PLAY DBE

Colourful, fun, safe

jaga

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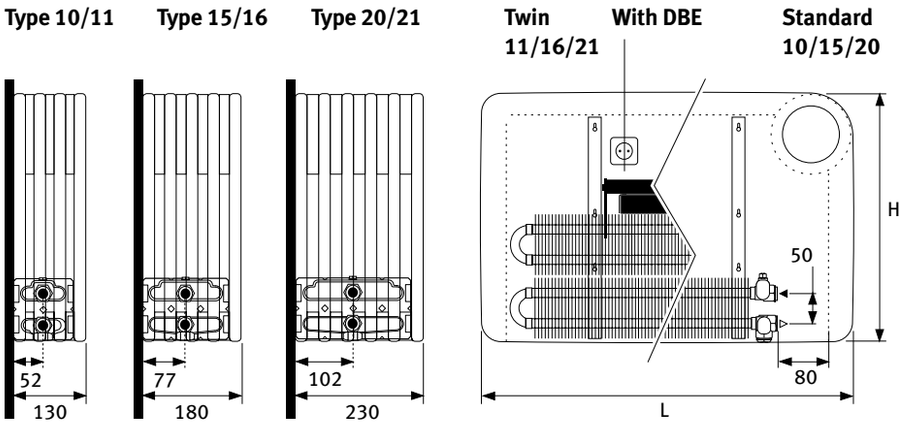
Play DBE

Dimensions

Product code: PLAW



Available heights

350	500	650

Available lengths

800	1000	1200

Dimensions in mm

Colours

Play range

WHI Play White

BLA Play Black

PIA Play Piano

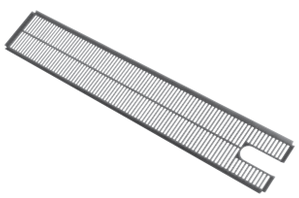
BOY Play4Boy

GIR Play4Girl

Options

Base grille

Closes the bottom of the casing
Ordering code: 5641.000



Outputs

Outputs in watts at 75/65/20°C, in accordance with EN442

	code	height	length	type	colour	dbe
ORDER CODE:	PLAW	035	060	11	PIA	DBE

(Example order code shown is for a 350mm high radiator, 600mm long, type 11, colour Piano)

Height ▼	Type ▼	Length ▶	800	1000	1200
	11	Stand-by	777	971	1165
		Comfort	1077	1271	1765
		Boost	1277	1471	2165
	16	Stand-by	1160	1450	1740
350		Comfort	1460	1750	2340
		Boost	1660	1950	2740
	21	Stand-by	1622	2028	2434
		Comfort	1922	2328	3034
		Boost	2122	2528	3434
	11	Stand-by	913	1141	1369
		Comfort	1213	1441	1969
		Boost	1413	1641	2369
	16	Stand-by	1386	1733	2080
500		Comfort	1686	2033	2680
		Boost	1886	2233	3080
	21	Stand-by	2922	2435	1948
		Comfort	3222	2735	2548
		Boost	3422	2935	2948
	11	Stand-by	1037	1296	1555
		Comfort	1337	1596	2155
		Boost	1537	1796	2555
	16	Stand-by	1582	1978	2374
650		Comfort	1882	2278	2974
		Boost	2082	2478	3374
	21	Stand-by	2218	2772	3326
		Comfort	2518	3072	3926
		Boost	2718	3272	4326

All dimensions are shown in millimetres

Outputs in watts at 55/45/20°C, in accordance with EN442

Height ▼	Type ▼	Length ▶	800	1000	1200
	11	Stand-by	391	488	586
		Comfort	646	763	1059
		Boost	766	883	1299
	16	Stand-by	583	729	875
350		Comfort	876	1050	1404
		Boost	996	1170	1644
	21	Stand-by	816	1020	1224
		Comfort	1153	1397	1820
		Boost	1273	1517	2060
	11	Stand-by	459	574	689
		Comfort	728	865	1181
		Boost	848	985	1421
	16	Stand-by	697	872	1046
500		Comfort	1012	1220	1608
		Boost	1132	1340	1848
	21	Stand-by	1470	1225	980
		Comfort	1933	1641	1529
		Boost	2053	1761	1769
	11	Stand-by	522	652	782
		Comfort	802	958	1293
		Boost	922	1078	1533
	16	Stand-by	796	995	1194
650		Comfort	1129	1367	1784
		Boost	1249	1487	2024
	21	Stand-by	1116	1394	1673
		Comfort	1511	1843	2356
		Boost	1631	1963	2596

