THE RS® 420 SERIES

Cannabis Decontamination Systems

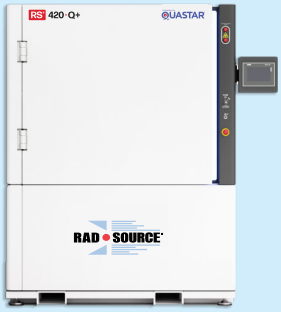
Get Started Now

Small, craft grower

RS® 420 M

RS® 420 Q

Med/large cultivators

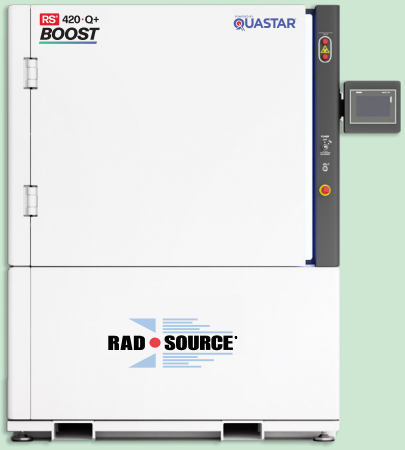


RS® 420 Q+

RS® 420 XL

Our 420 series systems have minimal-to-no effect on the cannabinoids, terpenes, and moisture of your product.

High capacity cultivators, MSOs/LPs, and toll processors



RS® 420 Q+ BOOST

RS® 420 MAX

Our 420 Series

- Deliver unmatched decontamination at any scale, from craft growers, mid to large cultivators, and high-volume MSOs/LPs, and toll processors.
- Decontaminate 99.9% of harmful microbials in your flower and achieve non-detect levels of microbials.
- Extend the shelf-life of your product by up to 2 years.
- Our RS® 420 series is are backed by more research studies than any other cannabis decontamination system.

RAD SOURCE · POWERED BY QUASTAR

Be confident that your product will pass state testing and ensure consumer safety.

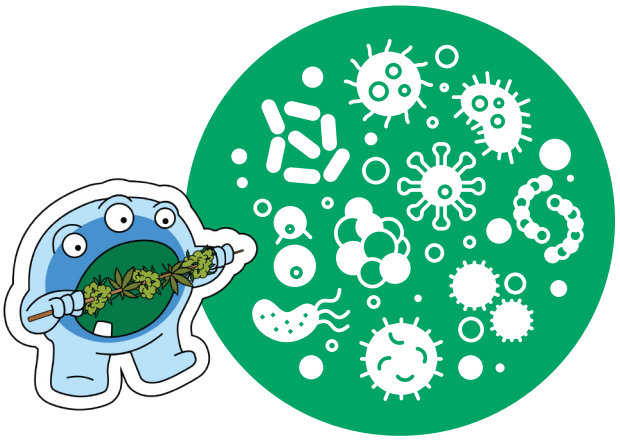
The Threat of Microbes

Cannabis products offer significant benefits for medical patients and adult consumers, but product safety is crucial. Despite strict quality standards, harmful microbes pose ongoing risks.

Rad Source® addresses the issue with our QUASTAR® X-ray technology. All our 420 machines:

- Neutralize microbes at the source.
- Prevent regrowth of harmful microbes.
- Ensure consistently safe and high-quality cannabis products.

Pass State Testing with 99.9% Confidence



Salmonella

- Salmonella can infect cannabis via contaminated water, soil, or equipment.
- Can survive in various environments for weeks to months.
- Symptoms include diarrhea, abdominal cramps, nausea, fever, and fatigue (appear within 12–72 hours, last 4–7 days).
- Most recover without treatment; severe cases may require hospitalization, especially in vulnerable populations.
- Testing for Salmonella is required in 39 states to ensure non-detect levels.

Esherichia Coli (E. coli)

- E. coli can infect cannabis plants through wounds or natural openings.
- Can cause leaf spot, stem rot, and root rot.
- High humidity and poor air circulation create ideal conditions for growth.
- Most strains are harmless, but some cause serious illnesses: food poisoning, UTIs, meningitis, hemolytic-uremic syndrome, and sepsis (especially in vulnerable individuals).
- Testing for E. coli in cannabis is required in 36 states to ensure non-detect levels.

Mold

- Cannabis plants are highly vulnerable to mold during the flowering stage.
- High humidity and poor air circulation increase mold risk.
- Common molds: Botrytis cinerea (gray mold), Fusarium oxysporum, Alternaria spp.
- Mold exposure can cause allergic reactions and respiratory issues (sneezing, runny nose, red eyes, skin rashes).
- Testing for Total Yeast and Mold Count (TYMC) is required in 31 states to ensure low cfu/g levels.

Yeast

- Yeast, a type of fungus, can cause cannabis diseases like leaf spot, stem rot, and root rot.
- Infects plants through wounds; thrives in high humidity and poor air circulation.
- Yeast infections (often Candida species) can affect various body areas, especially in immunocompromised individuals or those with diabetes.
- May trigger allergic reactions.
- Testing for Total Yeast and Mold Count (TYMC) is required in 31 states to ensure very low cfu/g levels.

Aspergillus

- Aspergillus is a fungus found in soil, decaying plant matter, and the air.
- Infects cannabis when airborne spores settle on plant surfaces.
- Thrives under warm, humid conditions with poor airflow; spreads via wind, water, or contaminated equipment.
- In people with chronic lung conditions (e.g., emphysema, tuberculosis), infection can lead to aspergillomas (fungus balls in lung cavities).
- Testing for Aspergillus in cannabis is required in 22 states to ensure non-detect levels.

