

TABLEAUX DE SÉLECTION MITIGEURS

Pour se retrouver dans les tableaux de sélection de mitigeurs CALEFFI, nous vous proposons l'exemple suivant :

Un gymnase de 15 douches + 15 lavabos à desservir en eau chaude sanitaire (ECS). Il nous faut sélectionner un mitigeur de boucle pour ce bâtiment.

Étape 1 : définir le débit d'ECS du bâtiment

- débit cumulé (Fig.1) :
 $(15 \text{ douches} \times 12 \text{ l/min}) + (15 \text{ lavabos} \times 12 \text{ l/min}) = 360 \text{ l/min}$ débit cumulé

- coefficient de simultanéité :

formule : $(0,8 / (\text{nb appareils} - 1)^{0,5}) \times \text{coeff de majoration}$
 (Fig.2) = $(0,8 / (30 - 1)^{0,5}) \times 1,5 = 0,223$

- débit ECS de projet :

débit cumulé x coeff. de simultanéité
 $360 \times 0,223 = 80,3 \text{ l/min}$

Étape 2 : à l'aide de la valeur du débit ECS de projet, se reporter dans la plage optimum des mitigeurs.

Ensuite différents critères se présentent :

- le débit mini du mitigeur, qui doit être inférieur au débit de bouclage
- le Kvs, permettant de calculer la perte de charge du mitigeur
- d'autres valeurs comme la plage de $T^{\circ}\text{C}$ ou encore la présence de clapets/filtres, ...

Pour notre exemple, nous choisirons la plage de débit optimum $63 \div 96 \text{ l/min}$.

débit mini : 13 l/min ; soit débit bouclage $> 780 \text{ l/h}$
 Kvs : $6,9 \text{ m}^3/\text{h}$; soit pdc mitigeur : $0,49 \text{ bar}$ ($\Delta p = Q^2 / K_v^2$)
 Plage $T^{\circ}\text{C}$ $35 \div 65$, racc. 1" et clapets antiretour

-> mitigeur thermostatique code 523053

Nous aurions également pu choisir un mitigeur électronique, utile pour le suivi des températures (carnet sanitaire) dans le cas d'un ERP comme un gymnase. Code 600053.

Fig.1 - débit selon appareil - source DTU 60.11

Appareils	Débit		
	I/s	I/min	I/h
évier	0,20	12,0	720
lavabo	0,20	12,0	720
bidet	0,20	12,0	720
baignoire	0,33	19,8	1188
douche	0,20	12,0	720
lave mains	0,10	6,0	360
bac à laver	0,33	19,8	1188
Poste d'eau robinet 1/2"	0,33	19,8	1188
Poste d'eau robinet 3/4"	0,42	25,2	1512

Fig. 2 - coefficient de majoration selon destination du bâtiment source "Calculs Pratiques de Plomberie Sanitaire", G. Dubreuil-A. Giraud, éditions parisiennes 2008

