Apogee-1u Server Water-block
Installation guide

One or more Patents pending

This product is intended for expert users. Please consult with a qualified technician for installation. Improper installation may result in damage to your components. Swiftech™ assumes no liability whatsoever, expressed or implied, for the use of these products, nor their installation. The following instructions are subject to change without notice. Please visit our web site at www.swiftnets.com for updates.

Processor compatibility

Intel®
Xeon™ (socket 603 and 604)
- 400 & 533 Mhz FSB
- 800 Mhz FSB (Nocona)

AMD®
❑ Athlon 64, Sempron, Socket 754
❑ Opteron, socket 939, 940

Packing List

COMPONENT ID	COMPONENT DESCRIPTION	QTY	USAGE
SHCS006C0006SS	6-32X3/8 SOCKET CAP SCREW	4.00	WATER-BLOCK ASSEMBLY
O-RING 3/32	B1000-133 O-RING 3/32 X 1 13/1	1.00	WATER-BLOCK ASSEMBLY
MCW60-H	MCW60 WATERBLOCK HOUSING	1.00	WATER-BLOCK ASSEMBLY
MCW60-1U-BRKT	MCW60 XEON/OPTERON HOLD-DOWN PLATE	1.00	WATER-BLOCK ASSEMBLY
APOGEE-BP	APOGEE BASE PLATE	1.00	WATER-BLOCK ASSEMBLY
B1000-2.5X50	BUNA-N 70D BLACK O-RING	2.00	FITTINGS
PM4S-6BN	1/4" - 1/8 NPSM TO 3/8" ID	2.00	FITTINGS
PM4S-8BN	1/4" - 1/8 NPSM TO 1/2 ID	2.00	FITTINGS
22HC04688	15/32" HOSE CLAMP	2.00	FITTINGS
22HC0672B	43/64" PREMIUM HOSE CLAMP	2.00	FITTINGS
6-32 HEX CAP	6-32 ACRON NUT	4.00	INTEL XEON HARDWARE
LOCKWASHER6	LOCK WASHER #6	8.00	INTEL XEON HARDWARE
FW140X250X0215FB BLK	BLACK FIBER WASHER .140X.250X.	10.00	INTEL XEON HARDWARE
6-32 NUT	6-32 NUT	4.00	INTEL XEON HARDWARE
6-32 X 1 1/8	6-32 X 11/8	4.00	INTEL XEON HARDWARE
6-32 X 1"	6-32 X 1 PHIL PAN M/S SZ	2.00	AMD SOCKET 754/939/940 HARDWARE
13RS040637	ROUND SPACER	2.00	AMD SCOKET 754/939/940 HARDWARE
AJ00264	BACK PLATE	1.00	AMD SCOKET 754/939/940 HARDWARE
ARCTIC CÉRAMIQUE	ARCTIC CÉRAMIQUE	1.00	THERMAL COMPOUND
7/64 HEX KEY	TOOL	1.00	MAINTENANCE

1. Preliminary steps & guidelines

- ❏ Two sets of hose barb fittings are supplied to accommodate high-performance circuits: 3/8" barbs, and ½" barb.
- ❏ The Apogee water-block may be installed in any direction – Please refer to the exploded view below to change the hold-down plate orientation.
- ❏ The inlet and outlet are interchangeable with respect to flow direction.
- ❏ Install the fittings with their o-rings into the water-block before you install the water-block to the motherboard. **Tighten each fitting until the flange of the fitting mates with the ledge of the water-block o-ring groove, then lock the fitting by fastening another ¼ to ½ turn.**
- ❏ Remove the existing heatsink from your motherboard.
- ❏ Apply the provided Arctic Céramique thermal compound to the CPU following the comprehensive installation instructions provided here: http://www.arcticsilver.com/ceramique_instructions.htm
- ❏ Install the Apogee water-block following the individual installation schematics for each type of CPU socket provided hereafter.
- ❏ Connect the tubing to the water-block hose-barbs. Use the provided hose-clamps to secure the tubing to the barbs.
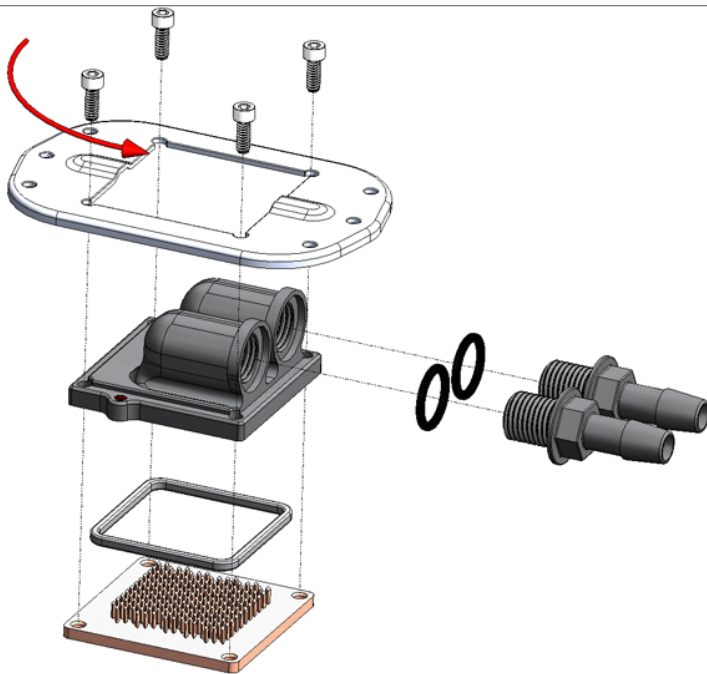

