



DBH UPGRADE SET



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DBH UPGRADE SET

THE EASIEST WAY TO AN ENVIRONMENTALLY FRIENDLY HVAC INSTALLATION

- switch to low temperature heating with heat pump or low temperature boiler
- suitable for environmentally friendly light cooling (Non-condensing)
- With breeze feature for a fan effect, does not depend on the water temperature. (* only with ACO control)
- easy installation on all Jaga Low-H₂O heating units

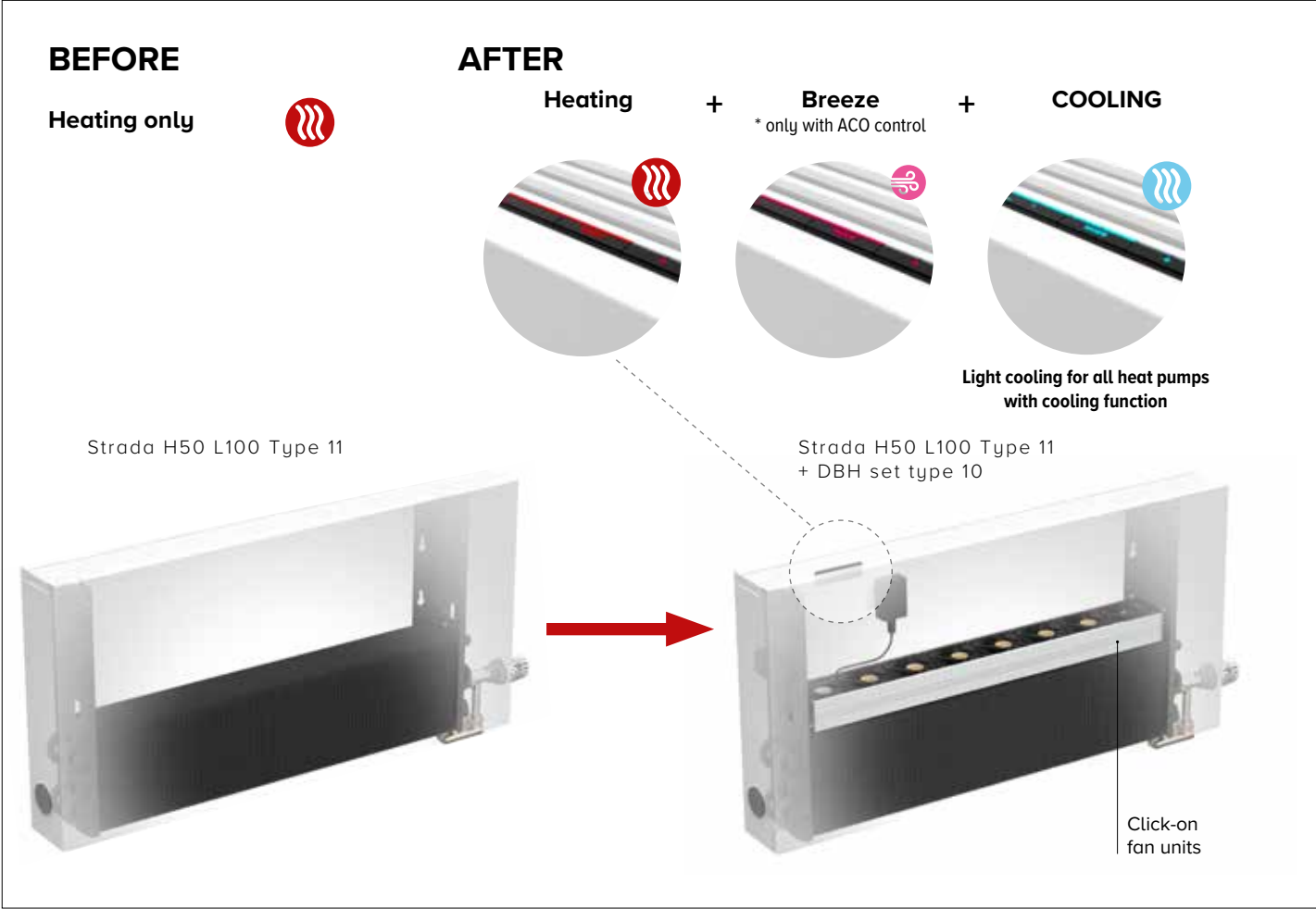
FROM THE DESIGNERS OF THE FIRST LOW TEMPERATURE HEATER

The DBH Upgrade set is a booster that was specially developed for Jaga Low-H₂O heating units in order to increase the power and to enable low energy consumption cooling. This set makes it possible to greatly reduce the water temperature of your C.V. installation without having to install larger heating units or having to modify the pipes. Upgrading your existing Jaga heating units with the DBH set is the easiest option towards a low temperature installation or an emission-free heat pump installation for both heating and light cooling.

