

	Extraction Equipment Approval		510-930
	AUTHORED BY: Life Safety Chief Ty Drage		EFFECTIVE DATE: 10/01/2017
	APPROVED BY: Fire Chief Ron Bateman		REVISION DATE: Scheduled 01/01/2019

Owners and operators, along with their employees, agents, and assigns, assume all risks arising from or related to the operation or maintenance of a marijuana and/or hemp facility. Front Range Fire Rescue assumes no liability for any such operation or maintenance through the adoption and enforcement of this policy.

Front Range Fire Rescue only allows the installation and operation of extraction equipment that has been approved for use by the Denver Fire Department. If applicable codes and standards have not been specifically established by Front Range Fire Rescue or the local municipality, or are not specifically addressed by the adopted International Fire Code, then the current codes and standards of the City and County of Denver shall apply. The application/operator shall provide proof of Denver Fire Department approval for each piece of equipment, as well as photographs showing the equipment installed in its approved location. Photographs shall be provided to show sufficient detail of all sides of the equipment so that correct installation can be verified by FRFR personnel. It may be necessary for FRFR to involve third party reviewers and/or inspectors to verify equipment installation. The applicant shall be responsible for all costs associated with third party involvement.

The following information has been copied directly from the Denver Fire Department's Informational Bulletin 2015-001-4, regarding extraction equipment approvals, to assist applicants with the equipment approval process.

In accordance with 2016 Denver Fire Code 5003.3.2.3 extraction equipment using hazardous materials shall be *Listed* or *Approved*. Where no equipment listing criteria exist, equipment manufacturers can submit a Master Engineering Report for approval of their equipment. This approval method has typically only included liquified petroleum gas (LPG) and carbon dioxide (CO₂) equipment. Listings have been available for flammable liquid extraction equipment. The engineering report is required by Denver Fire Code 104.7.2 and shall be signed and sealed by the responsible Colorado licensed Professional Engineer. A site specific letter signed and sealed by the engineer responsible for the master engineering report is required prior to final approval of equipment for use. The letter shall identify that the equipment on site meets the approved master engineering report and additional include the location address, make and model number, serial number, and any other pertinent information specific to that equipment such as optional equipment features.

All equipment shall be operated strictly in accordance with the manufacturer's instructions. Any modification of equipment from the approved engineering report/listing (i.e., repiping the system, addition of pumps, replacing components, using unapproved gases, etc.) voids the approval of the extraction equipment.

Below is extraction equipment that has an approved master engineering report. Note that this list does not grant approval for use without additional safety requirements such as exhaust systems, gas detection, operational permits, building occupancy permits, etc. These approvals also do not include filling equipment supply tanks. Please consult the manufacturer for the site specific letter. Note that the State of Colorado Marijuana Enforcement Division requires an equipment approval letter to be maintained on site. The site specific letter is in addition to this state requirement.

Due to changing Fire Code requirements in 2016 for LPG extraction rooms to be classified as Class 1/Division 1 locations, electrified LPG recovery pumps (i.e., CareSaver) will no longer be permitted for use in LPG extraction systems after October 2016. Equipment can be operated passively or with manufacturer-approved Haskel pumps as noted below.

	MANUFACTURER	MODEL #	SOLVENT
1	Emotek Labs	Obe (Haskel)	Butane
2	APEKS Supercritical	1500-1L, 1500-5L, 1500-20L, 5000-5L, 5000-20L	CO ₂
3	Waters Corporation	SFE 2X5	CO ₂
4	Extraction Tek Solutions	1300 LHBES 1300/C (Haskel)	Butane or Propane
5	Isolate Extraction Systems	ISO-CD2500, ISO-CD5000, ISO-CD10000	CO ₂
6	MC Machinery	The Incredible Extractor	Butane
7	APEKS Supercritical	1500-20LE, 1500-5LE	CO ₂
8	Eden Labs	5L-2000, 20L-2000, 5L-5000, 20L-5000, Vegas 1, Vegas 5000	CO ₂
9	Isolate Extraction Systems	LP1000, LP250	Butane or Propane
10	Delta 9	B1000 (Haskel)	Butane
11	PIC Solutions	PICLAB 400	CO ₂
12	Universal Grow Controls	Kelvinator	Butane
13	5 th Dimension	710.005	Butane
14	Sweet Leaf Technologies	Approval Revoked 10/27/2016	NA
15	Edipure EPM LLC	EA-H	CO ₂
16	Precision Extraction Solutions	PX1, V2016 PX1 (Haskel)	Butane or 50/50 Butane/Propane mix
17	Colorado Extractions LTD	071-KJ (Haskel)	Butane or Propane
18	Extraction Tek Solutions	MeP-HCU/C, mMEP	Butane or Propane
19	Strainz	SCE-1100-A	CO ₂
20	Newport Scientific	46-19365-X	CO ₂

Revision History:

08/03/2017 Original documented developed

References:

Denver Fire Department – Extraction Equipment Approvals