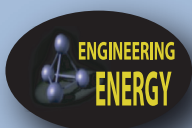


SYMBOLES ELECTROTECHNIQUE ET ENERGETIQUE

Description :

Ce dossier contient les symboles les plus couramment utilisés, quelque soit le domaine d'activité

Réalisé par :



ENGINEERING ENERGY

16 / 18 Rue Germaine - 91330 Yerres

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Date de réalisation : **04.12.2006**

Dessiné par : **D.YESILDEPE
& K.FOULHOUX**

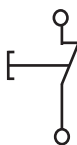
SOMMAIRE

A - Symboles

- 1 - Electrique
- 2 - Chauffage
- 3 - Régulation
- 4 - Hydraulique
- 5 - Froid et climatisation
- 6- Aéraulique



Bouton Poussoir NO



Bouton poussoir NC



Bouton rotatif



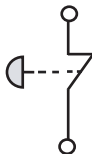
Protection NC thermique



Protection NO thermique



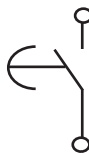
Interrupteur NO par poussoir "coup de poing"



Interrupteur NC par poussoir "coup de poing"



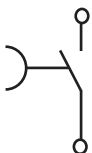
lampe ou leds



Contact NO temporisé à la fermeture



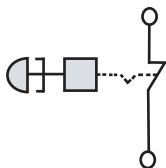
Contact NC temporisé à l'ouverture



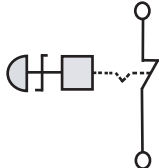
Contact NO temporisé à l'ouverture



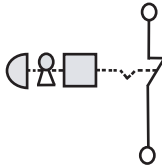
Contact NC temporisé à la fermeture



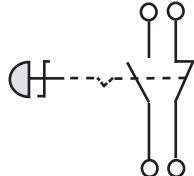
Arrêt d'urgence à verrouillage brusque.Tirer pour déverrouiller NC



Arrêt d'urgence à verrouillage brusque. Tourner pour déverrouiller NC



Arrêt d'urgence à verrouillage brusque. Déverrouillage à clé NC



Arrêt d'urgence. Tourner pour déverrouiller. NC+NO



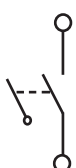
Contact NO à commande par clé



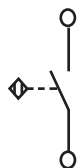
Contact deux positions avec position médiane d'ouverture