ALSO SUITABLE
FOR JAGA
LIGHT COOLING



- energy-efficient non-condensing cooling in combination with any heat pump that can supply cooling water
- improves the seasonal efficiency of each heat pump
- makes sure that the condensing boilers are operating at their lowest temperature and as efficiently as possible.



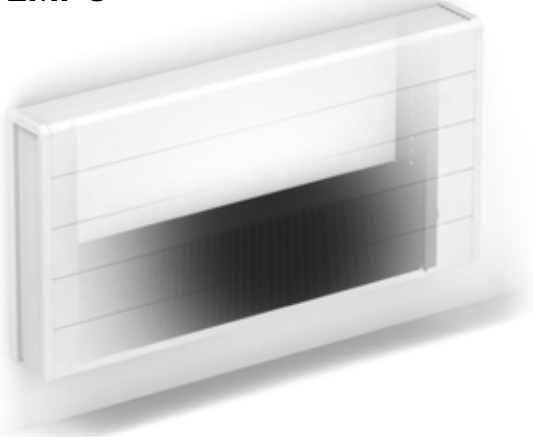
OUTPUTS WITHOUT DBH						OUTPUT WITH DBH			COOLING WITH DBH
TEMP. PROFILE						TEMP. PROFILE	Position 2	Position 3	
75/65	1386 Watts					55/45	1303 Watts	1600 Watts	
55/45	665 Watts					45/35	823 Watts	1011 Watts	
45/35	388 Watts					35/30	495 Watts	608 Watts	

DBH UPGRADE SET

FOR WHICH RADIATORS?

Almost all Jaga Low-H₂O heating units can be equipped with the DBH Upgrade set:
For more info on the DBH Upgrade Set, see www.jaga.com

TEMPO



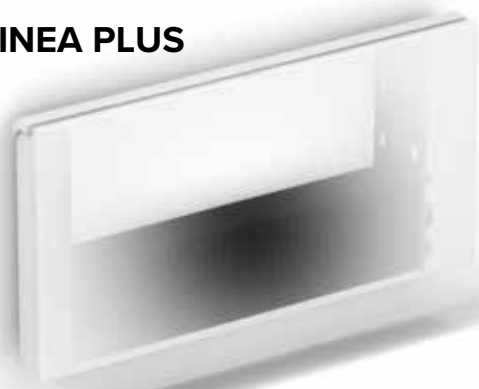
INSTALLATION IN A WALL RECESS



STRADA



LINEA PLUS



REPLACEMENT OF OTHER HEATING UNITS

Regular panel heaters are not suitable for a DBH- upgrade. You can, however, replace it with a Jaga heating unit that has same dimensions as the old heating unit. This way you can switch to a heating unit that is powerful enough to run at lower water temperatures without losing space to an extra or a larger heating unit.

75/65



55/45



DBH UPGRADE SET

WHICH DBH UPGRADE SET?

STANDARD DELIVERY

- Fan unit(s)
- Control board with microcontroller
- AC adapter 230V / 24VDC

ORDER CODE

DBHS 050 10 D01 EU

Control:

D01 (Jaga TPT)

D03 (Jaga BMS 0-10V control)

D09 (Jaga ACO)

DBH Upgrade set:

10 (DBH unit 10)

15 (DBH unit 10)

Length radiator

HOW DO I CHOOSE THE RIGHT SET?

- Measure the width and length of your Low-H₂O heating unit.
- Thickness 11,5 cm = DBH unit 10
- Thickness 16,5 cm = DBH unit 15
- Thickness 21,5 cm = DBH unit 15
- The length of the cover determines how long the DBH-set should be.