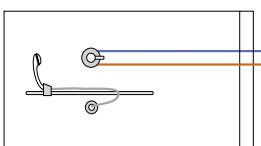
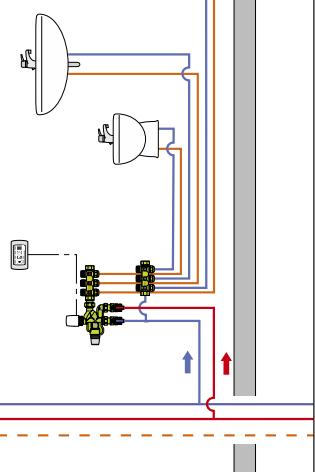
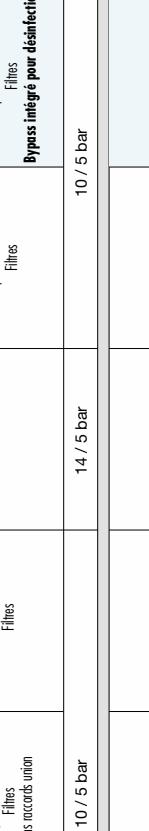
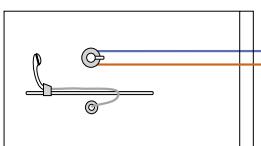
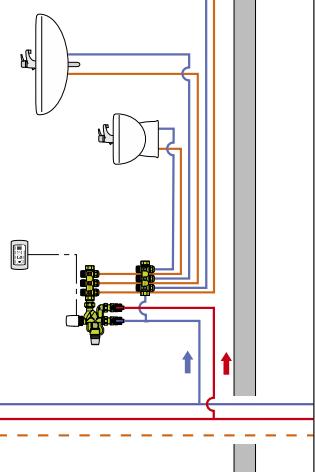
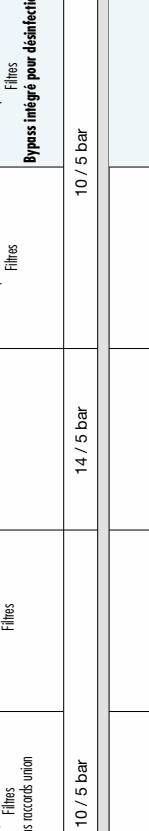
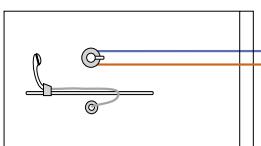
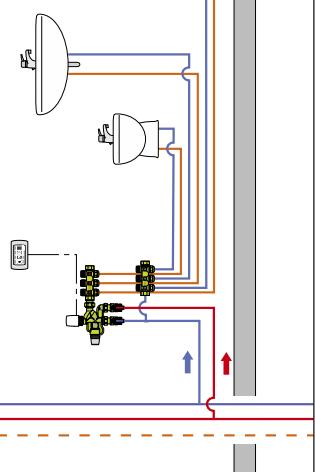
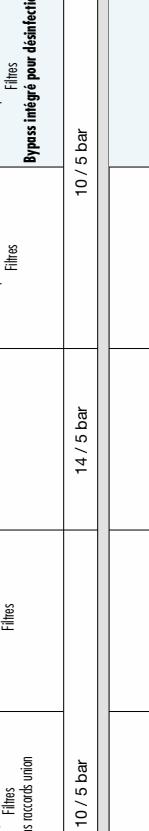
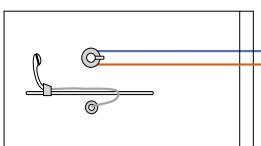
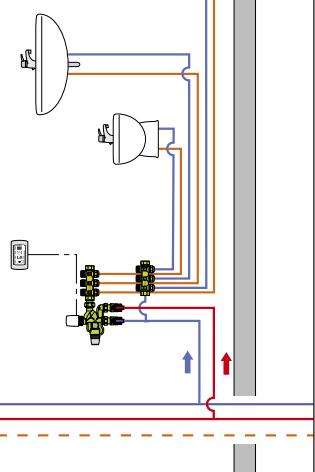
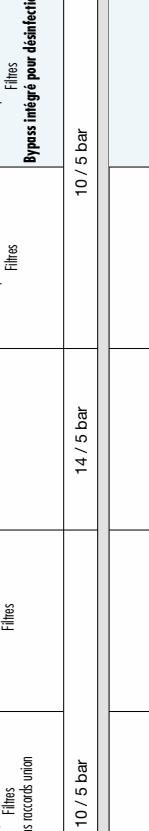
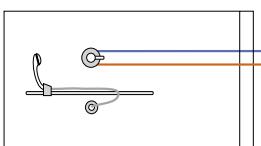
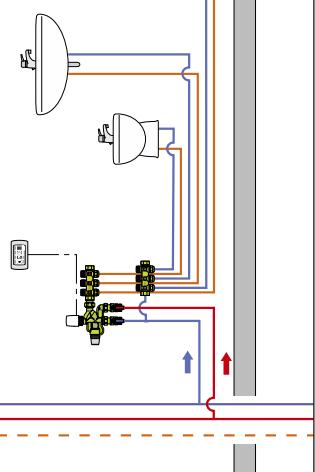
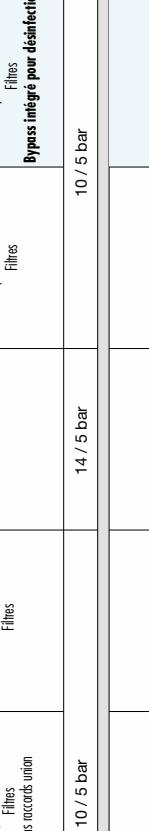
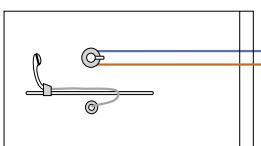
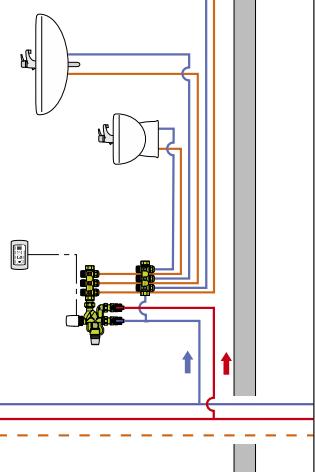
