

# HEAT INTERFACE UNITS

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advanced automation solutions

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# ★ Direct SmartHexa DHW

## 1. General Description



**SmartHexa DHW** is equipped with an electronic control system to ensure maximum efficiency and prioritizes domestic hot water production.

The unit continuously monitors temperature, pressure, and flow values at multiple points to maintain optimal operating conditions.

Featuring a stainless steel heat exchanger and piping, the system offers high durability and ensures efficient and hygienic domestic hot water preparation. An optional outdoor compensation control can be integrated in buildings with central heating systems to further improve overall energy efficiency.

The system utilizes a motorized control valve with advanced control algorithms to provide stable and precise domestic hot water temperature for end users.

The electronic control system also enables intelligent functions such as PC connectivity for setup and commissioning, district return temperature control, an enhanced anti-legionella cycle, and a “keep warm” mode for continuous pre-heating and reduced return temperatures.

SmartHexa DHW allows remote monitoring and control by transmitting all operational data to the BLES system.

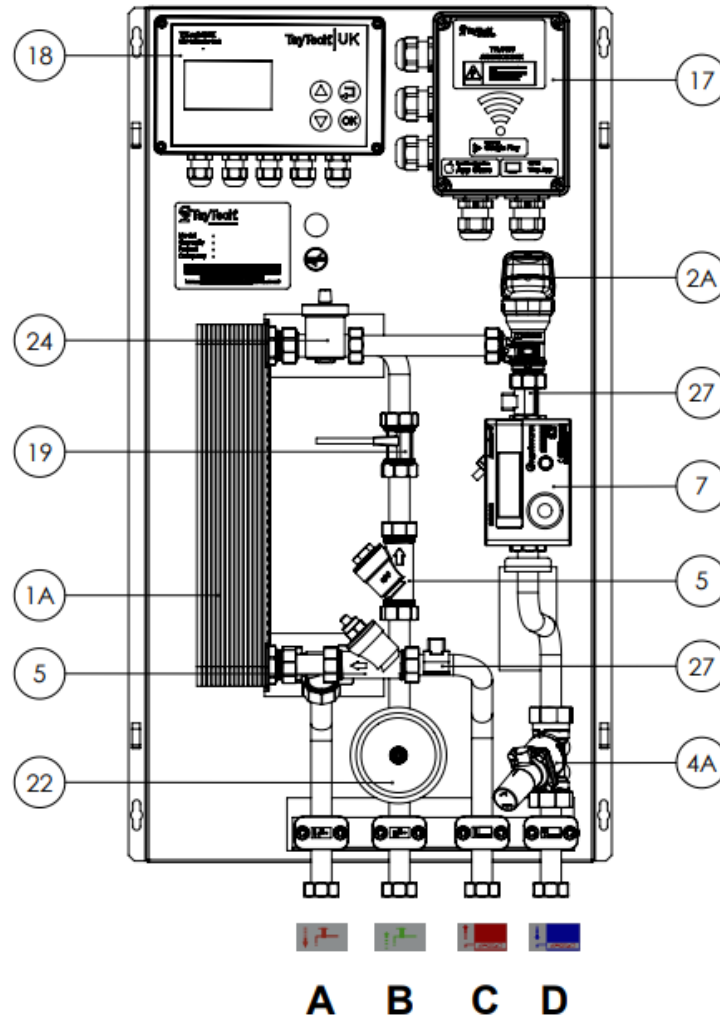
## Features

- Fully electronic control with PC connectivity via GSM or Ethernet
- Fast and precise DHW control with calibrated sensors
- Return temperature control with high-efficiency heat exchanger
- Smart anti-legionella function
- Pump and valve exercise mode to prevent sticking

# Direct SmartHexa DHW

## 2. Hydraulic Review

### 2.1 Component List



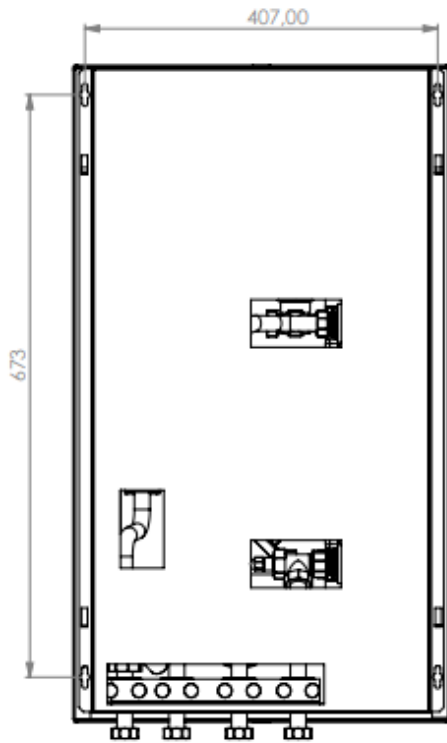
- 1A DHW Heat Exchanger
- 2A DHW Temperature Control Valve
- 5 District Heating Strainer
- 7 Heat Meter
- 19 Flow Sensor
- 22 Water Hammer Arrester
- 24 Automatic Air Vent

- 17 Junction Box
- 27.1 DHW Temperature Sensor
- 27.2 DHW Return Temperature Sensor
- 27.3 District Heating Temperature Sensor
- 27.4 SH Return Temperature Sensor
- 27.5 SH Temperature Sensor
- 18 TT LogicBOX Controller

