Flamco

Flow of Innovation

LogoEco Heat Interface Unit (HIU)

A2RXE Series

Instantaneous Hot Water & Space Heating

Product code A2RXE

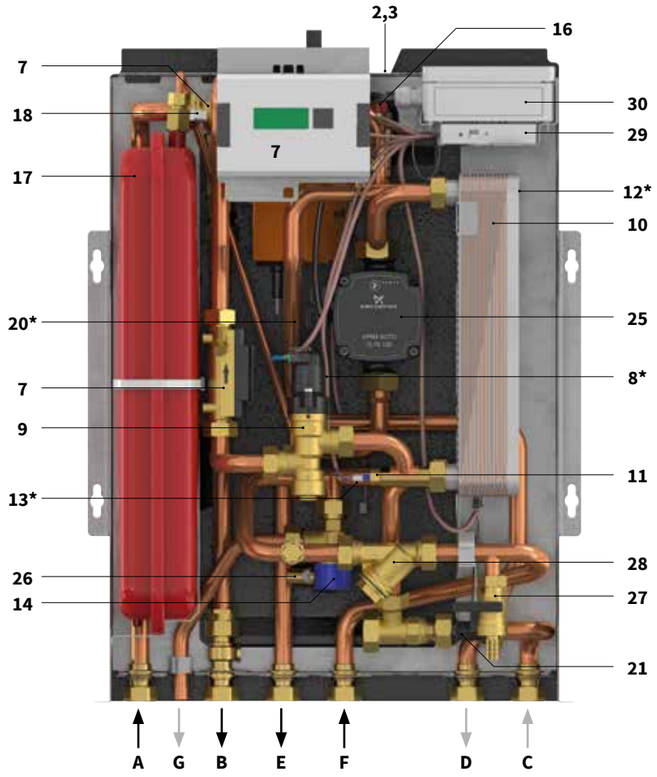
Data Sheet

The HIU A2RXE dual plate is used to provide domestic hot water and space heating in residences connected to a district heating system.

Status indicator LED

Green blinking slow (1x per second):	Stand-by condition (no SH heat demand)
Green blinking fast (2x per second):	Heating condition (CH heat demand)
Blue blinking:	Tapping condition
Red blinking:	Error mode
White continuous:	Service mode (installer only)
No LED:	No power / switched off

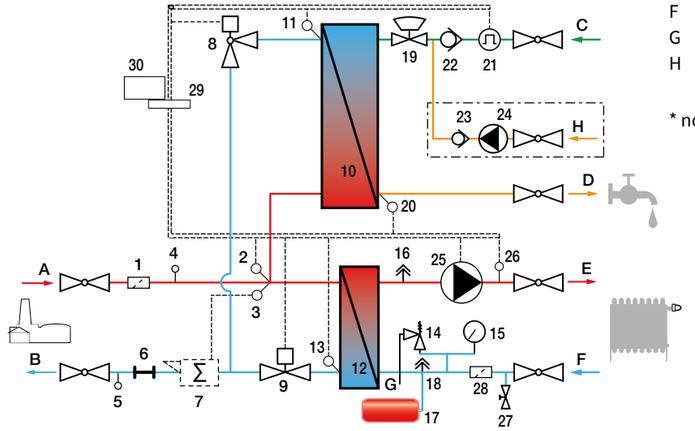
1 Hydraulics



1 Strainer
2 Flow temperature Sensor (primary)
3 Flow temperature Sensor (Heat meter)
4 Test point (primary, flow)
5 Test point (primary, return)
6 Spool piece (DPCV or shut off valve)
7 Heat meter
8 Control valve (DHW)
9 Control valve (SH)
10 Plate heat exchanger (DHW)
11 Return Temperature Sensor (primary, DHW)
12 Plate heat exchanger (SH)
13 Return Temperature Sensor (primary, SH)
14 Over pressure relief valve (3 bar)
15 Temperature/Pressure gauge
16 Automatic bleed point
17 Expansion vessel
18 Bleed point
19 Water hammer arrestor (optional)
20 Temperature sensor (DHW)
21 Flow sensor
22 Non return valve
23 Non return valve (hot water return, optional)
24 Circulation pump (DHW, optional)
25 Circulation pump (SH)
26 Temperature/Pressure sensor
27 Drain point
28 Strainer
29 Controller
30 Power supply (mains connection)

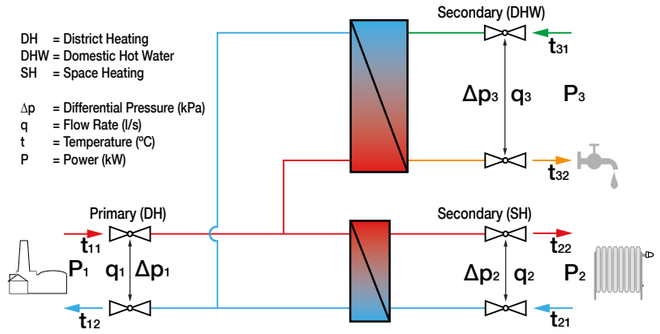
A Primary flow
B Primary return
C Cold water mains
D Domestic hot water (DHW)
E Secondary flow (Space heating)
F Secondary return (Space heating)
G Over pressure relief pipe
H Hot water return (optional, not illustrated)

