Heating

jaga

CLIMATE DESIGNERS

PLAY

PLAYFUL LOW WATER CONTENT RADIATOR

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CLIMATE DESIGNERS

Climate change and evolution of construction techniques demand new ecological solutions for heating, cooling and ventilation.

New technologies have to consume far less energy. They have to ensure a better indoor climate without damaging the outdoor climate. Traditional systems with fire and carbon emissions have to be extinguished. We have to evolve towards a green flame and build a sustainable path towards a better future. Choosing the sustainable path is no longer a matter of choice, it’s an obligation.

Always honouring its values, Jaga Climate Designers continually look for the most ecological solutions for heating, cooling and ventilation.

THE GO-TO COMPANY FOR DYNAMIC HEATING AND COOLING CONVECTORS THAT OPTIMISE RENEWABLE ENERGY

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CLIMATE DESIGNERS

PLAY

Bring a sense of fun to your home or workspace.

Play is a radiator that's very different. It delivers maximum warmth at lower flow temperatures, but also brings the fun element to interior design with a unique and colourful design.

It's a sustainable choice, with less material, fast to respond, highly efficient and recyclable.

FEATURES AND OPTIONS INCLUDE:

- Pre-assembled with painted MDF panels and aluminium spacers
- Five playful colour options
- Pencil-proof grille
- Optional protective base grille
- Integrated valve with thermostat
- Concealed connection possibility
- Low-H_2O technology
- Safe surface temperature
- 30-year heat exchanger guarantee
- 3-year valve guarantee, 10-year other components

UK CA

PLAY

LOW-H_2O: LIGHTER, FASTER, MORE EFFICIENT

THE **LOW WATER CONTENT** RADIATOR

Jaga's Low-H_2O radiators contain 90% less water than that of a steel panel radiator, so they are faster to heat up and cool down. This means Low-H_2O radiators react faster to the occupants' needs as well as changes to ambient temperature. This ensures better comfort with less energy consumption, no wasteful over-heating and reduced demand on the heating system itself. They also have no heavy steel panels that require pre-heating, are far lighter to install and remain much lighter when fully filled during usage.

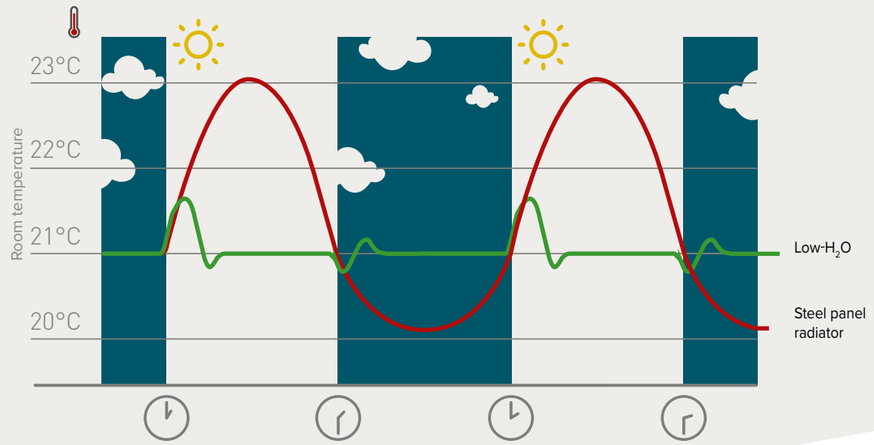
The ultra-modern aluminium and copper heat exchanger, which comes with a 30 year guarantee, provides rapid, energy-efficient heat to any space.

Research by Dutch certification and testing body, KIWA, shows that Low-H_2O radiators consume between 9 and 16%* less energy than a system with steel panel radiators. They achieve the desired temperature faster with less heat wasted through unnecessary over-heating, common in heavier radiators.