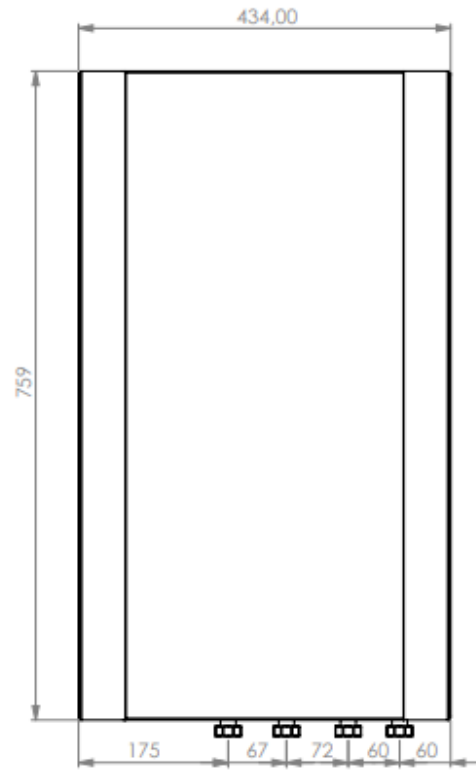
★ Direct SmartHexa DHW

2. Dimensions

Back View



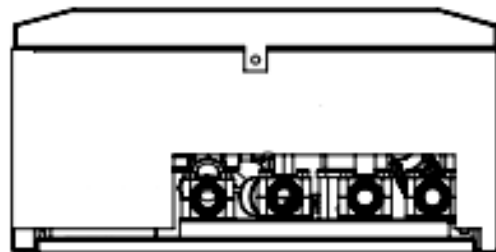
Front View



Wall Mounted View



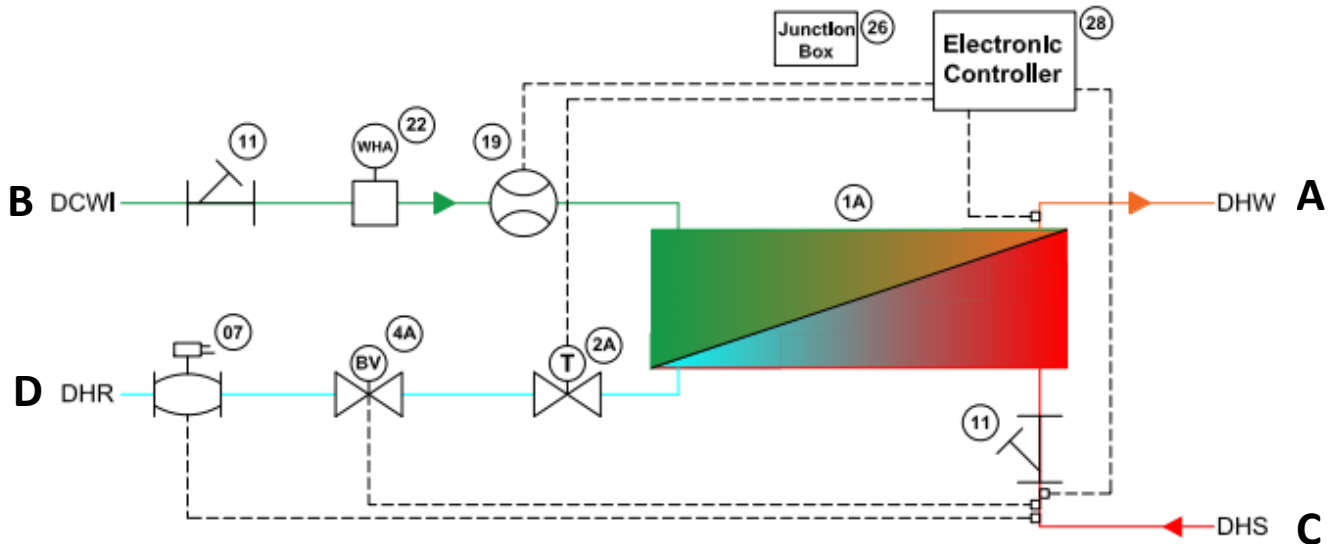
Bottom View



# Direct SmartHexa DHW

## 2. Hydraulic Review

### 2.2 Flow Diagram



A — DHW	—	Domestic Cold Water Inlet
B — DCWI	—	Domestic Hot Water
C — DHS	—	District Heating Supply
D — DHR	—	District Heating Return

## Direct SmartHexa DHW

### 3. Technical Specifications

Description	Data
Nominal primary supply temperature	70°C
Maximum primary supply temperature	85°C
Minimum primary supply temperature	55°C *
Nominal DHW supply temperature	55°C
DHW Set Range	45°C to 60°C
Return Temp Limit Range	35°C to 65°C
CH Limit Range	30°C to 80°C
Primary connections	Female / 18mm
Mains & DHW connections	Female / 18mm
Central heating connections	Female / 18mm
Pressure relief	15mm
Maximal primary differential pressure (without dP regulator)	450kPa
Pressure class DH circuit	PN16
Pressure class CH circuit (3 bar safety valve)	PN3
Pressure class DHW circuit	PN10
SH Maximum working pressure	2.5 Bar
Casing width	434mm
Casing height	759mm
Casing depth	220mm
Casing Material	Metal case with Insulation
Weight	27kg **
Electrical supply info	230V 50Hz
Fuse ratings	3 Amp
Sensor DHW	NTC 10k ohm @ 25°C
Functions	Keep Warm Legionella Pump Exercise Valve Exercise Pre-pay Shut Off Hot Water Priority