Contact deux positions



Contact NO à commande par levier



Contact NO à commande par proximité



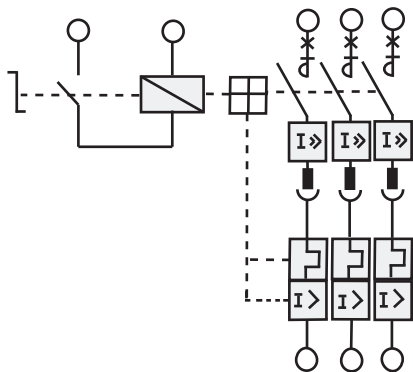
Contact NO de fin de course



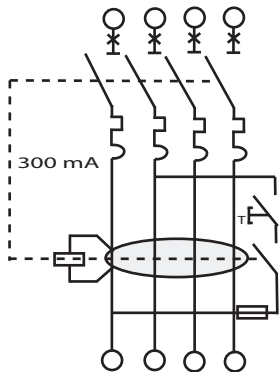
Contact NC de fin de course



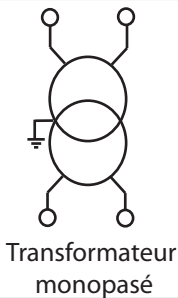
Contact NO à commande par comptage



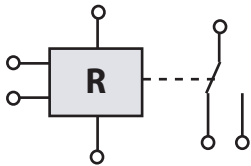
Disjoncteur Intégrale



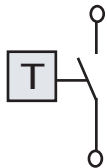
Disjoncteur différentiel Résiduel



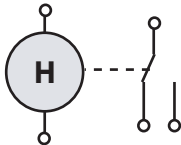
Transformateur monopasé



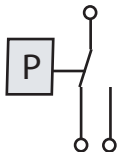
Régulateur



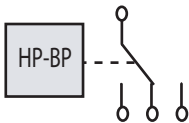
Thermostat



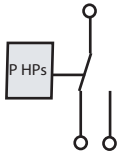
Horloge



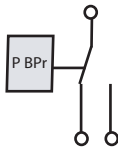
Pressostat



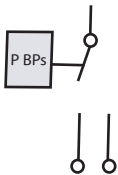
Pressostat HP-BP



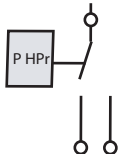
Pressostat haute pression
de sécurité



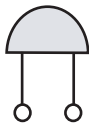
Pressostat basse pression
de régulation



Pressostat basse pression
de sécurité



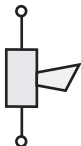
Pressostat haute pression
de régulation



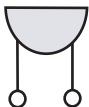
Sonnerie



Sirène



Klaxon



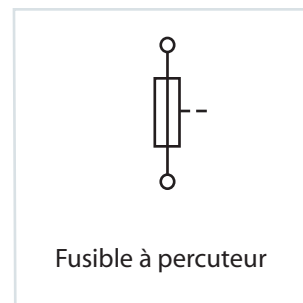
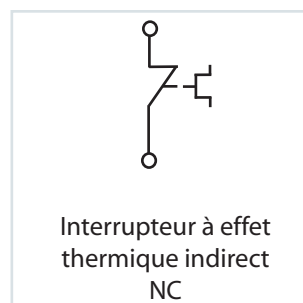
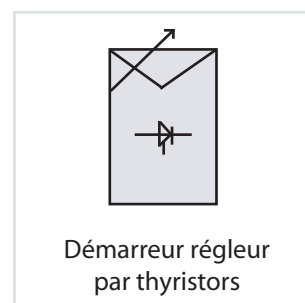
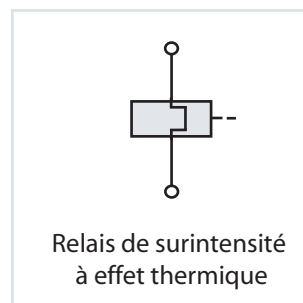
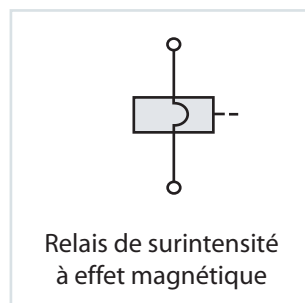
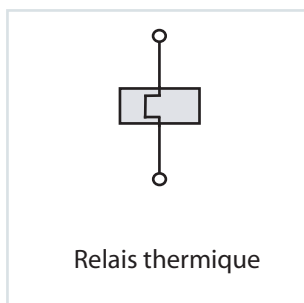
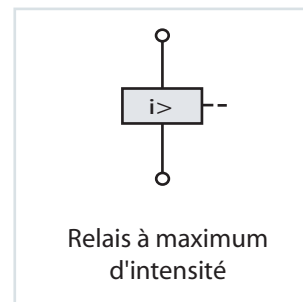
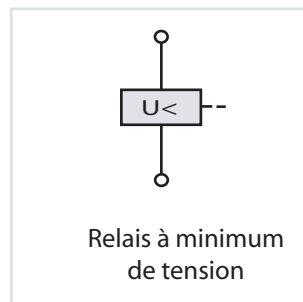
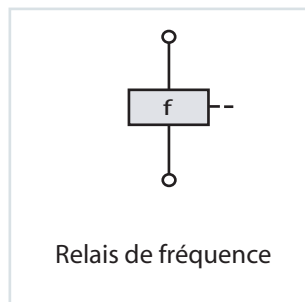
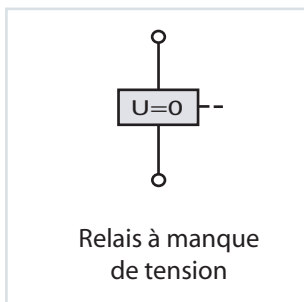
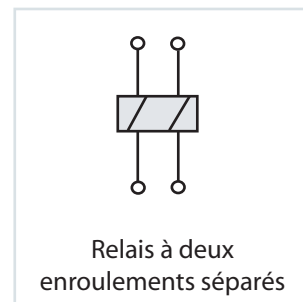
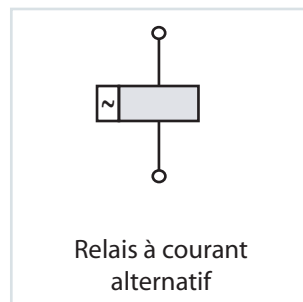
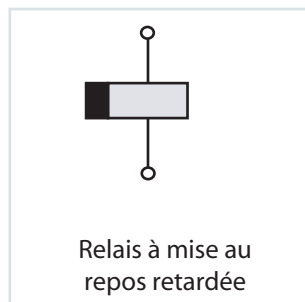
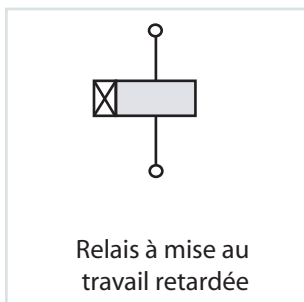
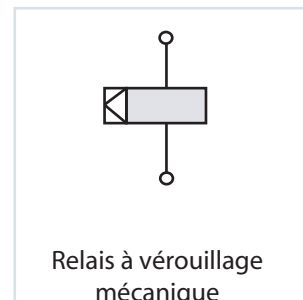
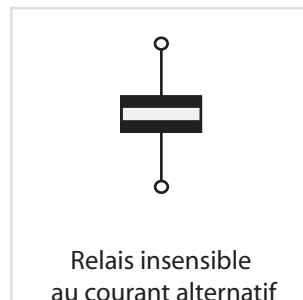
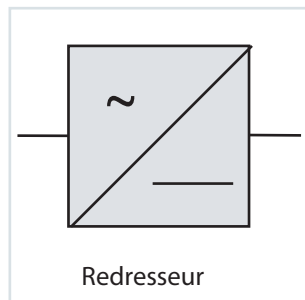
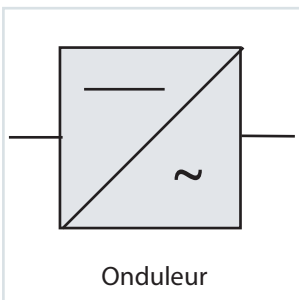
Ronfleur



Voyant
électromécanique

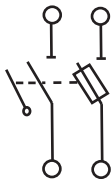


Résistance

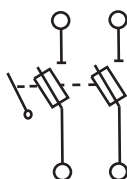




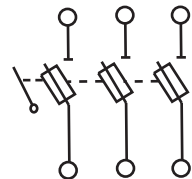
Sectionneur porte fusible
unipolaire



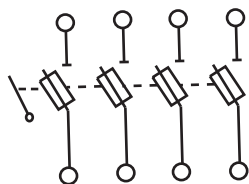
Sectionneur porte fusible
unipolaire + neutre



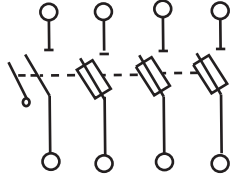
Sectionneur porte fusible
bipolaire



Sectionneur porte fusible
tripolaire



Sectionneur porte fusible
tétrapolaire



Sectionneur porte fusible
tripolaire + neutre



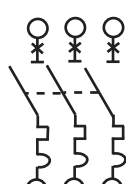
Disjoncteur
unipolaire



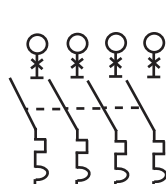
Disjoncteur
unipolaire + neutre



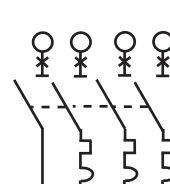
Disjoncteur
bipolaire



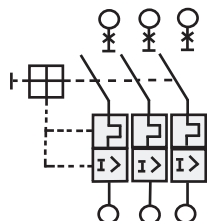
Disjoncteur
tripolaire



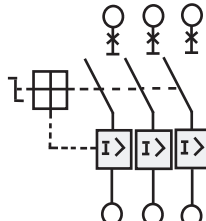
Disjoncteur
tétrapolaire



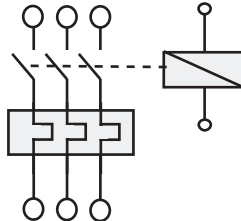
Disjoncteur
tripolaire + neutre



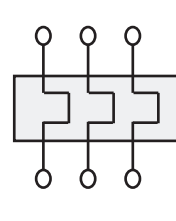
Disjoncteur
magnétothermique



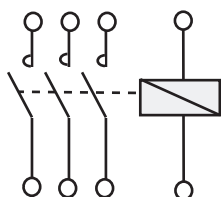
Disjoncteur magnétique



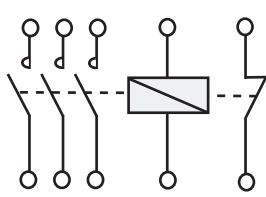
Bloc contacteur
relais thermique



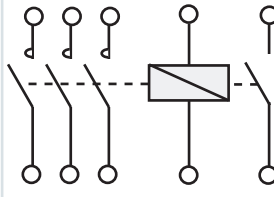
Relais thermique



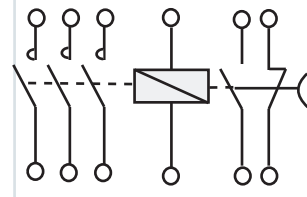
Contacteur triphasé



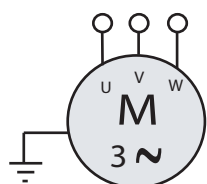
Contacteur triphasé
+ contact auxiliaire NC