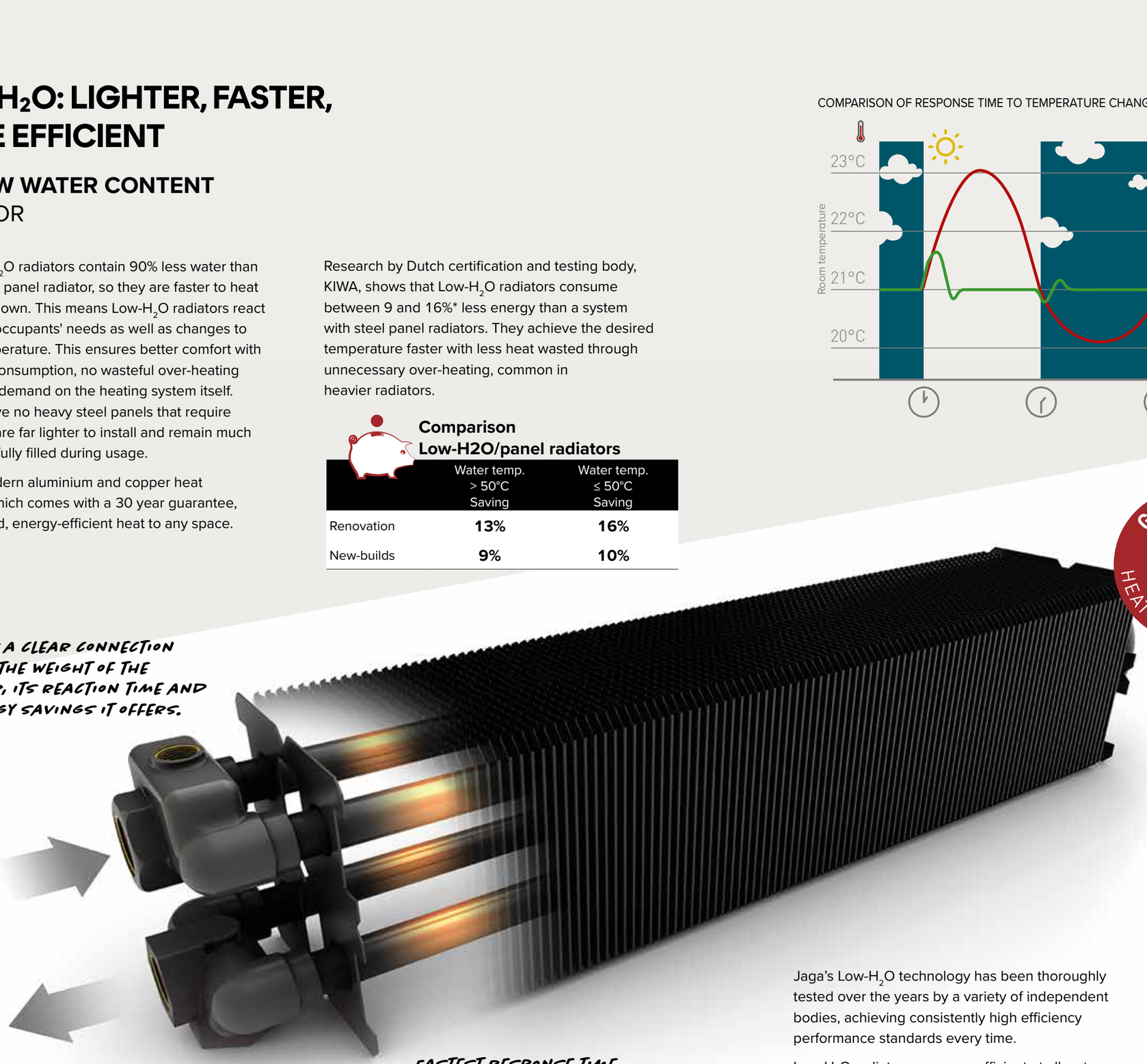
Comparison Low-H2O/panel radiators

	Water temp. > 50°C Saving	Water temp. ≤ 50°C Saving
Renovation	**13%**	**16%**
New-builds	**9%**	**10%**

COMPARISON OF RESPONSE TIME TO TEMPERATURE CHANGES



THERE IS A CLEAR CONNECTION BETWEEN THE WEIGHT OF THE RADIATOR, ITS REACTION TIME AND THE ENERGY SAVINGS IT OFFERS.