* not visible



2 Specifications

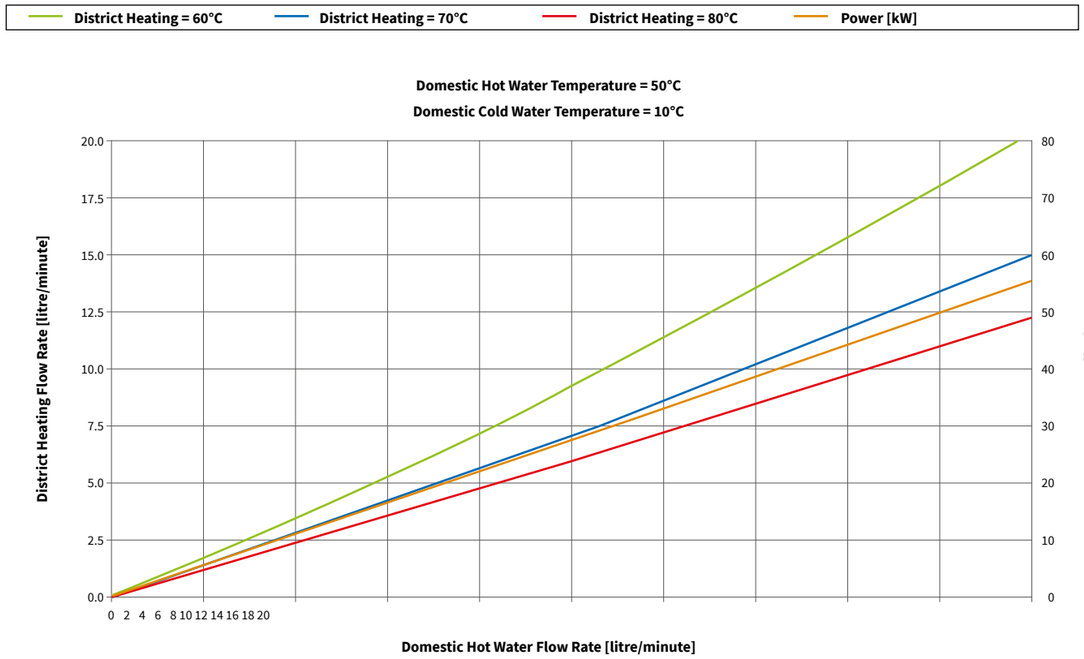
2.1 Facts and Figures



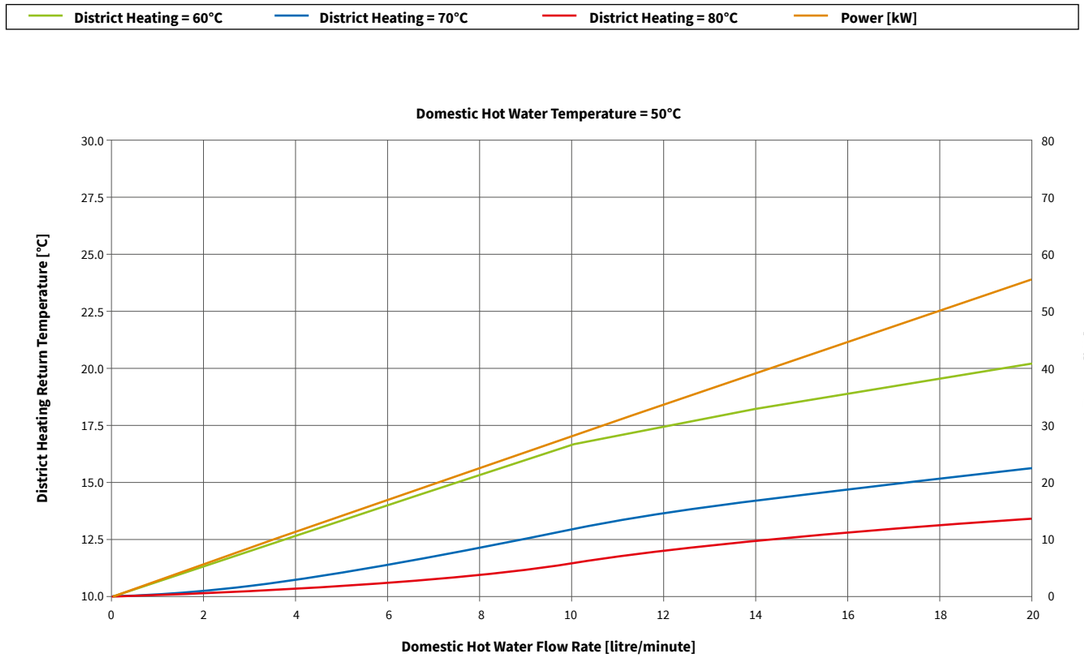
Description	Type	District heating station for indirect heating and instantaneous domestic hot water
	Mounting	Wall mounted
	Dimensions	490 x 275 x 640 mm (WxDxH, height of the case)
	Heating System	2 pipe flow
Construction	Pipework	Copper pipe with brass fittings
	Plates heat exchanger	Stainless steel, copper brazed
	Casing	Foam Arpro 50g/l density (Appendix A) with white painted metal sheet banding
	Primary Fluid	Low pressure hot water
	Secondary Fluid - Heating	Low pressure hot water
	Secondary Fluid - Domestic Hot Water	Potable hot water service
Primary Duty		
	Min. / Max. flow temperature (t11)	65°C / 90°C
	Nominal flow temperature (t11)	75°C
	Flowrate (q1, at nominal flow temperature)	0.267 l/s (960 l/h) at max. output
	Pressure rating	PN 16
	Min. differential pressure (Δp1)	50 kPa (0.5 bar), at nominal primary flow temperature
	Max. differential pressure (Δp1)	250 kPa (2.5 bar), or 450 kPa (4.5 bar) with additional DPCV
Cold Water Mains	Min. (max.) pressure (Δp3)	1 bar (PN 10)
Secondary Duty		
Domestic Hot Water	Nominal Heat Transfer Capacity (P3)	63 kW
	Max. flowrate (q3)	20 l/min (0.333 l/s)
	Fluid Temperature in (t31)	10°C
	Fluid Temperature out (t32)	55°C
Duty (secondary) Heating	Heat Transfer Capacity (P2)	18 kW @ 30K ΔT (10 kW @ 20K ΔT), at nominal primary flow temperature
	Fluid Temperature flow (t22)	Selectable: 40°C ... 70°C (at nominal primary flow temperature)
	Fluid Temperature return (t21)	Depending on radiators and setup
	Maximum secondary pressure	PN10 (restricted to 3 bar by over pressure relief valve)
Connections	All external connections	¾”
Primary & Secondary Fittings	Primary control valves	Control valve with electronic stepper motor
	Strainer	In primary flow and secondary return
	Heat Meter	Prefitted - Rossweiner HeatSonic, battery powered, M-Bus interface
	Circulation Pump	Grundfos, 6m, in secondary heating circuit
	Expansion Vessel	8 litre fitted in secondary circuit
	Overpressure relief valve	3 bar, in secondary heating circuit
	Shut off valve (optional)	Shut off valve for pre-payment systems (230V ~, 50Hz)
	DPCV (optional)	Differential pressure control valve (450 kPa max. dp)
	Hot water return (optional)	Hot water circulation (incl. pump, non return valve and ball valve)

3 Graph

3.1 District Heating, Flow Rates (DHW mode)



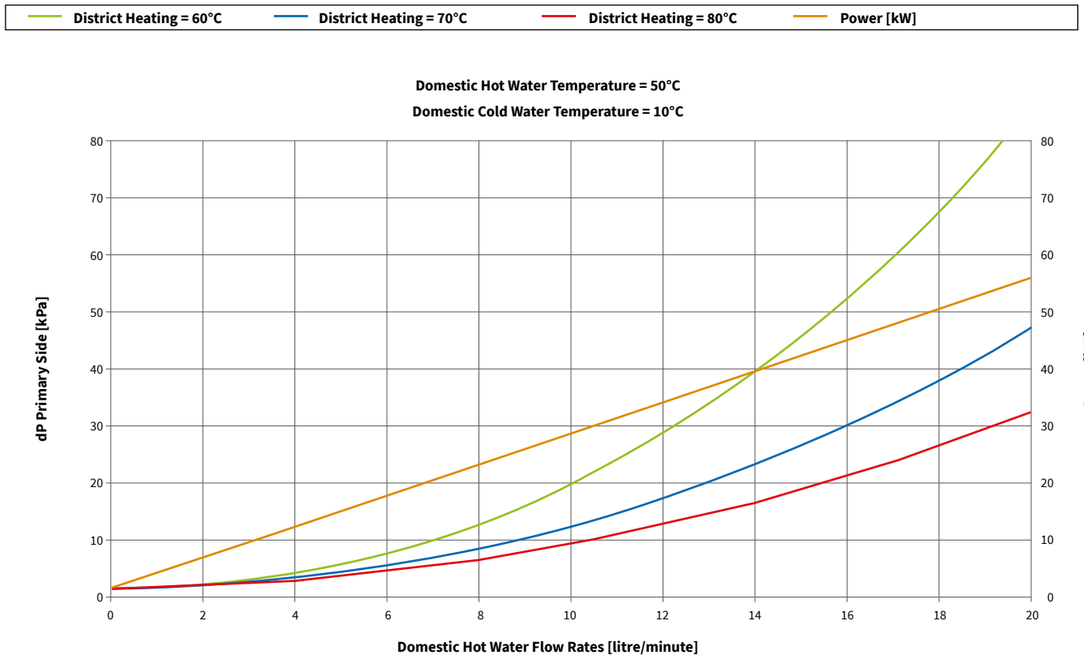
3.2 District Heating, Return Temperatures (DHW mode)