All dimensions are in millimetres

Supplied as Standard

- Low-H2O heat exchanger with pre-mounted brackets
- One piece casing, completely mounted, consisting of lacquered MDF panels with anodised aluminium spacer rings
- Suitable for connection left or right below, either to the wall or to the floor
- Pencil-proof grille
- Extended air vent 1/8" and drain plug 1/2"
- Delivery with DBE: DBE system incl. operation, control and power supply 12 VDC. Supplied in separate packaging (add/DBE to ordering code)

EN 442 EURONORM

Output calculated in accordance with EN442, at a water temperature of 75/65°C and a room temperature of 20°C (ΔT=50).

Outputs

Outputs in watts at 35/30/20°C, in accordance with EN442

	code	height	length	type	colour	dbe	
ORDER CODE:	PLAW	035	060	11	BOY	DBE	(Example order code shown is for a 350mm high radiator, 600mm long, type 11, colour Play4Boy)

Height ▼	Type ▼	Length ▶	800	1000	1200
	11	Stand-by	120	151	181
		Comfort	269	318	441
		Boost	319	368	541
350	**16**	Stand-by	180	225	270
		Comfort	365	438	585
		Boost	415	488	685
	21	Stand-by	251	314	377
		Comfort	481	582	759
		Boost	531	632	859
	11	Stand-by	142	177	212
		Comfort	303	360	492
		Boost	353	410	592
	16	Stand-by	215	269	322
500		Comfort	422	508	670
		Boost	472	558	770
	21	Stand-by	453	377	302
		Comfort	806	684	637
		Boost	856	734	737
	11	Stand-by	161	201	241
		Comfort	334	399	539
		Boost	384	449	639
650	**16**	Stand-by	245	307	368
		Comfort	471	570	744
		Boost	521	620	844
	21	Stand-by	344	430	516
		Comfort	630	768	982
		Boost	680	818	1082

All dimensions are in millimetres

Supplied as Standard

- Low-H2O heat exchanger with pre-mounted brackets
- One piece casing, completely mounted, consisting of lacquered MDF panels with anodised aluminium spacer rings
- Suitable for connection left or right below, either to the wall or to the floor
- Pencil-proof grille
- Extended air vent 1/8" and drain plug 1/2"
- Delivery with DBE: DBE system incl. operation, control and power supply 12 VDC. Supplied in separate packaging (add/ DBE to ordering code)

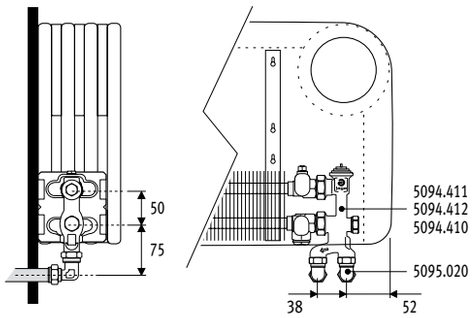
EN 442 EURONORM

Output calculated in accordance with EN442, at a water temperature of 75/65°C and a room temperature of 20°C (ΔT=50).

