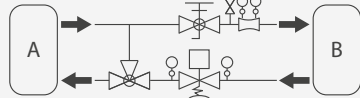




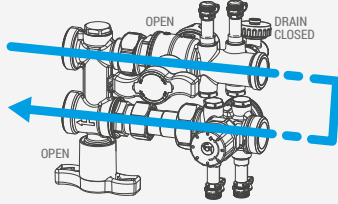
R280KC

PRODUCT CODE	CONNECTIONS	CENTER DISTANCE DELIVERY-RETURN [mm/inch.]	KIT Kv/Cv, IN BY-PASS	VENTURI FLOW METER Kv/Cv	DN	INDICATOR COLOR	HANDWHEEL COLOR	PICV		WORKING DIFFERENTIAL PRESSURE RANGE [kPa/psi]	WITH R473/R473HE	WITH K281/K281-1 OR NO ACTUATOR	ACTUATORS FOR PICV (accessories)
								WORKING FLOW RATE RANGE [l/h/GPM]					
R280KC000 R280KC100*	1-1/2"UNS-M x G 1" M	60 2.36"	2,3 2.65	0,4 0.5	15	RED	GREY	35-520 (single range) 0.15-2.29 (single range)		25-400 3.63-58	25-800 3.63-116	K281, K281-1, R473, R473HE	
R280KC001 R280KC101*	1-1/2"UNS-M x G 1" M	60 2.36"	2,3 2.65	1,9 2.2	15	BLUE	RED	150-380 0.66-1.67	180-630 0.79-2.77	25-400 3.63-58	25-800 3.63-116	K281, K281-1, R473, R473HE	
R280KC002 R280KC102*	1-1/2"UNS-M x G 1" M	60 2.36"	2,3 2.65	4,5 5.2	20	GREEN	BLUE	290-1000 1.28-4.4	860-1500 3.79-6.6	25-400 3.63-58	25-800 3.63-116	K281, K281-1, R473, R473HE	
R280KC003 R280KC103*	G 1-1/2" M x G 1" M	80 3.15"	3,7 4.3	9,0 10.5	25	BLUE	RED	600-3500 (single range) 2.64-15.4 (single range)		N/A	25-400 3.63-58	K281, K281-1	

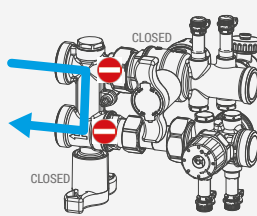
(fig.1) *Main components in DZR brass



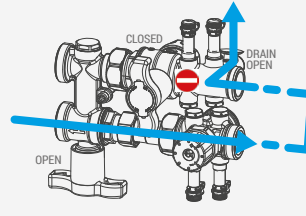
(fig.3)



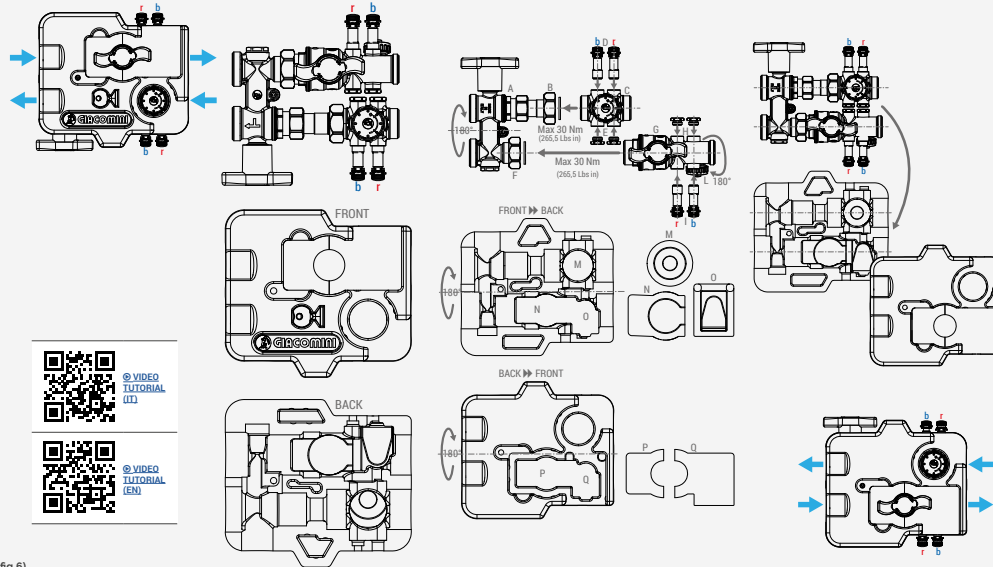
(fig.4A)