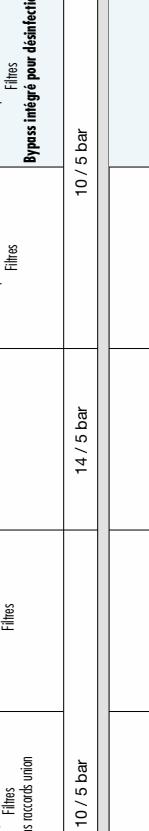
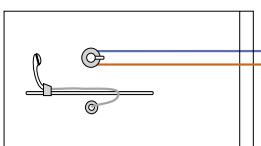
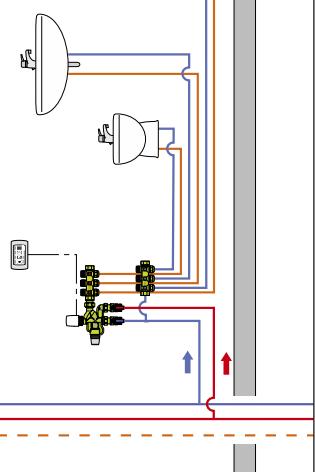
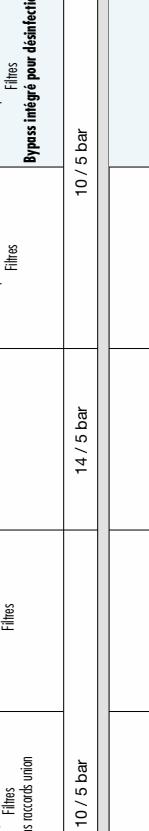
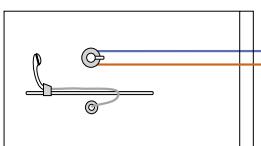
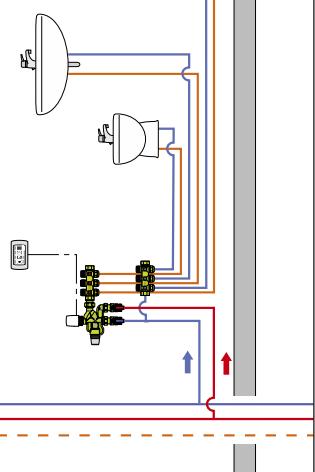
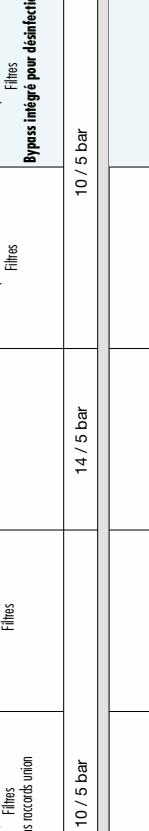
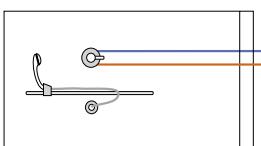
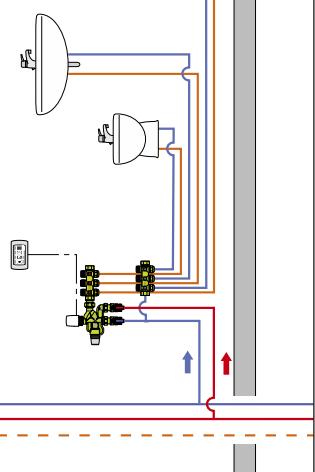
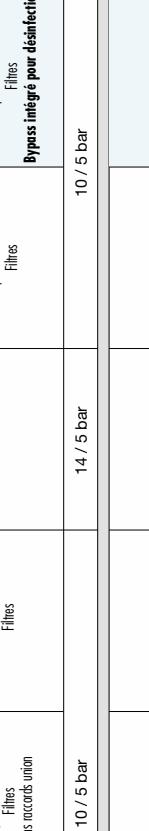
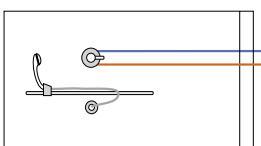
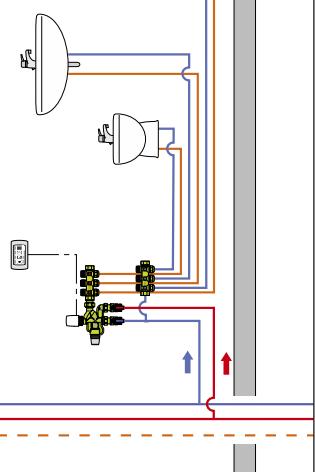
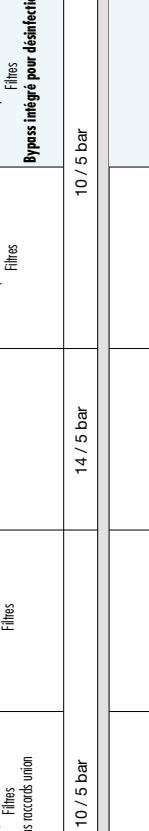
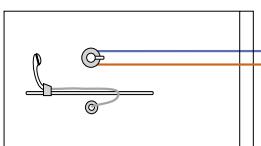
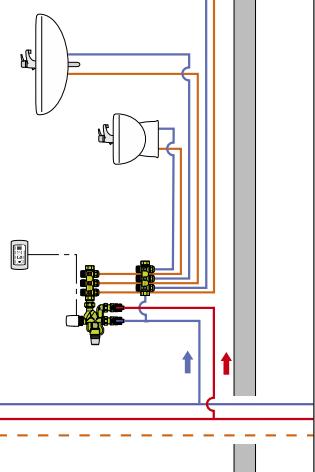
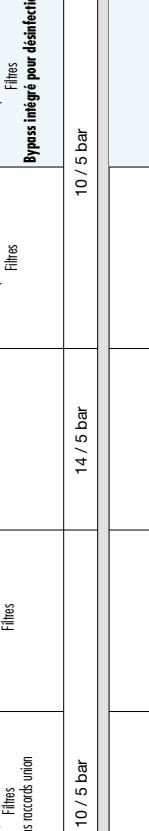
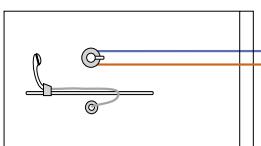