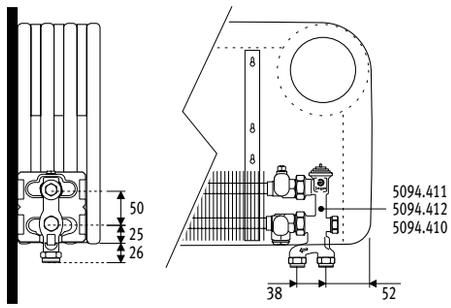
Connections

With vertical pro thermostatic valve

To the wall



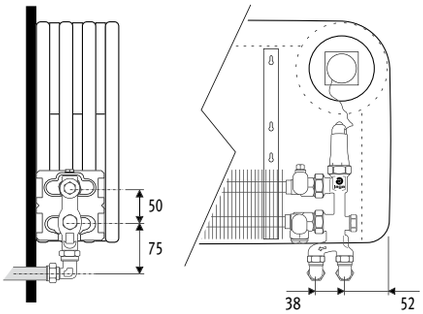
To the floor



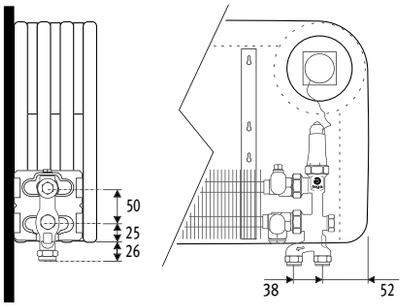
- For connection to wall or floor
- Thermostat valve without capillary included
- Instructions: use with an electrically controlled zone valve, a manual head or thermostatic head with an external sensor.
- Do not use with standard thermostatic head

With vertical pro integrated thermostatic valve with control

To the wall



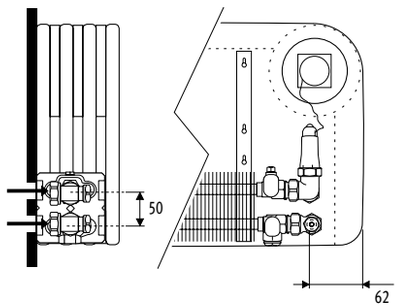
To the floor



- For connection to wall or floor
- Thermostat valve with capillary included
- Controls integrated in the front panel

With vertical double angled thermostatic valve with integrated control

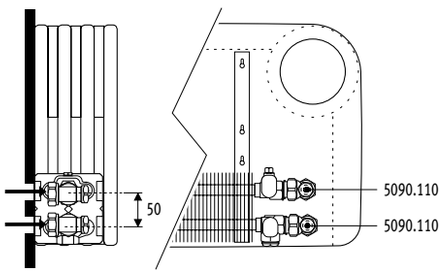
To the wall



- The casing conceals the connection to the wall
- Thermostat valve with capillary included
- Controls integrated in the front panel

With 2 lockshields 1/2”

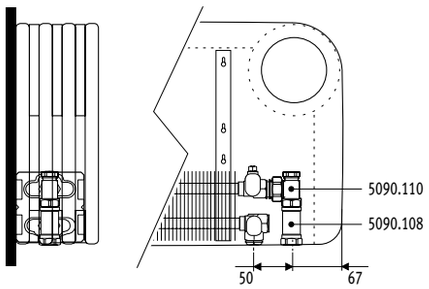
To the wall



- Connection to the floor
- Only for remote control
- No integral thermostatic control
- With lockshield on inlet and return

With lockshield 1/2” and extension pipe

To the floor



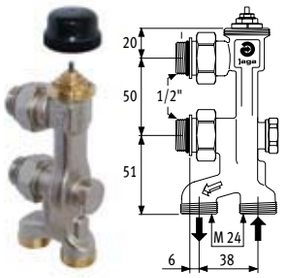
- Same end connection to wall concealed by casing
- Only for remote control
- No integral thermostatic control
- With lockshield on inlet and return

Ordering codes

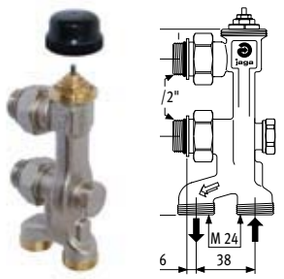
Example: PLAW/020/140/10/BLA/FR/TPB

FL = floor left
FR = floor right
WL = wall left
WR = wall right

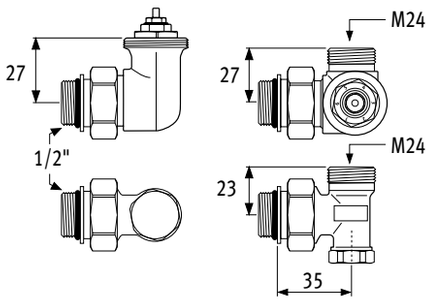
Vertical pro thermostatic valve



Description	Code
2-pipe, standard Kv	5094.411
2-pipe, reduced Kv	5094.412
1-pipe, standard Kv	5094.410