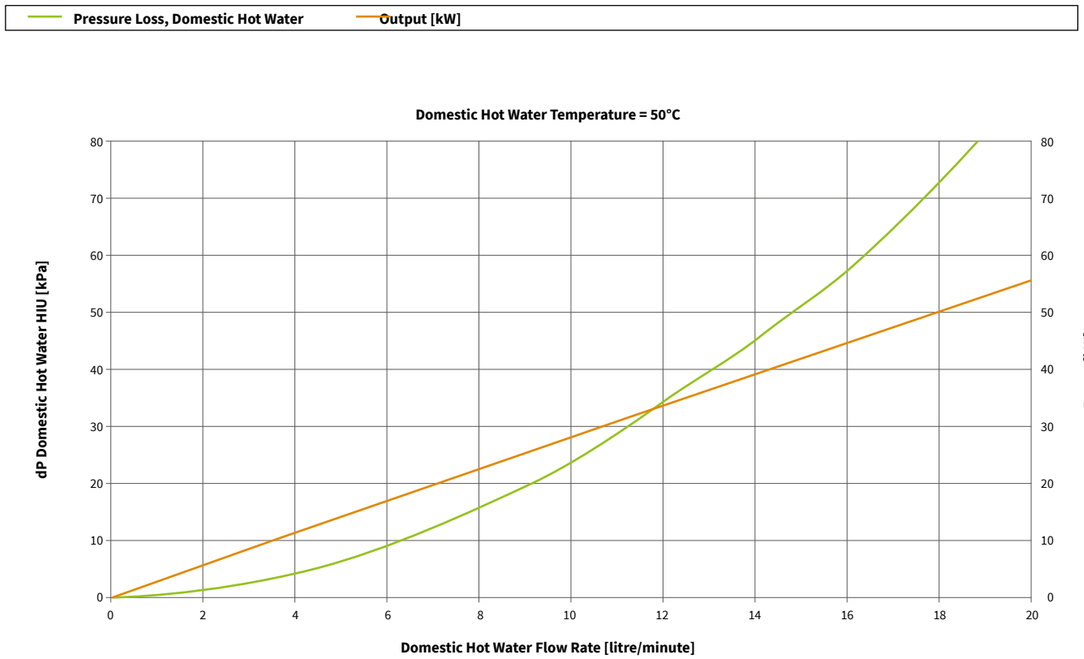
Instantaneous Hot Water & Space Heating • 2019
We reserve the right to change designs and technical specifications of our products.