(fig.4B)



(fig.4C)

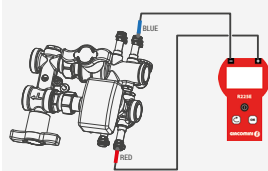


(fig.6)

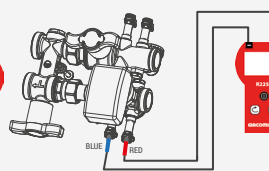
PRODUCT CODE	WORKING DIFF. PRESSURE RANGE [kPa/ psi]	
	WITH R473/R473HE THERMO-ELECTRIC ACTUATOR	WITH K281/K281-1 ACTUATOR OR NO ACTUATOR
R280KC000 R280KC100	25-400 3.63-58	25-800 3.63-116
R280KC001 R280KC101	25-400 3.63-58	25-800 3.63-58
R280KC002 R280KC102	25-400 3.63-58	25-800 3.63-58
R280KC003 R280KC103	N/A	25-400 3.63-58

(fig.7)

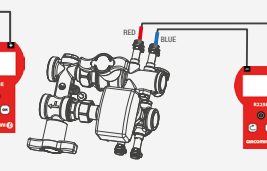
SETTING SCALE	MIN	WORKING FLOW RATE RANGE [l/h/ GPM]							
		1	2	3	4	5	6	7	8
SINGLE	35	95	120	230	310	400	460	520	-
L (LOW)	0.15	0.42	0.53	1.01	1.36	1.76	2.03	2.29	-
H (HIGH)	0.66	0.77	0.88	1.10	1.32	1.50	1.67	-	-
L (LOW)	0.79	1.10	1.54	1.94	2.20	2.51	2.77	-	-
H (HIGH)	290	400	500	640	730	900	1000	-	-
L (LOW)	1.28	1.76	2.20	2.82	3.21	3.96	4.40	-	-
H (HIGH)	860	900	940	1110	1270	1330	1500	-	-
SINGLE	600	1000	1200	1600	2000	2300	2800	3100	3500
	2.64	4.40	5.28	7.04	8.80	10.13	12.33	13.65	15.41



(fig.9A)



(fig.9B)



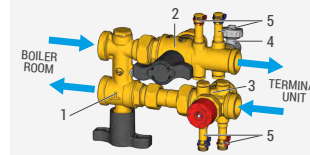
(fig.9C)



@VIDEO
COME
FUNZIONA
(IT)



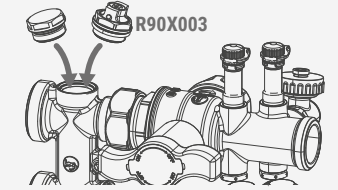
@VIDEO
HOW IT
WORKS
(EN)



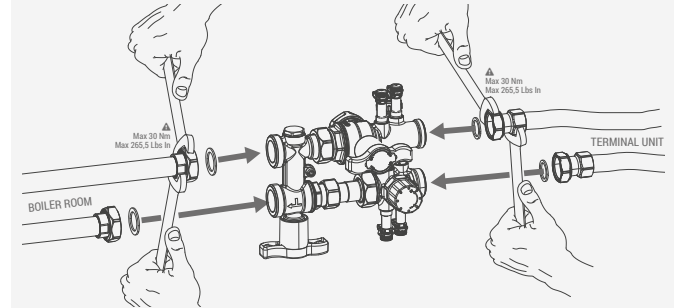
(fig.2)



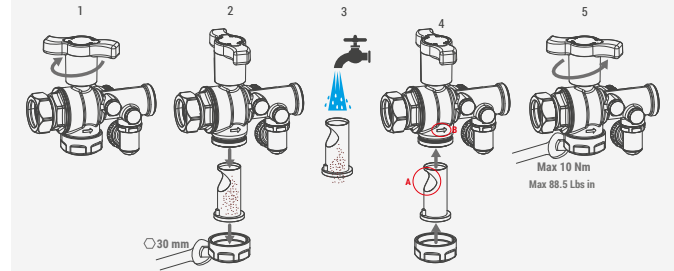
(fig.5A)