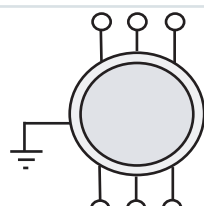
Contacteur triphasé
+ contact auxiliaire NC



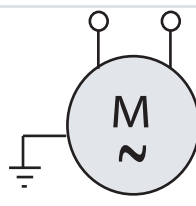
Contacteur triphasé
+ bloc temporisé NO+NC



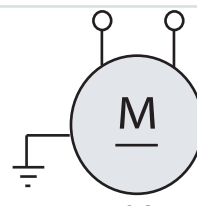
Moteur triphasé à
cage d'écureuille



Moteur triphasé à
rotor bobiné



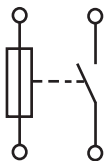
Moteur monophasé



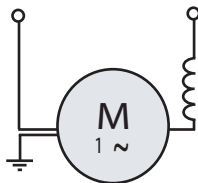
Moteur à courant continu



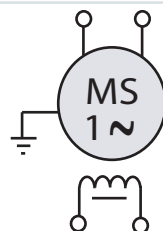
Fusible interrupteur
porte fusible



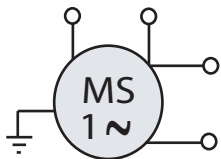
Fusible à percuteur
avec circuit de
signalisation



Moteur à collecteur
monophasé série



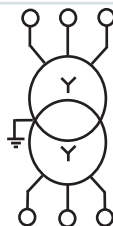
Moteur synchrone
monophasé



Moteur asynchrone
monophasé à phase
auxiliaire sortie et rotor
en cour-circuit



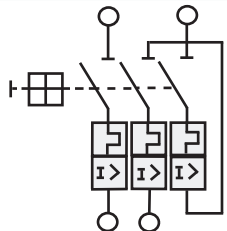
Transformateur
monophasé a deux
enroulements avec ecran



Transformateur
triphassé



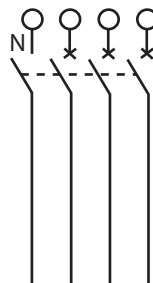
Autotransformateur



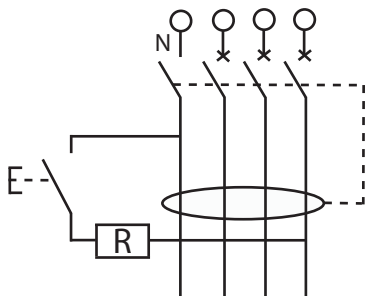
Disjoncteur magnéto-
thermique monophasé



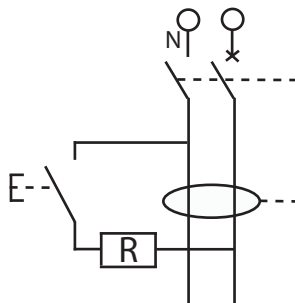
Disjoncteur de
branchement non-
différentiel / Bipolaire