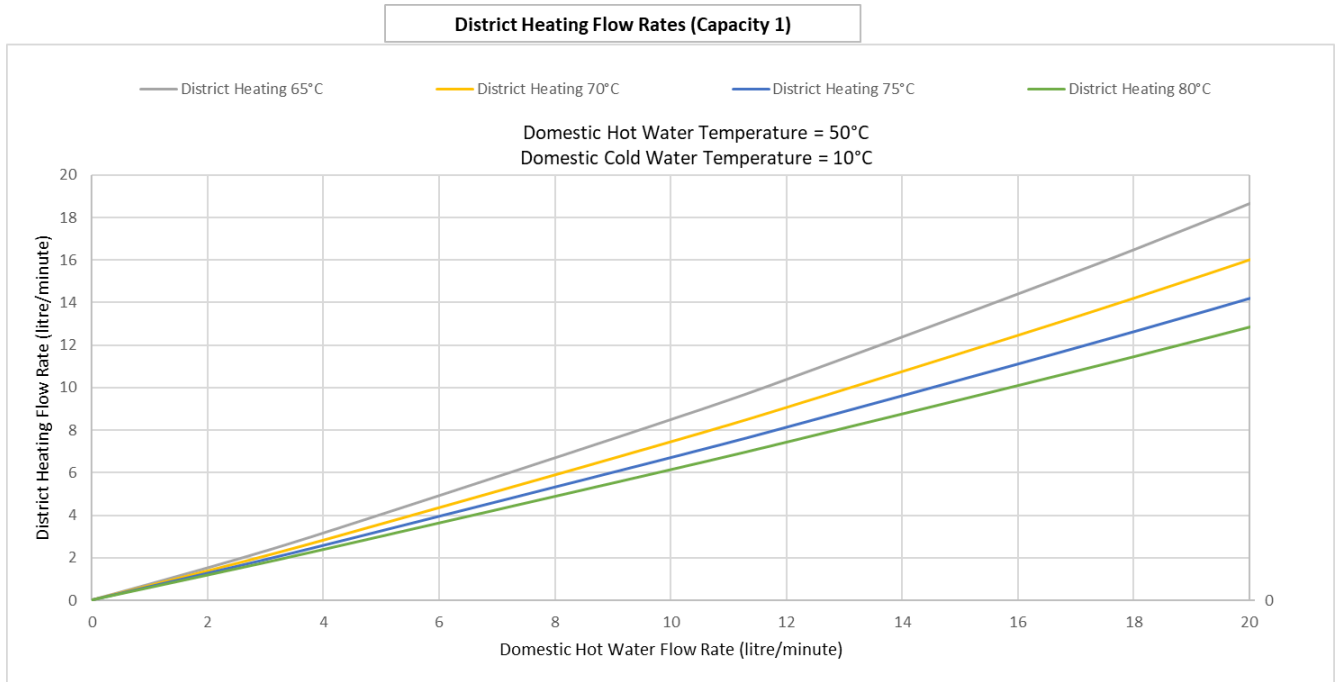
\* Minimum required DH supply temperature is DHW setpoint + 5°C with a minimum of 55°C.

\*\* Unit weight may vary depending on the optional components built into the unit.