3 Graph

3.3 District Heating, Pressure Loss (DHW mode)

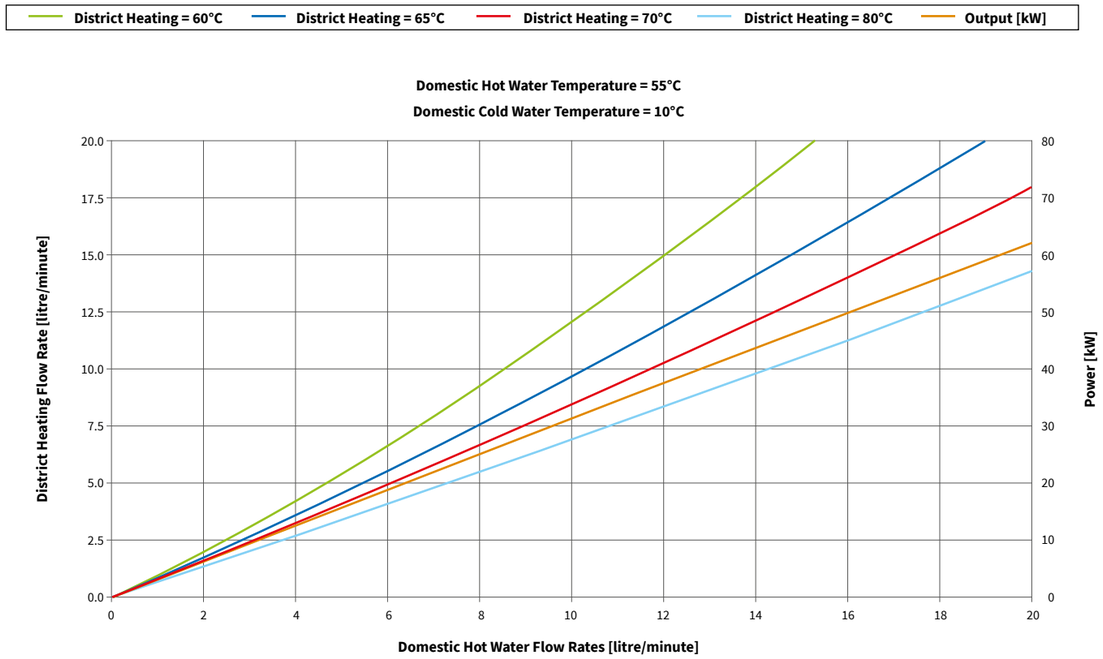


3.4 DHW, Pressure Loss

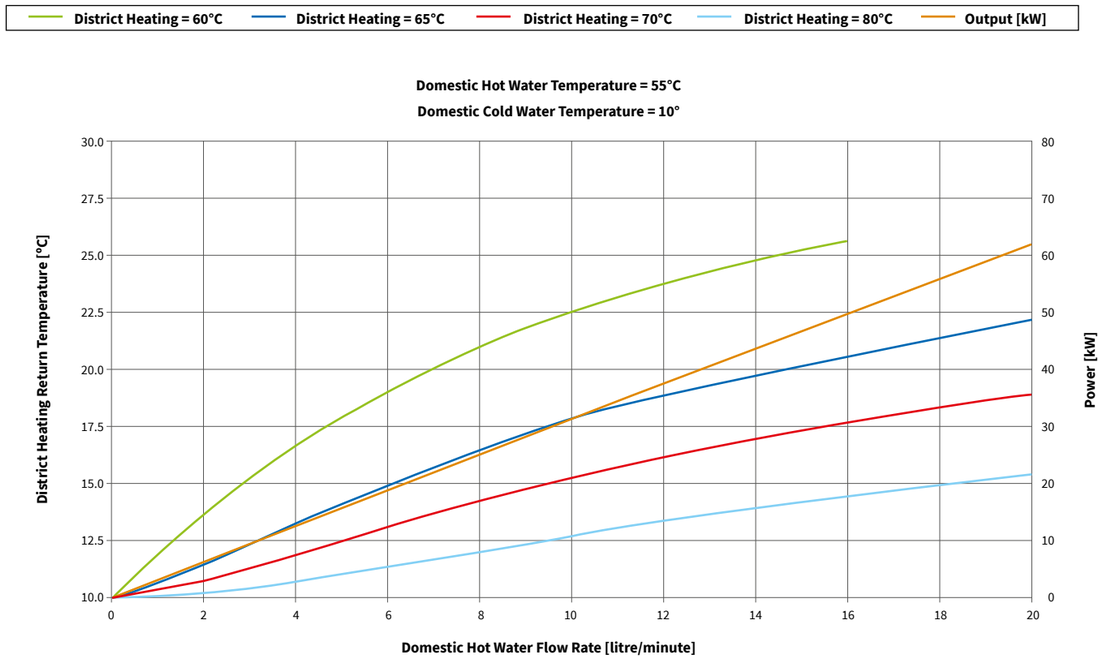


3 Graph

3.5 District Heating, Flow Rates (DHW mode)

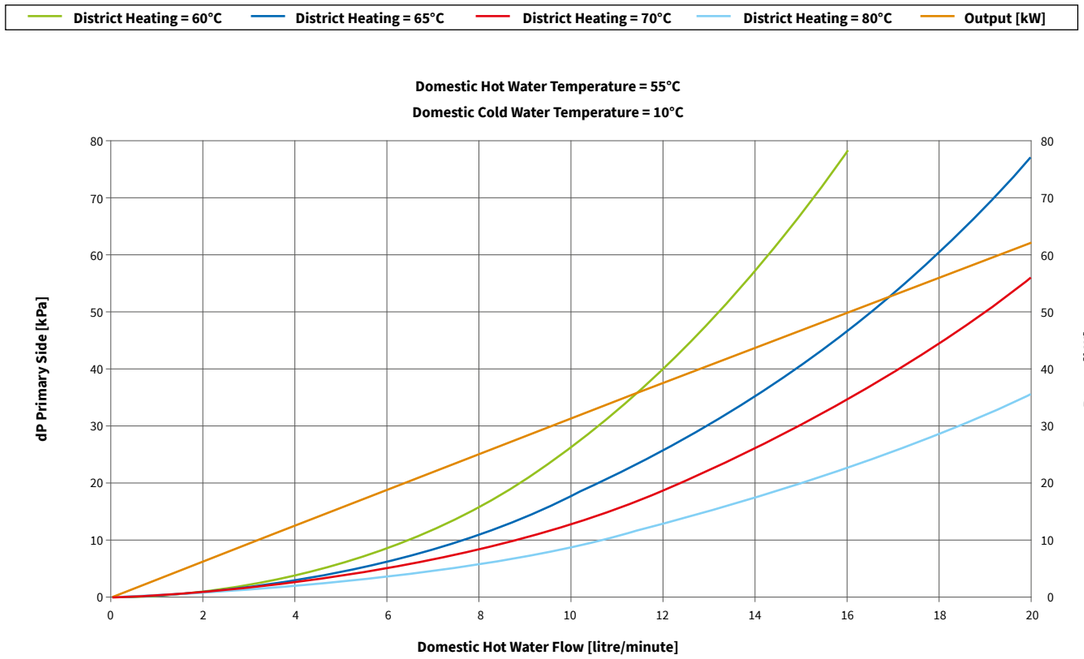


3.6 District Heating, Return Temperatures (DHW mode)

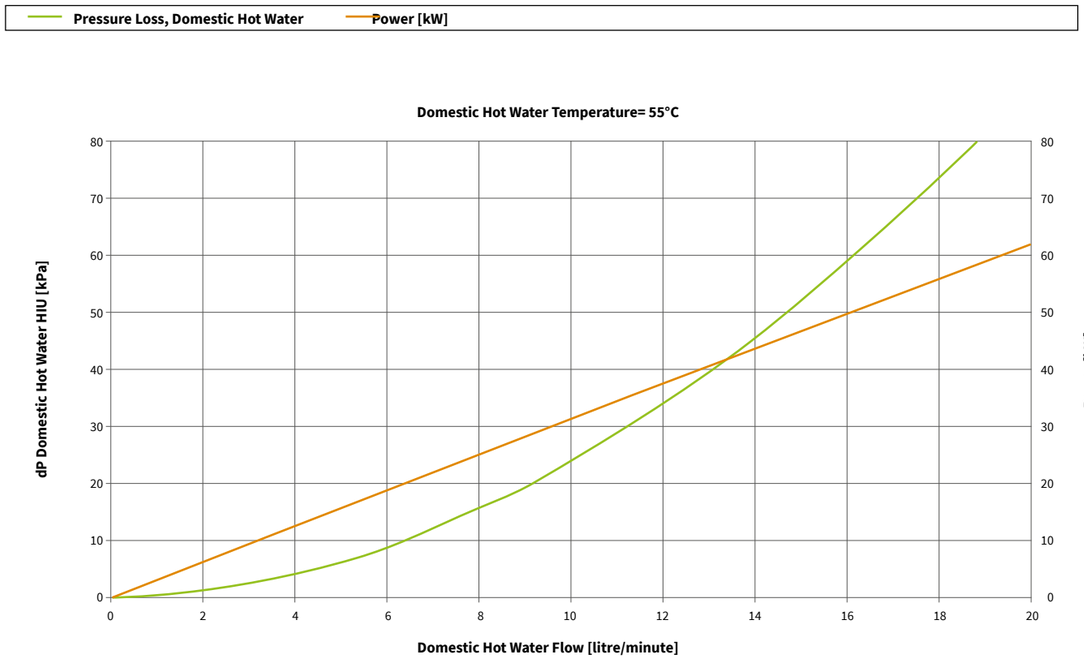


3 Graph

3.7 District Heating, Pressure Loss (DHW mode)

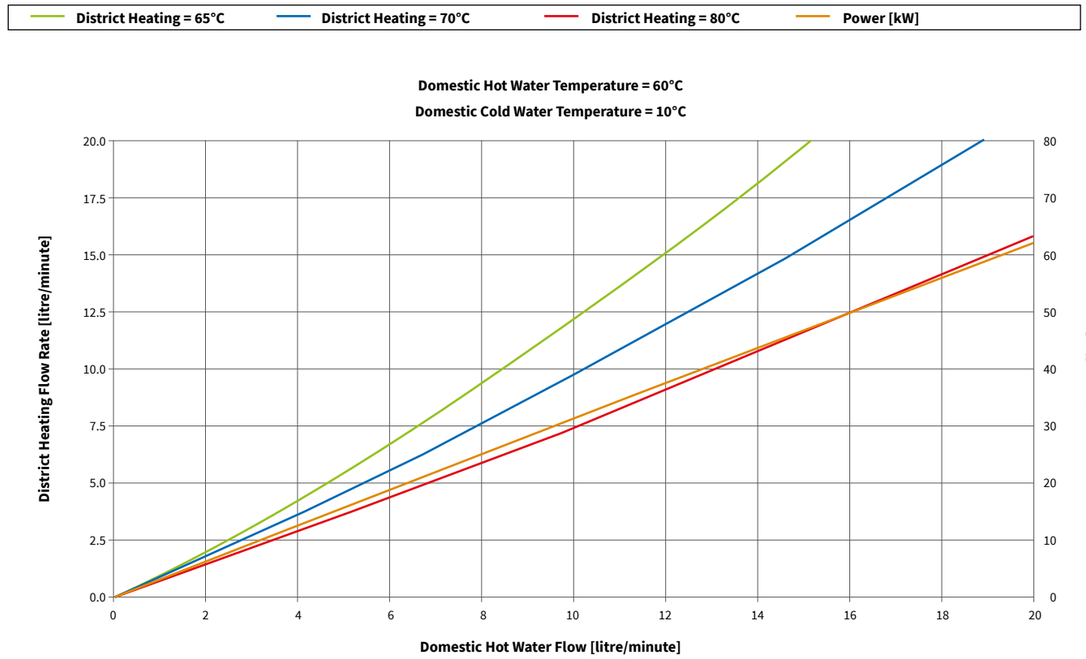


