



Backflow Bulletin #2

BOILERS & PRESSURE VESSELS

Hydronic Heating

* DuC = Dual Check Valve w/Atmospheric Vent (ASSE 1012 or ASSE 1022)
 * RP (aka RPZ) = Reduced Pressure Zone Backflow Preventer
 * AG = Air Gap or Break Tank
 * (v) = Often approved on retrofit situations

- **Commercial Boiler – High Pressure...above 30psi**
Must have an air gap or break tank
- **Commercial Hot Water Boiler - No Chemicals**
Low pressure, hot water boiler, no additives or means to add chemicals
- **Commercial Hot Water Boiler - No Chemicals But Has the Capability**
May not have chemicals but has provisions to add chemicals
- **Commercial Hot Water Boiler - Chemicals**
Contains anti-freeze, corrosion inhibitors, cleaners, has a snow melt system, etc
- **Commercial Steam Boiler - Chemicals or No Chemicals**
Almost all steam boilers require additives to keep the water from surging.
- **Commercial Boiler with Solar Panels**
Heat exchanger should be double-walled per Plumbing Code. If not, RP or AG
- **Residential Steam Boiler - Chemicals or No Chemicals**
Almost all steam boilers require additives to keep the water from surging.
- **Residential Hot Water Boiler with Solar Panels**
Heat exchanger should be double-walled per Plumbing Code. If not, must be RP
- **Residential Hot Water Boiler with Snow Melt**
Generally will have anti-freeze in the system (toxic chemicals require an AG or Break Tank
- **Residential “Small” Hot Water Boiler without Snow Melt** Protection is not req'd but is recommended
Under 200,000 btu, no chemicals or means to put chemicals into the boiler
- **Residential “Large” Hot Water Boiler without Snow Melt**
Over 200,000 btu, no chemicals (toxic chemicals require an air gap or break tank)

	DuC	RP	AG
			✓
(v)	✓	✓	✓
		(v)	✓
		(v)	✓
		(v)	✓
(v)	(v)	✓	✓
(v)	(v)	✓	✓
(v)	(v)	✓	✓
	none req'd	none req'd	none req'd
✓	✓	✓	✓

Note that an air gap or break tank is always best!

Miscellaneous:

- ▶ ALWAYS check with your local Water Purveyor, Building Department, and/or Inspection Department
- ▶ MANY communities have stricter policies, regulations and/or ordinances
- ▶ ALL backflow preventers must be tested annually.
- ▶ RP installations must be high enough above the floor or ground to allow for an air gap below the relief valve.
- ▶ Backflow preventers shall not be installed in pits, be no higher than 5' and shall be fully accessible

NOTE: The reference code for Chicago is 18-29-608 and its sub part. Chicago is much more stringent