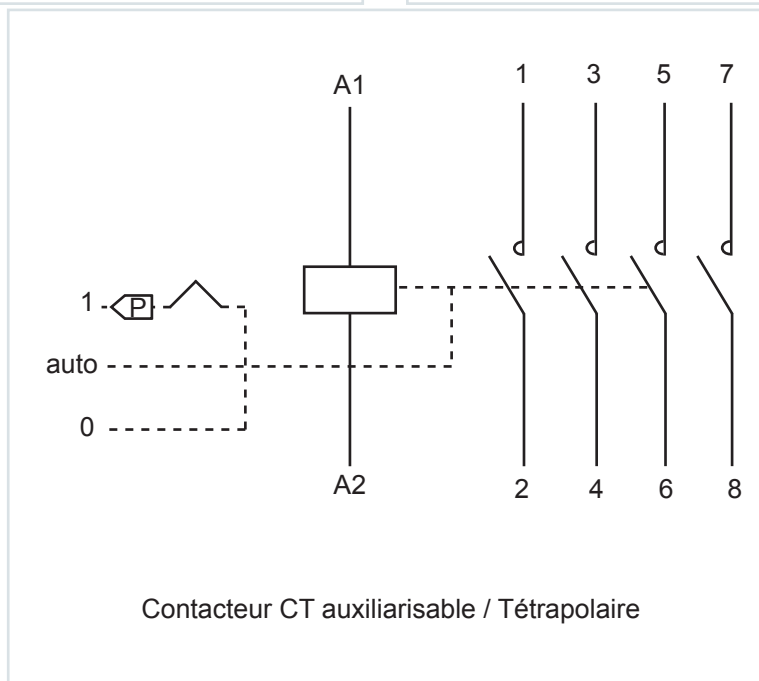
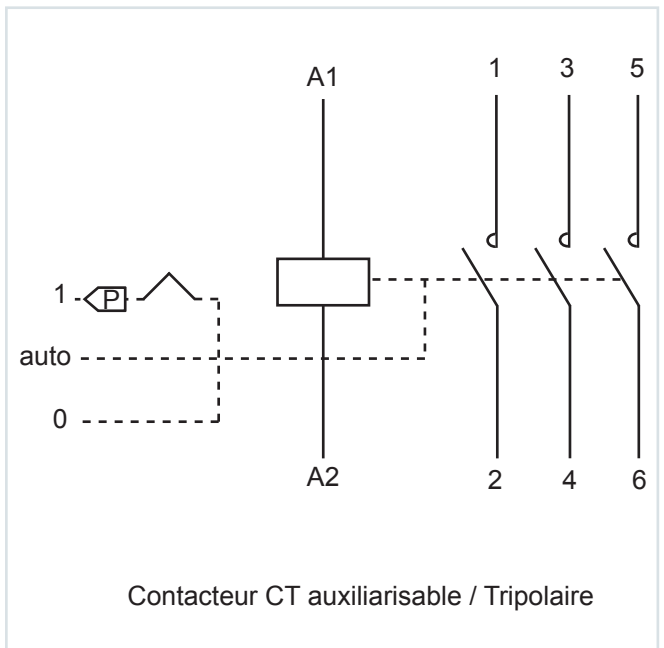
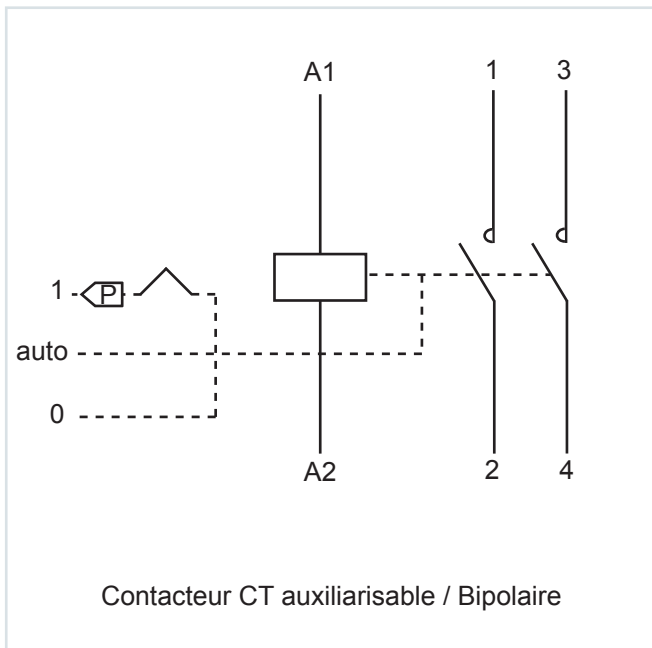
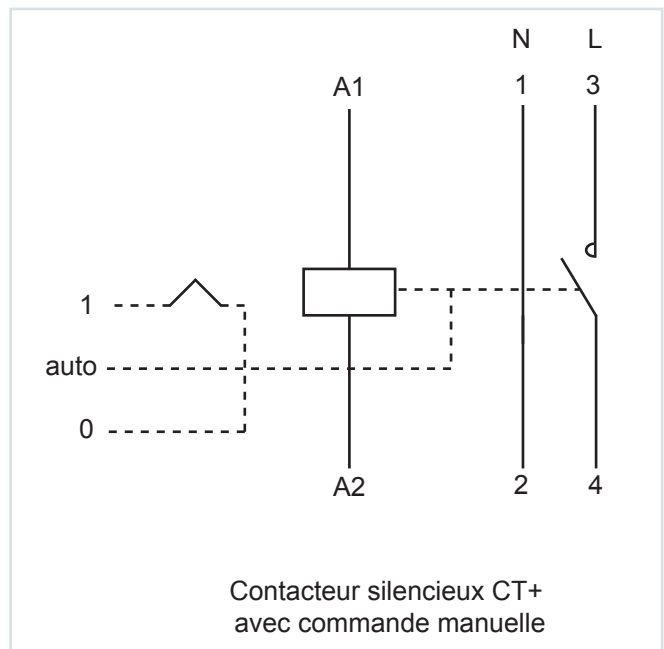
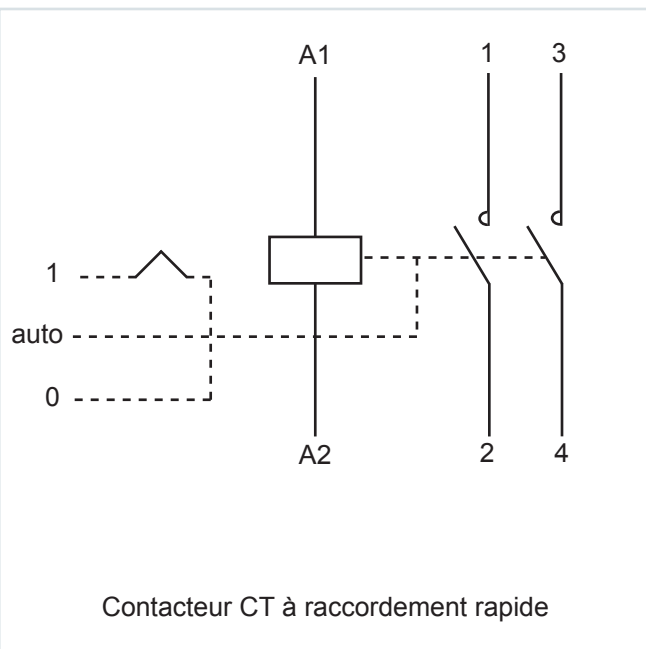
Disjoncteur de
branchement non-
différentiel / Tétrapolaire



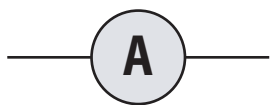
Disjoncteur de branchement différentiel - Tétrapolaire



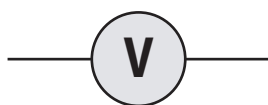
Disjoncteur de branchement différentiel - Monopolaire



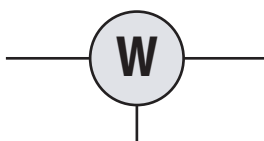
Ampèremètre



Voltmètre



Wattmètre



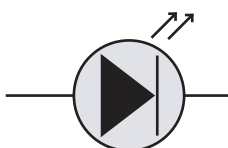
Condensateur non polarisé



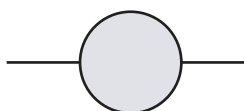
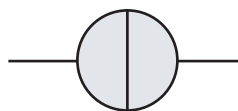
Diode



Diode Zener

Diode L.E.D
électroluminescente

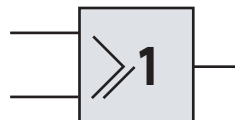
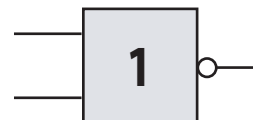
Générateur continu

Générateur parfait
de tensionGénérateur parfait
de courant

Haut-parleur



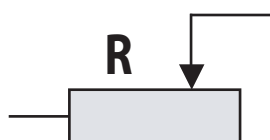
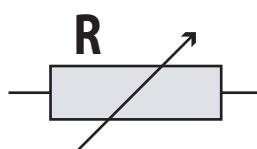
Inductance

Porte logique
ETPorte logique
OUPorte logique
NON-ETPorte logique
NON

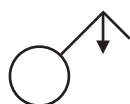
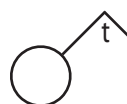
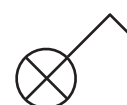
Resistance



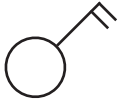
Rhéostat

Resistance
AjustableInterrupteur simple
action

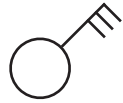
Gradateur

Interrupteur unipolaire
à tiretteInterrupteur unipolaire à
ouverture retardéeInterrupteur unipolaire
à lampe témoin

Interrupteur
bipolaire



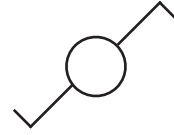
Interrupteur
tripolaire



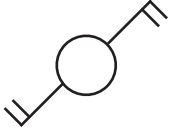
Interrupteur
unipolaire double



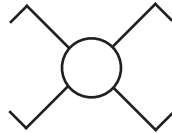
Interrupteur unipolaire
(va-et-vient)



Commutateur



Inverseur double,
permutateur



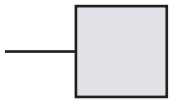
Prise de courant
faible



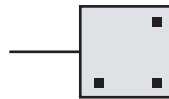
Mise à la terre



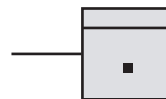
Appareil électroménager
fixe (symbole général)