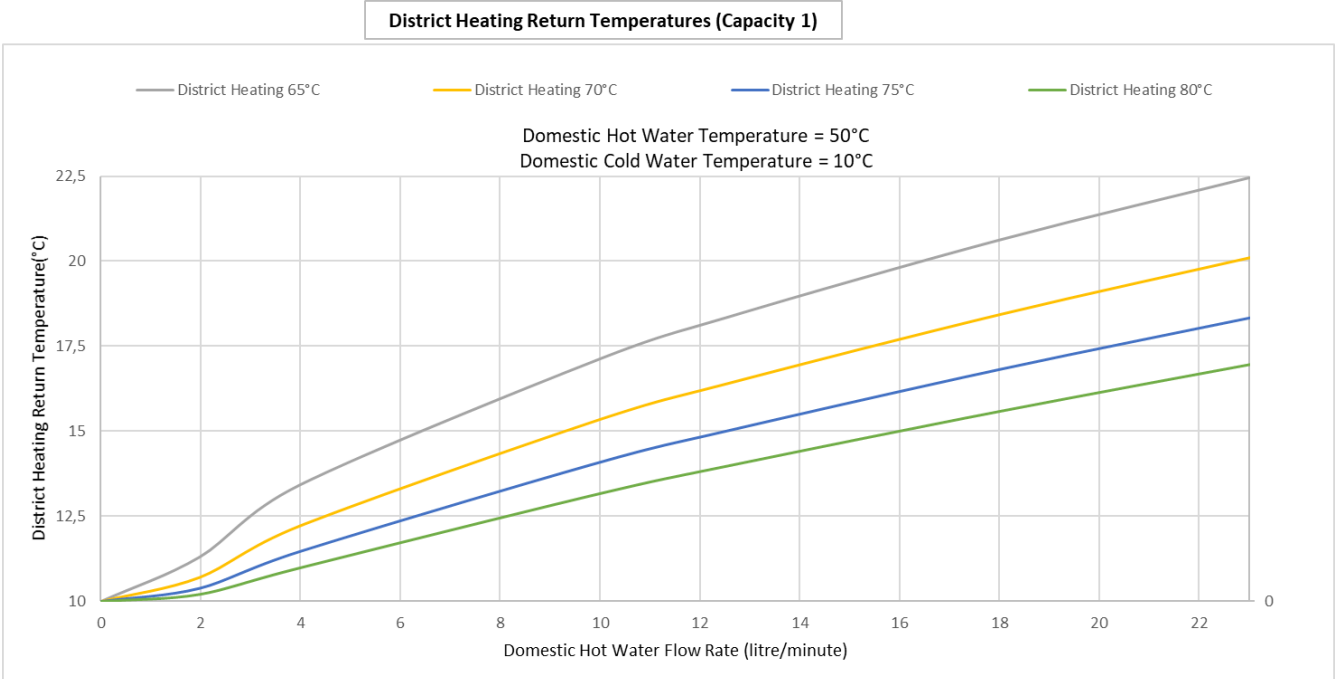
# Direct SmartHexa DHW

## 4. Performance Curves

### 4.1 District Heating Flow Rates (Capacity 1)



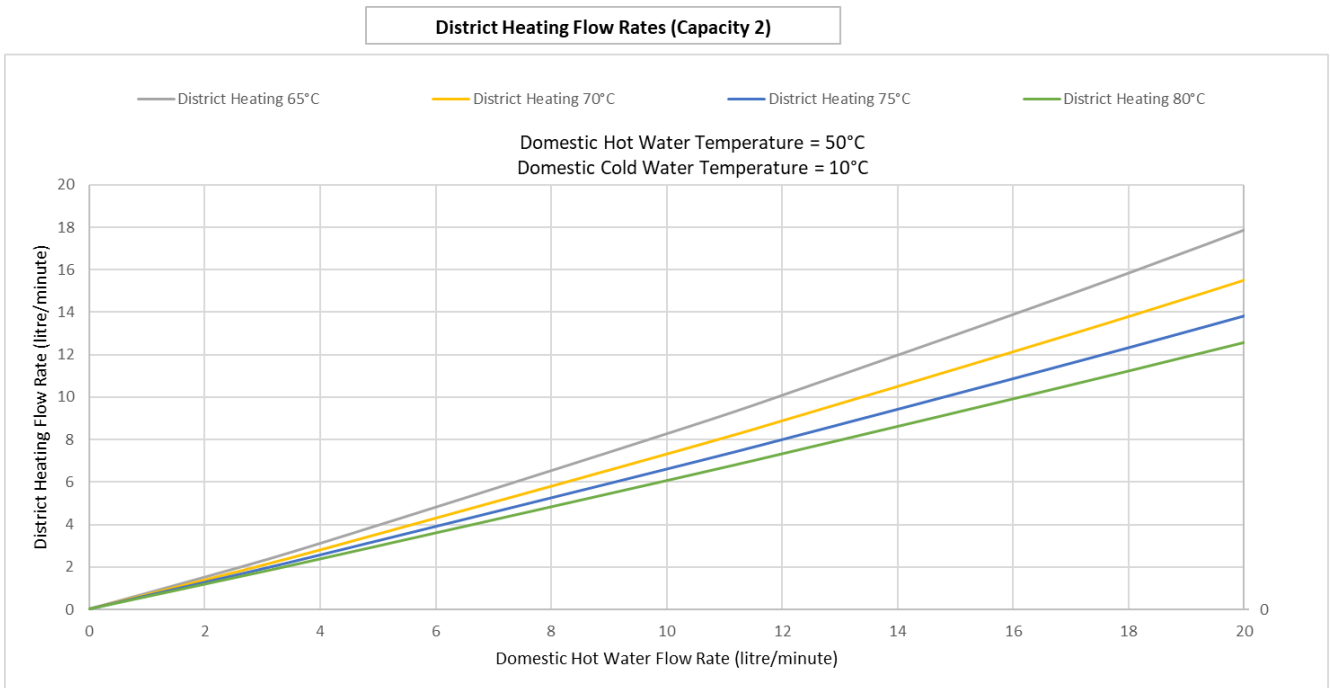
### 4.2 District Heating Return Temperatures (Capacity 1)