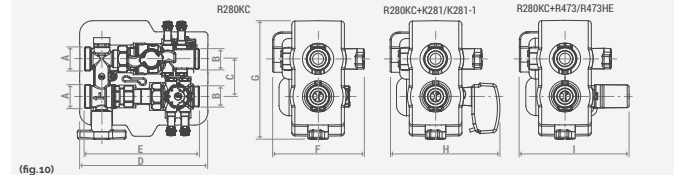
(fig.5C)



(fig.5B)



(fig.8)



(fig.10)

PRODUCT CODE	CONNECTIONS A x B	C [mm] [inch.]	D [mm] [inch.]	E [mm] [inch.]	F [mm] [inch.]	G [mm] [inch.]	H [mm] [inch.]	I [mm] [inch.]
R280KC000/100								
R280KC001/101	1-1/2"UNS-M x G 1" M	60 2.36	205 8.07	184 7.24	147 5.79	190 7.48	176 6.93	175 6.89
R280KC002/102								
R280KC003/103	G 1-1/2" M x G 1" M	80 3.15	314 12.36	265 10.43	140 5.51	212 8.35	178 7.00	N/A

(fig.10)

IT R280KC Kit compatto per unità terminali (fan coil), versione “Premium”

Versioni e codici (fig.1)

Accessori

- K281X022 (K281): attuatore ON/OFF, 24 V
- K281X062 (K281-1): attuatore 0..10 V per controllo lineare proporzionale della portata, 24 V
- K281X063 (K281-1): attuatore 0..10 V per controllo lineare proporzionale della portata, 24 V, con fail safe
- R473X221: testa elettrotermica 230 V, normalmente chiusa, cavo a 2 conduttori, IP40, 2.5 W
- R473X222: testa elettrotermica 24 V, normalmente chiusa, cavo a 2 conduttori, IP40, 2.5 W
- R473HEX001: testa elettrotermica 230 V, normalmente chiusa, cavo a 2 conduttori, IP54, 1 W
- R453FY002: ghiera adattatore M30 x 1,5 mm per installazione teste elettrotermiche R473/R473M
- R225EY001: strumento per la rilevazione della pressione differenziale e calcolo della portata per il bilanciamento di impianti idronici, completo di sonde ad ago M10 x 1 mm
- P206Y001: coppia di prese di pressione
- P206Y011: coppia di raccordi orientabili con prese di pressione
- P15KFM: coppia di bocchettoni in ottone, attacchi maschio-sede piana, completi di calotte e guarnizioni (vedere tabella sotto)
- P15KFF, R37KFF: coppia di bocchettoni in ottone, attacchi femmina-sede piana, completi di calotte e guarnizioni (vedere tabella sotto)
- P15KEFM: coppia di bocchettoni eccentrici in ottone, attacchi maschio-sede piana, completi di calotte e guarnizioni, per ridurre l'interasse mandata-ritorno da 60 a 40 mm (vedere tabella sotto)

BOCCHETTONI PER CONNESSIONI LATO CENTRALE TERMICA		
SERIE	CODICE	ATTACCHI
P15KFF**	P15FY023	1 1/2"UNF-F x G 1/2" F
	P15FY024	1 1/2"UNF-F x G 3/4" F
	P15FY025	1 1/2"UNF-F x G 1" F
R37KFF**	R37KY005	G 1 1/2" x G 1" F

BOCCHETTONI PER CONNESSIONI LATO FAN COIL		
SERIE	CODICE	ATTACCHI
P15KFM**	P15Y015	G 1" F x G 1/2" M
	P15Y016	G 1" F x G 3/4" M
	P15Y017	G 1" F x G 1" M
P15KFF**	P15FY003	G 1" F x Rp 1/2"
	P15FY004	G 1" F x Rp 3/4"
	P15FY005	G 1" F x Rp 1"
P15KEFM**	P15EY014	G 1" F x G 3/4" M
	P15EY024	G 1" F x B.18

* Solo per codici R280KCY000/001/002/100/101/102.