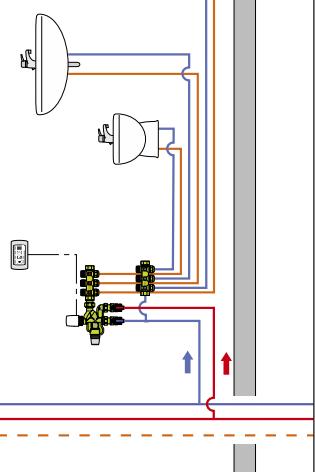
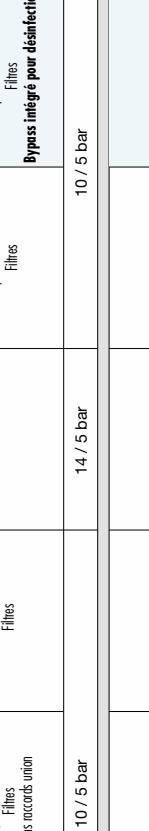
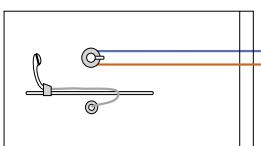
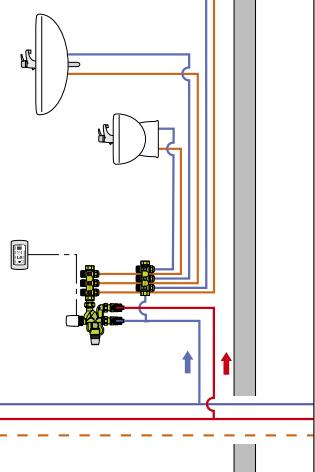
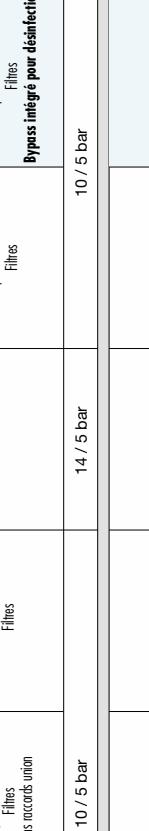
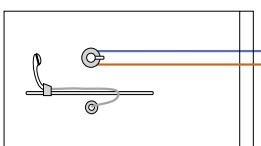
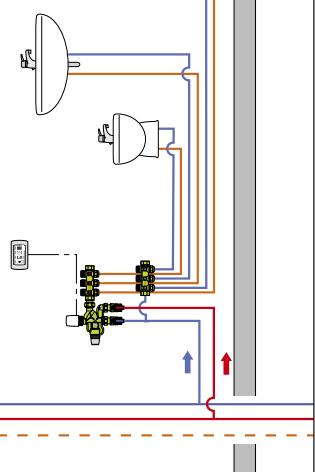
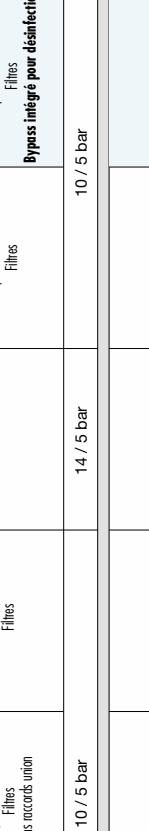
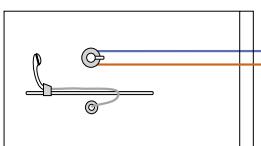
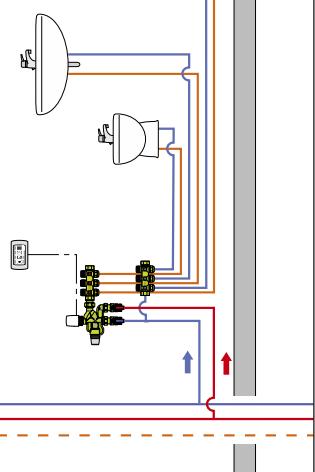
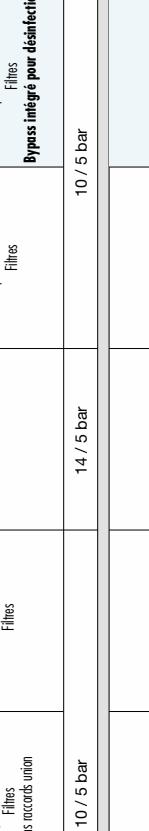
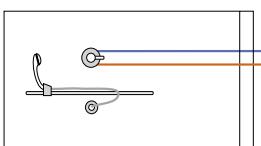
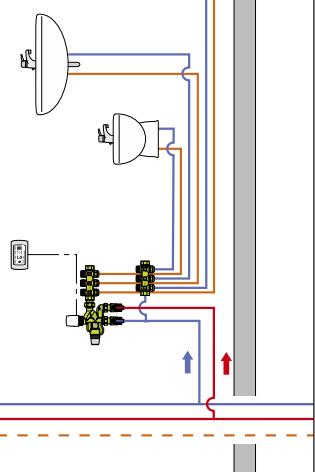
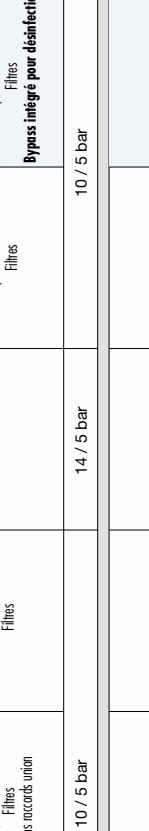
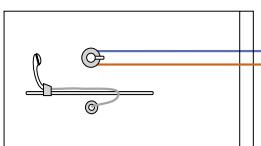
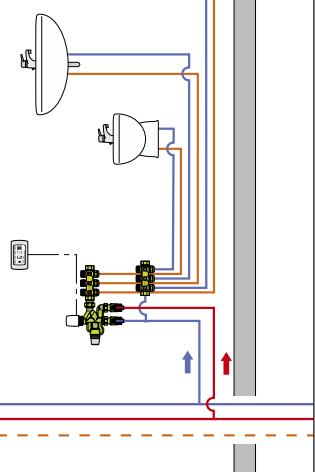
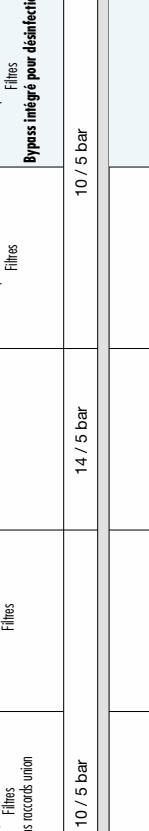