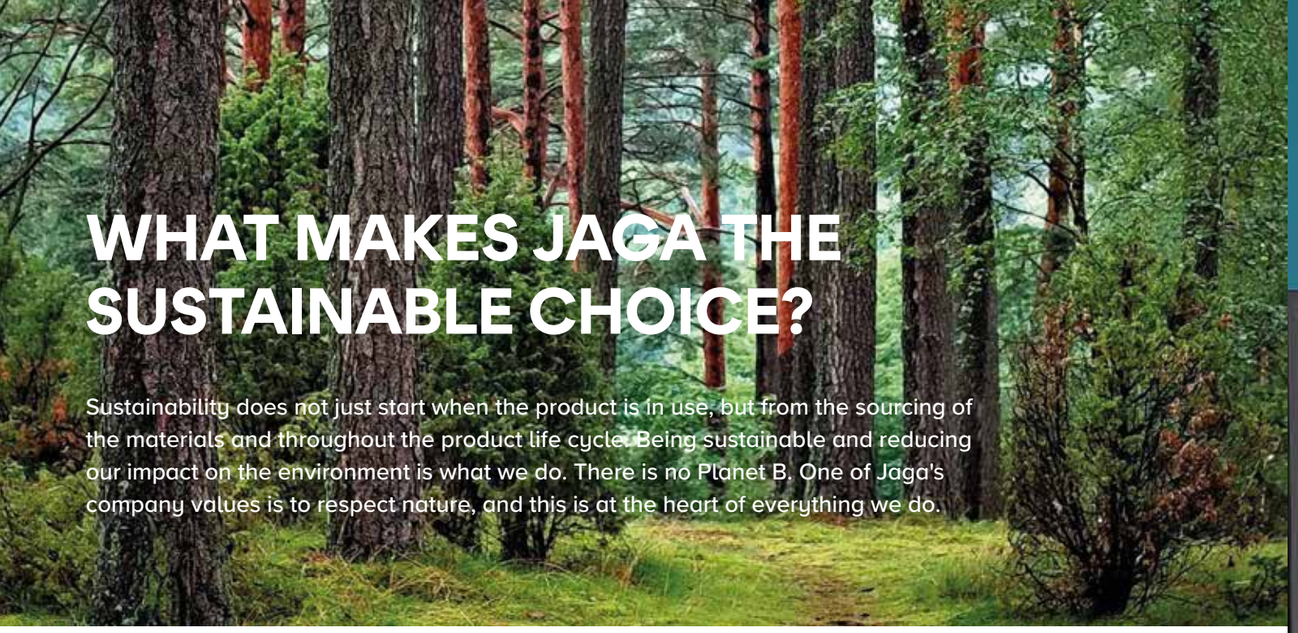
FASTEST RESPONSE TIME FOR MAXIMUM COMFORT.

Jaga's Low-H_2O technology has been thoroughly tested over the years by a variety of independent bodies, achieving consistently high efficiency performance standards every time.

Low-H_2O radiators are more efficient at all water temperatures, making them the perfect partner for renewable systems and boilers alike.

In all conditions Low-H_2O radiators achieve the maximum scores set by ISSO. Without a maximum score*, the Low-H_2O exchanger would achieve even higher. KIWA found Low-H_2O to be at least 5% more economical than underfloor heating.

*The minimum required score is 1.00 (100%) for Low-H_2O as per the quality declaration, and average score of 0.05 (95%) for underfloor heating, according to NEN7120, Table 14.1, delivery efficiency up to 8m.



WHAT MAKES JAGA THE SUSTAINABLE CHOICE?

Sustainability does not just start when the product is in use, but from the sourcing of the materials and throughout the product life cycle. Being sustainable and reducing our impact on the environment is what we do. There is no Planet B. One of Jaga's company values is to respect nature, and this is at the heart of everything we do.

HIGHEST EFFICIENCY RATINGS

Jaga's Low-H_2O uses less energy than any other radiator and contains 90% less water than that of an equivalent steel panel, meaning faster response times and no wasteful over-heating.

EFFICIENT USE OF MATERIALS

Since copper and aluminium are such efficient heat conductors, only a relatively small quantity of these materials are required, this includes the casing. A Low-H_2O radiator weighs much less and uses a lot less materials than a steel panel radiator.