** Solo per codici R280KCY003/103.

*** Per tutti i codici.

Dati tecnici

Dati tecnici principali

- Fluidi: acqua, soluzioni glicolate (max. 50 % di glicole)
- Campo di temperatura di esercizio: 5÷120 °C
- Temperatura ambiente: 1÷50 °C
- Pressione massima di esercizio: 25 bar
- Campo di regolazione della portata (a seconda dell'impostazione sulla valvola PICV): vedere tabella codici a pagina 1
- Pressione massima differenziale alle estremità della valvola PICV: vedere tabella codici a pagina 1
- Capacità filtrante: 500 µm
- Attacco attuatore: M30 x 1,5 mm

Materiali

- Componenti principali:
 - R280KCY000/001/002/003: ottone CW617N - UNI EN 12165
 - R280KCY100/101/102/103: ottone antidezinificante "DZR" CW602N - UNI EN 12165
- Corpo valvola PICV: ottone antidezinificante "DZR" CW602N - UNI EN 12165
- Guarnizioni valvole a sfera: PTFE
- Guarnizioni altri componenti: EPDM
- Filtro: acciaio inox AISI 304
- Coibentazione:
 - R280KCY000/001/002/100/101/102: PPR espanso
 - R280KCY003/103: PE espanso

Componenti (fig.2)

1	Valvola deviatrice a sfera per by-pass del kit
2	Valvola a sfera con filtro integrato
3	Valvola di controllo indipendente dalla pressione (PICV)
4	Rubinetto di scarico
5	Portasonda

Schema idraulico (fig.3)

	Valvola deviatrice a sfera per by-pass del kit
	Valvola a sfera con filtro integrato
	Portasonda
	Valvola di controllo indipendente dalla pressione (PICV)
	Flussimetro Venturi
	Rubinetto di scarico
A	Centrale termica
B	Unità terminale (fan coil)

Installazione (fig.5A)

Coppie di serraggio (fig.5B)

Reversibilità lato di mandata con lato di ritorno (fig.6)

❗ **NOTA.** Tutti i kit sono reversibili ad eccezione del kit R280KCYY03/103 che non è reversibile.

Funzionamento

1) Normale funzionamento (fig.4A)

⚠ **AVVERTENZA.** In funzionamento normale assicurarsi che il rubinetto di scarico sia chiuso e con l'apposito tappo montato.

2) Lavaggio impianto / Manutenzione (fig.4B)

3) Lavaggio fan coil con flusso dal ritorno (fig.4C)

❗ **NOTA.** Operazioni di lavaggio e manutenzione in conformità alla guida BG 29/2021 (BSRIA).

Primo avviamento (fig.7)

Lavaggio impianto

Prima di iniziare l'avviamento è necessario effettuare il lavaggio dell'impianto seguendo le operazioni descritte nel paragrafo "Funzionamento".

⚠ **AVVERTENZA.** Prevedere una valvola di sfogo aria nel circuito dell'impianto, per evitare l'aria accumulata dopo le fasi di manutenzione e pulizia dei componenti. Eventualmente è possibile installare una valvola di sfogo aria R90 al posto del tappo sulla valvola deviatrice. (fig.5C)

Verifica pressione differenziale e portata

- Verifica della pressione differenziale dell'unità terminale (fig.9A)
- Verifica della pressione differenziale della valvola PICV (fig.9B)
- Verifica di pressione differenziale/portata tramite flussimetro Venturi (fig.9C)

Installazione attuatori e collegamenti elettrici

❗ **NOTA.** Per i collegamenti elettrici degli attuatori fare riferimento alle istruzioni dell'attuatore che si sta installando

Manutenzione (fig.8)

È consigliato ispezionare periodicamente il kit, almeno una volta all'anno, quando si effettua il cambio di stagione riscaldamento/raffreddamento.

Durante l'ispezione devono essere controllati i seguenti componenti:

- Filtro della valvola a sfera: da lavare sotto acqua corrente (vedere paragrafo "Pulizia del filtro")
- Attuatore: verificare il corretto funzionamento; se qualcosa non dovesse funzionare e i cablaggi sono corretti è necessario sostituire l'attuatore
- Valvole a sfera: verificare la manovrabilità delle valvole a sfera.

❗ **NOTA.** Per la periodicità delle operazioni di manutenzione fare inoltre riferimento alle normative locali.