3.8 DHW, Pressure Loss

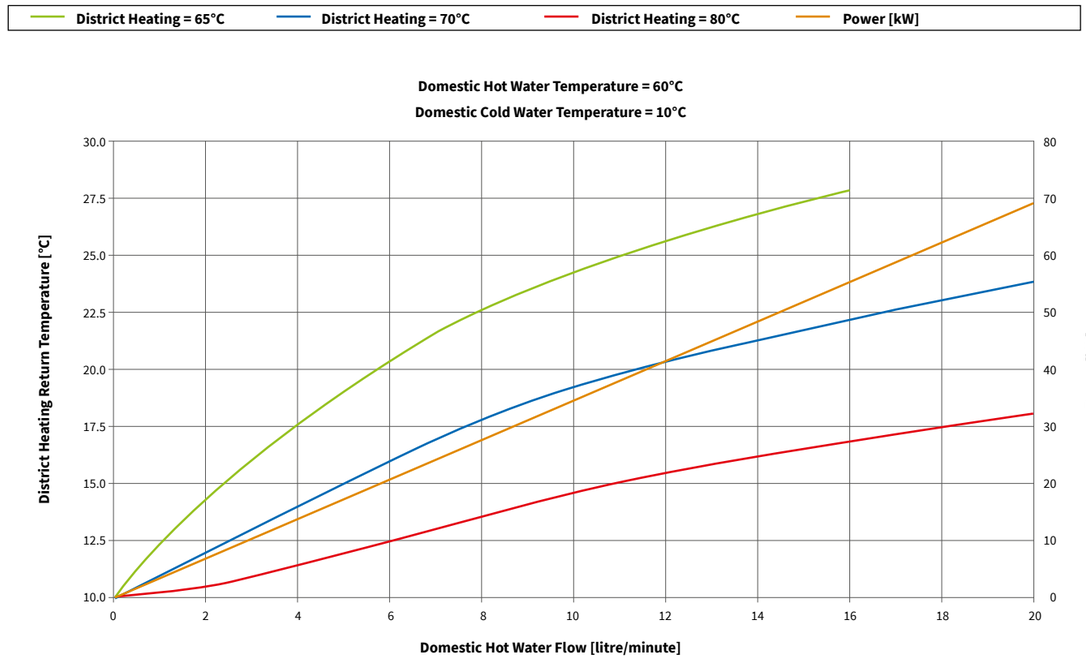


3 Graph

3.9 District Heating, Flow Rates (DHW mode)

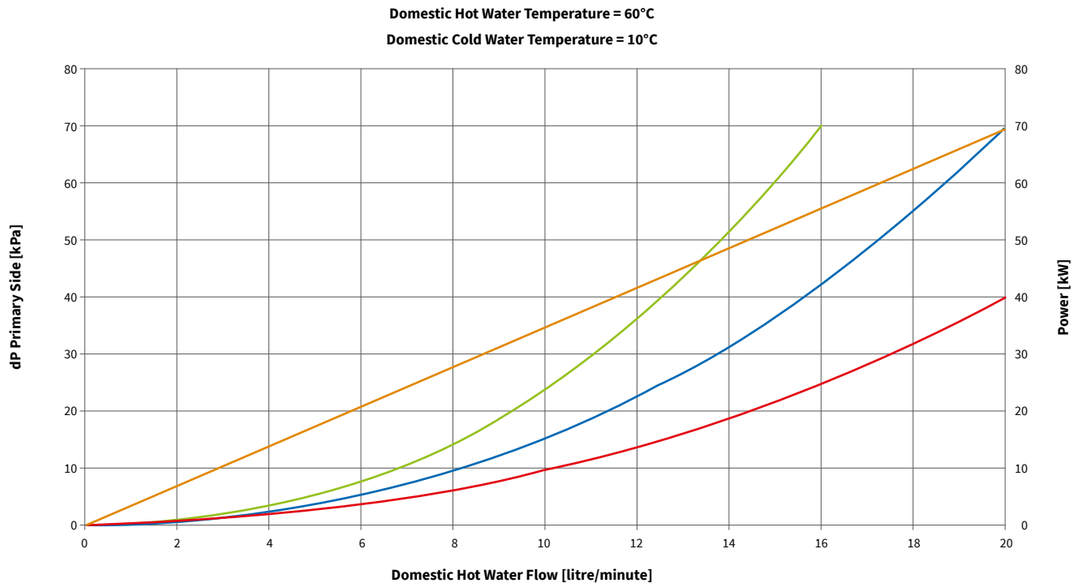


3.10 District Heating, Return Temperatures (DHW mode)

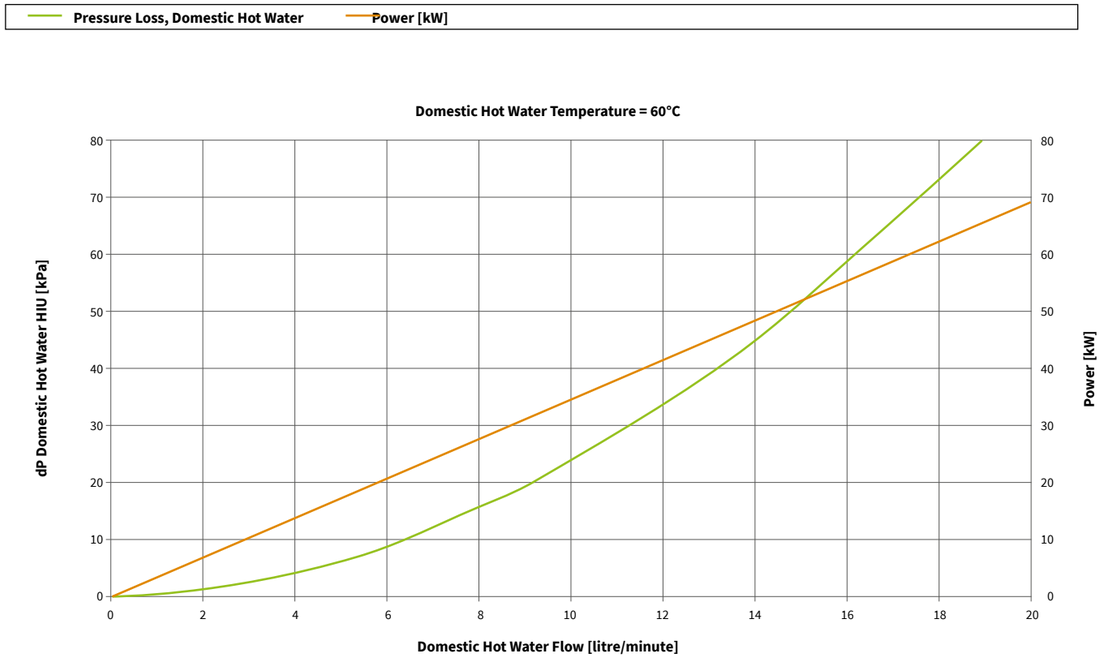


3 Graph

3.11 District Heating, Pressure Loss (DHW mode)



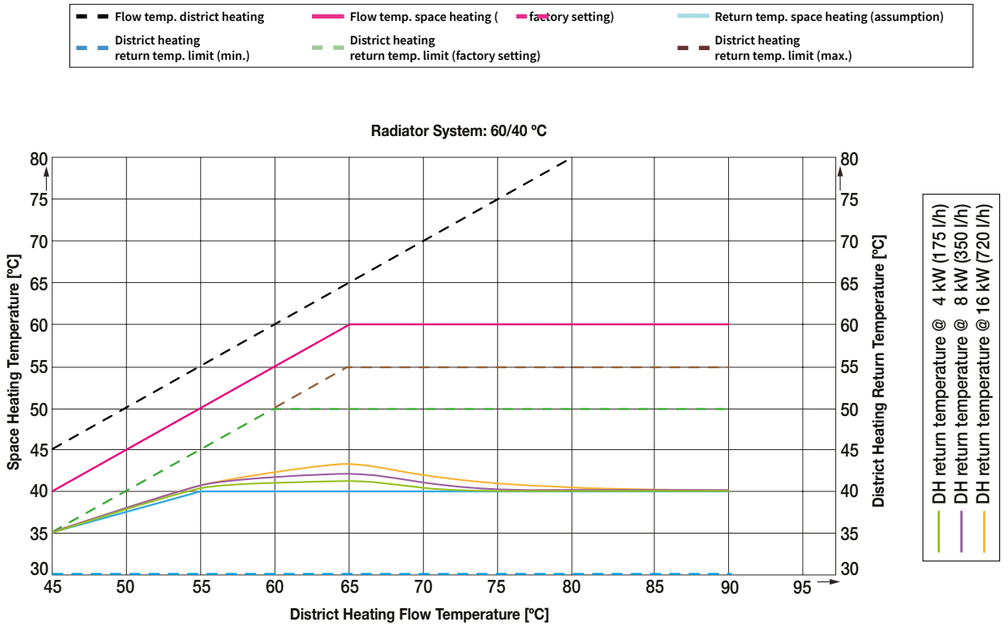
3.12 DHW, Pressure Loss

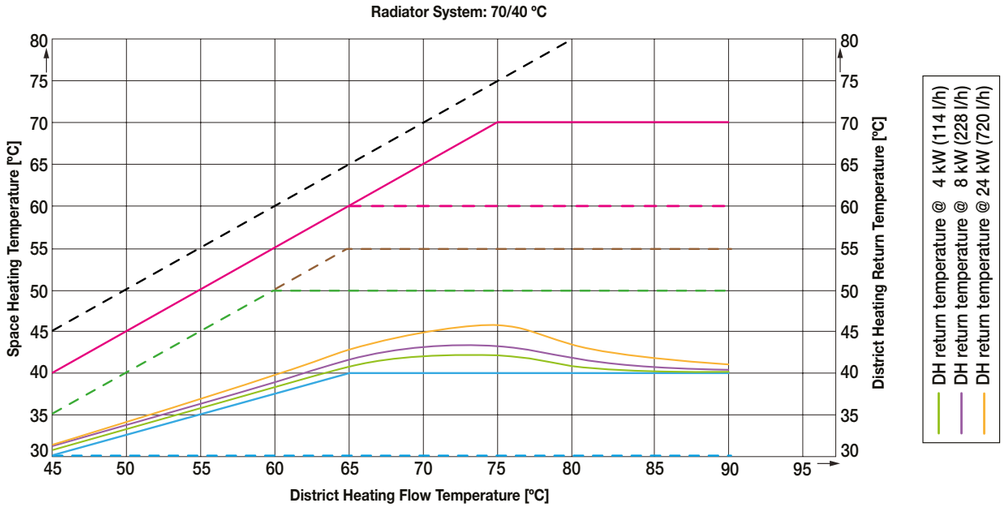


3 Graph