BUILT TO LAST

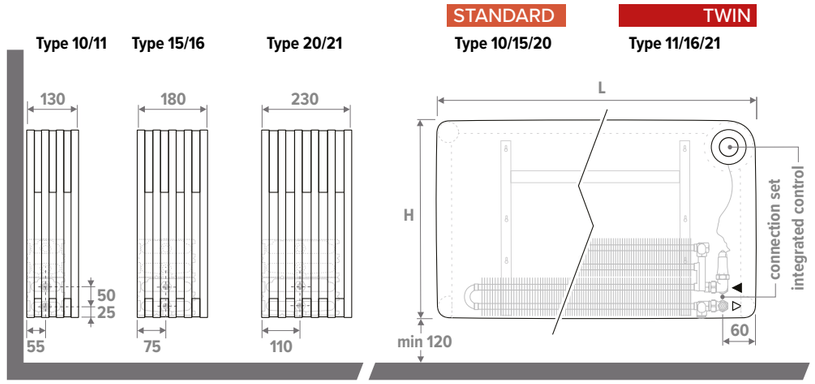
The heat exchanger consists of aluminium heating fins, copper and brass irrigation tubes and brass collectors. Totally rust-free, resistant to very high working pressures and with a 30-year guarantee. A long life means lower environmental impact.

FULLY RECYCLABLE

Copper and aluminium are highly efficient, long-life materials, and crucially, they are always fully recyclable. The use of these materials contributes to an improved LCA score.

DIMENSIONS

DIMENSIONS in mm



COLOURS

Scratch resistant polyurethane finish with a soft structured matt surface. High UV resistance.

STANDARD COLOURS

WH1 Play White

SPECIAL COLOURS

BLA Play Black

PIA Play Piano

BOY Play Blue

GIR Play Pink

ORDERING CODE

Connection to the wall within the casing

code height length type colour conn.

PLAW . 035 060 10 .XXX /WR /TIB /....

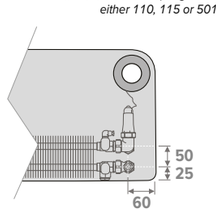
enter colour code

to the wall, right /**WR**

to the wall, left /**WL**

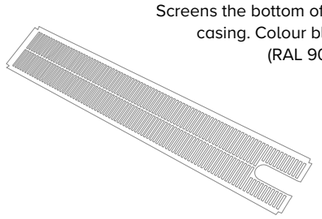
always 2-pipe /**TIB**

fill in the sleeve coupling code: either 110, 115 or 501



BASE GRILLE

Screens the bottom of the casing. Colour black (RAL 9005)



code length type model

ORDERING CODE 5461 . 000 060 10 /PLA

DELIVERY

Delivered in a cardboard box, which can also be used as protection on site after installation.

Package includes:

- Low-H_2O heat exchanger with wall brackets and fixing kit, air vent 1/8" and drain plug 1/2"
- one piece casing, completely mounted, consisting of lacquered MDF panels with anodised aluminium spacer rings
- pre-mounted and integrated control in the front panel in the top right hand corner, included valve and sleeve couplings for connection to the wall or to the floor
- pencil-proof grille