Dimensioni (fig.10)

EN R280KC Compact kit for terminal units (fan coils), “Premium” version

Versions and product codes (fig.1)

Accessories

- K281X022 (K281): ON/OFF actuator, 24 V
- K281X062 (K281-1): 0..10 V actuator for flow-rate proportional linear control, 24 V
- K281X063 (K281-1): 0..10 V actuator for flow-rate proportional linear control, 24 V, with fail safe
- R473X221: 230 V thermo-electric actuator, normally closed, 2-conductor wire, IP40, 2.5 W
- R473X222: 24 V thermo-electric actuator, normally closed, 2-conductor wire, IP40, 2.5 W
- R473HEX001: 230 V thermo-electric actuator, normally closed, 2-conductor wire, IP54, 1 W
- R453FY002: M30 x 1.5 mm adapter ring for installation of R473/R473M thermo-electric actuators
- R225EY001: electronic differential pressure gauge and flow rate calculator for balancing of hydronic systems, including M10 x 1 mm needle probes
- P206Y001: pair of pressure outlets
- P206Y011: pair of adjustable fittings with pressure outlets
- P15KFM: pair of brass tail pieces, male-flat seat connections, complete with nuts and gaskets (see table below)
- P15KFF, R37KFF: pair of brass tail pieces, female-flat seat connections, complete with nuts and gaskets (see table below)
- P15KFS: pair of brass tail pieces, sweat-flat seat connections, complete with nuts and gaskets (see table below)
- P15KEFM: pair of eccentric brass tail pieces, male-flat seat connections, complete with nuts and gaskets, to reduce the supply-return center distance from 60 to 40 mm (see table below)

TAIL PIECES FOR BOILER ROOM SIDE CONNECTIONS		
SERIES	PRODUCT CODE	CONNECTION
P15KFF	P15FY023*	1 1/2"UNF-F x G 1/2" F
	P15FY024*	1 1/2"UNF-F x G 3/4" F
	P15FY025*	1 1/2"UNF-F x G 1" F
	P15FY013*	1 1/2"UNF-F x 1/2"NP F
	P15FY014*	1 1/2"UNF-F x 3/4"NP F
R37KFF	R37KY005*	ISO G 1 1/2" F x ISO G 1" F
P15KFS	P15UY003*	1 1/2"UNF-F x 1/2"Sweat
	P15UY004*	1 1/2"UNF-F x 3/4"Sweat
	P15UY005*	1 1/2"UNF-F x 1"Sweat

TAIL PIECES FOR FAN COIL SIDE CONNECTIONS		
SERIES	PRODUCT CODE	CONNECTION
P15KFM	P15Y015***	ISO G 1" F x ISO G 1/2" M
	P15Y016***	ISO G 1" F x ISO G 3/4" M
	P15Y017***	ISO G 1" F x ISO G 1" M
	P15Y015***	ISO G 1" F x 1/2"NP F
	P15Y016***	ISO G 1" F x 3/4"NP F
P15KFF	P15FY003***	ISO G 1" F x ISO G 1/2" F
	P15FY004***	ISO G 1" F x Rp 3/4"
	P15FY005***	ISO G 1" F x Rp 1"
	P15FY003***	ISO G 1" F x 1/2"NP F
	P15FY004***	ISO G 1" F x 3/4"NP F
P15KEFM	P15EY014***	ISO G 1" F x ISO G 3/4" M
	P15EY024***	ISO G 1" F x B.18

* Only for R280KCY000/001/002/100/101/102 codes.

** Only for R280KCY003/103 code.

*** For all codes.

Technical data

Main technical data

- Fluids: water, glycol-based solutions (max. 50 % of glycol)
- Working temperature range: 5÷120 °C (40÷250 °F)
- Room temperature: 1÷50 °C (35÷120 °F)
- Max working pressure: 25 bar (360 psi)
- Flow rate setting range (based on PICV setting): see table of codes at page 1
- Max differential pressure at PICV ends: see table of codes at page 1
- Filtering capacity: 500 µm (mesh 35)
- Actuator connection: M30 x 1.5 mm

Materials

- Main components:
 - R280KCY000/001/002/003: CW617N - EN 12165 brass
 - R280KCY100/101/102/103: CW602N - EN 12165 DZR brass
- PICV body: CW602N - EN 12165 DZR brass
- Ball valve gaskets: PTFE
- Gaskets of other components: EPDM
- Filter mesh: AISI 304 stainless steel
- Insulation:
 - R280KCY000/001/002/100/101/102: expanded PPR
 - R280KCY003/103: expanded PE