3.13 Space Heating

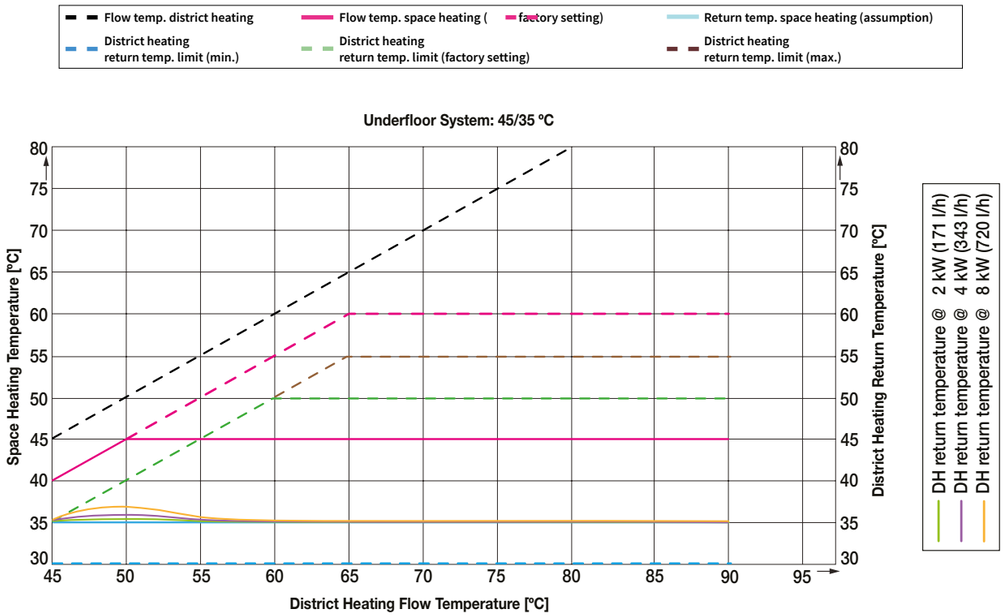
The max. flow temperature of the space heating is setable between 35°C and 75°C. The factory setting is 60°C.
The district heating return temperature is limited to 50°C by default. The limit can be set between 30°C and 55°C. Adjust the setting for different temperature schemes accordingly.
The district heating flow rate is limited to 90 l/h if the district heating flow temperature is below 45°C.



