



PRS MODULE

CATALOGUE PRICE LIST  
2018 - 2019



Cordivari company has a proven industrial tradition and is now one of the most important manufacturers in the heating and plumbing industry in Italy. Founded in 1972 by Ercole Cordivari, the company is producing calorifiers, thermal storage and heating components, solar thermal systems, compressed air receivers, design radiators, chimney flues and food containers. Cordivari plants are situated on an area of 280.000 square meters and employ more than 450 employees. Thanks to its development strategies, all addressed to the new technologies and to the training of new human resources, Cordivari is equipped with modern structures and advanced production processes. All the products are designed and produced in Italy and the technological, ergonomic and ecological choices allow to work respecting the human being and its environment. UNI EN ISO 14001:2015 environment managing systems and UNI EN ISO 9001 Quality system are perfectly integrated to grant and ensure company's main goals and values.

The highly qualified management, the constant research for innovative solutions and the extremely customer-oriented company policy stand for the leading market position and the exclusive know-how in the field of integrated heating systems that the Cordivari group has acquired. All this is the result of a continuous commitment to achieving Customer Satisfaction.



# PRS MODULE



## DESCRIPTION

The new PRS modules are designed to rapidly prepare Domestic Hot Water for medium and large-scale facilities; they can work both with accumulation (semi-immediate mode) or without (immediate mode).

## COMPONENTS

- Inspectable plate heat exchanger with steel structure and exchanger plates made in stainless steel AISI 316L with EPDM gaskets
- Single or double pump for primary circuit
- Motorized 3-way mixing valve
- Electrical control panel with control unit for programming
- Temperature probes
- Galvanized steel frame
- 230V AC single phase supply.

## OPTIONAL

- Insulation for the heat exchanger in aluminum and mineral wool (MO-A1 reaction to fire class)
- Data Logger

## EXTREME OPERATING CONDITIONS

Maximum Working pressure = 10 bar

Maximum temperature of the gaskets = 140 °C

## WARRANTY

2 years – See general sales conditions and warranty on the Calorifiers catalogue in force.

### DATA LOGGER

- Historical anti-legionella cycles data recording on Micro SD card
- Registration of the temperatures achieved in the system

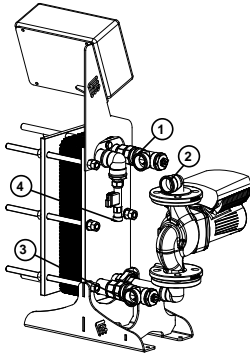


## FEATURES AND FUNCTIONS OF THE PRS CONTROL UNIT

- Back-lighted display with representation of graphs and texts
- Self-explanatory menu with captions
- Simple visualization of the measured values
- Temperature maintenance of the DHW inlet and of the DHW accumulation, set from the controller
- High operational efficiency thanks to the proportional control of primary pumps speed
- Performance of a series of disinfection cycles anti-legionella, schedulable at preferred time and day of the week, final result showed on the display
- DHW recirculation function control
- Analysis and monitoring of the system through statistics
- Computation of the exchanged heat, on a daily and weekly basis
- Diagnostic unit function for temperature and flow probes

# PRs MODULE

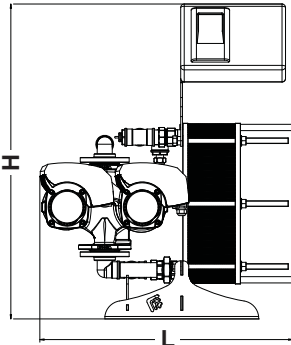
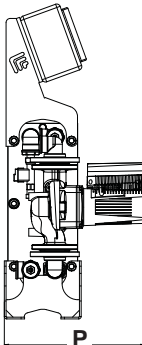
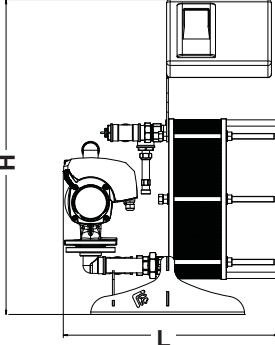
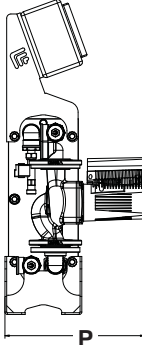
MOD.	N° of Plates	P	H	L mod. HIGH temp.	L mod. LOW temp.	MOD.	N° of Plates	P	H	L mod. HIGH temp.	L mod. LOW temp.	MOD.	N° of Plates	P	H	L mod. HIGH temp.	L mod. LOW temp.		
		[mm]						[mm]						[mm]					
4620 SING. pump	9	400	906	760	596	7420 SING. pump	9	400	1192	760	596	8031 SING. pump	13	493	1156	1085	990		
	13						13						17						
	17						17						21						
	21						21						25						
	25						25						29						
	29						29						33	542		1111	1016		
	33			780	617		37			780	617		41						
	37						41												
	41						45												
	45						49						545			1113	1018		
												53	545	1156	1363	1268			
												57							



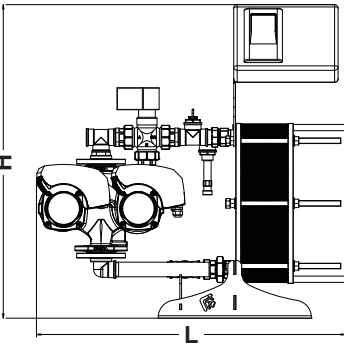
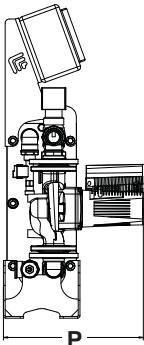
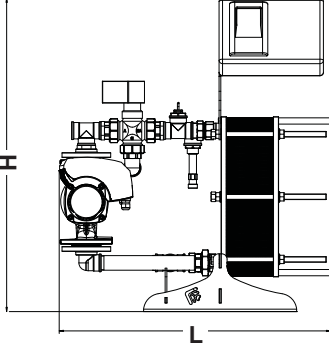
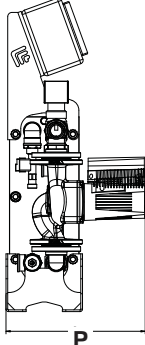
1	Primary inlet
2	Primary outlet
3	Domestic water inlet
4	Domestic water outlet

4620 DOUB. pump	9	403	906	868	703	7420 DOUB. pump	9	403	1192	868	703	8031 DOUB. pump	13	535	1156	1205	1110			
	13						13						17							
	17						17						21							
	21						21						25							
	25						25						29							
	29						888						724			29	888	724		33
	33			33	37															
	37			37	41															
	41			41	45					1236	1141									
	45			49	551															
4620 DOUB. pump	9	403	906	868	703	7420 DOUB. pump	9	403	1192	868	703	8031 DOUB. pump	53	1471	1376					
	13						13						57							
	17						17													
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	37						37													
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## PRs – for low temperature systems