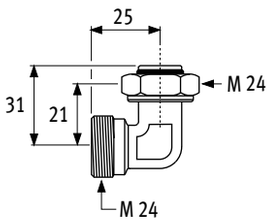


Description	Code
2-pipe, standard Kv	TPB
2-pipe, reduced Kv	TPS
1-pipe, standard Kv	TPO



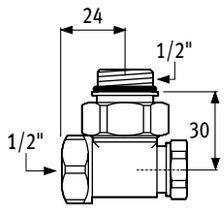
Code
TIB

Curve 90° M24 x M24



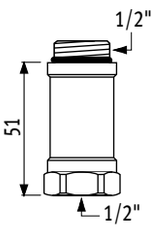
Code
5095.020

Lockshield 1\2”



Description	Code
nickle-plated	5090.108

Extension pipe



Description	Code
nickle-plated	5090.108

Sleeve Couplings

For Vertical Pro Jaga and Vertical Double Angled

For flexible steel or copper tube

Description	Code
Ø M24 x 10/1	5094.110
Ø M24 x 12/1	5094.112
Ø M24 x 14/1	5094.114
Ø M24 x 15/1	5094.115
Ø M24 x 16/1	5094.116
Ø M24 x 18/1	5094.118

Steel tube for CH

Description	Code
Ø M24 x 1/2”	5094.501
Ø M24 x 3/8”	5094.503

For RPE/ALU tube

Description	Code
Ø M24 x 14/2	5094.314
Ø M24 x 16/2	5094.316
Ø M24 x 16/2.2	5094.326
Ø M24 x 18/2	5094.318

For synthetic tube

Description	Code
Ø M24 x 12/2	5094.212
Ø M24 x 14/2	5094.214
Ø M24 x 16/1.5	5094.219
Ø M24 x 16/2	5094.216
Ø M24 x 17/2	5094.217
Ø M24 x 18/2	5094.218

For Lockshield

For flexible steel or copper tube

Description	Code
Ø 1/2” x 10/1	5098.110
Ø 1/2” x 10/1	5098.112
Ø 1/2” x 10/1	5098.114
Ø 1/2” x 10/1	5098.115
Ø 1/2” x 10/1	5098.116
Ø 1/2” x 10/1	5098.118

Steel tube for CH

Description	Code
Ø 1/2” x 1/2”	5094.502
Ø 1/2” x 3/8”	5094. 504

For RPE/ALU tube

Description	Code
Ø 1/2” x 14/2	5098.314
Ø 1/2” x 16/2	5098. 316
Ø 1/2” x 16/2.2	5098. 326
Ø 1/2” x 18/2	5098. 318

For synthetic tube

Description	Code
Ø 1/2” x 12/2	5098.212
Ø 1/2” x 14/2	5098. 214
Ø 1/2” x 16/1.5	5098. 219
Ø 1/2” x 16/2	5098. 216
Ø 1/2” x 17/2	5098. 217
Ø 1/2” x 18/2	5098. 218

Short Coupling

For flexible steel tube or copper tube Ø 15mm

Description	Code
Ø 1/2” x 15/1	5098.015

Correction factors

Average correction factors according to EN442 - 75/65/20°C for Comfort and Boost mode