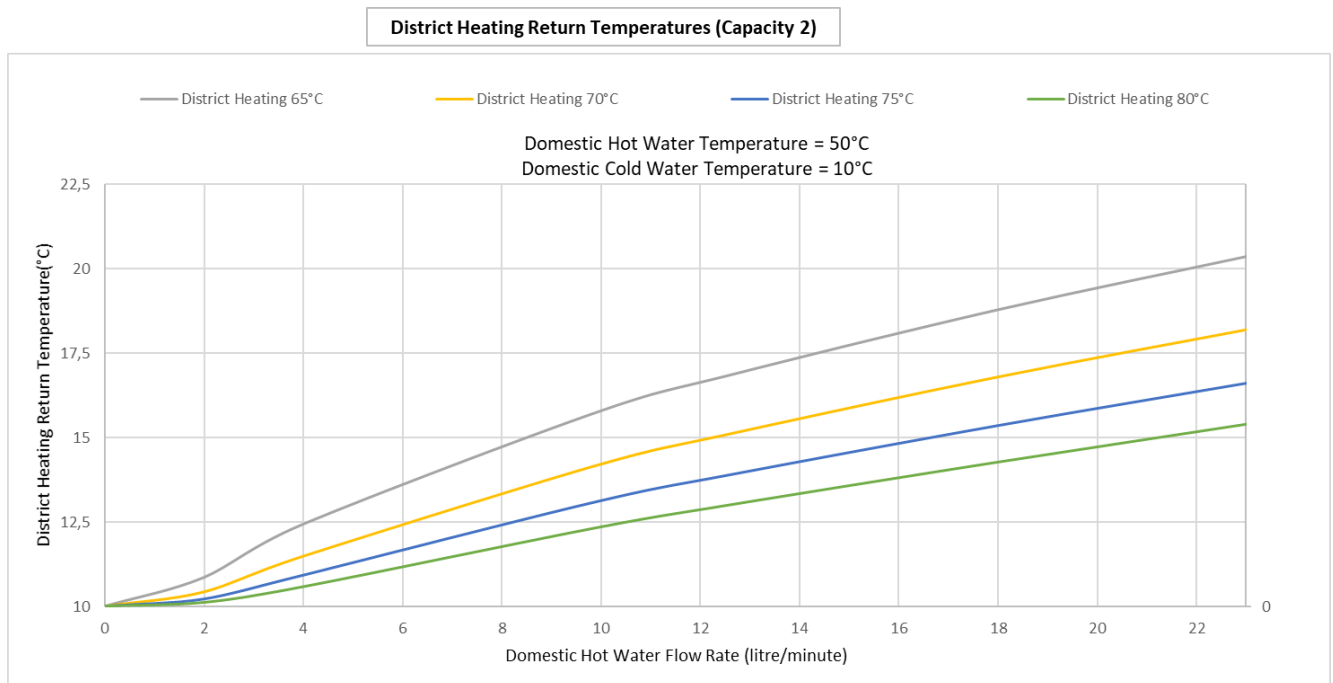
# Direct SmartHexa DHW

## 4. Performance Curves

### 4.3 District Heating Flow Rates (Capacity 2)



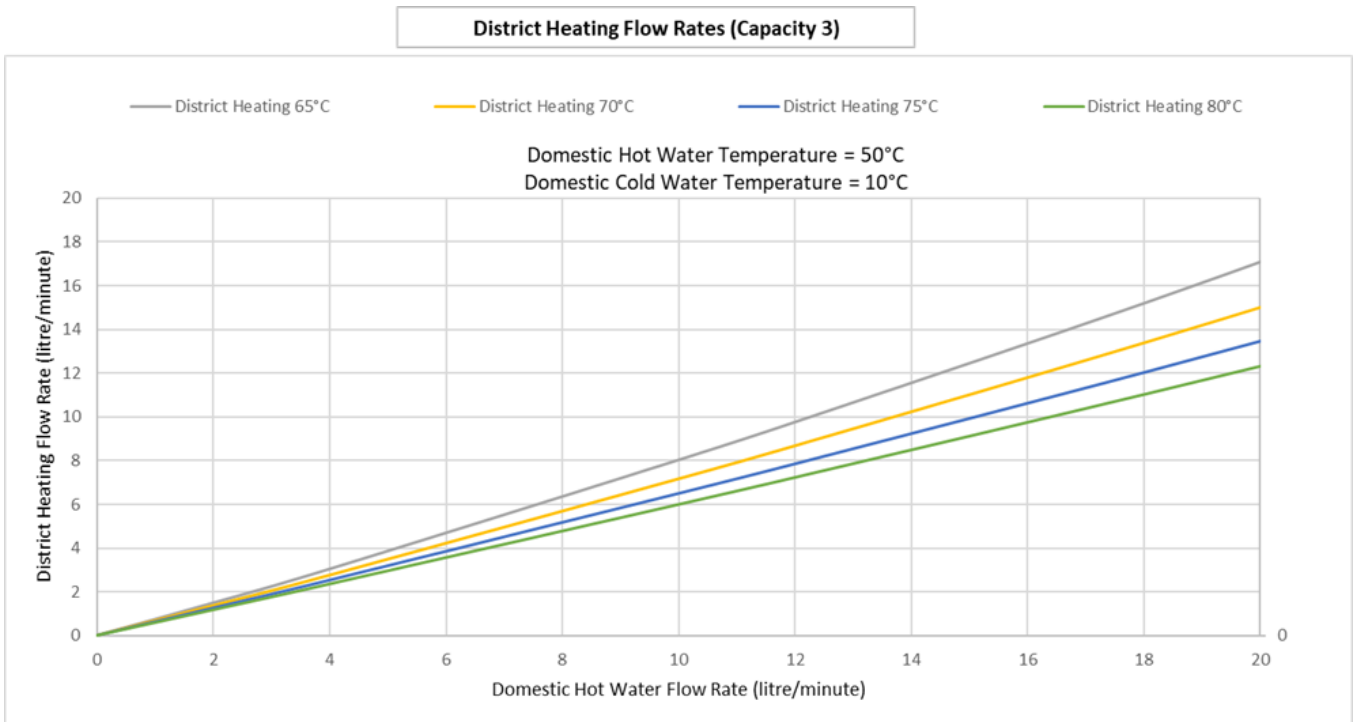
### 4.4 District Heating Return Temperatures (Capacity 2)