with <b>DOUBLE</b> pump		with <b>SINGLE</b> pump	
			

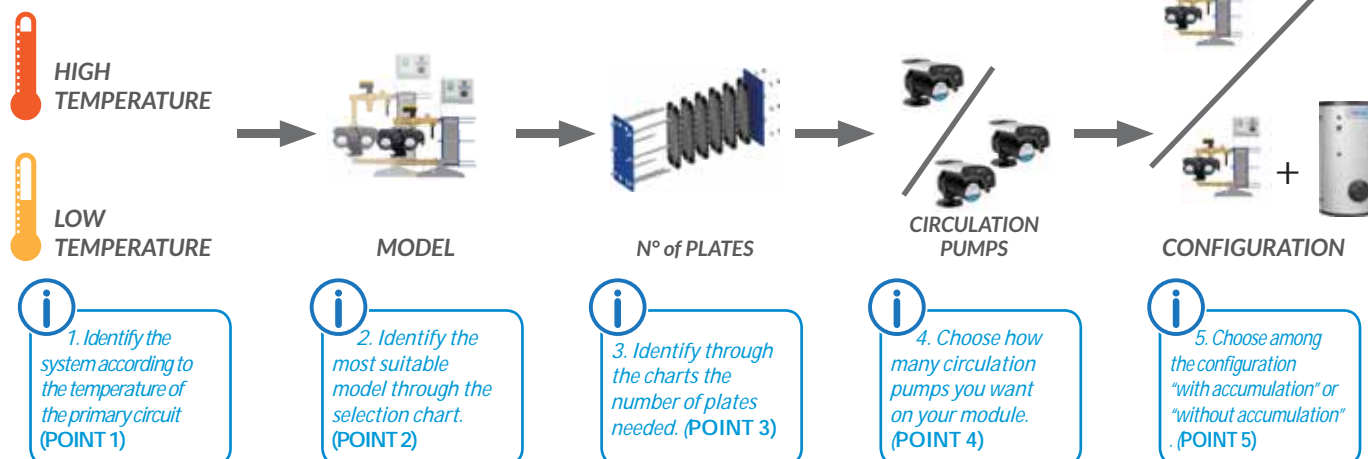
## PRs – for high temperature systems

with <b>DOUBLE</b> pump		with <b>SINGLE</b> pump	
			



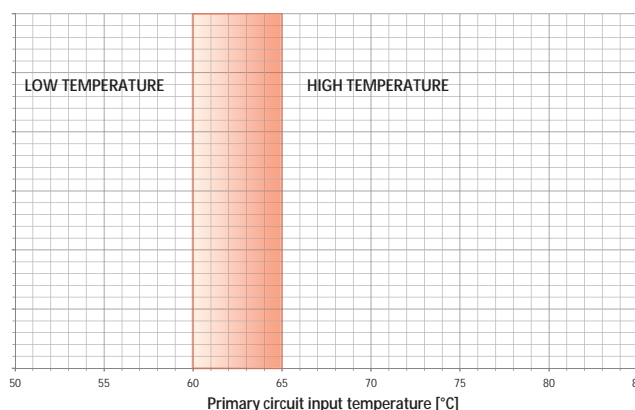
# Selection Procedure For PRS Module

## IDENTIFY THE BEST SOLUTION IN 5 EASY STEPS.



### 1) IDENTIFICATION OF THE SYSTEM

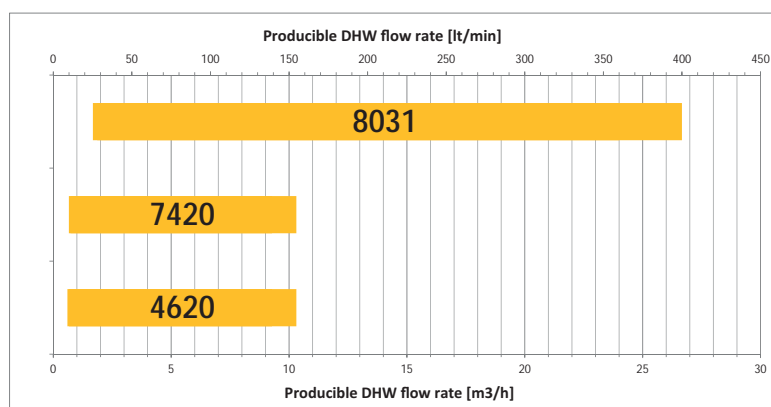
The PRS module is available in two basic versions: one for high temperature and one for low temperature. The models for high temperature feature a 3-way mixing valve on the primary circuit, in order to avoid deposits of limescale inside the exchanger. If the temperature of the primary circuit overcomes 60-65 °C it is necessary to choose the version for high temperature, while below this value it is possible to use also the models for low temperature.



### 2) IDENTIFICATION OF THE MODEL

The PRS module is available in three different sizes, depending on the size of the heat exchanger: 4620, 7420 and 8031. In high temperature systems it is preferable to use the model 4620, in the low temperature systems it is preferable to use the model 7420, while the model 8031 is recommended for high demands of DHW.

**PLEASE NOTE:** EACH EXCHANGER IS CHARACTERIZED BY A MINIMUM DHW FLOW RATE VALUE, BELOW THIS LIMIT THE PRS MODULE MIGHT NOT FUNCTION PROPERLY. HENCE IT IS IMPORTANT TO CONSIDER THE VALUES PROVIDED BELOW FOR THE CHOICE OF THE MODULE AND FOR THE SYSTEM SIZING, ESPECIALLY FOR THE APPLICATIONS IN WHICH THERE IS INSTANTANEOUS PRODUCTION OF DHW.



### MINIMUM FLOW RATE OF PRODUCIBLE DHW

PRS 4620 => DHW minimum flow rate = 0,60 m3/h (10 lt/min)

PRS 7420 => DHW minimum flow rate = 0,66 m3/h (11 lt/min)

PRS 8031 => DHW minimum flow rate = 1,68 m3/h (28 lt/min)

# Selection Procedure For PRS Module

## 3) CHOICE OF THE NUMBER OF PLATES

Once the model has been established, the choice of the number of plates can be made by using the selection charts presented in the following pages.

Please read below to understand how to read the charts.

THE FOLLOWING PARAMETERS NEED TO BE CONSIDERED:

- **The temperature difference between input and output of DHW ( $\Delta T_{ACS}$ ):** the domestic water is taken from public drinking water system generally at 10°C; then it is heated up to the desired temperature set in the control unit of the PRS module.
- **The input temperature from the primary circuit to the exchanger ( $T_{prim\_IN}$ ):** in the case of PRS modules with 3-way valve the  $T_{prim\_IN}$  corresponds to the mixing temperature of the primary fluid set in the control unit of the PRS module.
- **The DHW flow rate required to meet peaks in demand ( $Q_{ACS}$ )**

### EXAMPLE:

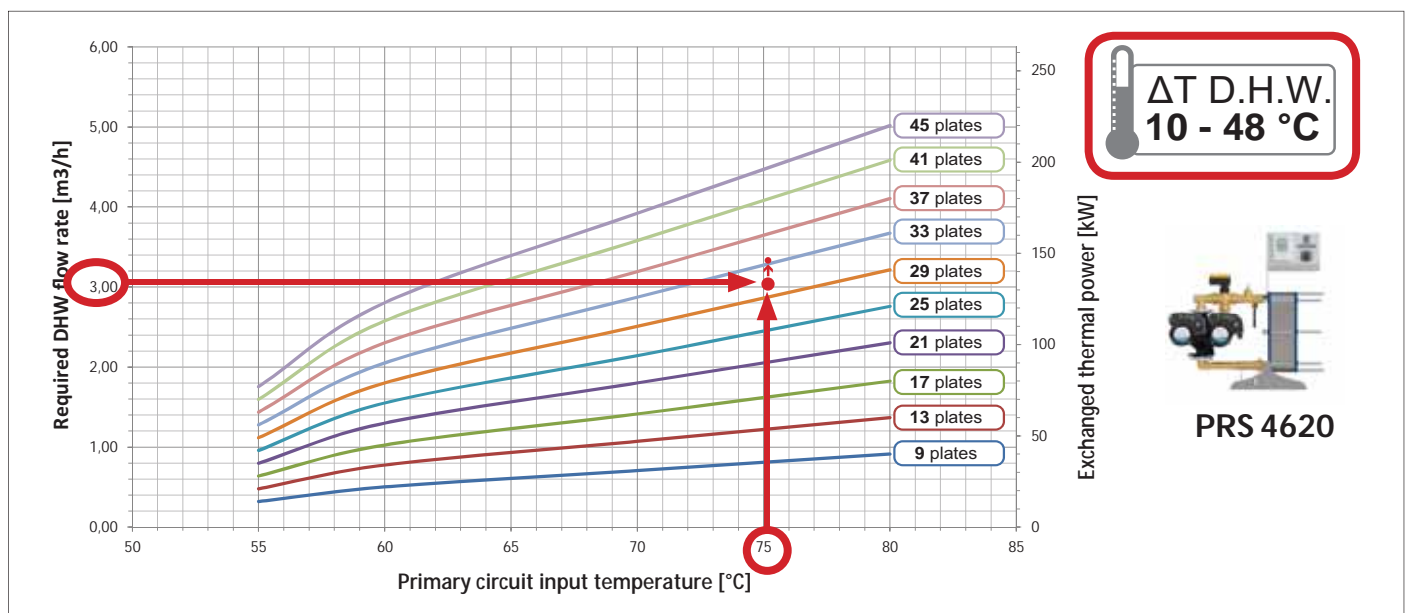
In a high temperature system, supposing that the needed flow rate is 3 m<sup>3</sup>/h (50 lt/min) of DHW at 48°C, we have identified the model PRS 4620.

We consider the main inlet temperature to be 10 °C and the primary at 75 °C.

As first step we have to identify the selection graph with our  $\Delta T_{ACS}$  (10 + 48 °C in this case).

Next we will trace a vertical line in correspondence of the input temperature of the primary circuit (75 °C) and an horizontal line in correspondence of the required DHW flow rate (3 m<sup>3</sup>/h).

The intersection of the two lines will represent the operational point of the PRS module in our peaks in demand. The number of plates required to guarantee the needs will be represented by the curve immediately above the point of intersection (in the specific case of the example this will be PRS 4620 with 33 plates).



## 4) CHOICE OF THE NUMBER OF CIRCULATION PUMPS

Each PRS module is available either with single or with double pump on the primary circuit. The double pump allows a greater redundancy of the system, thanks to the backup alternating operation, hence a major assurance of continuity of water supply.