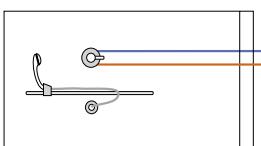
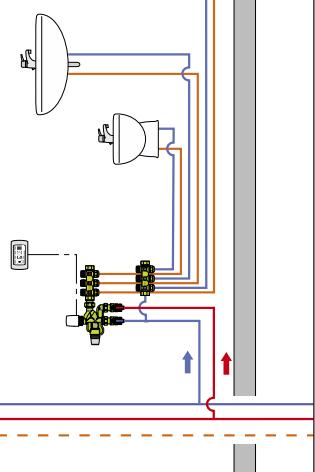
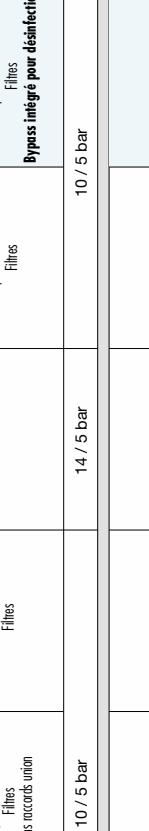
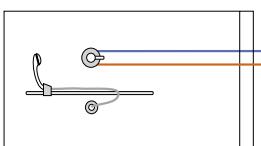
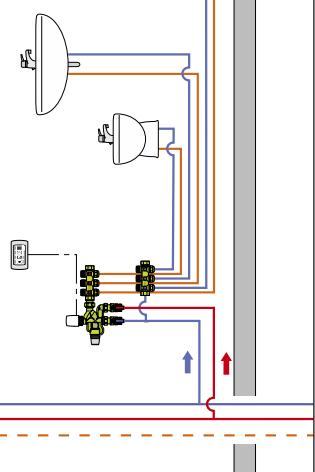
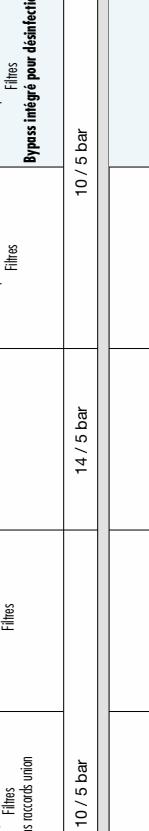
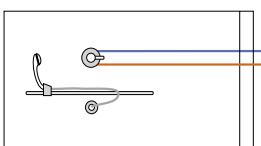
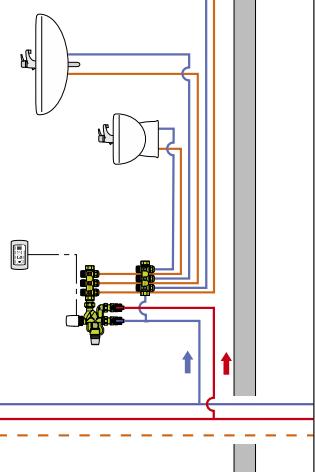
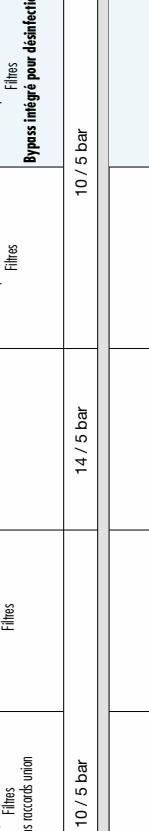
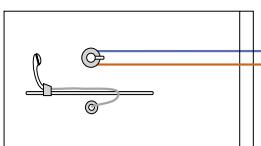
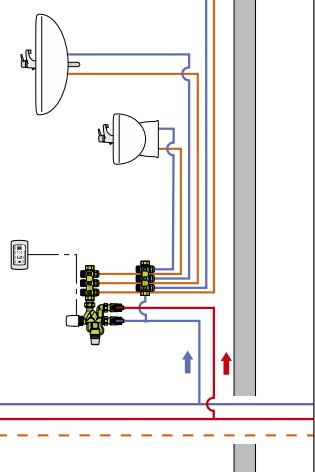
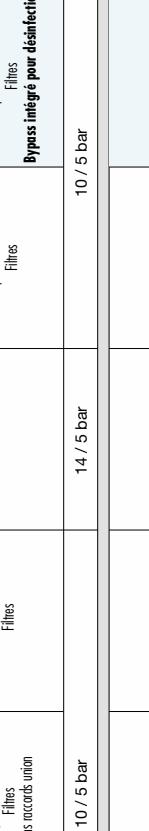
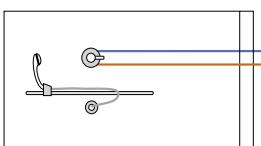
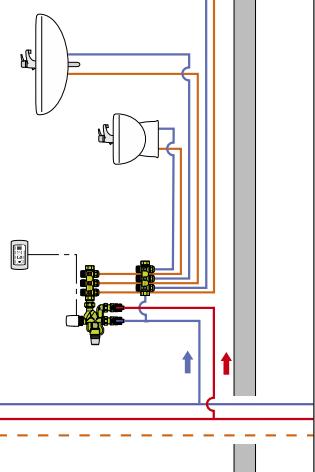
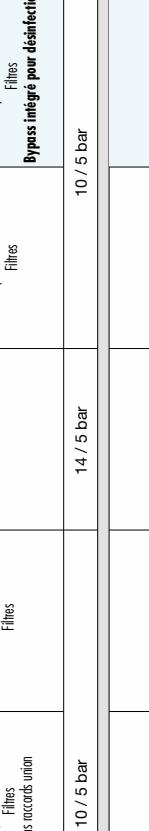
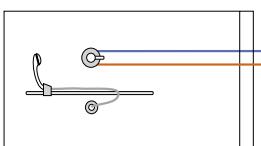
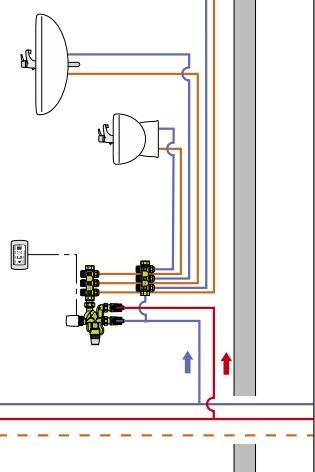