CORRECTION FACTORS

AVERAGE CORRECTION FACTORS ACCORDING TO EN442 - 75/65/20°C

Tv	Tl	Tr	25	30	35	40	45	50	55	60	65	70	75	80	85
90	18		0.45	0.58	0.69	0.79	0.89	0.98	1.07	1.16	1.24	1.34	1.41	1.49	1.56
	20		0.38	0.52	0.63	0.74	0.83	0.92	1.01	1.10	1.18	1.28	1.35	1.43	1.50
	22		0.30	0.46	0.57	0.68	0.78	0.87	0.96	1.04	1.13	1.22	1.30	1.37	1.44
	24		0.20	0.39	0.52	0.62	0.72	0.81	0.90	0.99	1.07	1.15	1.24	1.31	1.38
85	18		0.42	0.54	0.65	0.75	0.84	0.93	1.01	1.10	1.20	1.27	1.34	1.41	
	20		0.36	0.49	0.59	0.69	0.79	0.87	0.96	1.04	1.12	1.21	1.28	1.35	
	22		0.28	0.42	0.54	0.64	0.73	0.82	0.90	0.99	1.06	1.15	1.22	1.30	
	24		0.19	0.36	0.48	0.58	0.68	0.76	0.85	0.93	1.01	1.10	1.17	1.24	
80	18		0.39	0.51	0.61	0.70	0.79	0.88	0.96	1.04	1.12	1.20	1.27		
	20		0.33	0.45	0.56	0.65	0.74	0.82	0.90	0.98	1.07	1.14	1.21		
	22		0.26	0.39	0.50	0.60	0.68	0.77	0.85	0.93	1.01	1.08	1.15		
	24		0.17	0.34	0.45	0.54	0.63	0.72	0.80	0.87	0.96	1.03	1.10		
75	18		0.37	0.47	0.57	0.66	0.74	0.82	0.90	0.99	1.05	1.12			
	20		0.30	0.42	0.52	0.61	0.69	0.77	0.85	0.93	1.00	1.07			
	22		0.24	0.36	0.46	0.55	0.64	0.72	0.79	0.88	0.95	1.01			
	24		0.16	0.31	0.41	0.50	0.59	0.67	0.74	0.83	0.89	0.96			
70	18		0.34	0.44	0.53	0.61	0.69	0.77	0.85	0.92	0.99				
	20		0.28	0.39	0.48	0.56	0.64	0.72	0.80	0.87	0.93				
	22		0.22	0.33	0.43	0.51	0.59	0.67	0.74	0.81	0.88				
	24		0.14	0.28	0.38	0.46	0.54	0.62	0.69	0.76	0.83				
65	18		0.31	0.40	0.49	0.57	0.64	0.71	0.79	0.85					
	20		0.25	0.35	0.44	0.52	0.59	0.66	0.74	0.80					
	22		0.19	0.30	0.39	0.47	0.54	0.61	0.69	0.75					
	24		0.12	0.25	0.34	0.42	0.50	0.57	0.64	0.70					
60	18		0.28	0.37	0.45	0.52	0.59	0.66	0.73						
	20		0.23	0.32	0.40	0.47	0.54	0.62	0.68						
	22		0.17	0.27	0.35	0.43	0.50	0.57	0.63						
	24		0.11	0.23	0.31	0.38	0.45	0.52	0.58						
55	18		0.25	0.33	0.40	0.47	0.55	0.60							
	20		0.20	0.29	0.36	0.43	0.50	0.56							
	22		0.15	0.24	0.32	0.38	0.45	0.51							
	24		0.09	0.20	0.27	0.34	0.40	0.47							
50	18		0.22	0.30	0.36	0.43	0.49								
	20		0.18	0.25	0.32	0.38	0.44								
	22		0.13	0.21	0.28	0.34	0.40								
	24		0.08	0.17	0.24	0.30	0.36								
45	18		0.19	0.26	0.32	0.38									
	20		0.15	0.22	0.28	0.34									
	22		0.11	0.18	0.24	0.30									
	24		0.06	0.14	0.20	0.26									
40	18		0.16	0.22	0.28										
	20		0.12	0.18	0.24										
	22		0.09	0.15	0.20										
	24		0.05	0.12	0.17										
35	18		0.13	0.19											
	20		0.10	0.15											
	22		0.07	0.12											
	24		0.03	0.09											
30	18		0.10												
	20		0.07												
	22		0.04												
	24		0.02												

The indicated outputs with ΔT 50 are the exact outputs, measured in accordance with EN442. An average correction factor is given in this table for all other ΔT outputs, applicable for all dimensions.

These correction factors are to be used for guidance only.

Note: Tv = Flow Temperature : Tr = Return Temperature : Tl = Room Design Temperature

HEIGHT 350

PLAW.035 LLL TT.XXX

	SINGLE			WEIGHT	WATER CONTENT	TWIN			WEIGHT	WATER CONTENT
L mm	Type	Watts 75/65	Watts 55/45	kg	l	Type	Watts 75/65	Watts 55/45	kg	l
600	10	529	259	8.52	0.39	11	583	277	9.36	0.8
	15	805	397	10.14	0.59	16	870	409	11.64	1.19
	20	1104	547	11.82	0.79	21	1217	568	13.56	1.6
800	10	705	346	11.36	1.06	11	777	369	12.48	1.06
	15	1074	529	13.52	0.52	16	1160	546	15.52	1.58
	20	1472	729	15.76	0.78	21	1622	756	18.08	2.13
1000	10	881	432	14.2	0.65	11	971	461	15.6	1.33
	15	1342	661	16.9	0.98	16	1450	682	19.4	1.98
	20	1840	911	19.7	1.32	21	2028	946	22.6	2.66
1200	10	1057	518	17.04	0.78	11	1165	553	18.72	1.6
	15	1610	793	20.28	1.18	16	1740	819	23.28	2.38
	20	2208	1093	23.64	1.58	21	2434	1135	27.12	3.19