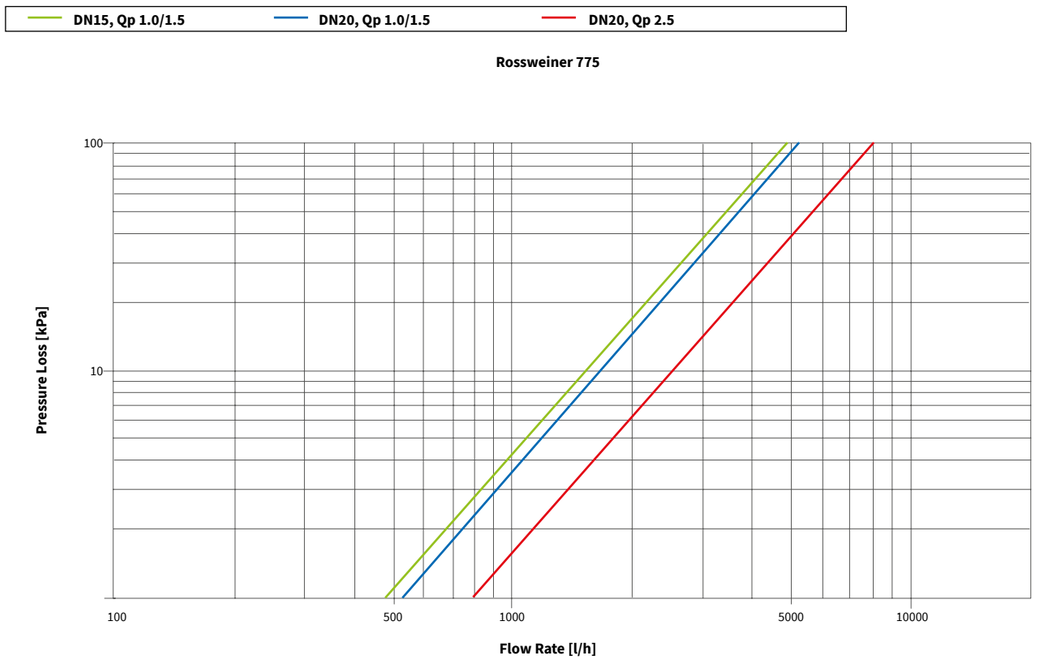


3 Graph

3.13 Space Heating (continued)



3.14 Pressure Loss - Heat Meter



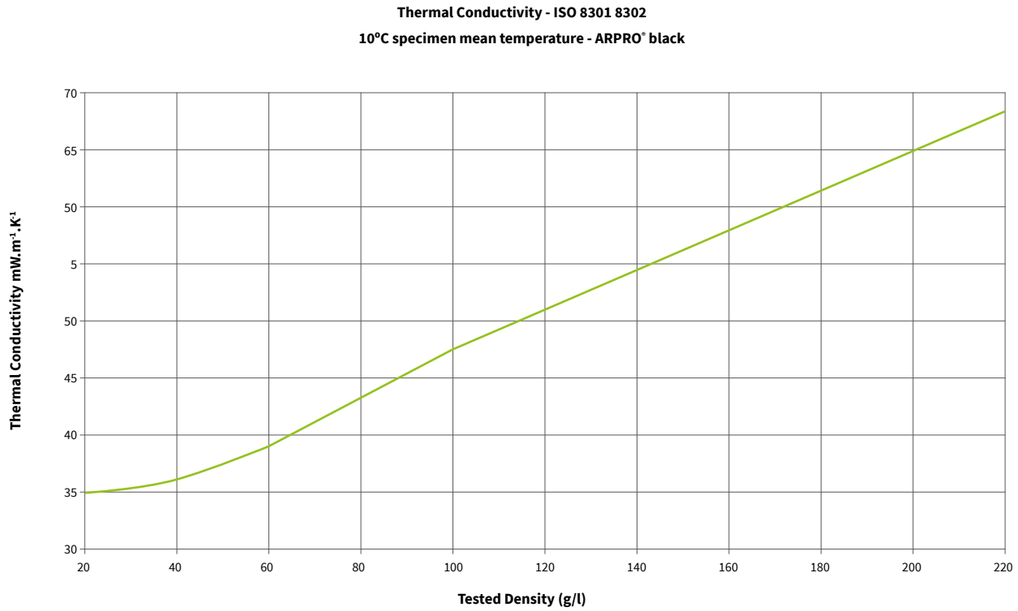
3 Graph

3.15 Performance Summary

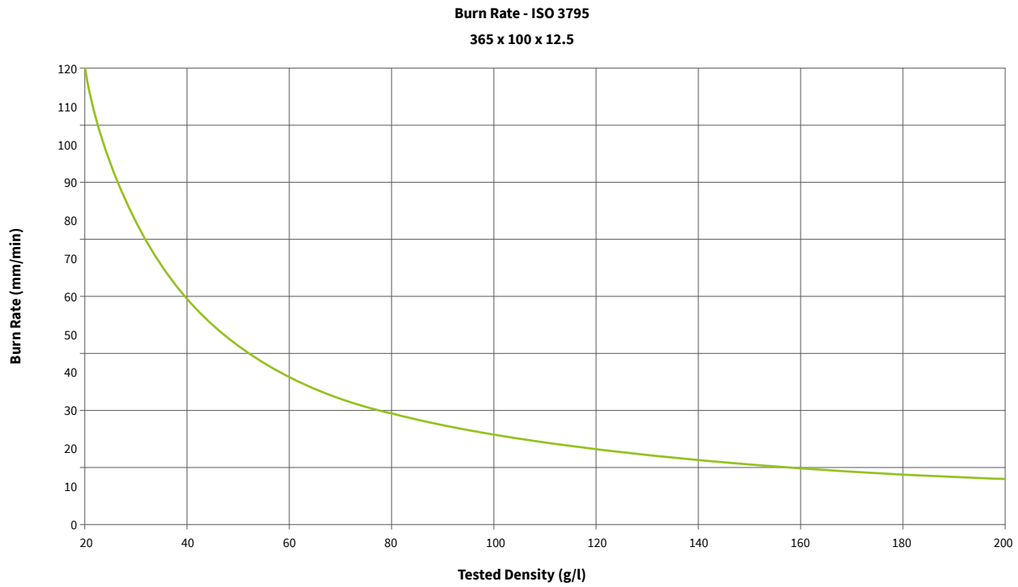
						SH flow rate: 200 l/hour			SH flow rate: 400 l/hour			SH flow rate: 600 l/hour				
DH flow temp.	SH flow temp.	DH return temp. limit (default)	DH return temp. limit (min)	DH return temp. limit (max.)	SH return temp. (assumption)	DH return temp.	SH power output	DH flow rate	DH return temperature	SH power output	DH flow rate	DH return temp.	SH power output	DH differential pressure	SH differential pressure	DH flow rate
°C	°C	°C	°C	°C	°C	°C	kW	l/hour	°C	kW	l/hour	°C	kW	kPa	kPa	l/hour
45	40.0	35.0	35.0	35.0	30.0	30.1	2.276	133	30.37	4.62	274.5	30.65	6.9	7.05	5.93	419.8
50	45.0	40.0	35.0	40.0	30.0	30.4	3.414	152.1	31.05	6.923	318.6	31.66	10.38	9.12	5.85	493.7
55	50.0	45.0	35.0	45.0	30.0	30.9	4.553	165.1	31.98	9.223	350	32.92	13.82	10.9	5.76	546.9
60	55.0	50.0	35.0	50.0	30.0	31.5	5.691	175	33.08	11.51	374.4	34.32	17.28	12.5	5.7	589.4
65	60.0	55.0	35.0	55.0	30.0	32.2	6.83	183	34.31	13.81	395.1	35.84	20.69	13.8	5.61	623.1
70	65.0	60.0	35.0	60.0	35.0	37.1	6.9	182.9	39.14	13.77	392.8	40.55	20.7	13.5	5.49	618.8
75	70.0	60.0	35.0	65.0	40.0	42.0	6.9	183	44.02	13.78	392.4	45.29	20.62	13.1	5.35	612.2
80	75.0	60.0	35.0	65.0	45.0	47.0	6.845	183.2	48.85	13.7	388.5	50.06	20.63	12.8	5.31	609.4
85	80.0	60.0	35.0	65.0	50.0	51.9	6.845	183.4	53.7	13.69	387.8	54.85	20.64	12.6	5.28	607.1
90	80.0	60.0	35.0	65.0	50.0	50.6	6.8	154.6	51.56	13.69	316.8	52.28	20.53	8.13	5.22	484.2
95	80.0	60.0	35.0	65.0	50.0	50.2	6.8	136.4	50.71	13.69	275.8	51.18	20.53	6.1	5.22	418.1
100	80.0	60.0	35.0	65.0	50.0	50.1	6.8	122.8	50.34	13.69	246.8	50.63	20.53	4.86	5.22	372.4