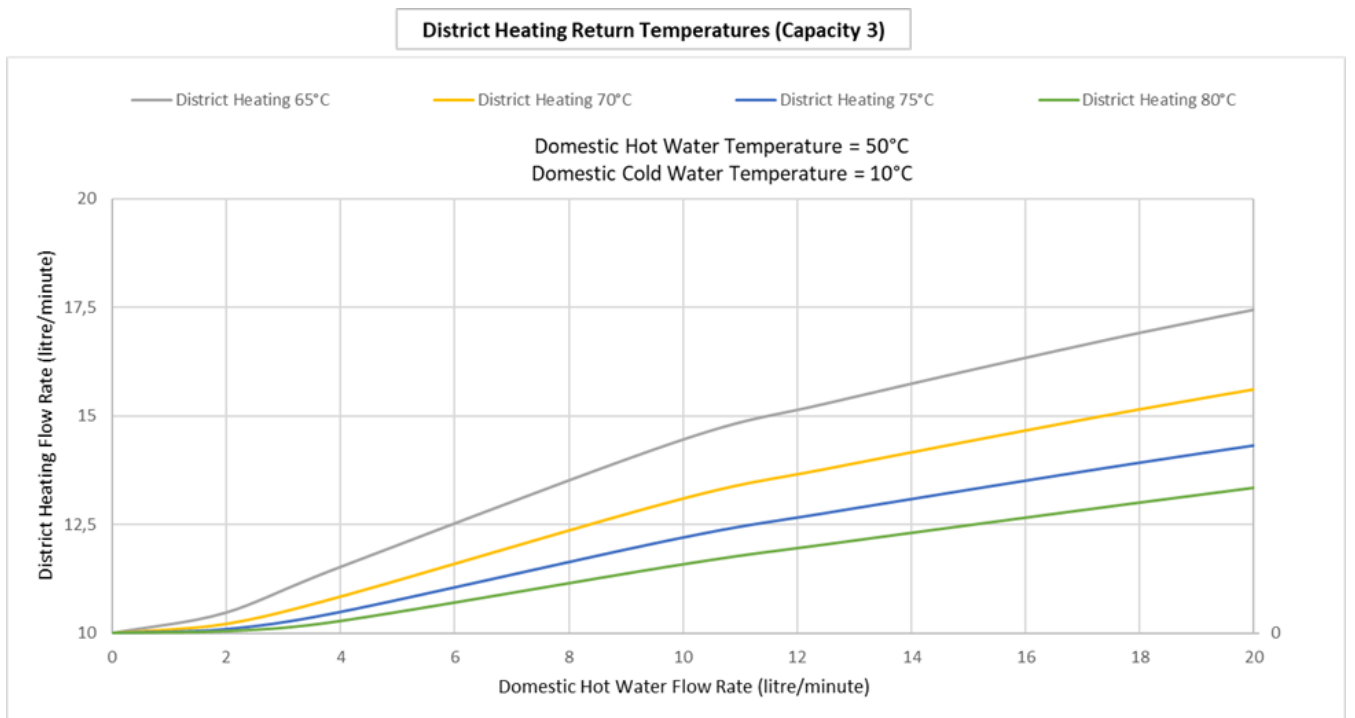
# Direct SmartHexa DHW

## 4. Performance Curves

### 4.5 District Heating Flow Rates (Capacity 3)



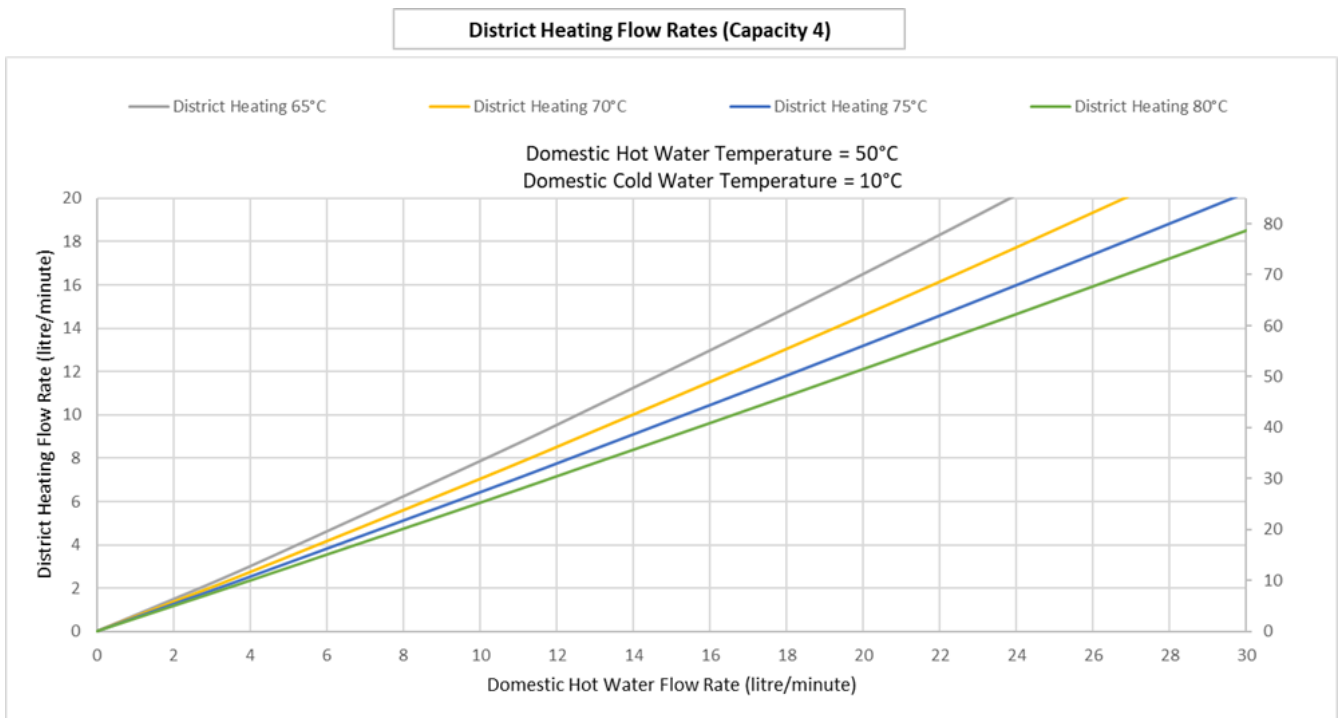
### 4.6 District Heating Return Temperatures (Capacity 3)