Tv	Tl	Tr > 20	25	30	35	40	45	50	55	60	65	70	75	80	85
90	20	0.70	0.75	0.80	0.85	0.90	0.95	1.00	1.05	1.10	1.15	1.20	1.25	1.30	1.35
	24	0.62	0.67	0.72	0.77	0.82	0.87	0.92	0.97	1.02	1.07	1.12	1.17	1.22	1.32
85	20	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00	1.05	1.10	1.15	1.20	1.25	
	24	0.57	0.62	0.67	0.72	0.77	0.82	0.87	0.92	0.97	1.02	1.07	1.12	1.17	
80	20	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00	1.05	1.10	1.15		
	24	0.52	0.57	0.62	0.67	0.72	0.77	0.82	0.87	0.92	0.97	1.02	1.07		
75	20	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00	1.05			
	24	0.47	0.52	0.57	0.62	0.67	0.72	0.77	0.82	0.87	0.92	0.95			
70	20	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95				
	24	0.42	0.47	0.52	0.57	0.62	0.67	0.72	0.77	0.82	0.87				
65	20	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85					
	24	0.37	0.42	0.47	0.52	0.57	0.62	0.67	0.72	0.77					
60	20	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75						
	24	0.32	0.37	0.42	0.47	0.52	0.57	0.62	0.67						
55	20	0.35	0.40	0.45	0.50	0.55	0.60	0.65							
	24	0.27	0.32	0.37	0.42	0.47	0.52	0.57							
50	20	0.30	0.35	0.40	0.45	0.50	0.55								
	24	0.22	0.27	0.32	0.37	0.42	0.47								
45	20	0.25	0.30	0.35	0.40	0.45									
	24	0.17	0.22	0.27	0.32	0.37									
40	20	0.20	0.25	0.30	0.35										
	24	0.12	0.17	0.22	0.27										
35	20	0.15	0.20	0.25											
	24	0.07	0.12	0.17											
30	20	0.10	0.15												
	24	0.02	0.07												

The indicated outputs with ΔT 50°c are the exact outputs and are calculated in accordance with EN442.
An average correction factor is given in this table for outputs at other ΔT and is applicable for all dimensions.

KEY
Tv = flow temperature
Tr = return temperature
Tl = desired air temperature

How to choose the right radiator?

Rapid estimation of heat losses

Calculate the volume of the room (L x W x H) and multiply this by the Watts/m³ figure given in the table below. Choose according to the level of insulation and the desired room temperature.

Insulation	20°	24°
excellent	45	55
good	65	75
average	85	95
poor	100	115

Required output in Watts/m³

Example

Use the table to determine the relevant correction factor with a water temperature of 60/45°c with a room temperature of 20°C.

The correction factor = 0.65

Required output 1000 watts : 1000 divided by 0.65 = 1538 watts therefore search in this leaflet's standard output table for a product with an output of at least 1538 watts. Alternatively use the "Radiator Finder" search function on www.jaga.co.uk to identify all Jaga heating products with this required output.

EN 442 EURONORM

Output calculated in accordance with EN442, at a water temperature of 75/65°C and a room temperature of 20°C (ΔT=50).

Acoustic Data

Sound pressure and correction factors

Type	db(A)	
	Comfort	Boost
11	29	35
16	27	31

Several appliances with an equal sound level in a room

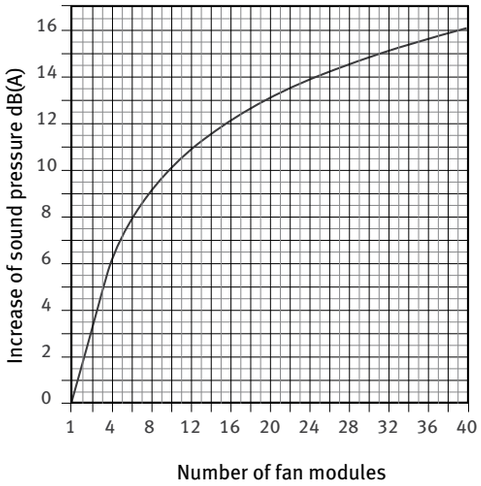
Number db(A)	Correction db(A)
2	+3.0
3	+4.8

P2 = P1 + 10 log n
P1 = sound level one appliance
P2 = sound level to be calculated
n = number of appliances

Through the DBE-communication software (DBED) it is possible to set up other activator speeds. In this way you can obtain other outputs and sound pressures. For more information, contact Jaga.