HEIGHT 500

PLAW.050 LLL TT.XXX

	SINGLE			WEIGHT	WATER CONTENT	TWIN			WEIGHT	WATER CONTENT
L mm	Type	Watts 75/65	Watts 55/45	kg	l	Type	Watts 75/65	Watts 55/45	kg	l
600	10	591	287	9.84	0.39	11	685	324	10.68	0.80
	15	925	452	11.64	0.59	16	1040	489	13.14	1.19
	20	1284	632	13.50	0.79	21	1461	683	15.24	1.60
800	10	788	383	13.12	1.06	11	913	432	14.24	1.06
	15	1234	603	15.52	0.52	16	1386	652	17.52	1.58
	20	1712	842	18.00	0.78	21	1948	911	20.32	2.13
1000	10	985	479	16.40	0.65	11	1141	540	17.80	1.33
	15	1542	754	19.40	0.98	16	1733	815	21.90	1.98
	20	2140	1053	22.50	1.32	21	2435	1138	25.40	2.66
1200	10	1182	574	19.68	0.78	11	1369	647	21.36	1.60
	15	1850	905	23.28	1.18	16	2080	978	26.28	2.38
	20	2568	1264	27.00	1.58	21	2922	1266	30.48	3.19

Output measured in accordance with EN442 output at 20°C room temperature. Room temperature 20°C. For outputs at different conditions please contact Jaga UK.

PERFORMANCE

HEIGHT 800

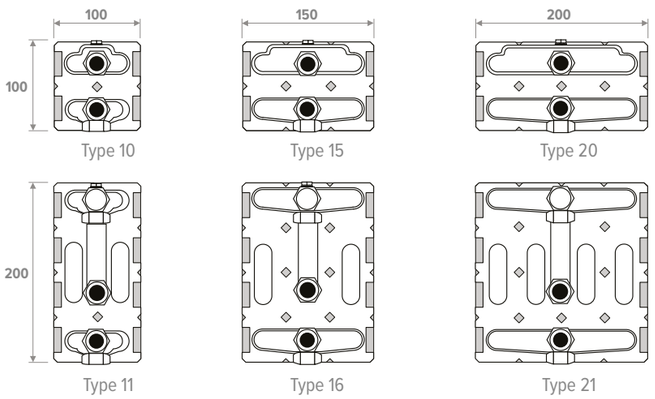
PLAW.080 LLL TT.XXX

	SINGLE			WEIGHT	WATER CONTENT	TWIN			WEIGHT	WATER CONTENT
L mm	Type	Watts 75/65	Watts 55/45	kg	l	Type	Watts 75/65	Watts 55/45	kg	l
600	10	653	315	9.84	0.39	11	778	366	10.68	0.80
	15	1040	505	11.64	0.59	16	1187	558	13.14	1.19
	20	1454	711	13.50	0.79	21	1663	780	15.24	1.60
800	10	870	419	13.12	1.06	11	1037	488	14.24	1.06
	15	1386	673	15.52	0.52	16	1582	743	17.52	1.58
	20	1938	948	18.00	0.78	21	2218	1040	20.32	2.13
1000	10	1088	524	16.40	0.65	11	1296	610	17.80	1.33
	15	1733	841	19.40	0.98	16	1978	929	21.90	1.98
	20	2423	1185	22.50	1.32	21	2772	1299	25.40	2.66
1200	10	1306	629	19.68	0.78	11	1555	732	21.36	1.60
	15	2080	1010	23.28	1.18	16	2374	1115	26.28	2.38
	20	2908	1422	27.00	1.58	21	3326	1559	30.48	3.19

Output measured in accordance with EN442 output at 20°C room temperature. Room temperature 20°C. For outputs at different conditions please contact Jaga UK.