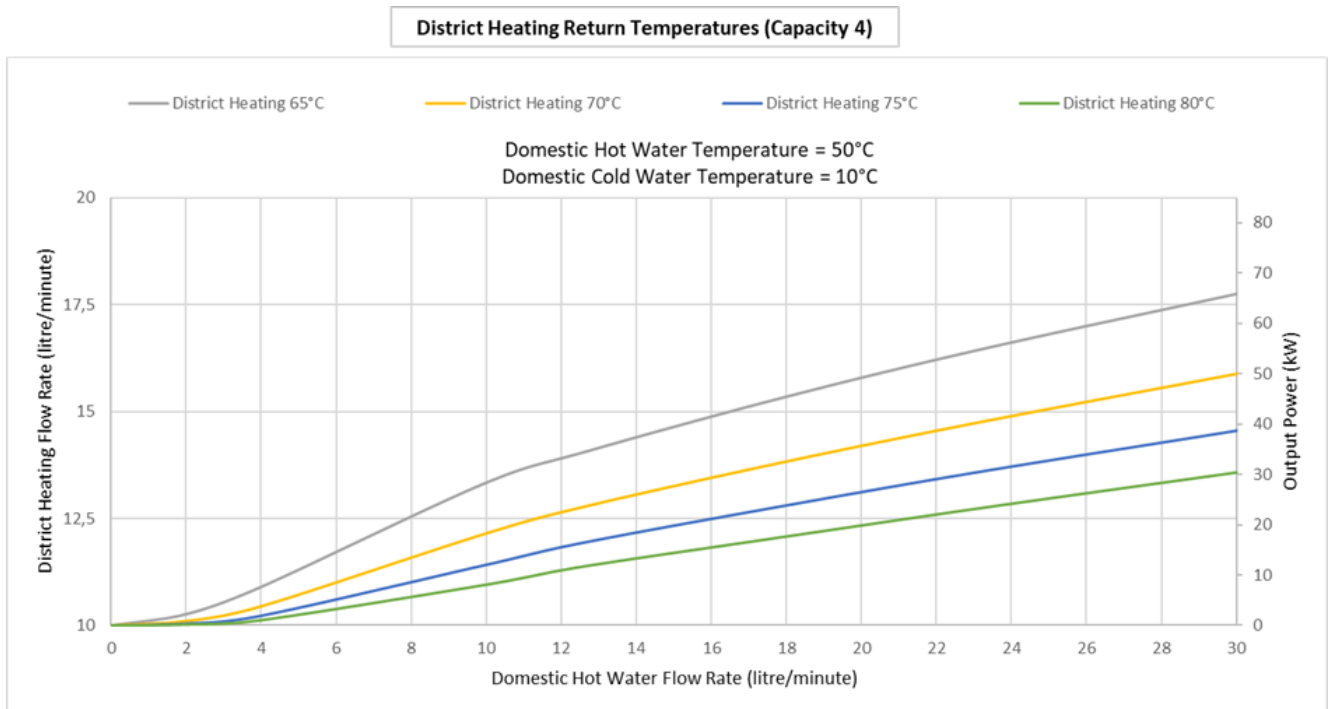
# Direct SmartHexa DHW

## 4. Performance Curves

### 4.7 District Heating Flow Rates (Capacity 4)



### 4.8 District Heating Return Temperatures (Capacity 4)



## Direct SmartHexa DHW

### 5. Performance Table

#### 5.1 Capacity 1

HIU Performance of DHW Capacity 1					
Hot Water Output	Primary Flow °C	Capacity (kW)	DHW Flow Rate (l/m)	Primary Return °C	Primary Flow Rate (l/min)
<b>10-50°C</b>	55	5,5	1,983	15,36	2,021
		11	3,966	19,29	4,487
		27,5	9,915	24,54	13,15
		35	12,62	26,25	17,73
	60	5,5	1,983	12,53	1,692
		11	3,966	15,47	3,608
		27,5	9,915	19,78	9,986
		35	12,62	21,27	13,2
	65	5,5	1,983	11,31	1,5
		11	3,966	13,41	3,122
		27,5	9,915	17,08	8,404
		35	12,62	18,38	10,99
	70	5,5	1,983	10,71	1,362
		11	3,966	12,21	2,795
		27,5	9,915	15,31	7,384
		35	12,62	16,43	9,594
	75	5,5	1,983	10,39	1,254
		11	3,966	11,46	2,55
		27,5	9,915	14,06	6,646
		35	12,62	15,04	8,596
80	5,5	1,983	10,21	1,164	
	11	3,966	10,98	2,354	
	27,5	9,915	13,14	6,076	
	35	12,62	14	7,833	

## Direct SmartHexa DHW

### 5. Performance Table

#### 5.2 Capacity 2

HIU Performance of DHW Capacity 2					
Hot Water Output	Primary Flow °C	Capacity (kW)	DHW Flow Rate (l/m)	Primary Return °C	Primary Flow Rate (l/min)
<b>10-50°C</b>	55	5,5	1,983	14,18	1,963
		11	3,966	17,75	4,301
		27,5	9,915	22,72	12,41
		35	12,62	24,27	16,59
		50	18,03	26,83	25,86
	60	5,5	1,983	11,8	1,667
		11	3,966	14,13	3,503
		27,5	9,915	18,23	9,616
		35	12,62	19,54	12,63
		50	18,03	21,77	19,1
	65	5,5	1,983	10,85	1,488
		11	3,966	12,42	3,063
		27,5	9,915	15,76	8,178
		35	12,62	16,87	10,65
		50	18,03	18,81	15,85
	70	5,5	1,983	10,42	1,356
		11	3,966	11,47	2,76
		27,5	9,915	14,18	7,235
		35	12,62	15,12	9,365
		50	18,03	16,81	13,8
75	5,5	1,983	10,21	1,25	
	11	3,966	10,91	2,528	
	27,5	9,915	13,1	6,543	
	35	12,62	13,9	8,435	
	50	18,03	15,36	12,35	
80	5,5	1,983	10,11	1,163	
	11	3,966	10,57	2,34	
	27,5	9,915	12,33	6,003	
	35	12,62	13,01	7,717	
	50	18,03	14,28	11,24	