DBH UNIT 10

suitable for type 10 and 11:

- Strada
 - type 10 (min. height 020)
 - type 11 (min. height 035)
- Tempo type 10 (min. height 020)
 - type 11 (min. height 030)
- Linea Plus type 10 and type 11 (min. height 035)
 - Installation in a wall recess
 - type 10 (min. height 020)
 - type 11 (min. height 030)



type 10

type 11

DBH UNIT 15

suitable for type 15, 16, 20 and 21:

- Strada
 - type 15, 20 (min. height 020)
 - type 16, 21 (min. height 035)
- Tempo
 - type 15, 20 (min. height 020)
 - type 16, 21 (min. height 030)
- Linea Plus
 - type 15, 16, 20 and 21 (min. height 035)
 - Installation in a wall recess
 - type 15, 20 (min. height 020)
 - type 16, 21 (min. height 030)



type 15

type 16

type 20

type 21

NOISE AND POWER ACCORDING TO THE LATEST EUROPEAN STANDARDS

The heat output of Jaga radiators with DBH was measured according to the latest European standards regarding heating units with integrated fans. Jaga is one of the first to comply with the new reference standard EN16430. The sound power (L_w) of the DBH is measured in accordance with ISO 3741:2010.. As is customary for the sound pressure (L_p), room attenuation of 8 dB(A) is assumed for room content of 100 m³ and a reverberation time of 0.5 sec.

HOW LOUD IS A DECIBEL?

DB(A)	PERCEPTION	EXAMPLES
10	hardly to hear	breathing, a falling leave
20	just audible	radio studio, rustling of tree leaves
30	very quiet	library (30 to 40), whispering
40	quiet	living room, quiet classroom, soft buzz, fridge
50	limited sound	air conditioning, normal conversation, dishwasher

HOW TO SELECT DBH?

DBH is selected in comfort mode, position 2 in bold in the output tables. This guarantees a quiet operation at a maximum of 30 dB(A). Position 1 is an extremely quiet bedroom setting with a maximum of 26 dB(A). Position 3 provides a maximum boost and the very high output serves primarily to heat up and cool down a room as quickly as possible. In this mode the noise is between 42 and 46 dB(A).

CONTROL SYSTEMS



TYPE	POSITION	CONTROL PANEL	EXTERNAL 0-10 V CONTROL	WATER TEMPERATURE SENSOR	AIR TEMPERATURE SENSOR
Jaga ACO (D09)	  	✓	-	✓	✓
Jaga BMS 0-10V control (D03)	 	-	✓	✓	-
Jaga TPT (D01)	 	✓	-	✓	✓

JAGA ACO (D09)

- The fan speed is selected manually in 3 modes via the control panel.
- When the water temperature is lower than 24°C and the air is warmer than the water in the heat exchanger, the fans will start. The unit will then cool the area.
- When the water temperature is higher than 28°C and the air is colder than the water, the fans will start. The unit will then heat the area.
- The unit will **automatically** switch from heating to cooling and to standby mode.

JAGA BMS 0-10V CONTROL (D03)

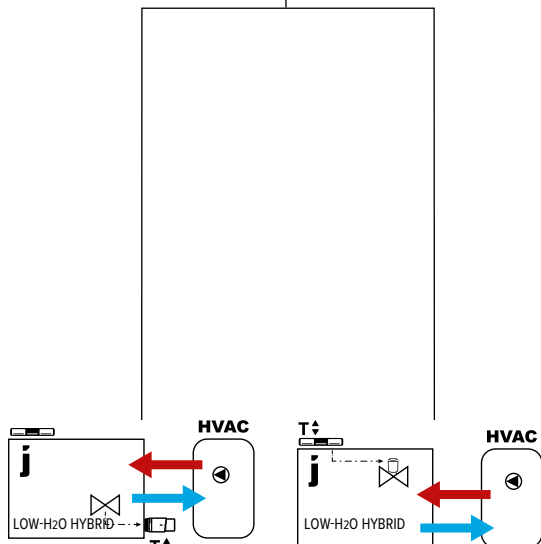
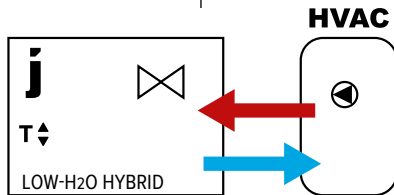
- The fan speed is only **controlled by a 0-10V (DC) signal** via an external control system that is installed into the electronics of the unit. The 0-10V signal can come from a Jaga thermostat or another home automation or building management system.
- When the control voltage is 1V or higher and the water temperature is higher than 28°C or lower than 24°C, the fans will start rotating. The rotational speed will increase proportionally with the configured control voltage. At 10V control voltage, the fans will rotate at maximum rotational speed.
- When a Hybrid unit with Jaga BMS control is equipped with a **thermoelectric valve motor** connected to the internal electronics, the valve will open when the control voltage exceeds 1V.