## 5) CHOICE OF CONFIGURATION ON USER SIDE (WITH OR WITHOUT DHW ACCUMULATION)

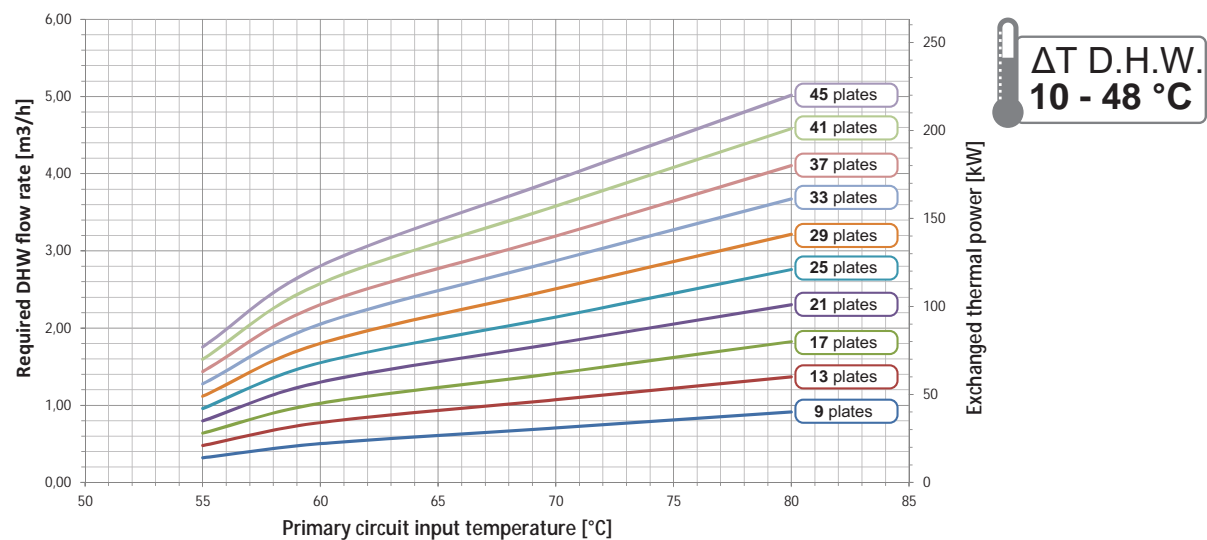
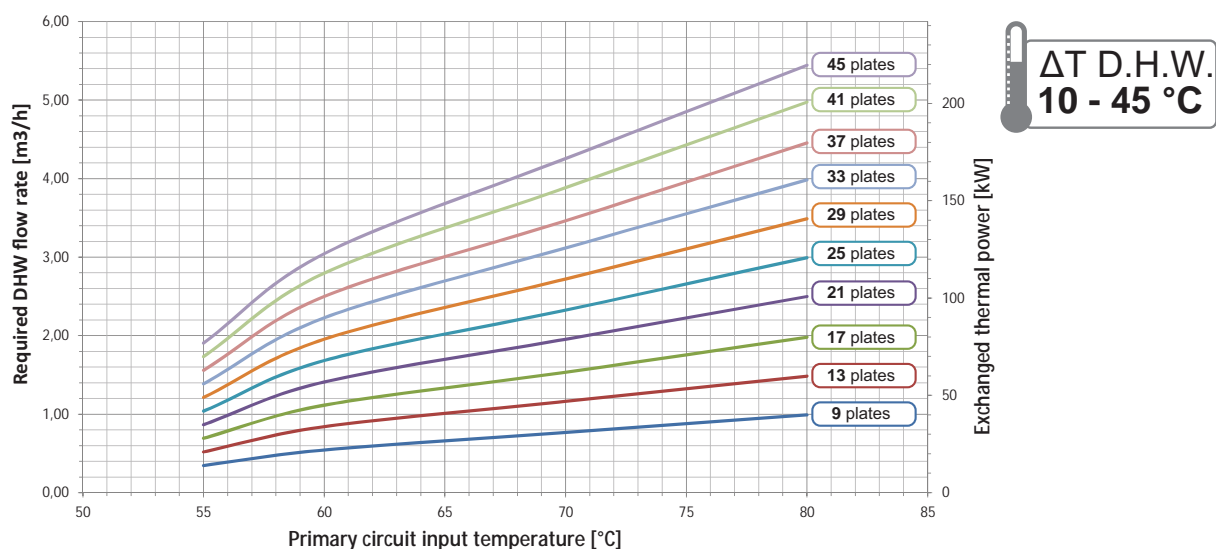
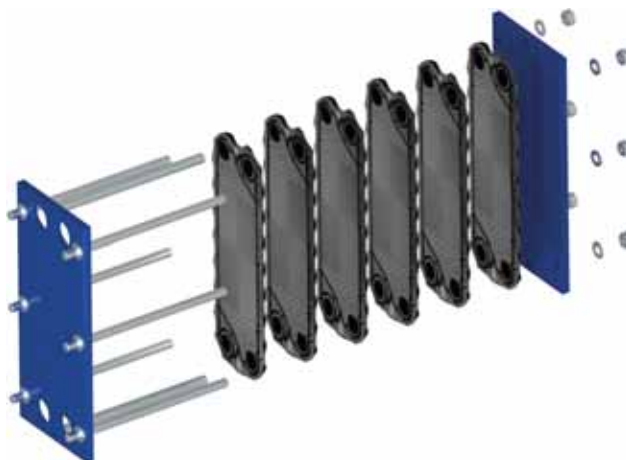
The systems with DHW accumulation allow to produce domestic hot water at a stable temperature. Moreover, at the same operational conditions, it is possible to choose smaller PRS modules since the accumulation tank works as a buffer that can satisfy the peaks in demand. For the models which foresee the accumulation, the central unit is specifically conceived to handle the inertial tank for DHW.

**PLEASE NOTE:** In case of configuration for accumulation, consult our calorifiers catalogue to complete the installation, by purchasing the accumulation tank which best suits the needs of users.

