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Seek advice from the start to avoid overvaluation or undervaluation a backflow prevention device

Selecting the right backflow prevention device is crucial to avoid contamination of drinking water. For this, it is necessary to master CSA B64.10-17 – Selection and Installation of Backflow Preventers. It is recommended to call upon experts at the beginning of the project to minimize the costs of purchase, installation, or annual maintenance.

Several applications are connected directly to the building's drinking water network. They do not present the same level of risk, and this must be considered when choosing a backflow prevention device. B64.10-17 refers to three levels of risk: low, medium, and high. A low risk reduces the aesthetic quality of the water. A medium risk, in addition to reducing the aesthetic quality, can be dangerous to health in certain cases. A high risk presents an insured health hazard. For example,



a coffee machine directly connected to a drinking water supply represents a very low hazard compared to a detergent dispenser or a hot water heating system.

To select the appropriate backflow prevention device, the following is required:

- Have an excellent knowledge of existing models and their specific functionalities,
- Correctly identify the level of risk of the application to be protected,
- Evaluate annual recurring maintenance costs.

Refer to the guide to the selection and installation of a backflow prevention device from B64.10-17.

Désig. norme				Niveau de risque			Type de protection		Pression continue	Entretien requis	
CSA	ASSE	Type de dispositif antirefoulement		Faible	Modéré	Élevé	Siphonnement	Contre-pression		Certification annuelle	Inspection visuelle annuelle
-	-	CA	Coupure antiretour	✓	✓	✓	Oui	-	Non	-	Oui
B64.1.1	1001	C-VA	Casse-vide atmosphérique	✓	✓	✓ ¹	Oui	Non	Non	-	Oui
B64.1.2	1020	C-VP	Casse-vide à pression	✓	✓	✓	Oui	Non	Oui	Oui	-
B64.1.3	1056	C-VPAD	Casse-vide à pression anti-déversement	✓	✓	✓	Oui	Non	Oui	Oui	-
B64.1.4		C-VEA	Casse-vide à espace d'air	✓	✓	✓	Oui	Non	Non	-	Oui
B64.2	1011	C-VRF	Casse-vide à raccordement de flexible	✓	✓ ²	✓ ¹	Oui	Non	Non	-	Oui
B64.2.1		C-VRF-	Casse-vide à raccordement de flexible à vidange manuelle	✓	✓ ²	✓ ¹	Oui	Non	Non	-	Oui
B64.2.1.1		C-VRFZC	Casse-vide à raccordement de flexible à deux clapets de retenue	✓	✓ ²	✓ ¹	Oui	Non	Non	-	Oui
B64.2.2		C-VRF	Casse-vide à raccordement de flexible à vidange automatique	✓	✓ ²	✓ ¹	Oui	Non	Non	-	Oui
B64.3	1012	DArOD	Dispositif antirefoulement à deux clapets de retenue à orifice de décharge	✓	✓ ²	-	Oui	Oui	Oui	-	Oui
B64.3.1	1022	DArODC	Dispositif antirefoulement à deux clapets de retenue à orifice de décharge pour carbonateur	✓	✓	-	Oui	Oui	Oui	-	Oui
B64.4	1013	DArPR	Dispositif antirefoulement à pression réduite	✓	✓	✓	Oui	Oui	Oui	Oui	-
B64.5	1015	DAr2CR	Dispositif antirefoulement à deux clapets de retenue et robinets	✓	✓	-	Oui	Oui	Oui	Oui	-
B64.6	1024	DAr2C	Dispositif antirefoulement à deux clapets de retenue	✓	-	-	Oui	Oui	Oui	-	Oui
B64.7	1035	C-VRL	Casse-vide pour robinet de laboratoire	✓	✓ ²	✓ ¹	Oui	Non	Non	-	Oui
B64.8	-	DAr2CV	Dispositif antirefoulement à deux clapets de retenue à ventilation intermédiaire	✓	✓ ²	-	Oui	Oui	Oui	-	Oui

¹ Si le dispositif antirefoulement recommandé est utilisé pour ce genre de risque, une protection de zone au moyen d'un DArPR ou d'une coupure antiretour doit également être fournie.

² Si le dispositif recommandé est utilisé pour ce genre de risque, une protection de zone ou d'aire au moyen d'un DA2CR, d'un DArPR ou d'une coupure antiretour doit également être fournie. Tiré de la norme CSA B64.10-17 Sélection et installation des dispositifs antirefoulement

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Consequences of overvaluation or undervaluation of a backflow prevention device

The selection of a backflow prevention device is **overvalued** for one or more of these reasons:

1. The application connected to drinking water represents, according to the standard, a low risk while the backflow prevention device that protects it is designed for a higher level of risk,
2. A verifiable backflow prevention device has been installed instead of a non-verifiable device,
3. More backflow prevention devices than necessary have been installed to protect the risk.



In the first example, it is common that a reduced pressure backflow prevention device (DARPR) is installed, as it is known to provide maximum protection. However, the installation standards of this device require the presence of a floor drain to evacuate water in the event of a flow, which is not applicable in all situations. Additional costs are then required to make the installation compliant. Before choosing this solution, make sure that no other device is better suitable.

To illustrate the second example, it is not uncommon for a coffee machine to be protected by a pressure vacuum breaker (CV-P), which requires annual certification by a certified backflow prevention device verifier. However, a two-valve backflow prevention device (DAR2C) would have done the trick, especially since it is not required to be certified annually.

As for the third example, an error to avoid is to isolate each application individually when zone protection would have been possible. Zone protection should be avoided if an application requires clean water for human consumption. However, it can be advantageous and less expensive in several other situations.

In all three cases, the costs of purchase, installation or annual maintenance will be inflated, hence the importance of selecting the right device from the start.

Conversely, if the selection of the backflow prevention device has been **undervalued, meaning** it is designed to protect a lower type of risk than the one for which it is used, this may result in a potential danger of contamination of drinking water.

The selection of the right backflow prevention device must be taken seriously. [Our experts will be happy to guide you!](#)