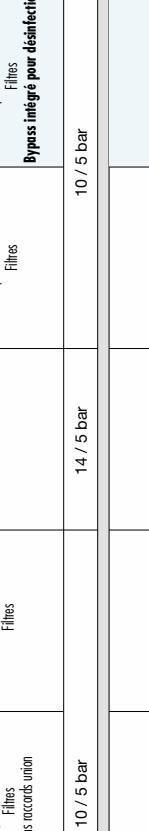
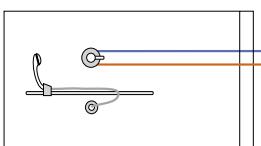
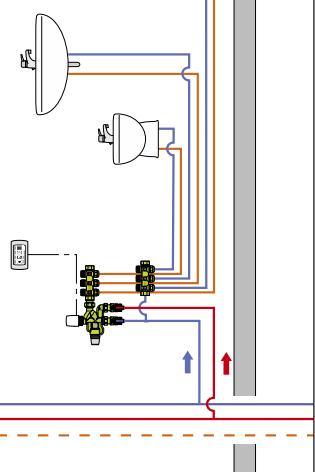
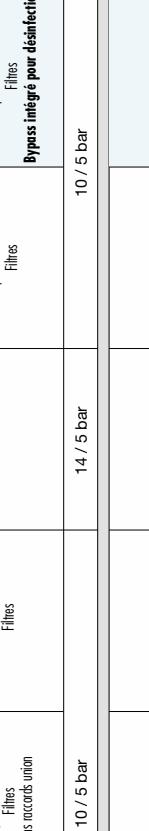
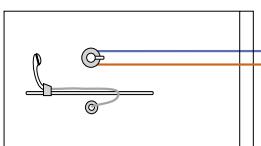
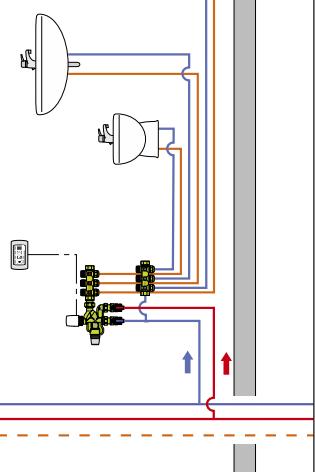
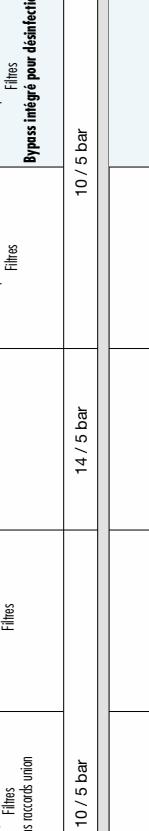
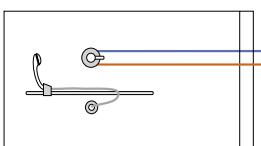
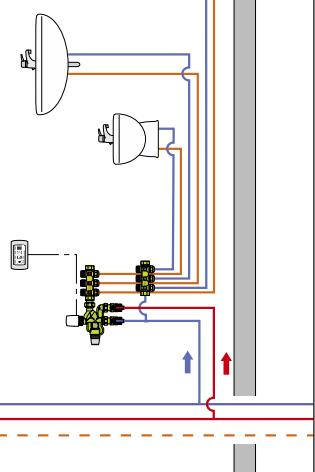
Appareils	Coefficient de majoration				
	1	1,25	1,5		
<i>hôpitaux</i>					
<i>maison de retraite</i>					
<i>EHPAD</i>					
<i>bureaux</i>					
<i>logements</i>					
<i>Hôtel</i>					
<i>Écoles</i>					
<i>Internats</i>					
<i>Gymnases</i>					
<i>Hôtel standing</i>					
<i>Sanitaires publics</i>					
<i>Casernes</i>					