# CURVES FOR CHOOSING PLATES- PRS 4620

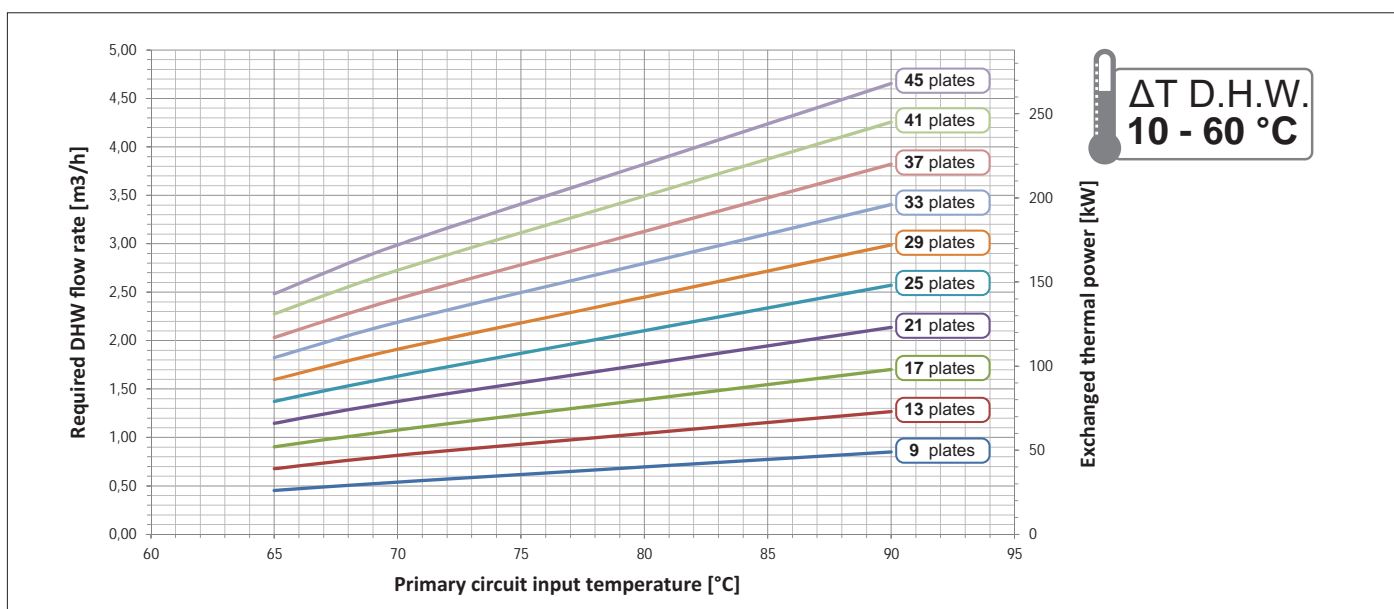
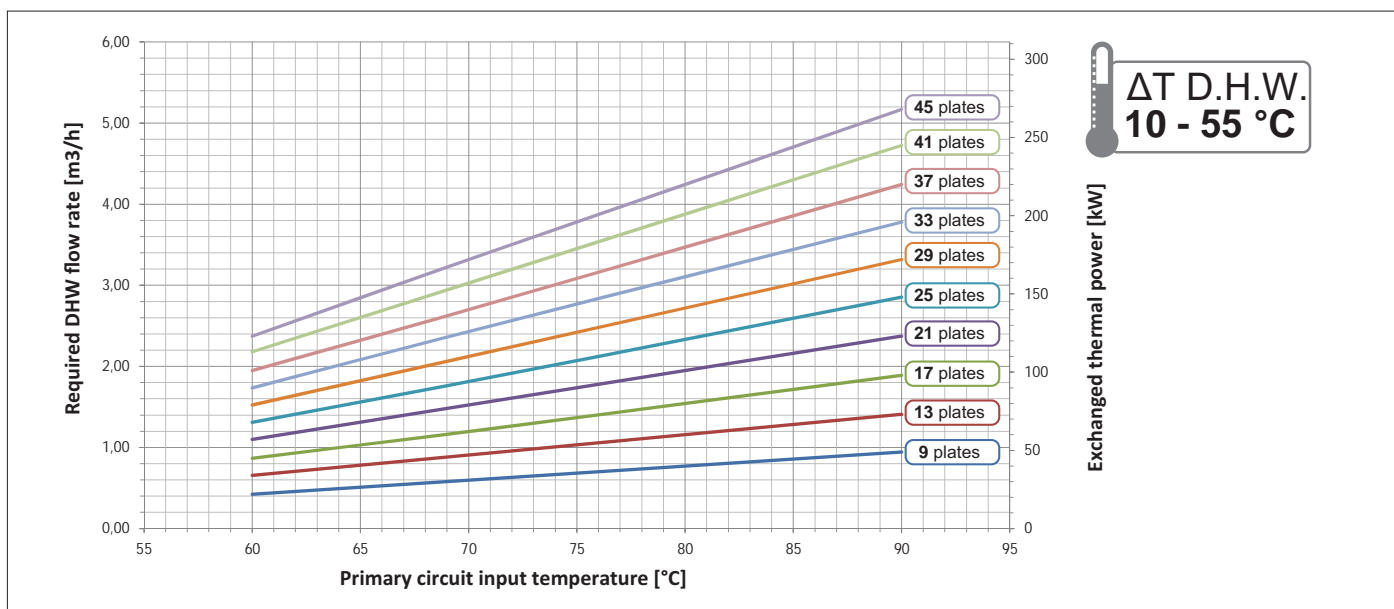
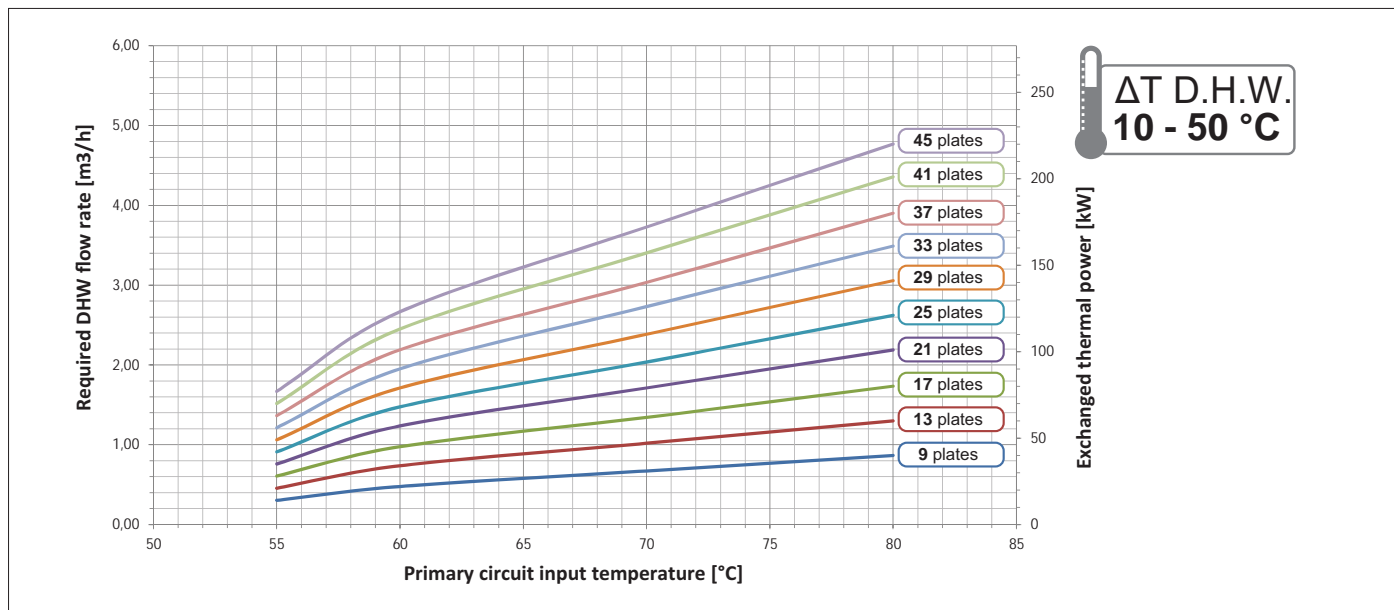


PRS 4620





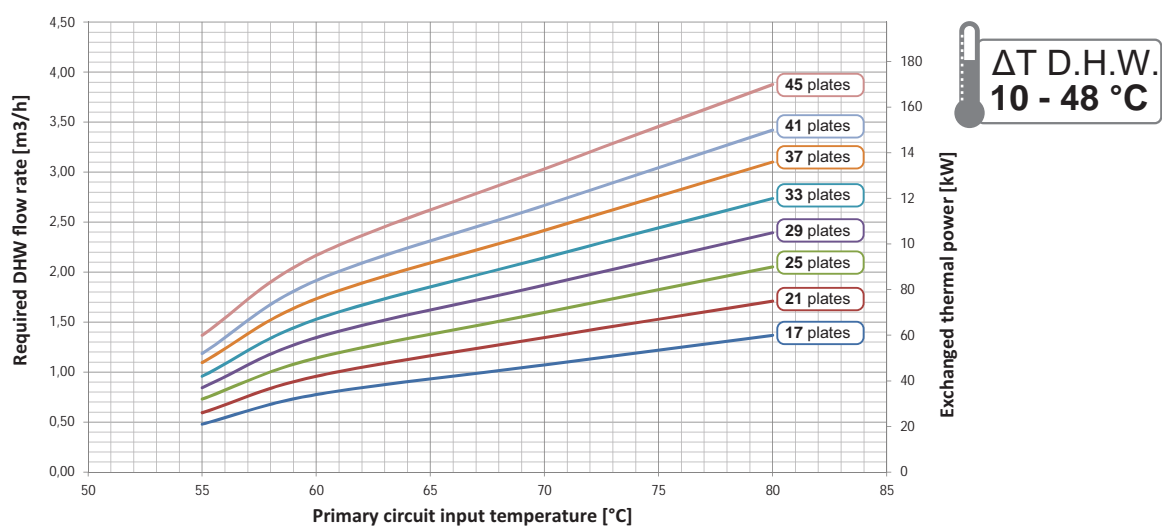
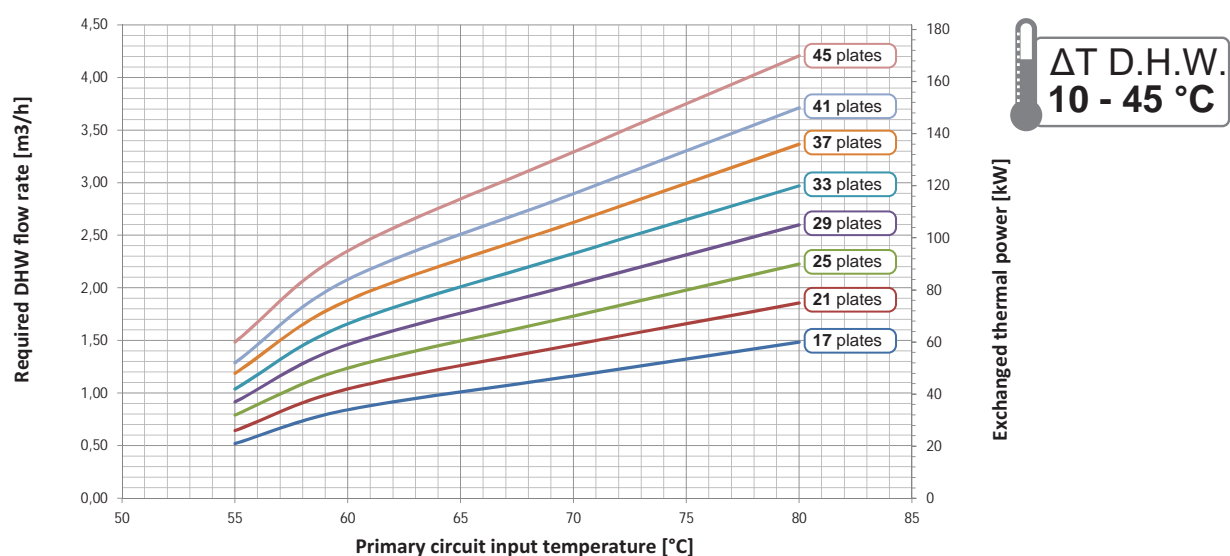
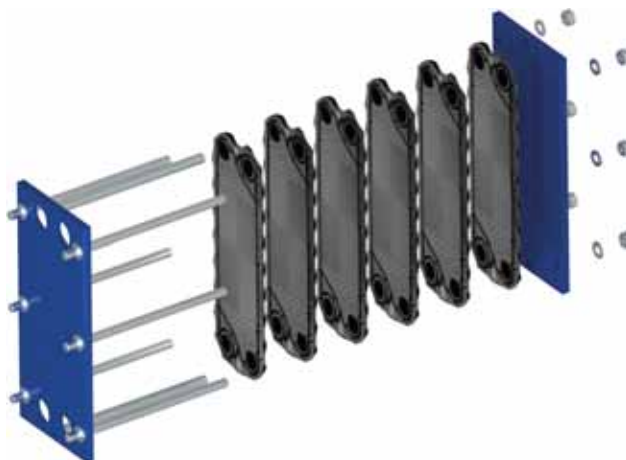
# CURVES FOR CHOOSING PLATES - PRS 4620