Exploded View

The hold-down plate can be rotated 90 Degrees to change the orientation of the inlet and outlet as needed. Simply loosen and remove the 4 fasteners holding the assembly together and rotate the hold-down plate (not the base plate, see note to the right). Then firmly fasten the 4 socket screws in a cross pattern with the provided 7/64 Hex Key. Torque value is not to exceed 16 in/lbs.

A note of caution:

When disassembling the water-block for maintenance or other reasons, it is critical for proper flow operations to maintain the orientation of the housing in relation to the orientation of the pins as shown below.
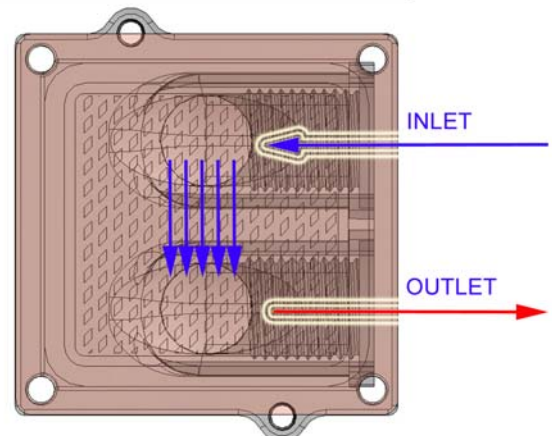
You must maintain the pin orientation in relation to inlet/outlet orientation so that the fluid has a clear and direct path between the inlet and the outlet.
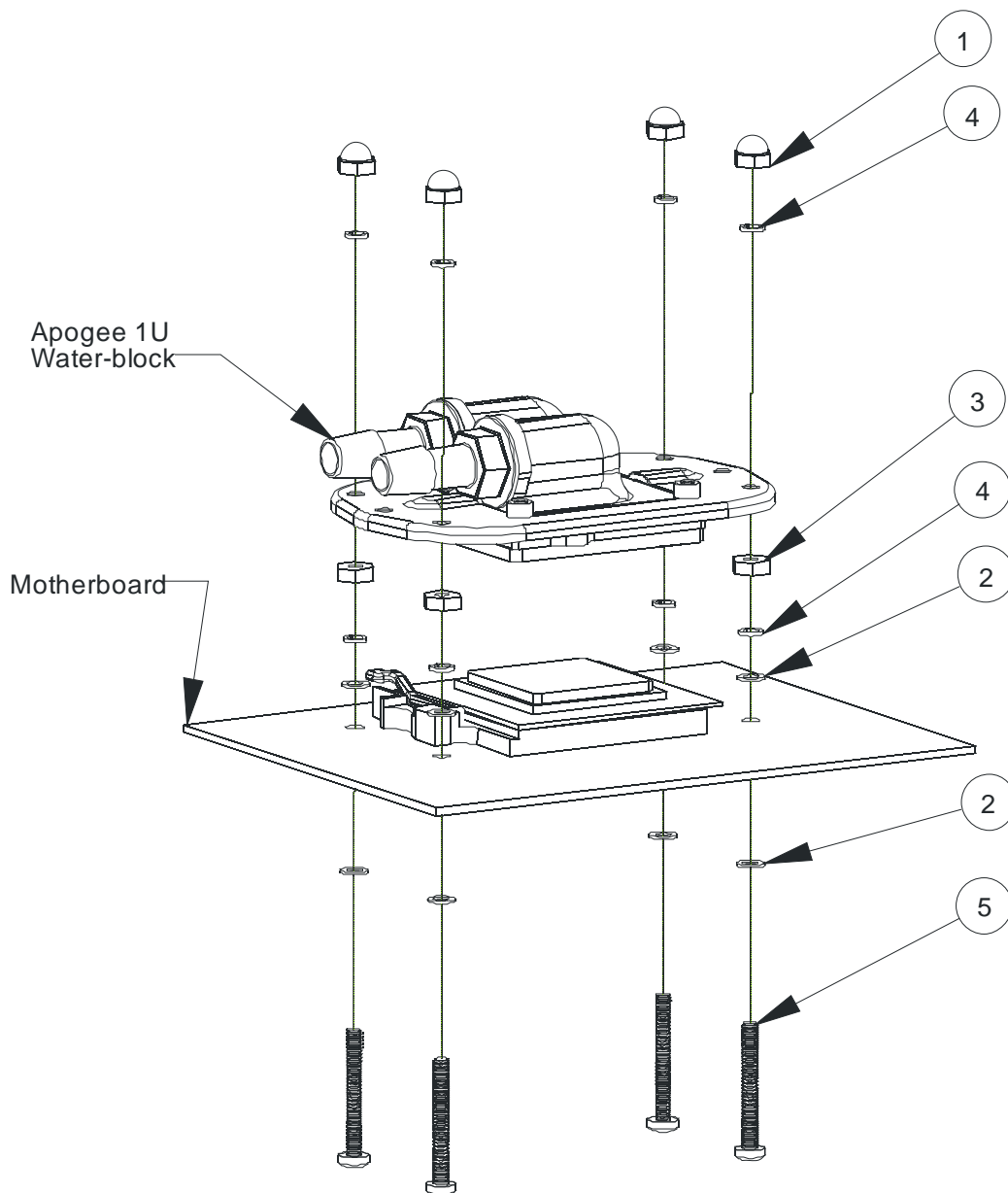
Intel® Xeon™ Socket 603/604
400 and 533 MHz FSB motherboards

