\_\_\_\_

**Installation Date:**  
Please mark the month and year that the drain cover was installed below.

Month						Year					
1	2	3	4	5	6	21	22	23	24	25	26
7	8	9	10	11	12	27	28	29	30	31	32



**SOFA FLOW RATING**  
For SOFA flow rating please scan the QR code or visit [www.aquastarpoolproducts.com/flowcode](http://www.aquastarpoolproducts.com/flowcode)

**A Safe Drain is No Accident™**  
VGBA Compliance Every Pool, Every Time

#### IMPORTANT SAFETY INFORMATION READ, FOLLOW, AND UNDERSTAND ALL INSTRUCTIONS AND WARNINGS

This VGBA Suction outlet has an installation specific flow rating and this product **SHALL NOT** be installed on a pumping system that is capable of exceeding this limit, which varies based on the number and location of installed suction outlets. **READ** and **FOLLOW** the section of the included installation instructions explaining how to calculate the suction system flow ratings and that of the installed pumping system.

**This is an UNBLOCKABLE VGBA Suction Outlet that may be installed as the sole source of water for a single suction.** Please check local building/health authorities regarding single versus multiple drain installations.

**THIS LABEL IS TO BE REMOVED BY THE INSTALLER ONLY**

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**Manufacturers Name:**  
AquaStar Pool Products Inc.

**Cover/Grate Part Number:**  
Please check the box (  ) of the cover being installed:  
 32PDxxx

**Service Life of the Cover Grate:**  
5 years from the date of installation

**Certified Suction Outlet Fitting Assembly (SOFA) Flow Ratings:**  
Please use the QR Code or Link to find the SOFA Specific flow rate for your configuration.

**SOFA Model #:** \_\_\_\_\_

**Orientation:** \_\_\_\_\_ (wall or floor) **SOFA Flow Rating:** \_\_\_\_\_ GPM

**Location of the Installed Suction Outlet Fitting Assembly:**  
Please describe the location of the suction outlet fitting assembly.

**Location:** \_\_\_\_\_

**Installation Date:**  
Please mark the month and year that the drain cover was installed below.

Month						Year					
1	2	3	4	5	6	21	22	23	24	25	26
7	8	9	10	11	12	27	28	29	30	31	32



**SOFA FLOW RATING**  
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