JAGA TPT (D01)

- The fan speed is automatically controlled in function of the preset comfort temperature via the fingertip controls. This allows the unit to be very silent once the comfort temperature is reached.
- When a Hybrid unit with Jaga TPT control is equipped with a thermoelectric valve motor connected to the internal electronics, the unit will take over the function of room thermostat. Based on the room temperature measurement, the unit will then switch on or off the water flow through the unit itself. When the water temperature in the heat exchanger is lower than 24°C, the fans will start. The unit will cool the area.
- If you wish to **set the room temperature via another system** that enables or disables the water flow through the unit, you do not need to connect a thermoelectric valve motor to the internal controller. The TPT controller will then only control the fan rotational speed based on the set comfort temperature. Intuitively, you will then use the fingertip control to get more or less fan support when the comfort temperature is reached.
- When the water temperature in the heat exchanger is lower than 24°C, the fans will start. The unit will cool the area.
- When the water temperature is higher than 28°C, the fans will start. The unit will heat the area.

Would you like the unit to have room temperature control?

Yes, unit with integrated room temperature control
Fans will start automatically when the internal control sends warm/cold water through the radiator.



Heating:
Temperature control via
thermostatic radiator valve (TRV)

Cooling:
Thermostatic radiator valve/
adaptor (5090 1114) is on cooling
mode, no temperature control

Fan speed is determined by
3-position control

Fan speed adapts to the
room temperature and the
set target room temperature
(via fingertip control)

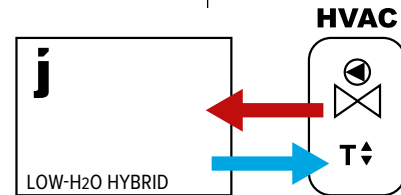
JAGA ACO

JAGA TPT

Coding: D09

D01

No, unit without integrated room temperature control
Fans will start automatically when the external control sends warm/cold water through the radiator

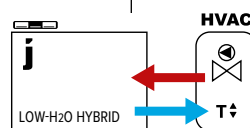


Without 0-10V signal:

- room thermostat (None-Jaga)
- area control with room temperature control
- boiler or heat pump control with room temperature control
- home automation with room temperature control
- other external room temperature controls

0-10V signal for fan control available from

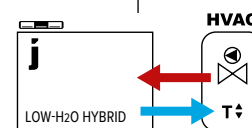
- Jaga room thermostat with 0-10V signal to unit
- home automation with 0-10V signal to unit



Choose 1 of 3 fan
speeds (speed will
not adjust, depending
on room temperature)

JAGA ACO

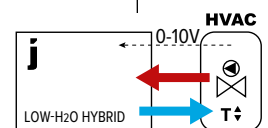
D09



Fan speed will adjust to
the room temperature.
Set the temperature range
via the control panel.

JAGA TPT

D01

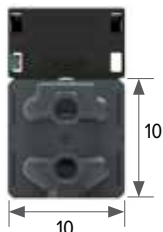


Fan speed is controlled by
0-10V connection to the
electronics in the radiator.