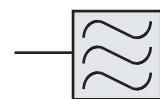
Cuisine
électrique



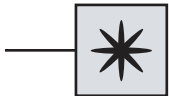
Four
électrique



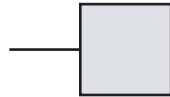
Four à micro-ondes



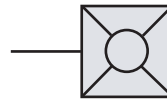
Réfrigérateur
(3 étoiles = congélateur)



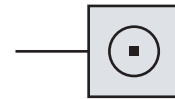
Ventilateur



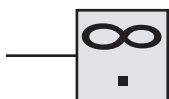
Lave-vaisselle



Lave-linge



Séchoir



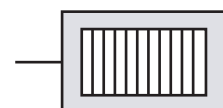
Chauffage



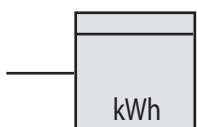
Chauffe-eau



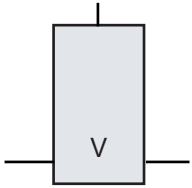
Chauffage à
accumulation



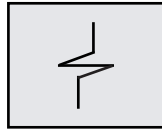
Compteur



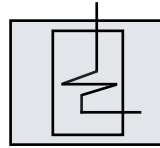
Séparateur de vapeur



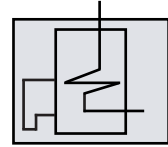
Générateur foyer



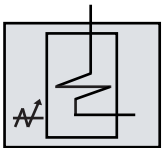
Chaudière



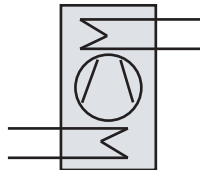
Chaudière à bruleur



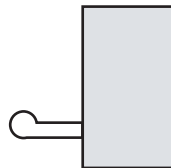
Chaudière électrique



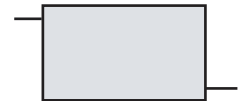
pompe à chaleur



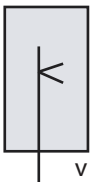
Chaudière avec
brûleur à air soufflé



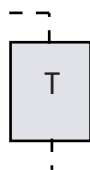
Radiateur



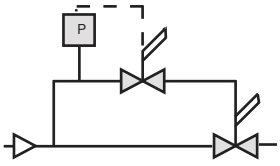
Humidificateur à
vapeur



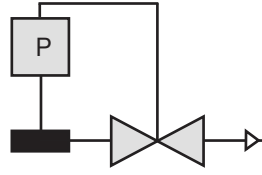
Contrôleur de
température



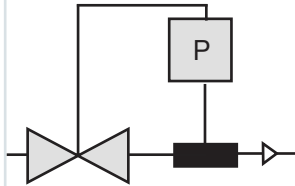
Régulation à
pression amont



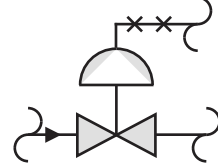
Régulateur de
pression: amont



Régulateur de pression :
aval



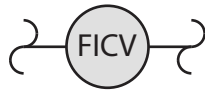
Régulateur de
température de type
système rempli



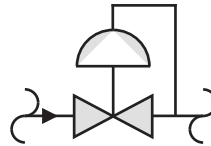
Régulateur
automatique
sans indicateur



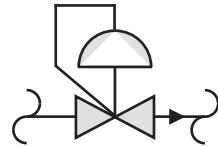
Régulateur
automatique avec
indicateur de débit
intégré



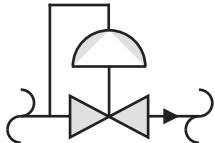
Régulateur réducteur
de pression



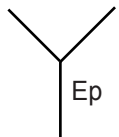
Régulateur limiteur
de pression à rétro-
action interne



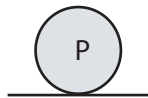
Régulateur limiteur
de pression à rétro-
action externe



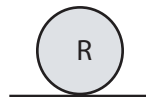
Récolte des
eaux pluviales



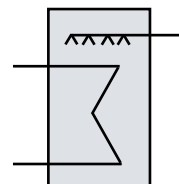
Pompe à piston



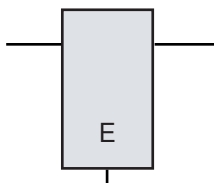
Pompe rotative



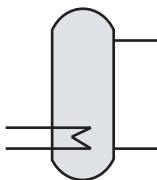
Tour de refroidissement
à circuit fermé



Séparateur d'eau



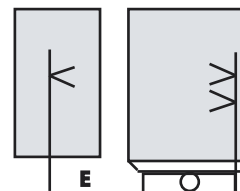
Ballon d'eau chaude



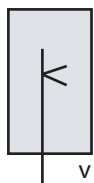
Ballon d'eau chaude
électrique



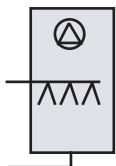
Humidificateur à eau



Humidificateur
à vapeur



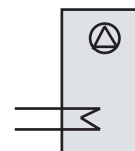
Tour de
refroidissement
à air



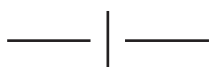
Compteur d'eau
froide



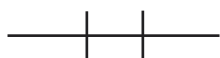
Tour de
refroidissement
à eau



Croisement de
tuyauterie
(sans raccordement)



Croisement de
tuyauterie
(avec raccordement)



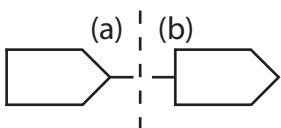
Sens d'écoulement



Pente de tuyauterie



Entrée tuyauterie (a)
Sortie tuyauterie (b)



Isolation thermique
sur canalisation



Air

A

Air comprimé

AC

Air raréfié (vide)

AR

Eau

E

Eau de
refroidissement

ER

Eau de lavage

EL

Eau de
déméralisée

ED

Vapeur

V

Vapeur surchauffée

VS

Gaz

G

Gaz diazote

GN

Fluide thermique

FT

Fluide frigorigène

FF

Fluide réfrigérant

FR

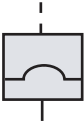
Saumure

SA

Robinet
(symbole général)