Components (fig.2)

1	Diverting ball valve for kit bypass
2	Ball valve with integrated filter
3	Pressure independent control valve (PICV)
4	Drain cock
5	Probe holder

Hydraulic diagram (fig.3)

	Diverting ball valve for kit bypass
	Ball valve with integrated filter
	Probe holder
	Pressure independent control valve (PICV)
	Venturi flow meters
	Drain cock
A	Boiler room
B	Terminal unit (fan coil)

Installation (fig.5A)

Tightening torque (fig.5B)

Reversibility of delivery circuit and return circuit (fig.6)

❗ **NOTE.** All kits are reversible except for the R280KCY003/103 kit, which is not reversible.

Operation

1) Normal operation (fig.4A)

⚠ **WARNING.** During normal operation make sure the drain cock is closed with its cap on.

2) System flushing / Maintenance (fig.4B)

3) Fan coil flushing with reversed flow (fig.4C)

❗ **NOTE.** Flushing and maintenance operations comply with the BG 29/2021 (BSRIA) guidelines.

Commissioning (fig.7)

System flushing

Prior to commissioning, the system must be flushed according to the indications described in "Operation".

⚠ **WARNING.** Install an air vent valve on the system circuit to release the air after servicing and cleaning the components.

R90 air vent valve can be installed in place of the plug on the diverter valve. (fig.5C)

Reading the differential pressure and flow rate

- Reading of the terminal unit differential pressure (fig.9A)
- Reading of the PICV differential pressure (fig.9B)
- Reading of the differential pressure/flow rate through the Venturi flow meter (fig.9C)

Actuators installation and electrical connections

❗ **NOTE.** For the electrical connections of the actuators, refer to the instructions for the actuator you are installing.

Maintenance (fig.8)

Check the kit at least once a year upon seasonal change over from heating to cooling.

During inspection, check the components below:

- Ball valve filter: rinse under running water (see "Cleaning the filter")
- Actuator: check its operation; should it fail to work with proper wiring, replace the actuator.
- Ball valves: check operations of the ball valves.

❗ **NOTE.** For periodical maintenance, also refer to the local standards.

Dimensions (fig.10)

FR R280KC Kit compact pour unités terminales (ventilo-convecteurs) Version « Premium »

Versions et codes (fig.1)

Accessoires

- K281X022 (K281) : Moteur ON/OFF, 24 V
- K281X062 (K281-1) : moteur 0..10 V pour régulation de débit proportionnelle linéaire, 24 V
- K281X063 (K281-1) : moteur 0..10 V pour la régulation proportionnelle linéaire du débit, 24 V, avec sécurité intégrée
- R473X221 : micromoteur 230 V, normalement fermée, câble à 2 fils, IP40, 2.5 W
- R473X222 : micromoteur 24 V, normalement fermée, câble 2 fils, IP40, 2.5 W
- R473HEX001 : micromoteur 24 V, normalement fermée, câble 2 fils, IP54, 1 W
- R453FY002 : bague d'adaptation M30 x 1,5 mm pour l'installation des micromoteurs R473/R473M
- R225EY001 : manomètre de mesure de la pression différentielle et de calcul du débit pour l'équilibrage des systèmes hydrauliques, avec sondes à aiguille M10 x 1 mm
- P206Y001 : paire de prises de pression
- P206Y011 : paire de raccords tournants avec prises de pression
- P15KFM : paire de raccords filetés mâles, avec bouchon et joint d'étanchéité (voir tableau ci-dessous)
- P15KFF, R37KFF : paire de raccords filetés femelles, avec bouchon et joint (voir tableau ci-dessous)

SORTIES POUR LE CHAUFFAGE CENTRAL RACCORDEMENTS LATÉRAUX		
SERIE	CODE	RACCORDEMENT
P15KFF**	P15FY023	1 1/2"UNF-F x G 1/2" F
	P15FY024	1 1/2"UNF-F x G 3/4" F
	P15FY025	1 1/2"UNF-F x G 1" F
R37KFF**	R37KY005	G 1 1/2" x G 1" F

SORTIES POUR LES RACCORDEMENTS LATÉRAUX DES VENTILO-CONVECTEURS		
SERIE	CODE	RACCORDEMENT
P15KFM**	P15Y015	G 1" F x G 1/2" M
	P15Y016	G 1" F x G 3/4" M
	P15Y017	G 1" F x G 1" M
	P15FY003	G 1" F x Rp 1/2"
P15KFF**	P15FY004	G 1" F x Rp 3/4"
	P15FY005	G 1" F x Rp 1"
P15KEFM**	P15EY014	G 1" F x G 3/4" M
	P15EY024	G 1" F x B.18

* Uniquement pour les codes R280KCY000/001/002/100/101/102.