JAGA BMS

D03

DBH SET 10 + LOW-H2O TYPE 10



LENGTH RADIATOR				DBH SET		POSITION	COOLING Room temperature 27°C		HEATING Room temperature 20°C				SOUND PRESSURE*	ELECTRIC POWER CONSUMPTION	WEIGHT	WATER CONTENT	ORDER CODE
L	B		16/18	20/22	35/30		45/40	50/45	55/45								
cm	cm		Watts	Watts	Watts		Watts	Watts	Watts								
DBHS	050	10	1	90	54	144	274	340	371	26	3.6			DBHS 050 10	DDD	EU	
			2	96	58	154	293	365	398								
			3	113	68	180	342	426	465								
	060		1	117	70	186	355	442	482	26	4.8			DBHS 060 10	DDD	EU	
			2	125	75	199	380	473	516								
			3	148	89	236	450	559	610								
	070		1	143	86	228	434	540	589	26	5.5			DBHS 070 10	DDD	EU	
			2	153	92	244	466	579	632								
			3	183	110	292	557	693	756								
	080		1	168	101	269	512	637	695	26	6.3			DBHS 080 10	DDD	EU	
			2	181	109	289	550	684	746								
			3	218	132	348	664	826	901								
	090		1	193	117	309	589	732	799	26	6.7			DBHS 090 10	DDD	EU	
			2	208	125	332	633	788	859								
			3	253	153	405	771	959	1046								
	100		1	218	132	348	664	826	901	26	7.8			DBHS 100 10	DDD	EU	
			2	235	142	375	715	890	971								
			3	289	174	461	878	1092	1191								
	110		1	245	148	391	745	927	1011	26	8.4			DBHS 110 10	DDD	EU	
			2	264	159	421	803	998	1089								
			3	324	195	517	985	1226	1337								
	120		1	267	161	426	812	1010	1102	26	8.9			DBHS 120 10	DDD	EU	
			2	288	174	460	877	1091	1190								
			3	359	216	573	1092	1359	1482								
	140		1	314	189	502	957	1190	1298	26	10.1			DBHS 140 10	DDD	EU	
			2	341	205	544	1036	1289	1406								
			3	429	259	685	1307	1625	1773								
	160		1	361	218	576	1098	1366	1490	26	11			DBHS 160 10	DDD	EU	
			2	392	236	626	1192	1483	1618								
			3	500	301	798	1521	1892	2063								
	180		1	412	248	657	1253	1559	1700	26	12.2			DBHS 180 10	DDD	EU	
			2	447	269	714	1360	1692	1845								
			3	570	344	910	1735	2158	2354								
	200		1	452	272	721	1375	1710	1865	26	13.4			DBHS 200 10	DDD	EU	
			2	493	297	786	1499	1864	2033								
			3	641	386	1023	1949	2424	2644								
	220		1	494	297	788	1502	1868	2038	26	13.4			DBHS 220 10	DDD	EU	
			2	539	325	861	1641	2041	2226								
			3	711	428	1135	2163	2691	2935								
	240		1	535	323	854	1628	2025	2209	26	14.8			DBHS 240 10	DDD	EU	
			2	586	353	936	1784	2219	2420								
			3	781	471	1247	2377	2957	3225								
	260		1	579	349	925	1762	2192	2391	26	16.2			DBHS 260 10	DDD	EU	
			2	639	385	1020	1944	2418	2637								
			3	852	513	1360	2592	3224	3516								
	280		1	588	354	959	1827	2272	2479	26	16.2			DBHS 280 10	DDD	EU	
			2	649	391	1058	2017	2509	2737								
			3	864	521	1410	2687	3342	3645								

Output measured in accordance with EN 16430.

control:
Jaga ACO (D09)
Jaga BMS 0-10V control (D03)
Jaga TPT (D01)