Type d'installation	Moyennes et grandes surfaces		
	Mitigeurs thermostatisques		
5230	5231	6000 LEGIOMIX	
			
85°C		100°C	
Cartouche extractible Clapets anti-retour	Régulateur polymère	Régulateur électronique + vanne mélangeuse à sphère	
14 / 5 bar			

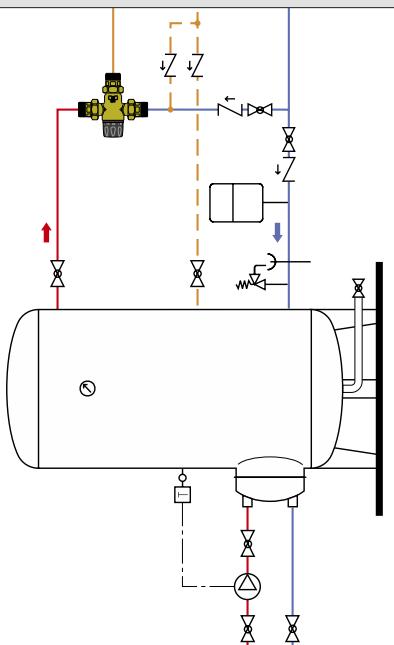
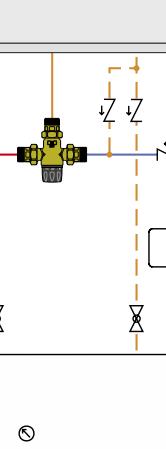
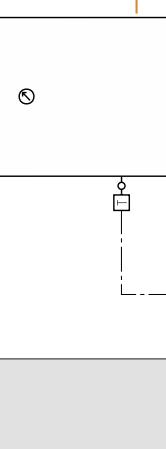
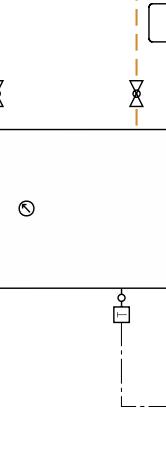
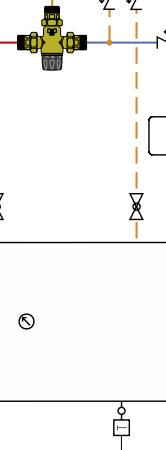
Kvs m³/h	Plages d'utilisation l/min (1)		Rapport de pression C/F & F/C	Plage de réglages °C	Raccords	Clapets	Filtres
	mini (2)	Optimum					
4,5	8	41 ÷ 63	2:1	30 ÷ 65	● ● ● 3/4" M	●	
	10			35 ÷ 65			
5,5	13	50 ÷ 77	2:1	35 ÷ 65	● ● ● 1" M		
	13			30 ÷ 65		●	
6,9	13	63 ÷ 96	2:1	35 ÷ 65	● ● ● 1" M		
	13			30 ÷ 65			
7,6	17	69 ÷ 106	2:1	35 ÷ 65	● ● ● 1 1/4" M		
	20			35 ÷ 85		●	
7,7	20	70 ÷ 107	2:1	30 ÷ 65	● ● ● 1 1/4" M	●	
	20			20 ÷ 85		●	
8,4	8	77 ÷ 117	2:1	30 ÷ 65	● ● ● 3/4" M		
	17			30 ÷ 65		●	
9,1	17	83 ÷ 127	2:1	30 ÷ 65	● ● ● 1 1/4" M		