Disque de rupture



Siphon



Robinet vanne



Robinet à soupape



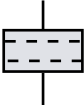
Robinet à papillon



Robinet à
tournant droit



Arrêt flamme



Adsorbeur



Regard d'écoulement



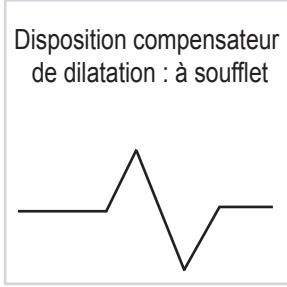
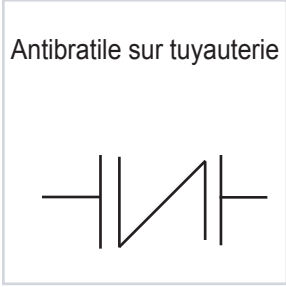
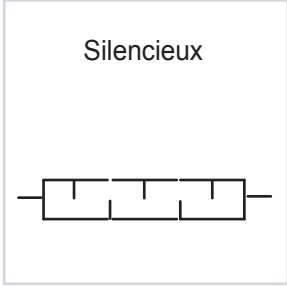
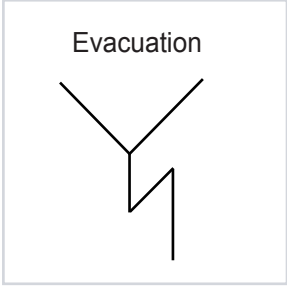
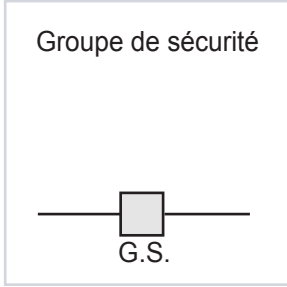
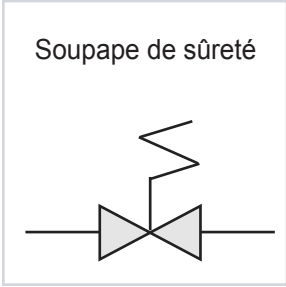
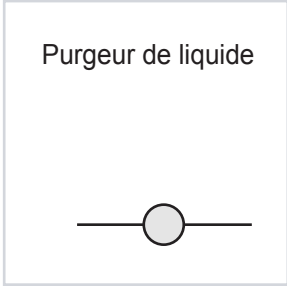
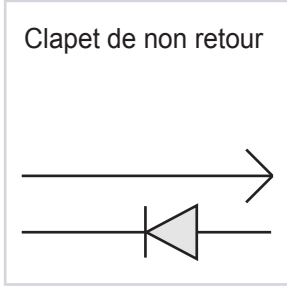
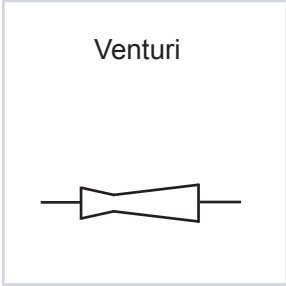
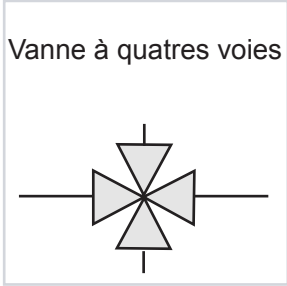
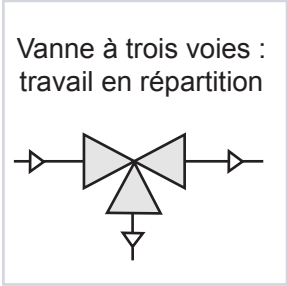
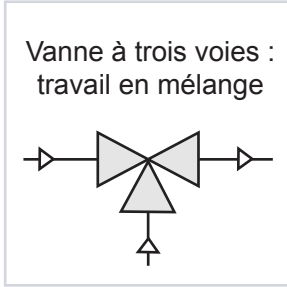
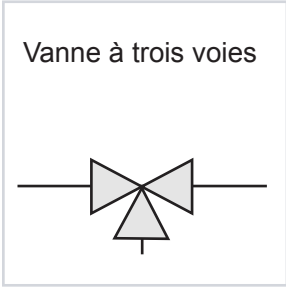
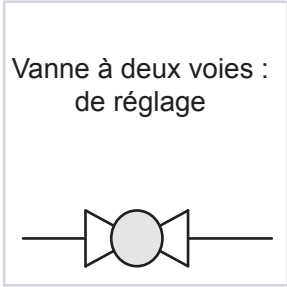
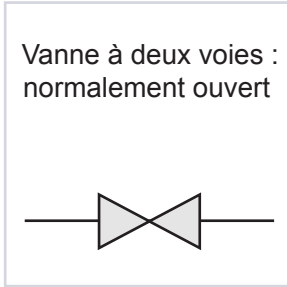
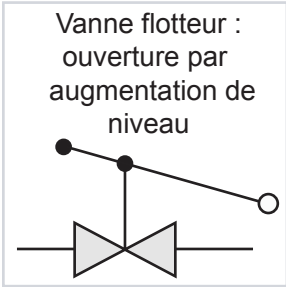
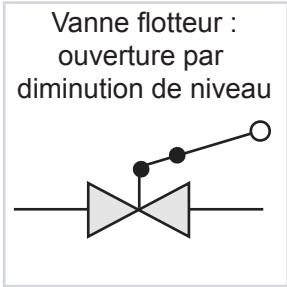
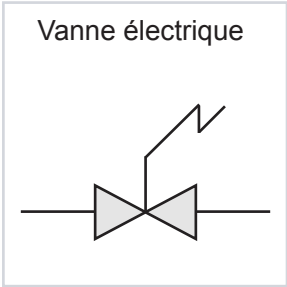
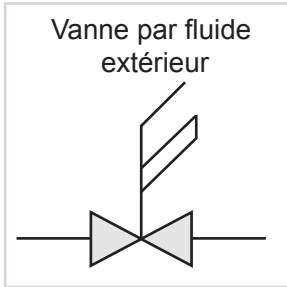
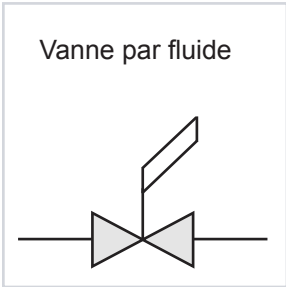
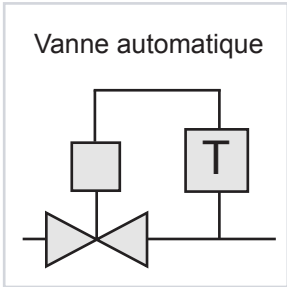
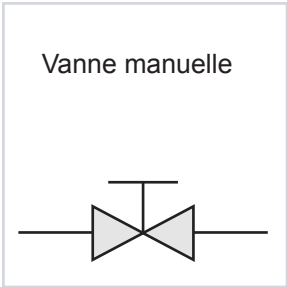
Garde hydraulique



Pulvérisation
par rampe



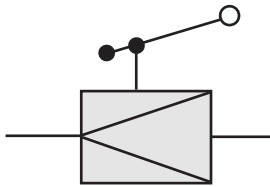
ou
 



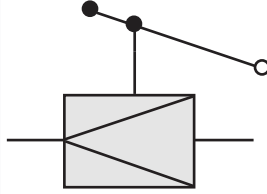
Disposition compensateur
de dilatation : à lyre