Appendix A

A.1 ARPRO® Typical Physical Properties



A.2 ARPRO® Typical Physical Properties



Appendix A

A.3 ARPRO® Typical Physical Properties

Below are the typical physical properties of ARPRO® that make it ideal for use in a wide range of applications

Properties	Test	Units	Density ARPRO® 50
Equivalent Modulus at 3% compression	ISO 844	MPa	5.1
Compressive Strength 25% Strain 50% Strain 75% Strain	ISO844 DIN 53421	kPa	 275 370 800
Compression set 25% Strain – 22 hours – 23 °C	ISO 1856 C Stabilizing 24 hours	%	11.5
Tensile Strength*	ISO 1798 DIN 53571	kPa	650
Tensile Elongation*	ISO 1798 DIN 53571	%	18
Energy absorption in dynamic impact 25% Strain 50% Strain 75% Strain	Vertical Impact drop tower Flat impactor 8km/h 23°C	J/l	 115 280 500
Resiliency after dynamic impact At 75%	5 min after impact	%	94
λ Thermal conductivity	ISO 8301-8302 ARPRO® black 10°C	mW/mK	37
Acoustic absorption coefficient ARPRO® Porous	ISO 354 1250 Hz 30 mm		0.86
Chemical resistance	JSP method		Good resistance to most chemical agents***
Recycling		%	ARPRO® is 100% recyclable and we supply ARPRO® Recycled
Burn rate	ISO 3795 FMVSS 302 12.5 mm	mm/min	50

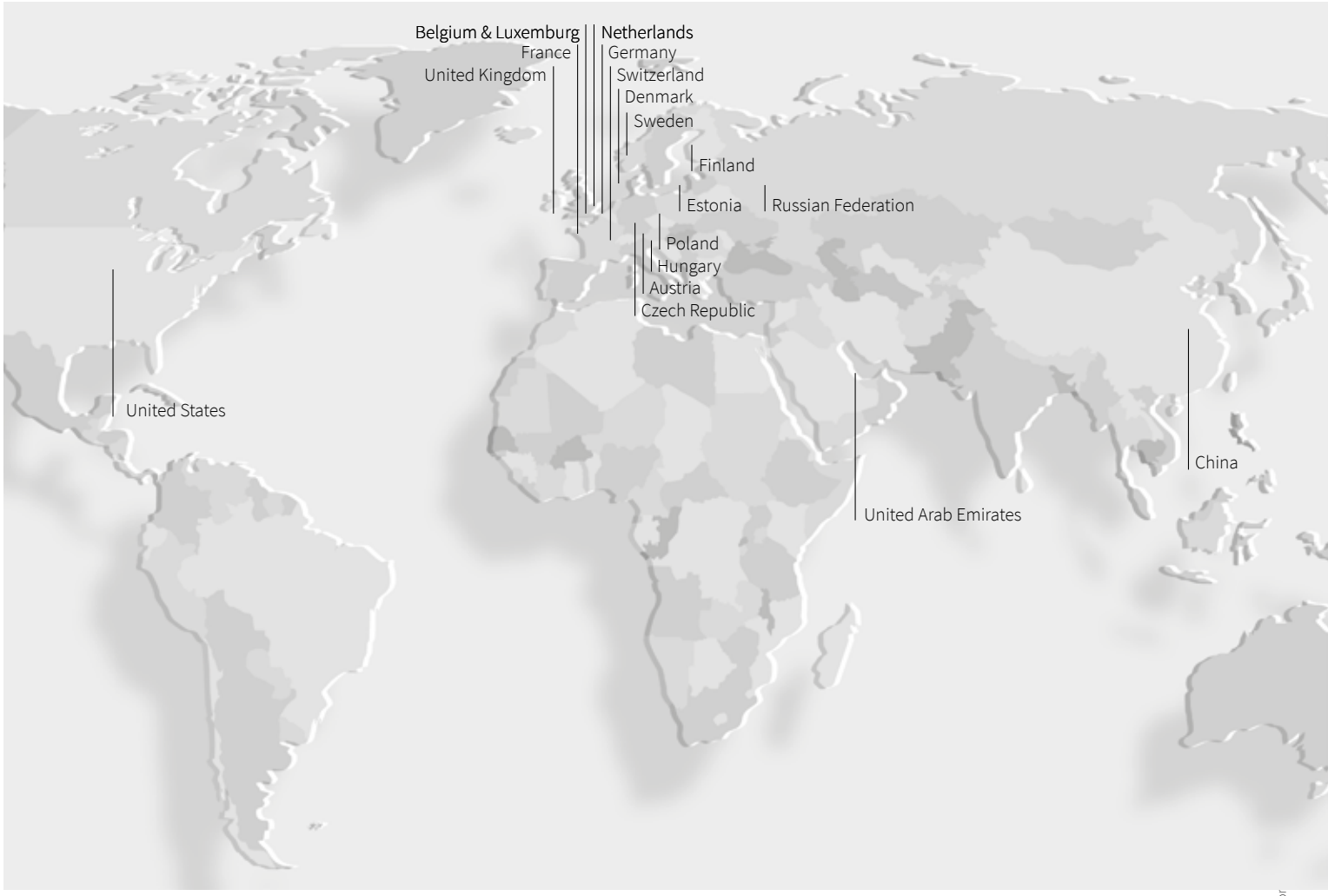
* For tensile properties of improved grades refer to specific datasheet per grade
** Dynamic compression up to 75% not recommended for ARPRO® ≥ 180 g/l
*** For list of the Chemical Agents – available on request.

Flamco

meibes

simplex

Flow of Innovation



We deliver products for plumbing and heating installers in over 70 countries. The distribution is handled by subsidiaries and wholesalers, who are familiar with the local market and thus can provide you with professional advice anytime.

Flamco Limited
Washway Lane
WA10 6PB St. Helens
Merseyside
United Kingdom
T +44 17 447 447 44
F +44 17 447 447 00
E info@flamco.co.uk
I www.flamcogroup.com

MC02354 LogoEco A2RXE - Technical Data Version 05/19 | Subject to modification

aalberts