Bile-Tolerant Gram Negative (BTGN)

- Bile-Tolerant Gram Negative (BTGN) bacteria, including some E. coli strains, can survive in bile.
- Linked to gastrointestinal infections and foodborne illnesses.
- Not a direct cannabis plant concern, but strict hygiene is essential to prevent contamination.
- Can cause symptoms like diarrhea, cramps, fever; severe cases may lead to sepsis.
- Testing for BTGN in cannabis is required in 15 states to ensure very low cfu/g levels.

RAD SOURCE® POWERED BY QUASTAR®

THE RS® 420 SERIES

All our 420 machines achieve non-detect levels of microbials, ensuring your product is safe for the consumer.

Model	Lbs per cycle	Hours per cycle	Throughput lbs per hour	Lbs processed per day	
RS® 420 M	2	5	0.4	4	Small, craft grower
RS® 420 Q	5	7	0.7	5	
RS® 420 Q+	25	7	3.6	25	Med/large cultivators
RS® 420 XL	50	10	5	50	
NEW RS® 420 Q+ BOOST	25	5	5	50	High capacity cultivators
RS® 420 MAX	80	5	16	160	

*All processing guidelines are based on product density & 2000 Gy dose.
Results may vary based on the product bioburden load and microbial strain.

No Heat, No Chemicals

No compromise.

Studies have shown that our 420 series have minimal-to-no effect on the cannabinoids, terpenes, and moisture of your product.

We keep the integrity of your cannabis intact.

QUASTAR's X-ray technology effectively decontaminates cannabis by eliminating 99.9% of microbials, ensuring compliance with regulatory standards and preventing testing failures. This FDA-approved process is safe and environmentally friendly.

- Maintains trichome and flower characteristics
- ISO 9000:2015 Certified
- Enhanced safety for consumers and staff
- A sustainable solution for cannabis decontamination

Proven Results

Our QUASTAR® X-Ray

Powered by Rad Source's QUASTAR x-ray photonic emitters, all our 420 machines ensure complete and equal penetration across the full batch and throughout the entire flower when used according to our guidelines. Combined with unique carousel that rotates the canisters without tumbling contents, the system achieves 99.9% microbial inactivation to non-detect levels.

Our technology is backed by multiple research studies and customer testimonials.

RAD SOURCE® POWERED BY QUASTAR®

Specifications

Specification	RS® 420 M	RS® 420 Q	RS® 420 Q+
Processing Guidelines	Up to 2 lbs. / Cycle Approx. 5hr. / Cycle *	Up to 5 lbs. / Cycle Approx. 7hr. / Cycle *	Up to 25 lbs. / Cycle Approx. 7hr. / Cycle
Equipment Dimensions (W x D X H)	30 x 36 x 64” (76.2 x 91.4 x 162.6 cm)	46 x 36 x 74” (116.8 x 91.4 x 187.9 cm)	74 x 44 x 79” (188 x 112 x 201 cm)
Clearance Dimensions (W x D x H)	38 x 40 x 75” (96.5 x 101.6 x 190.5 cm)	52 x 42 x 80” (132.1 x 106.7 x 203.2 cm)	145 x 130 x 80” (368 x 330 x 203 cm)
Canister Dimensions (Inner Diameter x Length)	9.75 x 7” (24.77 x 18 cm) Carboard Tube w/ Plastic Plugs, 1 per unit	8.5 x 10” (21.59 x 25.4 cm) Carboard Tube w/ Plastic Plugs, 5 per unit	12 x 13” (30.48 x 33.02 cm) Carbon fiber material, 5 per unit
Equipment Weight	1,350 lbs. (612 kg)	2,450 lbs. (1,111 kg)	5,700 lbs. (2,585 kg)
Power Requirements	208/240 VAC, 40 Amp, Single Phase	208/240 VAC, 40 Amp, Single Phase	208 VAC +/- 5% 3 phase, 50/60Hz, 40 Amp, True Earth Ground available

Specification	RS® 420 XL	RS® 420 Q+ BOOST	RS® 420 MAX
Processing Guidelines	Up to 50 lbs. / Cycle Approx. 10hr. / Cycle	Up to 25 lbs. / Cycle Approx. 5hr. / Cycle	Up to 80 lbs. / Cycle Approx. 5hr. / Cycle
Equipment Dimensions (W x D X H)	73 x 50 x 78” (186 x 127 x 198 cm)	61 x 44 x 80” (155 x 112 x 204cm)	93 x 60 x 72” (237 x 153 x 183cm)
Clearance Dimensions (W x D x H)	78 x 53 x 83” (198 x 135 x 211 cm)	133 x 130 x 82” (338 x 331 x 209cm)	165 x 146 x 74" (420 x 371 x 188cm)
Canister Dimensions (Inner Diameter x Length)	12 x 24.8” (30.48 x 62.99 cm) Carboard Tube w/ Plastic Plugs, 5 per unit	12 x 13” (30.48 x 33.02 cm) Carbon fiber material, 5 per unit	16 x 23” (40.64 x 58.42 cm) Carbon fiber material, 4 per unit
Equipment Weight	5,600 lbs. (2,540 kg)	5,700 lbs. (2,585 kg)	10,400 lbs. (4,717 kg)
Power Requirements	208/240 VAC, 60 Amp, Single Phase	208 VAC +/- 5% during operation, 50/60 Hz, 40 A, 3 Phase, True Earth Ground required	208 VAC +/- 5% during operation, 50/60Hz, 60A, 3 Phase True Earth Ground required

*All processing guidelines are based on product density & 2000 Gy dose.
Results may vary based on the product bioburden load and microbial strain.

All units require an external closed loop chiller.