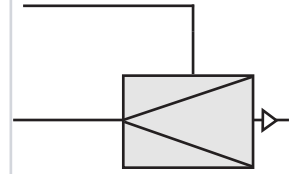
Détendeur à flotteur BP



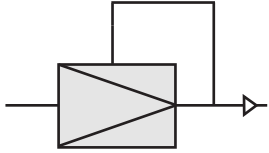
Détendeur à flotteur HP



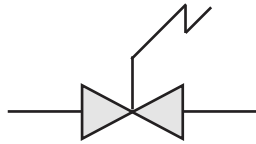
Vanne automotrice commandée
par la pression en amont



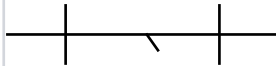
Vanne automotrice
commandée par la
pression aval



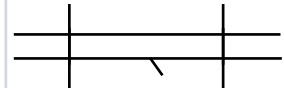
Electrovanne



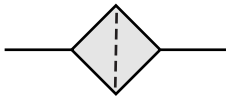
Filtre à eau



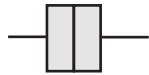
Filtre à vapeur



Filtre à air comprimé



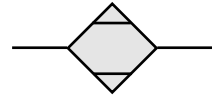
Filtre frigorigène



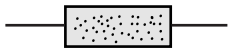
Filtre crépine



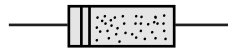
Sécheur (air comprimé)



Déshydrateur



Déshydrateur anti-acide



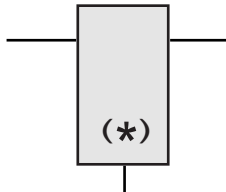
Voyant simple



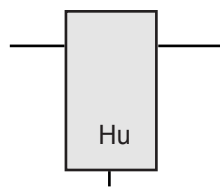
Voyant indicateur
d'humidité



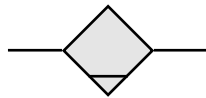
Séparateur :
symbole générique



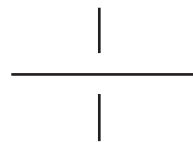
Séparateur d'huile



Séparateur manuel
(air comprimé)



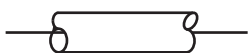
Diaphragme



Séparateur automatique
(air comprimé)



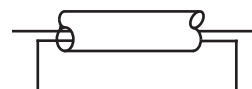
Isolation tuyauterie



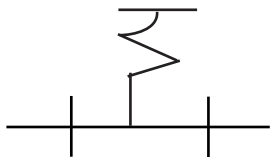
Isolation panneau



Traceur électrique
ou à fluide



Anti-bélier



Casse vide



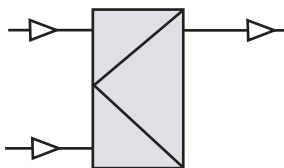
Reniflard



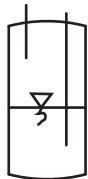
Coupe feu



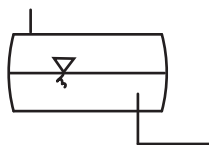
Chambre de mélange avec détente



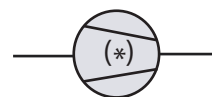
Réservoir de liquide sous pression vertical



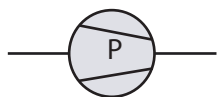
Réservoir de liquide sous pression horizontal



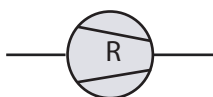
Compresseur : symbole générique



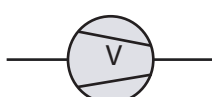
Compresseur à piston



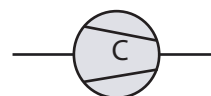
Compresseur rotatif



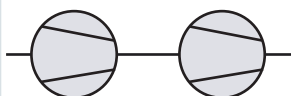
Compresseur à vis



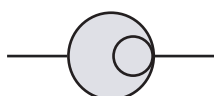
Compresseur centrifuge



Compresseur poly-étagé



Compresseur à palette



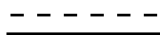
Moteur



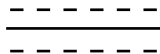
Entraînement



Entraînement direct



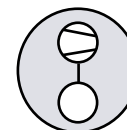
Entraînement indirect



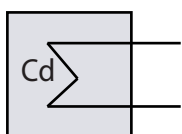
Enveloppe hermétique



Compresseur hermétique



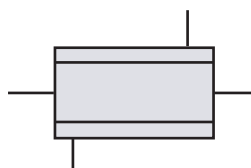
Condenseur à eau



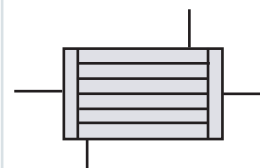
Condenseur à immersion



Condenseur double tube



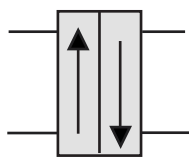
Compresseur multibulaire



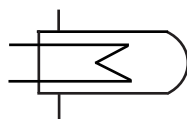
Tuyau à ailette



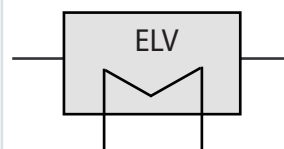
Echangeur à plaque



Echangeur à tubes



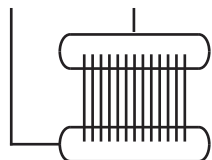
Echangeur
liquide/vapeur



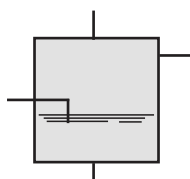
Evaporateur
refroidisseur de liquide
à serpentin



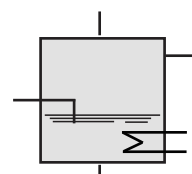
Evaporateur
refroidisseur de liquide
à herse



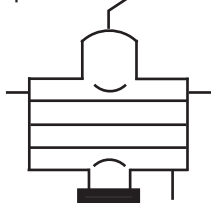
Bouteille séparatrice
de liquide sans
échangeur



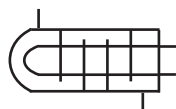
Bouteille séparatrice
de liquide avec
échangeur



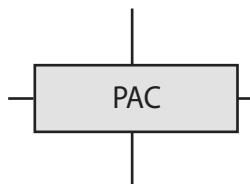
Evaporateur refroidisseur
de liquide multibulaire noyé



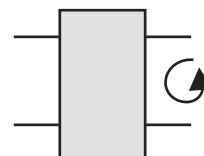
Evaporateur
refroidisseur de liquide
à surchauffe



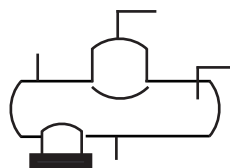
Récupérateur
PAC



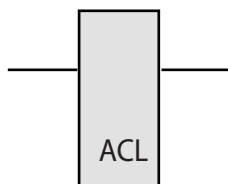
Echangeur rotatif



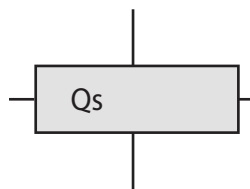
Bouteille séparatrice
de liquide horizontale