## Direct SmartHexa DHW

### 5. Performance Table

#### 5.3 Capacity 3

HIU Performance of DHW Capacity 3					
Hot Water Output	Primary Flow °C	Capacity (kW)	DHW Flow Rate (l/m)	Primary Return °C	Primary Flow Rate (l/min)
<b>10-50°C</b>	55	5,5	1,983	13,02	1,908
		11	3,966	15,83	4,091
		27,5	9,915	20,72	11,69
		35	12,62	22,08	15,49
		50	18,03	24,35	23,76
		65	23,43	26,22	32,89
	60	5,5	1,983	11,14	1,644
		11	3,966	12,83	3,406
		27,5	9,915	16,6	9,255
		35	12,62	17,7	12,08
		50	18,03	19,59	18,07
		65	23,43	21,22	24,48
	65	5,5	1,983	10,47	1,477
		11	3,966	11,51	3,012
		27,5	9,915	14,42	7,961
		35	12,62	15,32	10,32
		50	18,03	16,92	15,23
		65	23,43	18,32	20,39
	70	5,5	1,983	10,21	1,351
		11	3,966	10,83	2,73
		27,5	9,915	13,07	7,093
		35	12,62	13,81	9,147
		50	18,03	15,16	13,39
		65	23,43	16,37	17,8
	75	5,5	1,983	10,09	1,248
		11	3,966	10,48	2,511
		27,5	9,915	12,18	6,447
		35	12,62	12,79	8,285
		50	18,03	13,93	12,06
		65	23,43	14,98	15,95
80	5,5	1,983	10,04	1,161	
	11	3,966	10,27	2,33	
	27,5	9,915	11,57	5,936	
	35	12,62	12,07	7,61	
	50	18,03	13,02	11,03	
	65	23,43	13,94	14,53	

## Direct SmartHexa DHW

### 5. Performance Table

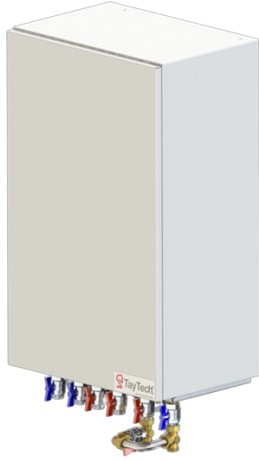
#### 5.4 Capacity 4

HIU Performance of DHW Capacity 4					
Hot Water Output	Primary Flow °C	Capacity (kW)	DHW Flow Rate (l/m)	Primary Return °C	Primary Flow Rate (l/min)
<b>10-50°C</b>	55	5,5	1,983	12,12	1,869
		11	3,966	14,29	3,936
		27,5	9,915	18,99	11,12
		35	12,62	20,17	14,64
		50	18,03	22,16	22,18
		65	23,43	23,8	30,35
		85	30,65	25,67	42,21
	60	5,5	1,983	10,7	1,629
		11	3,966	11,87	3,338
		27,5	9,915	15,24	8,974
		35	12,62	16,16	11,66
		50	18,03	17,76	17,29
		65	23,43	19,12	23,22
		85	30,65	20,72	31,61
	65	5,5	1,983	10,26	1,471
		11	3,966	10,89	2,977
		27,5	9,915	13,31	7,791
		35	12,62	14,06	10,06
		50	18,03	15,36	14,75
		65	23,43	16,51	19,63
		85	30,65	17,88	26,42
	70	5,5	1,983	10,1	1,348
		11	3,966	10,44	2,712
		27,5	9,915	12,13	6,979
		35	12,62	12,78	8,983
		50	18,03	13,84	13,07
		65	23,43	14,8	17,29
		85	30,65	15,99	23,11
	75	5,5	1,983	10,04	1,247
		11	3,966	10,22	2,501
		27,5	9,915	11,4	6,369
		35	12,62	11,94	8,175
		50	18,03	12,81	11,84
		65	23,43	13,63	15,6
		85	30,65	14,64	20,74
	80	5,5	1,983	10,02	1,161
		11	3,966	10,12	2,325
		27,5	9,915	10,94	5,882
		35	12,62	11,38	7,535
		50	18,03	12,08	10,87
		65	23,43	12,77	14,28
		85	30,65	13,65	18,92

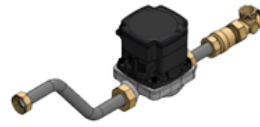
# Direct SmartHexa DHW

## 6. Options

Decorative Steel Cover



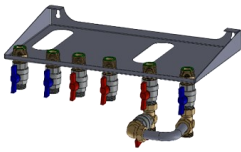
DHW Re-Circulation Kit



Junction Box



Pre-Plumbing Brackets  
for Easy Assembly



Water Hammer Arrester



Heat Meter



Flushing By-Pass Kit