523053		
523050		
523150		
523160		
523063		
523060		
523170		
600053		
523073		
523070		

CHOIX DES MITIGEURS

Type d'installation		Petites installations Kv≤ 3,0 m³/h				Mono ou multipostes avec ou sans bouchage			
N° Série et sens des fluides	5217 ↴	5217 ↴	5213 ↴	521 ↴	5219 ↴	5219 ↴	6005 LEGIOLFLOW ↴		
Température maxi								85°C	
Fonctions et équipements spécifiques								90°C	
Pressions statique/dynamique								85°C	
 		 				 			
 		 				 			
 		 				 			
 		 				 			
 		 				 			
 		 				 			
 		 				 			
 		 				 			
 		 				 			
 		 				 			
 		 				 			
 		 				 			
 		 				 			
 		 				 			
 		 				 			
 		 				 			
 		 				 			
 		 				 			
 		 				 			
 		 				 			
 		 				 			
 		 				 			
 		 				 			
 		 				 			
 		 				 			
 									

CHOIX DES MITIGEURS

		Moyennes et grandes installations Kv jusqu'à 120 m³/h				Mitigeurs électroniques programmables pour désinfection thermique			
		5230	5231	524	6000 LEGIOMIX 2.0	6000 LEGIOMIX	6000 LEGIOMIX 2.0	6000 LEGIOMIX	
Type d'installation	N° Série et sens des fluides								
Température maxi									
Fonctions et équipements spécifiques									
Pressions Statique/ Dynamique									

CHOIX DES MITIGEURS

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//; plage optimale correspondant à une plage de débit pour une chute de pression comprise entre 0,3 et 0,1 bar. Le débit max est pour une chute de pression