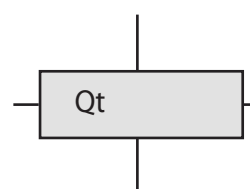
Bouteille anticoup
de liquide



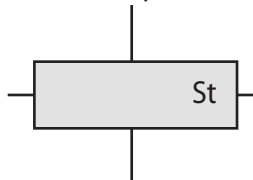
Récupérateur à
chaleur sensible



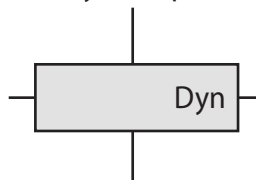
Récupérateur à
chaleur totale



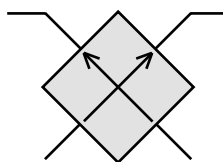
Récupérateur
statique



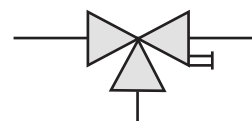
Récupérateur
dynamique



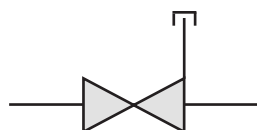
Echangeur
à plaques



Robinet de
dérivation



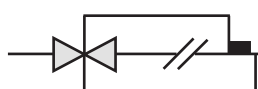
Robinet de service



Détendeur thermostatique
à égalisation de
pression interne



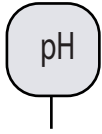
Détendeur thermostatique
à égalisation de
pression externe



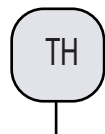
Capillaire



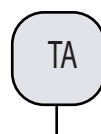
Capteurs indicateurs
de mesure de pH



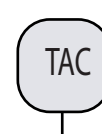
Capteur indicateur
de mesure du titre
hydrotimétrique



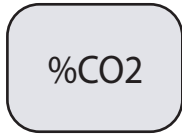
Capteur indicateur
de mesure du titre
alcalimétrique simple



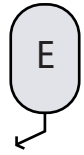
Capteur indicateur
de mesure du titre
alcalimétrique complet



Capteur indicateur de
mesure du taux de CO2



Capteur indicateur
de mesure électrique



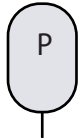
Contrôleur indicateur
de mesure de débit



Contrôleur indicateur
de mesure
de température



Contrôleur indicateur
de mesure de pression



Contrôleur indicateur
de mesure de pression
différentielle



Contrôleur indicateur
de mesure de niveau



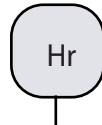
Contrôleur indicateur
de mesure d'enthalpie



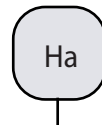
Contrôleur indicateur
de mesure d'humidité



Contrôleur indicateur
de mesure d'humidité
relative



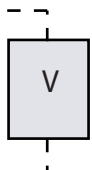
Contrôleur indicateur
de mesure d'humidité
absolue



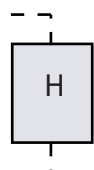
Contrôleur de débit
(flow switch)



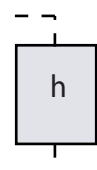
Contrôleur de volume



Contrôleur
d'hygrométrie



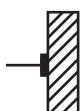
Contrôleur
d'enthalpie



Contrôleur
sur canalisation



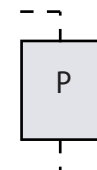
Contrôleur sur paroi



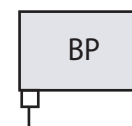
Contrôleur seul



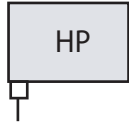
Contrôleur de pression



Pressostat
Basse Pression



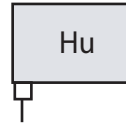
Pressostat
Haute Pression



Pressostat
Combiné BP HP



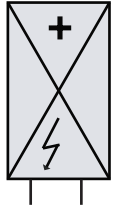
Pressostat
d'huile



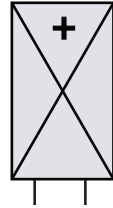
Contrôleur de niveau



Batterie chaude
electrique



Batterie chaude à eau



Batterie froide à eau



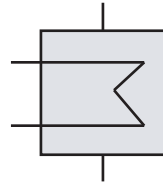
Batterie froide à
détente directe



Panneau rayonnant



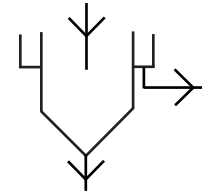
Echangeur générale



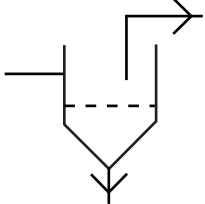
Convecteur



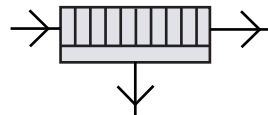
Décanteur
(clarificateur)



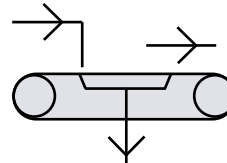
Filtre discontinu
(type büchner)



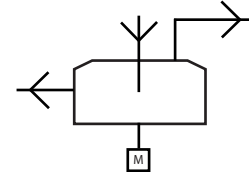
Filtre presse



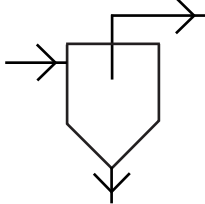
Filtre à bande



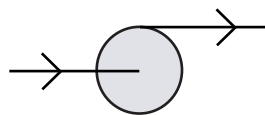
Centrifugeuse
Séparation
liquide - liquide



Cyclone



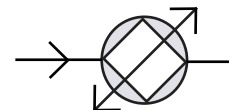
Pompe centrifuge



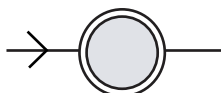
Pompe volumétrique



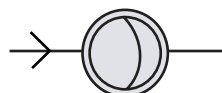
Pompe doseuse



Compresseur
volumétrique



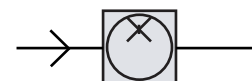
Compresseur
volumétrique
à membrane



Compresseur
volumétrique
à palette



Pompe à anneau
liquide



Compresseur centrifuge

Ventilateur

Pompe à vide

Ejecteur

Pompe volumétrique alternative à piston

Pompe volumétrique à engrenage

Pompe volumétrique alternative à membrane

Compresseur volumétrique à piston

Ventilation des
eaux usées - eaux vanne

Bouche de soufflage

Bouche de soufflage :
sur conduit

Bouche d'aspiration :
à équilibrage

Bouche de soufflage :
à équilibrage

Bouche d'aspiration

Bouche d'aspiration :
sur conduit

Tour de refroidissement
à circuit ouvert

Aérofrigorifère

Désaération
automatique

Ventilo-convecteur

Séparateur d'air

Filtre sur gaine d'air