For reference a typical conversation has a db level of 60, a motorbike is 105db and a rock concert 140db.

Combined sound level of multiple DBE units



Correction factor by room volume

Volume (m3)	Correction db(A)
80	0
150	-2.7
200	-4.0
250	-4.9
300	-5.7
350	-6.4
400	-7.0
500	-8.0
600	-8.8

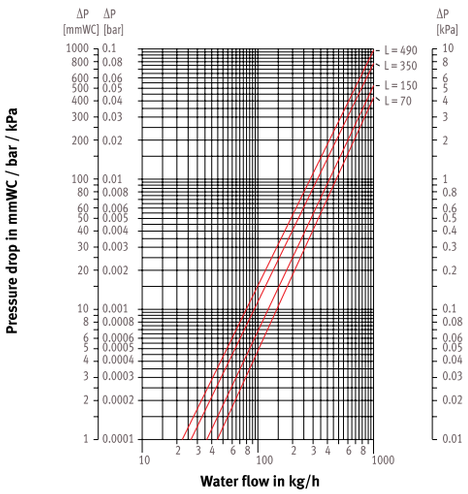
Equation for calculating sound pressure in other room sizes

$$P2 = P1\text{-}10 \log \frac{V2}{V1}$$

P1 = table of sound pressure
P2 = sound level to be calculated
V1 = size of room of reference (80 m³)
V2 = other room size

Pressure drops

Type 10



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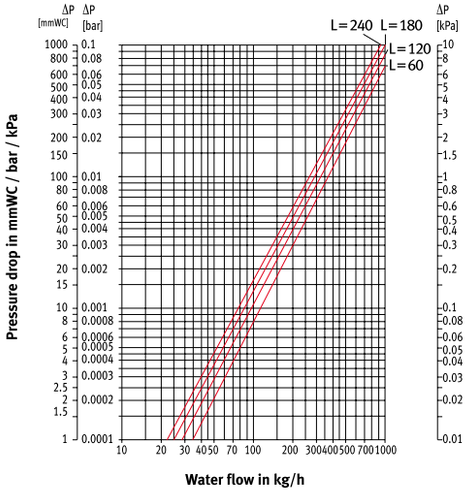
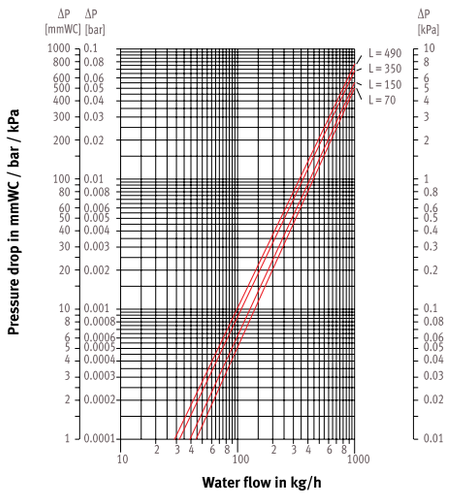
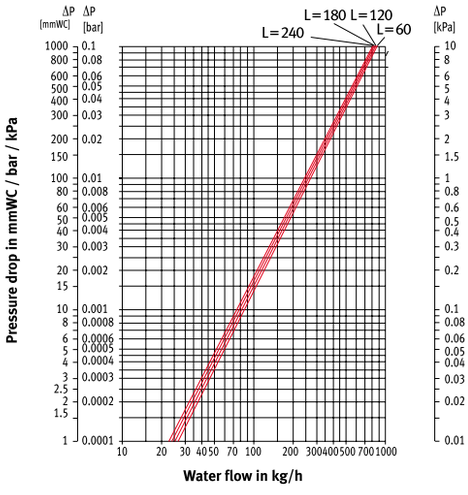