☐ Firmly fasten the 4 posts (6-32 x 1 1/8" Philips screw Item #1e) to the motherboard with the provided hardware.

☐ Install the water-block assembly by fastening the provided Acorns nuts and washers in a cross pattern.

ITEM NO.		PART NUMBER	DESCRIPTION	QTY
1		6-32-Acorn-nut	6-32 Acorn nut	4
2		FW140X250X0215FB BLK	black fiber washer	8
3		6-32-nut	6-32 nut	4
4		LOCK-WASHER#6	#6 lock washer x 0.030"	8
5		6-32x1-125-philips-91400A155	6-32 x 1 1/8" philips screw	4

Apogee 1U Water-block

Motherboard

Intel® Xeon™ Socket 603/604
800 MHz FSB motherboards

Removal of the motherboard is normally not required. Simply remove your existing heatsink solution, and fasten the Swiftech water-block instead using the provided hardware. See important note 2 in reference to metric vs. UNC threaded standoffs.

| ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	90272A153-6-32x1-philips	6-32 x 1" Philips zinc plated screw	. 4
2	APOGEE-1U-K8-XEON-ASSY		1
3	SPACER-13LTS2501400697	Apogee - Nocona nylon spacer	4
4	4-40 nylon retaining washer	4-40 nylon retaining washer	4
5	spring-backplate	retention spring (provided by motherboard vendors)	1
6	chassis		1
7	6-32 standoff	6-32 Standoffs	4
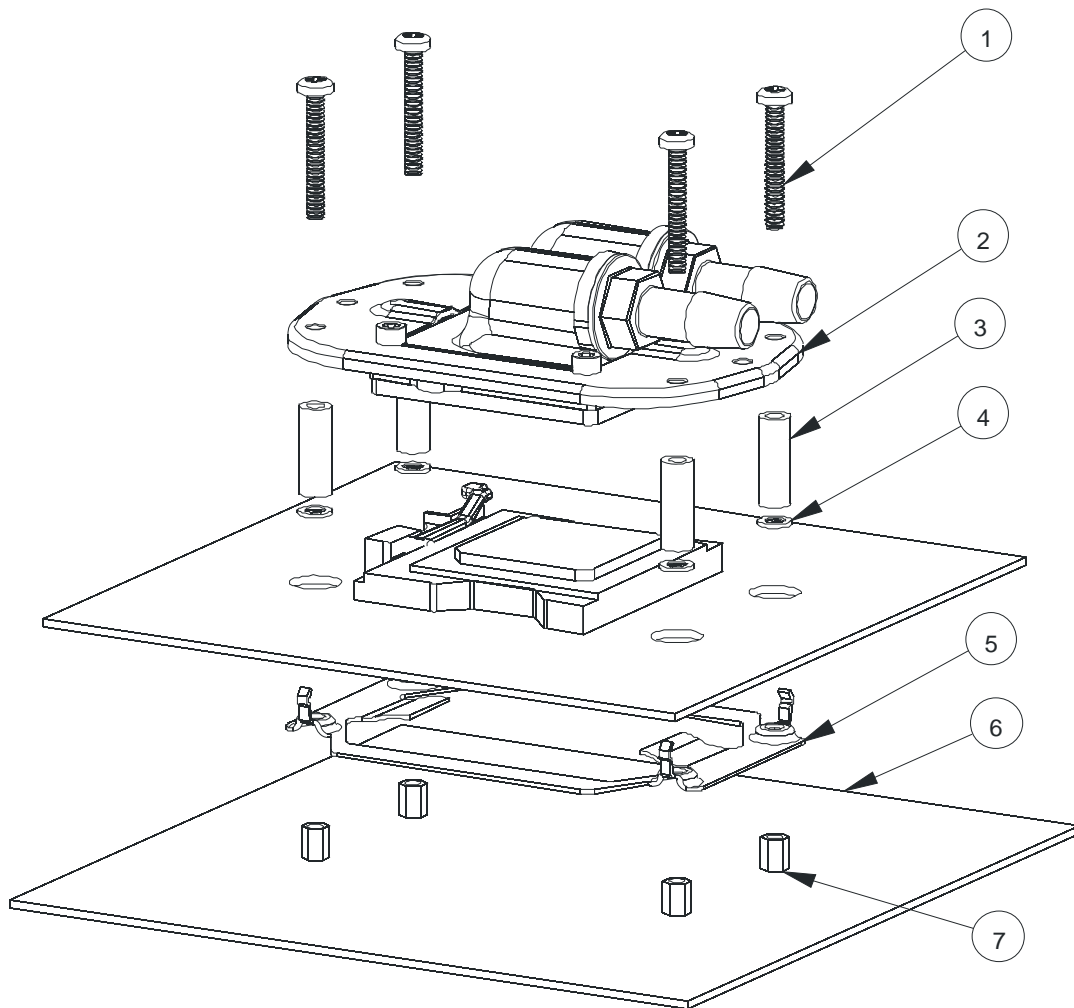
Important notes:
1. The spring back-plate (also referred to as "CEK spring") is normally always provided with the motherboard since this is an Intel mounting specification, and as such is not included with the Swiftech water-block. Swiftech offers this item as an option for those users who are either missing it, or in need of a replacement.
2. Depending on the vendors, the standoffs provided with the chassis are either metric, or UNC (US standard). A set of UNC 6-32 standoffs and counter-nuts is included with the Swiftech hardware to replace metric standoffs. To verify whether your chassis is metric or UNC, try first with one of the screws provided with the swiftech hardware PRIOR to installing the water-block by screwing it into one of the existing standoffs.

AMD® 64, Sempron®, Opteron®
Socket 754, 939, 940

Removal of the motherboard is normally not necessary to install the Swiftech Water-block. Simply remove your existing heatsink solution, the stock plastic frame surrounding the CPU, and install the water-block with the provided hardware. Use of the included back-plate is not mandatory as back-plates are normally included with the motherboard. See important note in reference to back-plate (item 4).