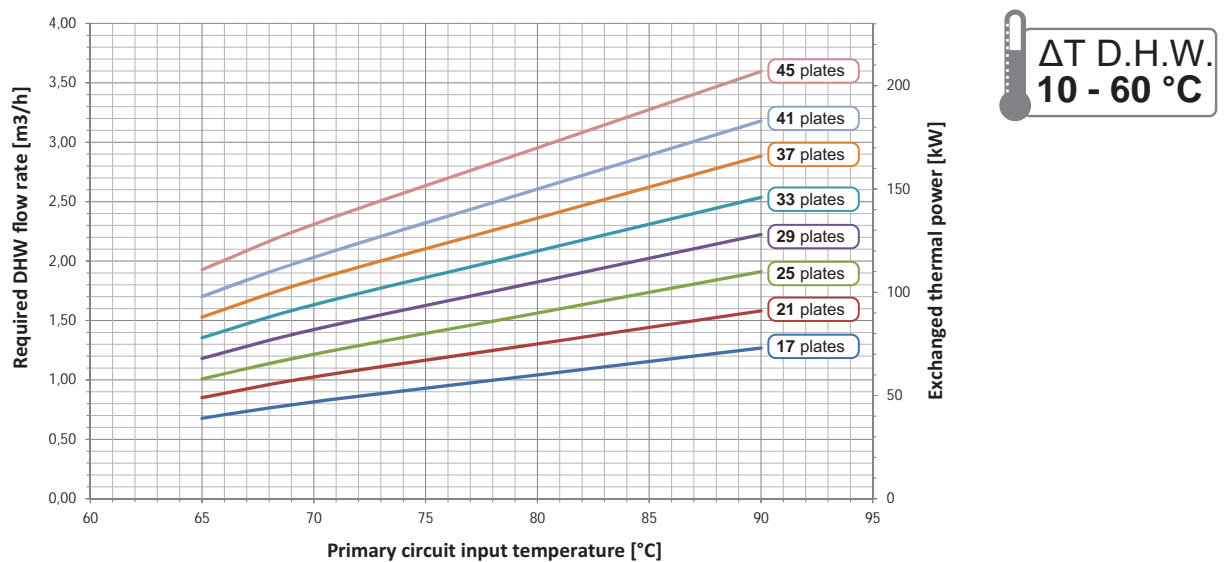
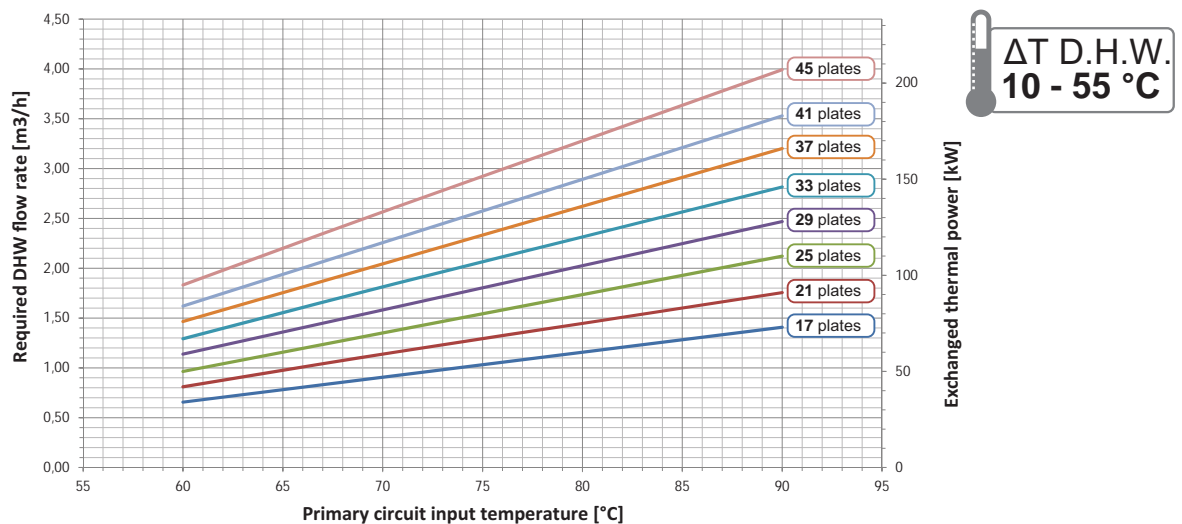
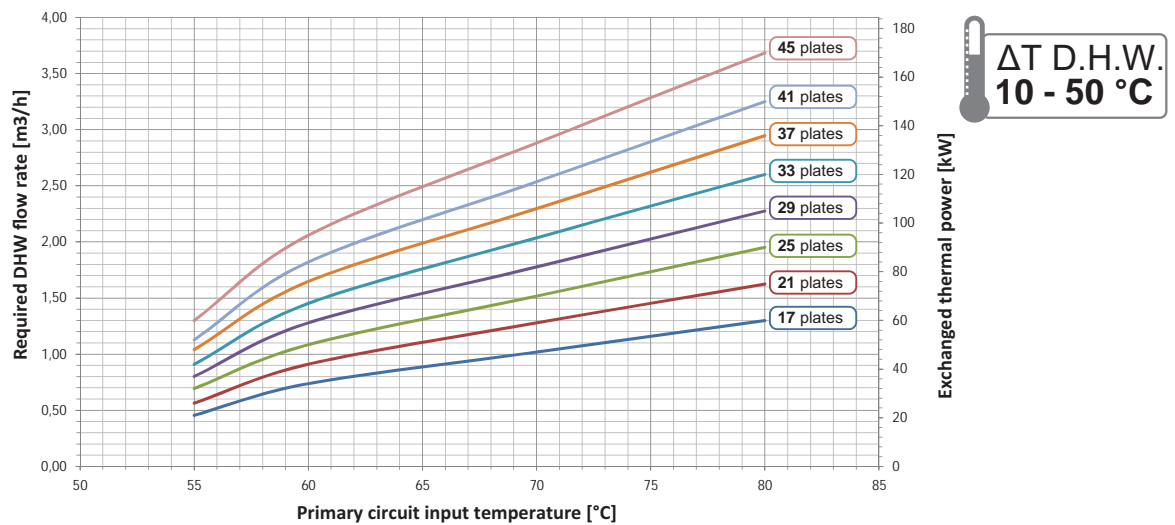
# CURVES FOR CHOOSING PLATES- PRS 7420