Type 15



Type 16



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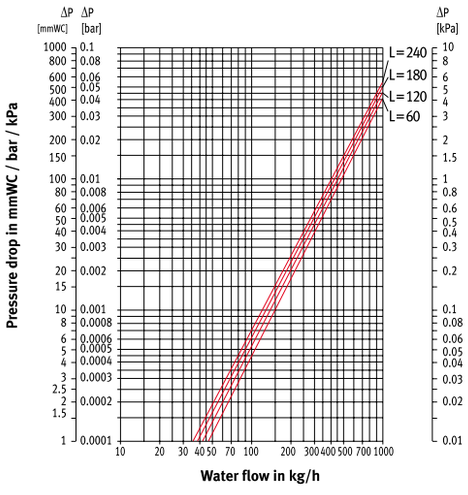
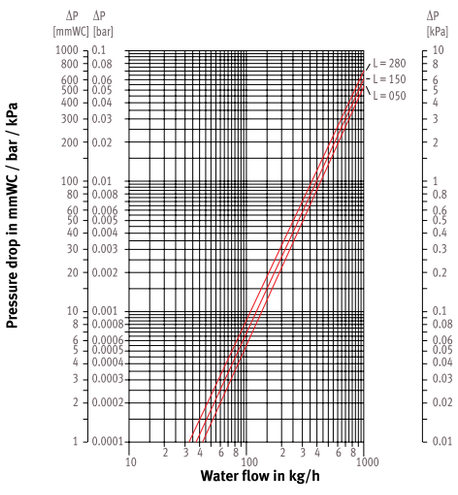


Type 21



Jaga Guarantee Information

1 The guarantee is valid only if the equipment is properly and correctly used, by its first owner and if installed in accordance with the norms and instructions as detailed in the instruction leaflet and current industry standard practices.

2 The guarantee only applies to the equipment and the spare parts supplied by Jaga. Jaga has the choice between repair and replacement of the equipment or the spare parts. If any modifications have been made by Jaga to the standard product design, Jaga reserves the right to replace the guaranteed equipment with equivalent products or spare parts.

3 The period of guarantee is mentioned in this certificate. The guarantee decreases every year on a straight line basis by an equal percentage in order to reach a zero guarantee at the end of the guarantee period (e.g. for a period of 10 years the annual decrease of the guarantees 10% of the invoiced value). Repaired or replaced product is guaranteed through to the end of the original guarantee period.

4 The guarantee is valid only on products displaying the appropriate identification information concerning product type and series. No guarantee is granted on equipment or spare parts lacking this information, on equipment where this information has been removed or altered, or on equipment that has been repaired or modified by persons not authorised by Jaga to carry out this work.

5 The customer is responsible for any damage caused as a result of errors in installation or use of incorrect fittings, or for any damage caused by electrical connections, faulty or damaged electrical installations or appliances, erroneous voltage or hydraulic pressure and all other errors not directly related to the product delivered by Jaga. The guarantee is also revoked when unsuitable parts or components are used. The guarantee for our heat exchangers is not valid if they are regularly drained, or if they are heated by means of industrial water, steam or water saturated by excessive quantities of oxygen. The quality of the system ater has to be in accordance with the VDI 2035-2 directives. The guarantee is also not applicable if the heat exchangers are placed in unsuitable atmospheric surroundings, such as but not exclusively ammonia, caustic substances etc.

6 This guarantee excludes damage due to incorrect handling and/or use of the equipment, or due to formation of lime deposits, incorrect use of the safety valve, or to all equipment that is incorporated into the building in a way that means it cannot be accessed normally.

7 Any work undertaken or product supplied as a result of a guarantee claim that proves not to be valid will be charged for. Product supplied will be invoiced at the customer's standard purchasing terms, and labour will be charged at £50 per hour with a minimum labour charge of £200.

8 The guarantee period starts from the date of the invoice for supply of the products covered by the guarantee. If the invoice is not available, the date of production will be used based on the product ID number/series.

9 Only the courts of judicial district Hasselt (Belgium) are authorised to deal with disputes arising from this guarantee. It will apply Belgian law even when sales involved are subjects of EU member states as well as non-EU member countries.

Heat exchanger

Casings and components

Valves for Low-H2O heat exchangers

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