WHITE KNIGHT®
engineer approved™

QUICK DUMP RINSE VALVE

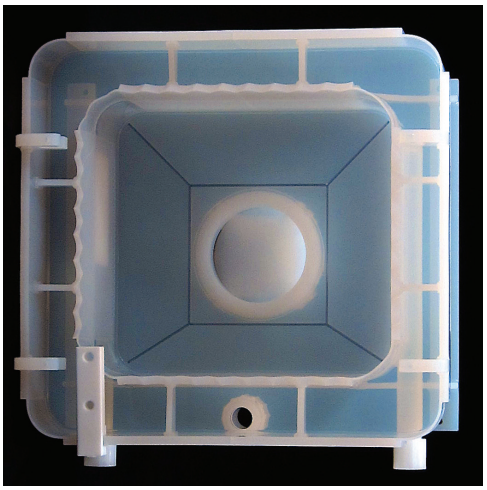
Imtec Accubath™ Quick Dump Rinse Valves

Quick Dump Rinse (QDR) valves are air open/close valves that offer reliability, improved efficiency, easy installation, and reduced costs. They mount to PVDF, NPP, or PFA tanks. Their unique design saves material and machining cost without sacrificing performance. They utilize Glyd rings instead of O-rings. Glyd rings do not need to be lubed and reduce the chance of stiction, which is common to O-rings. Our QDR valves attach to their mounting ring via shoulder screws instead of large threads that can be easily damaged by cross threading. Their domed dump door sheds any fluid left after a quick dump to improve process performance. It comes with hard seat or O-ring seat seal. Hard seat doors do not provide a perfect seal but offer the benefit of no maintenance. O-ring seal doors are used where a complete seal is required. O-rings are purchased separately and are available in various materials. Both doors use a common NPP valve with interchangeable caps and mounting rings for use on NPP, PVDF, and PFA tanks.

Quality tested to 1.3+ million cycles

Features & Benefits

- Double-acting air-close/air-open
- Optional hard seat or O-Ring seat seal, dump door to mounting ring
- Min/Max operating pressure 35/80 psi
- Large opening for ultra-fast draining
- Easy maintenance, valve body replaceable
- Door & ring materials NPP, PVDF, or PFA



PFA tank, dump door, and mounting ring with NPP valve body. Custom PFA tanks are common for quick dump rinsing steps.

Importance of Quick Dump Rinsing in Semiconductor Manufacturing

After chemical treatment of wafers for cleaning, etching or stripping applications, the chemicals must be completely removed from the surface to stop all chemical reaction and clean residues. Chemistry still covers the wafer surface, particularly within recess structures of the topology, which results in chemical reaction continuing outside the bath. Removing all chemical is critical because over-etching could destroy the pattern and cause significant yield loss.

Objectives of effective rinsing processes:

1. Stop chemical reactions on the wafers after they are removed from the bath.
2. Remove all chemical and contaminant residues from the wafer, which are carried from the chemical bath without any impact on the wafer surface.
3. Remove particulates from wafers before the next chemical step or drying.

Semiconductor rinse processes:

Three types of rinsing used in semiconductor manufacturing, depending on tool type and applications.

1. Overflow rinsing: wafers are immersed in a rinse bath with water continuously added from the bottom of the tank and overflowing at the top rim.
2. Spray rinsing: Dispense ultrapure water through spray nozzles directly onto the wafer at variable flow, pressure or temperature in a single pass mode.
3. Quick dump rinsing: a combination of the above for wet benches consisting of placing the wafer into an overflowing rinse tank, dump the ultrapure water in a very fast manner and refill the tank by spray and /or fill from the bottom.

Quickdump Rinser Door Valves

Part	Model	Size	Door/Ring Material	Seat
10-001-1124	QDRV-P4-H	4 in	PVDF	Hard
10-001-1116	QDRV-PP4-H	4 in	NPP	Hard
10-001-1123	QDRV-T4-H	4 in	PFA	Hard
10-001-1126	QDRV-P4-S	4 in	PVDF	O-Ring
10-001-1125	QDRV-PP4-S	4 in	NPP	O-Ring
10-001-1127	QDRV-T4-S	4 in	PFA	O-Ring

O-rings

Part	Material
10-005-0770	EPDM
10-005-0771	Viton
10-005-0772	Allchem
10-005-0773	Kalrez

**O-rings sold separately. O-rings provide leak free seals, hard seats do not.*

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