PRS 7420



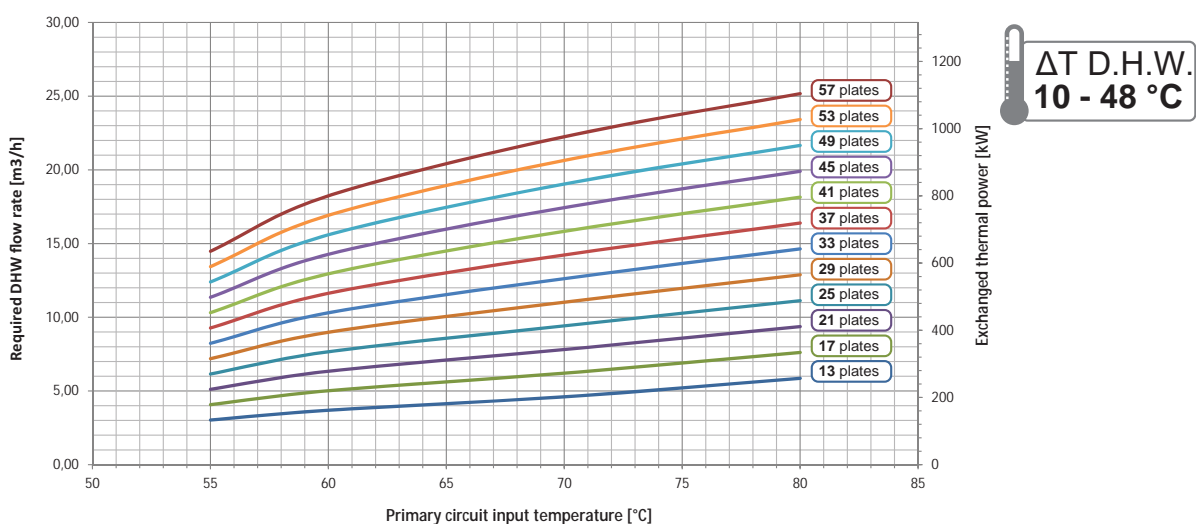
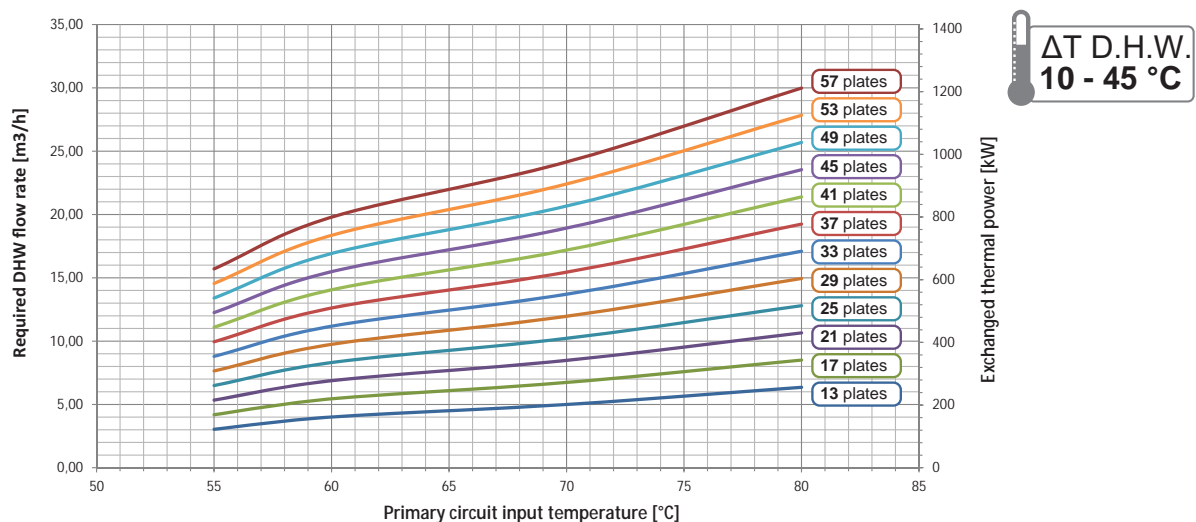
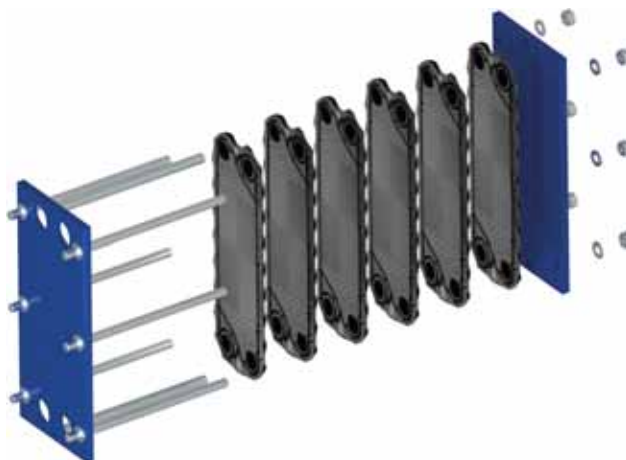
# CURVES FOR CHOOSING PLATES - PRS 7420



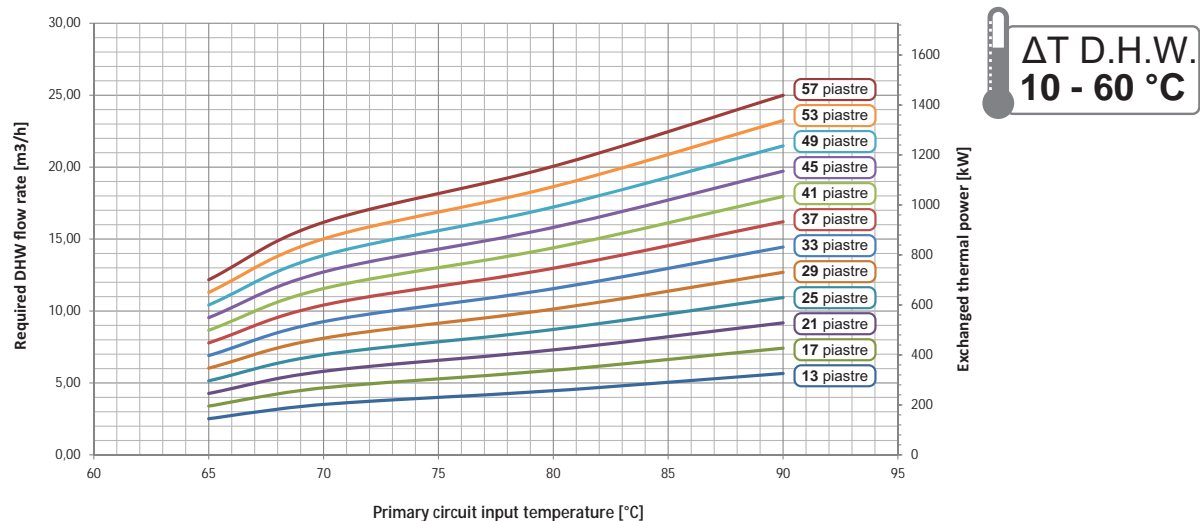
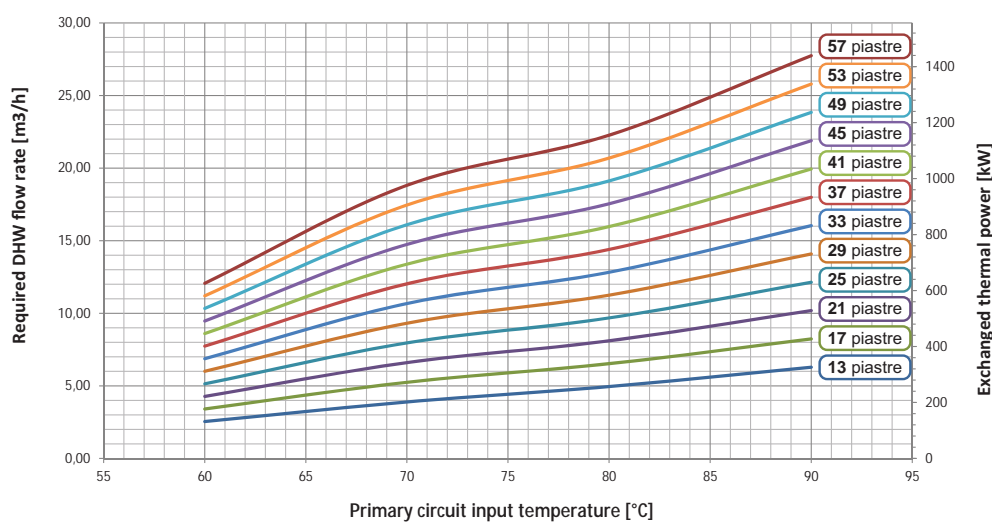
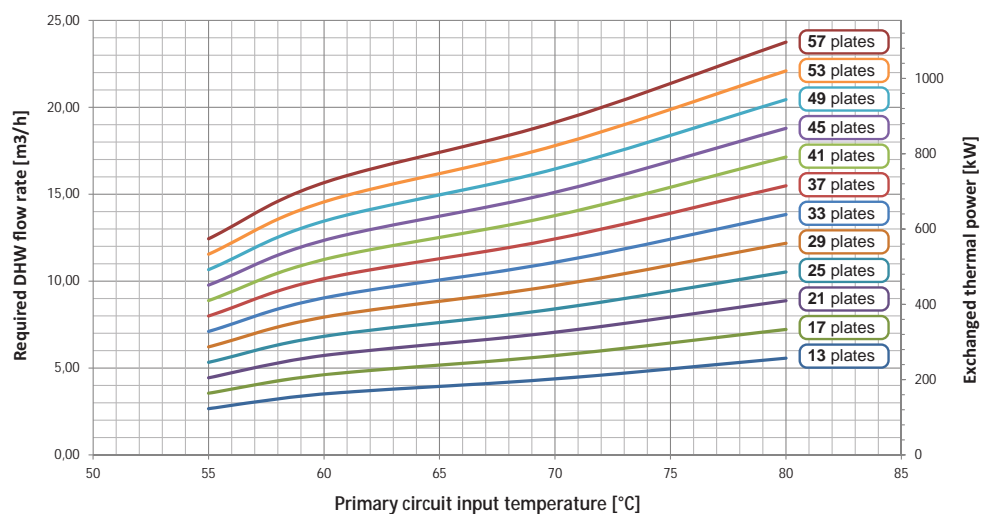
# CURVES FOR CHOOSING PLATES- PRS 8031