ITEM NO.		PART NUMBER	DESCRIPTION	QTY
1		90272A153-6-32x1.00-philips	6-32 x 1.00" Philips screw	2
2		washer-0148x0266x0040-91007A619	Lock Washer #6 x 0.040	2
3		13RS040637	Nylon spacer for Apogee K8 assy	2
4		AJ00264	Back plate	1
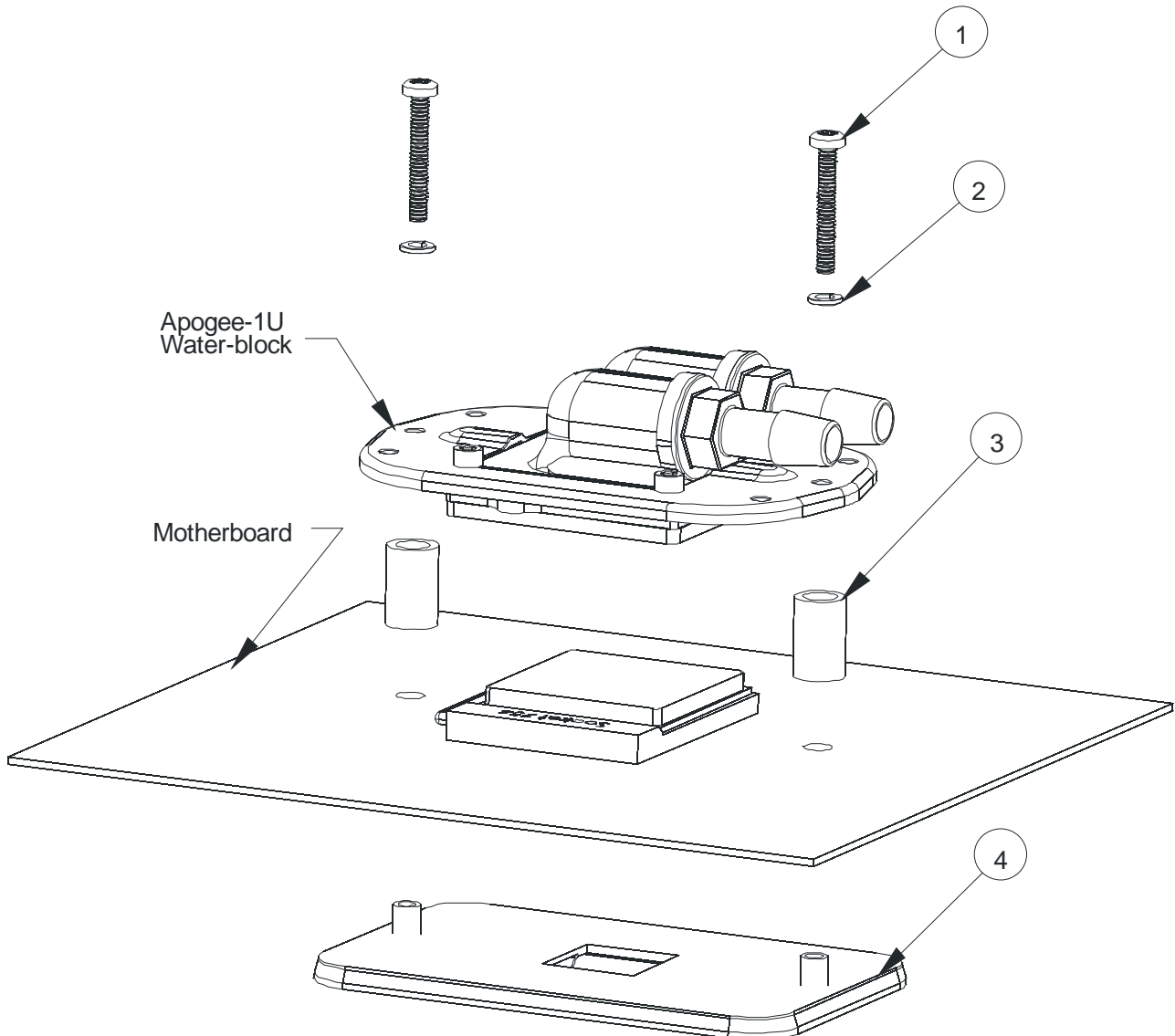
Note: the provided back-plate (Ajigo part #AJ00264) was designed in strict compliance with AMD specifications. However, motherboard manufacturers may use different back-plate designs to suit their particular needs. Please

inspect the back of the motherboard for possible interference with small surface mount components prior to installing this back-plate. Swiftech is not liable for any damages caused by the use of this product.