** Uniquement pour le code R280KCY003/103.

*** Pour tous les codes.

Caractéristiques techniques

Caractéristiques techniques principales

- Fluides : eau, solutions glycolées (max. 50 % glycol)
- Plage de température de fonctionnement : 5÷120 °C
- Plage de température ambiante : 1÷50 °C
- Pression maximale de fonctionnement : 25 bar
- Plage de réglage du double débit (en fonction du réglage de la vanne PICV) : voir le tableau des codes à la page 1
- Pression différentielle maximale aux extrémités de la vanne PICV : voir le tableau des codes à la page 1
- Capacité du filtre : 500 µm
- Raccordement du moteur : M30 x 1,5 mm

Matériaux

- Composants principaux :
 - R280KCY000/001/002/003 : laiton CW617N - EN 12165
 - R280KCY100/101/102/103 : laiton anti-dézinification "DZR" CW602N - EN 12165
- Corps de la vanne PICV : laiton anti-dézinification "DZR" CW602N - EN 12165
- Joints de la vanne à sphère : PTFE
- Joints d'autres composants : EPDM
- Filtre : acier inoxydable AISI 304
- Isolation :
 - R280KCY000/001/002/100/101/102 : Mousse PPR
 - R280KCY003/103 : Mousse PE

Composants (fig.2)

1	Vanne à sphère pour kit de dérivation
2	Vanne à sphère avec filtre intégré
3	Vanne de régulation indépendante de la pression (PICV)
4	Vanne de vidange
5	Support de sonde

Schéma hydraulique (fig.3)

	Vanne à sphère pour kit de by-pass
	Vanne à sphère avec filtre intégré
	Porte-sonde
	Vanne de régulation indépendante de la pression (PICV)
	Débitmètre Venturi
	Vanne de vidange
A	Unité de chauffage central
B	Unité de terminaison (ventilo-convecteur)

Installation (fig.5A)

Couples de serrage (fig.5B)

Réversibilité côté alimentation et côté retour (fig.6)

❗ **REMARQUE.** Tous les kits sont réversibles, à l'exception du kit R280KCY003/103, qui n'est pas réversible.

Fonctionnement

1) Fonctionnement normal (fig.4A)

⚠ **AVERTISSEMENT.** En fonctionnement normal, assurez-vous que la vanne de vidange est fermée et que le bouchon de la vanne de vidange est en place.

2) Rinçage / entretien du système (fig.4B)

3) Lavage du ventilo-convecteur avec débit du retour (fig.4C)

❗ **REMARQUE.** Opérations de lavage et d'entretien conformes au BG guide 29/2021 (BSRIA).

Première mise en service (fig.7)

Rinçage du système

Avant la mise en service, il est nécessaire de rincer le système en suivant les étapes décrites dans la rubrique "Fonctionnement".

⚠ **AVERTISSEMENT.** Prévoir un purgeur d'air dans le circuit du système, afin d'expulser l'air accumulé après l'entretien et le nettoyage des composants. Si nécessaire, un purgeur d'air R90 peut être installé à la place du bouchon de la vanne de dérivation. (fig.5C)

Contrôle de la pression différentielle et du débit

- Vérification de la pression différentielle de l'unité de terminaison (fig.9A)
- Contrôle de la pression différentielle de la vanne PICV (fig.9B)
- Vérification de la pression différentielle/débit à l'aide d'un débitmètre Venturi (fig.9C)

Installation du moteur et raccords électriques

❗ **REMARQUE.** Pour les raccordements électriques des moteurs, veuillez vous référer aux instructions du moteur que vous installez.

Entretien (fig.8)

Il est recommandé d'inspecter le kit périodiquement, au moins une fois par an, lors du changement de saison chauffage/rafraî