HEAT EXCHANGER OVERVIEW & PRESSURE DROPS

HEAT EXCHANGERS



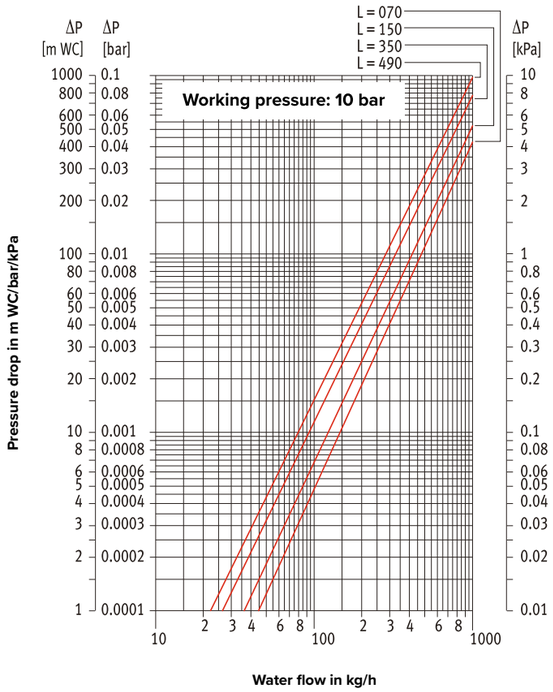
CALCULATE FLOW RATE

$$\frac{\text{corrected output [watts]} \times 3600}{\text{specific heat capacity [J/kg.°C]} \times \text{[flow temp minus return temp]}}$$

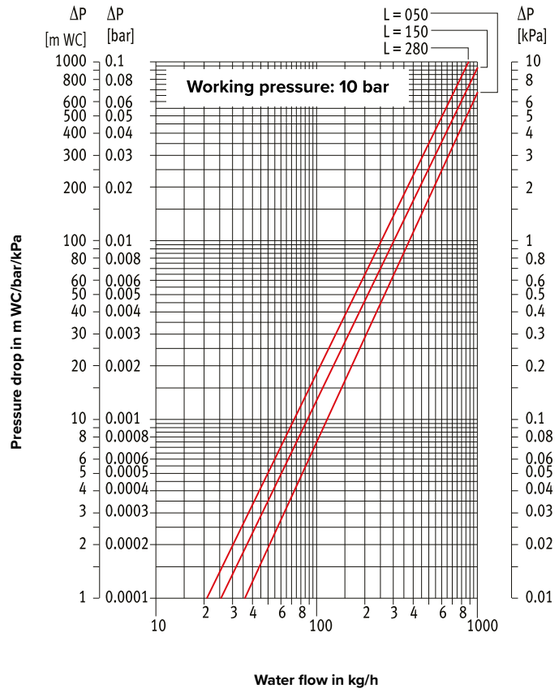
- specific heat capacity of water = 4187
- assume emitter with 1000 Watt output
- flow 70°C, return 50°C

$$\frac{1000 \times 3600}{4187 \times [70\text{-}50]} = \textbf{42.99 kg/hr mass flow}$$