PRS 8031



# CURVES FOR CHOOSING PLATES - PRS 8031









# CONFIGURATION WITHOUT DHW ACCUMULATION

## LOW TEMPERATURE

### SINGLE PUMP

### DOUBLE PUMP

Model	N° of Plates	Art. Nr.	Model	N° of Plates	Art. Nr.
 PHC 4620	9	3435316701090	 PHC 4620	9	3435316701100
	13	3435316701091		13	3435316701101
	17	3435316701092		17	3435316701102
	21	3435316701093		21	3435316701103
	25	3435316701094		25	3435316701104
	29	3435316701095		29	3435316701105
	33	3435316701096		33	3435316701106
	37	3435316701097		37	3435316701107
	41	3435316701098		41	3435316701108
	45	3435316701099		45	3435316701109
 PHC 7420	17	3435316701170	 PHC 7420	17	3435316701178
	21	3435316701171		21	3435316701179
	25	3435316701172		25	3435316701180
	29	3435316701173		29	3435316701181
	33	3435316701174		33	3435316701182
	37	3435316701175		37	3435316701183
	41	3435316701176		41	3435316701184
	45	3435316701177		45	3435316701185
 PHC 8031	13	3435316701234	 PHC 8031	13	3435316701246
	17	3435316701235		17	3435316701247
	21	3435316701236		21	3435316701248
	25	3435316701237		25	3435316701249
	29	3435316701238		29	3435316701250
	33	3435316701239		33	3435316701251
	37	3435316701240		37	3435316701252
	41	3435316701241		41	3435316701253
	45	3435316701242		45	3435316701254
	49	3435316701243		49	3435316701255
	53	3435316701244		53	3435316701256
	57	3435316701245		57	3435316701257

See general sales conditions and warranty on the CORDIVARI CALORIFIERS CATALOGUE









# CONFIGURATION WITHOUT DHW ACCUMULATION

## HIGH TEMPERATURE

### SINGLE PUMP

### DOUBLE PUMP

Model	N° of Plates	Art. Nr.	Model	N° of Plates	Art. Nr.
 PHC 4620	9	3435316701130	 PHC 4620	9	3435316701140
	13	3435316701131		13	3435316701141
	17	3435316701132		17	3435316701142
	21	3435316701133		21	3435316701143
	25	3435316701134		25	3435316701144
	29	3435316701135		29	3435316701145
	33	3435316701136		33	3435316701146
	37	3435316701137		37	3435316701147
	41	3435316701138		41	3435316701148
	45	3435316701139		45	3435316701149
 PHC 7420	17	3435316701202	 PHC 7420	17	3435316701210
	21	3435316701203		21	3435316701211
	25	3435316701204		25	3435316701212
	29	3435316701205		29	3435316701213
	33	3435316701206		33	3435316701214
	37	3435316701207		37	3435316701215
	41	3435316701208		41	3435316701216
	45	3435316701209		45	3435316701217
 PHC 8031	13	3435316701282	 PHC8031	13	3435316701294
	17	3435316701283		17	3435316701295
	21	3435316701284		21	3435316701296
	25	3435316701285		25	3435316701297
	29	3435316701286		29	3435316701298
	33	3435316701287		33	3435316701299
	37	3435316701288		37	3435316701300
	41	3435316701289		41	3435316701301
	45	3435316701290		45	3435316701302
	49	3435316701291		49	3435316701303
	53	3435316701292		53	3435316701304
	57	3435316701293		57	3435316701305







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# CONFIGURATION FOR DHW ACCUMULATION

## LOW TEMPERATURE

### SINGLE PUMP

### DOUBLE PUMP

Model	N° of Plates	Art. Nr.	Model	N° of Plates	Art. Nr.
 PHC 4620	9	3435316701090	 PHC 4620	9	3435316701100
	13	3435316701091		13	3435316701101
	17	3435316701092		17	3435316701102
	21	3435316701093		21	3435316701103
	25	3435316701094		25	3435316701104
	29	3435316701095		29	3435316701105
	33	3435316701096		33	3435316701106
	37	3435316701097		37	3435316701107
	41	3435316701098		41	3435316701108
	45	3435316701099		45	3435316701109
 PHC 7420	17	3435316701170	 PHC 7420	17	3435316701178
	21	3435316701171		21	3435316701179
	25	3435316701172		25	3435316701180
	29	3435316701173		29	3435316701181
	33	3435316701174		33	3435316701182
	37	3435316701175		37	3435316701183
	41	3435316701176		41	3435316701184
	45	3435316701177		45	3435316701185
 PHC 8031	13	3435316701258	 PHC 8031	13	3435316701270
	17	3435316701259		17	3435316701271
	21	3435316701260		21	3435316701272
	25	3435316701261		25	3435316701273
	29	3435316701262		29	3435316701274
	33	3435316701263		33	3435316701275
	37	3435316701264		37	3435316701276
	41	3435316701265		41	3435316701277
	45	3435316701266		45	3435316701278
	49	3435316701267		49	3435316701279
	53	3435316701268		53	3435316701280
	57	3435316701269		57	3435316701281




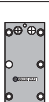


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# CONFIGURATION FOR DHW ACCUMULATION

## HIGH TEMPERATURE

### SINGLE PUMP

### DOUBLE PUMP

Model	N° of Plates	Art. Nr.	Model	N° of Plates	Art. Nr.
 PHC 4620	9	3435316701150	 PHC 4620	9	3435316701160
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	17	3435316701152		17	3435316701162
	21	3435316701153		21	3435316701163
	25	3435316701154		25	3435316701164
	29	3435316701155		29	3435316701165
	33	3435316701156		33	3435316701166
	37	3435316701157		37	3435316701167
	41	3435316701158		41	3435316701168
	45	3435316701159		45	3435316701169
 PHC 7420	17	3435316701218	 PHC 7420	17	3435316701226
	21	3435316701219		21	3435316701227
	25	3435316701220		25	3435316701228
	29	3435316701221		29	3435316701229
	33	3435316701222		33	3435316701230
	37	3435316701223		37	3435316701231
	41	3435316701224		41	3435316701232
	45	3435316701225		45	3435316701233
 PHC 8031	13	3435316701306	 PHC 8031	13	3435316701318
	17	3435316701307		17	3435316701319
	21	3435316701308		21	3435316701320
	25	3435316701309		25	3435316701321
	29	3435316701310		29	3435316701322
	33	3435316701311		33	3435316701323
	37	3435316701312		37	3435316701324
	41	3435316701313		41	3435316701325
	45	3435316701314		45	3435316701326
	49	3435316701315		49	3435316701327
	53	3435316701316		53	3435316701328
	57	3435316701317		57	3435316701329

See general sales conditions and warranty on the CORDIVARI CALORIFIERS CATALOGUE

# ACCESSORIES

## DATA LOGGER

The Data Logger records on a micro-SD card the anti-legionella cycles and the main thermal settings of the PRS system. This accessory comes standard with 5 Vdc transformer, Micro SD card, CAN-bus cable, terminating resistors and wall plugs.