TYPE 10

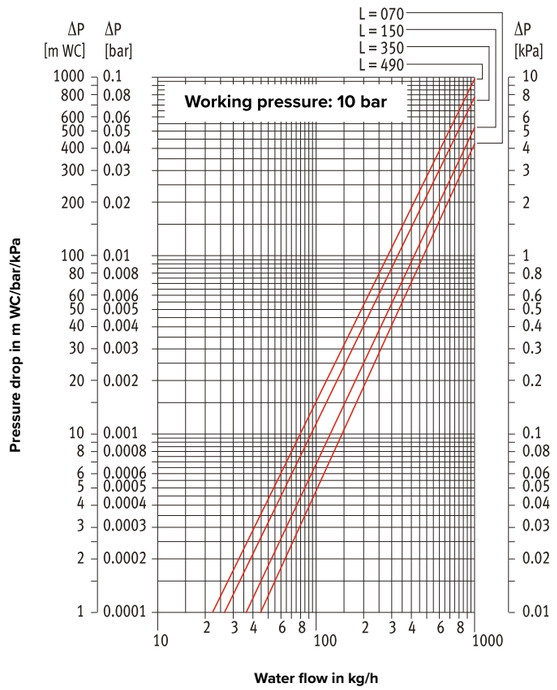


TYPE 11



PRESSURE DROPS

TYPE 15



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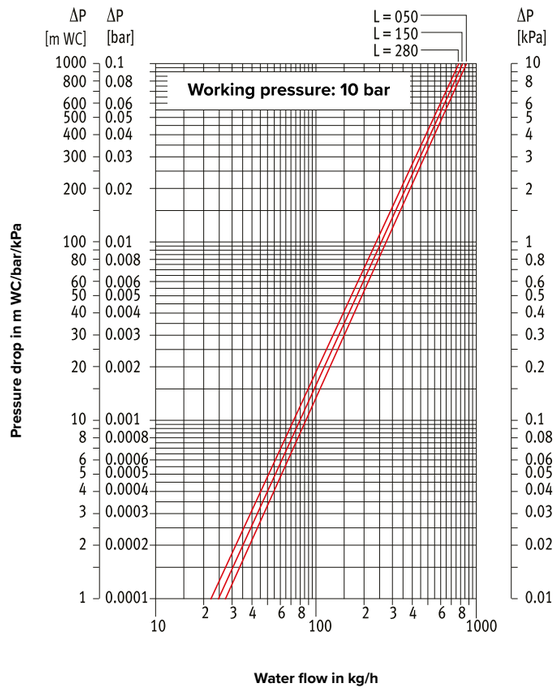

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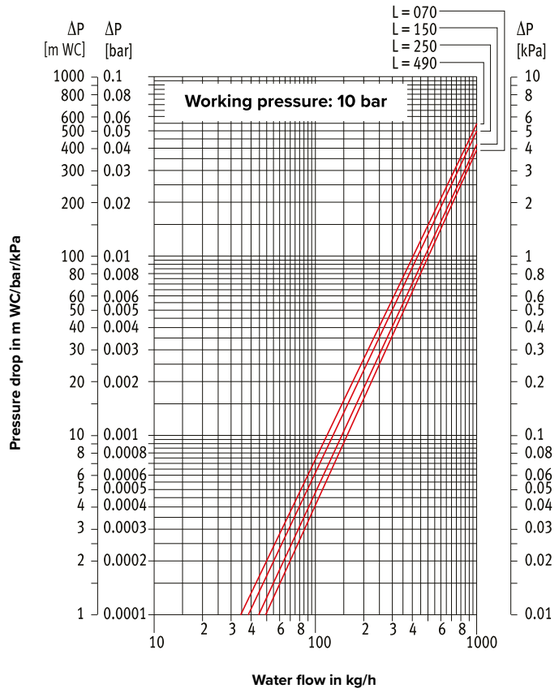

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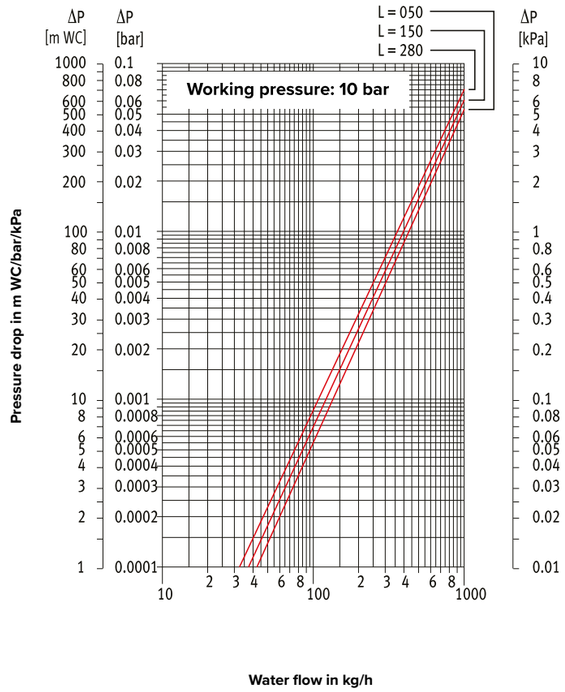

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