Art. Nr.
5755280000029

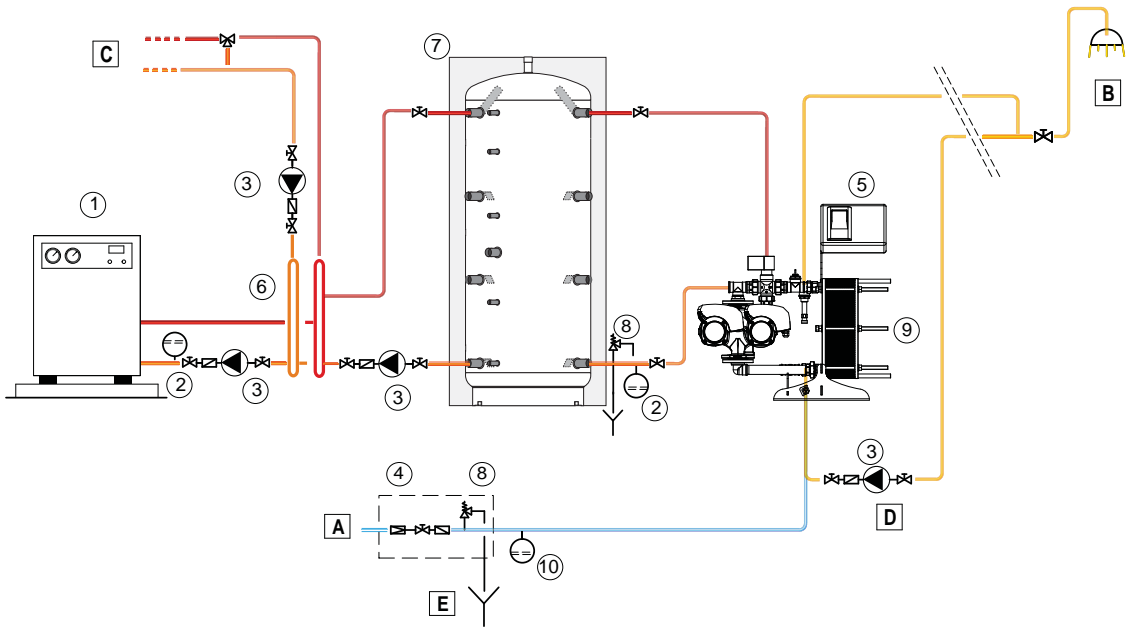
## INSULATION

Insulation for the exchanger made with mineral wool and aluminum case (M0-A1 reaction to fire class)



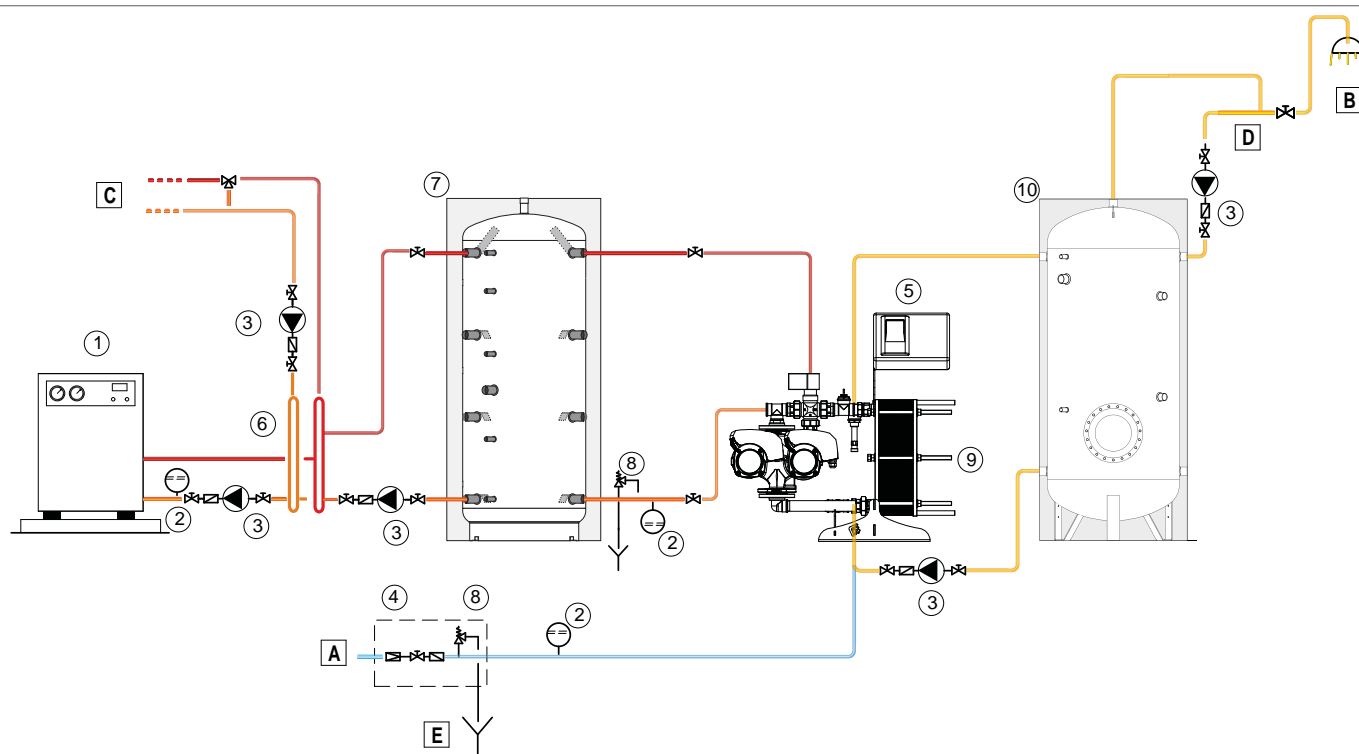
Art. Nr.	MODEL
5655000020001	4620 (up to 31 plates)
5655000020002	4620 (up to 67 plates)
5655000020003	7420 (up to 29 plates)
5655000020004	7420 (up to 67 plates)

## Example of system – without DHW accumulation



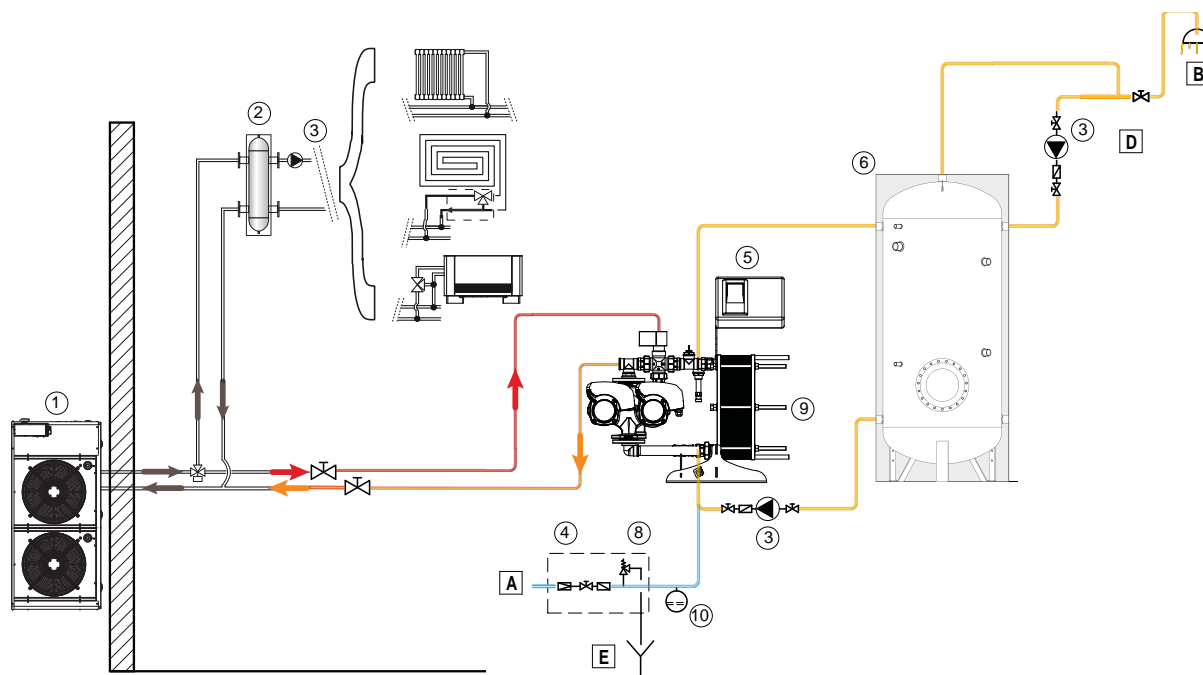
1	Generator	5	PRS module	9	Heat exchanger	C	To the heating system
2	Expansion vessel	6	Collector/Catcher	10	Expansion vessel	D	Recirculation
3	Circulation group	7	PUFFER (Inertial tank)	A	Domestic cold water circuit inlet	E	Drain
4	Hydraulic safety group	8	Safety Valve	B	Domestic hot water users		

## Example of system – for DHW accumulation



1	Generator	5	PRS module	9	Heat exchanger	C	To the heating system
2	Expansion vessel	6	Collector/Catcher	10	Inertial vessel (DHW)	D	Recirculation
3	Circulation group	7	PUFFER (Inertial tank)	A	Domestic cold water circuit inlet	E	Drain
4	Hydraulic safety group	8	Safety Valve	B	Domestic hot water users		

## Example of system – for DHW accumulation



1	Heat pump	5	PRS module	10	Expansion vessel	D	Recirculation
2	Volano wall mounted buffer	6	Inertial vessel (DHW)	A	Domestic cold water circuit inlet	E	Drain
3	Circulation group	8	Safety Valve	B	Domestic hot water users		
4	Hydraulic safety group	9	Heat exchanger	C	To the heating system		

The examples and diagrams in this manual are included solely for illustrative purposes. For the realization of the system always refer to a certified designed technician.



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