DBH SET 10 + LOW-H2O TYPE 11

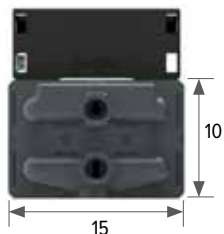


LENGTH RADIATOR				COOLING <i>Room temperature 27°C</i>		HEATING <i>Room temperature 20°C</i>				SOUND PRESSURE* ELECTRIC POWER CONSUMPTION WEIGHT WATER CONTENT				ORDER CODE	
L	DBH SET	POSITION		16/18	20/22	35/30	45/40	50/45	55/45						
cm	cm			Watts	Watts	Watts	Watts	Watts	Watts	dB(A)	Watts	kg	L		
DBHS	050	10	1	148	90	190	366	457	499	26	3.6			DBHS 050 10 DDD EU	
			2	158	97	203	391	489	534						
			3	185	113	237	458	572	624						
	060		1	191	117	246	474	592	647	26	4.8			DBHS 060 10 DDD EU	
			2	205	125	263	508	634	693						
			3	242	148	311	601	750	819						
	070		1	234	143	301	580	724	791	26	5.5			DBHS 070 10 DDD EU	
			2	251	154	322	622	777	849						
			3	300	184	386	744	929	1015						
	080		1	276	169	355	684	854	933	26	6.3			DBHS 080 10 DDD EU	
			2	296	181	381	735	917	1002						
			3	358	219	460	887	1107	1210						
	090		1	317	194	408	786	982	1072	26	6.7			DBHS 090 10 DDD EU	
			2	341	209	438	846	1056	1154						
			3	415	254	534	1030	1286	1405						
	100		1	358	219	460	887	1107	1210	26	7.8			DBHS 100 10 DDD EU	
			2	385	236	495	955	1193	1303						
			3	473	289	608	1173	1464	1600						
	110		1	401	246	516	995	1242	1357	26	8.4			DBHS 110 10 DDD EU	
			2	432	265	556	1072	1339	1462						
			3	531	325	682	1316	1643	1795						
	120		1	437	267	562	1084	1354	1479	26	8.9			DBHS 120 10 DDD EU	
			2	473	289	607	1171	1463	1598						
			3	589	360	756	1459	1822	1990						
	140		1	515	315	662	1277	1595	1743	26	10.1			DBHS 140 10 DDD EU	
			2	558	342	717	1383	1728	1887						
			3	704	431	904	1745	2179	2380						
	160		1	592	362	760	1467	1832	2001	26	11			DBHS 160 10 DDD EU	
			2	642	393	825	1592	1988	2172						
			3	819	501	1053	2031	2536	2771						
	180		1	675	413	867	1673	2090	2283	26	12.2			DBHS 180 10 DDD EU	
			2	733	449	942	1816	2268	2478						
			3	935	572	1201	2317	2893	3161						
	200		1	741	453	952	1836	2293	2505	26	13.4			DBHS 200 10 DDD EU	
			2	807	494	1037	2001	2499	2730						
			3	1050	643	1349	2603	3250	3551						
	220		1	809	495	1040	2005	2505	2736	26	13.4			DBHS 220 10 DDD EU	
			2	884	541	1136	2191	2737	2990						
			3	1166	713	1498	2889	3608	3941						
	240		1	877	537	1127	2174	2715	2967	26	14.8			DBHS 240 10 DDD EU	
			2	961	588	1235	2382	2975	3250						
			3	1281	784	1646	3175	3965	4331						
	260		1	950	581	1220	2353	2939	3211	26	16.2			DBHS 260 10 DDD EU	
			2	1047	641	1346	2596	3241	3541						
			3	1396	855	1794	3461	4322	4722						
	280		1	956	585	1286	2481	3098	3385	26	16.2			DBHS 280 10 DDD EU	
			2	1056	646	1420	2739	3421	3737						
			3	1406	860	1892	3649	4557	4978						

Output measured in accordance with EN 16430.

control:
Jaga ACO (D09)
Jaga BMS 0-10V control (D03)
Jaga TPT (D01)

DBH SET 15 + LOW-H2O TYPE 15



LENGTH RADIATOR			DBH SET		POSITION	COOLING Room temperature 27°C		HEATING Room temperature 20°C				SOUND PRESSURE*	ELECTRIC POWER CONSUMPTION	WEIGHT	WATER CONTENT	ORDER CODE
L	B					16/18	20/22	35/30	45/40	50/45	55/45					
cm	cm					Watts	Watts	Watts	Watts	Watts	Watts	dB(A)	Watts	kg	L	
DBHS	060	15	1			131	78	212	404	502	548	41.1	7.2			DBHS 060 15 DDD EU
			2			140	83	227	433	539	588					
			3			186	110	301	574	713	778					
	070		1			135	80	237	452	562	613	41.1	7.2			DBHS 070 15 DDD EU
			2			145	86	254	485	603	658					
			3			192	114	337	642	798	871					
	080		1			190	113	309	589	732	798	42.4	9.0			DBHS 080 15 DDD EU
			2			204	121	331	631	785	856					
			3			274	163	444	847	1053	1149					
	090		1			218	129	354	674	838	914	43.3	10.7			DBHS 090 15 DDD EU
			2			234	139	379	722	898	980					
			3			318	189	516	983	1223	1334					
	100		1			246	146	398	759	944	1029	44.1	10.7			DBHS 150 15 DDD EU
			2			263	156	426	812	1011	1102					
			3			362	215	588	1120	1393	1519					
	110		1			250	148	422	805	1001	1092	44.1	12.5			DBHS 115 15 DDD EU
			2			267	159	452	862	1072	1169					
			3			369	219	623	1188	1478	1612					
	120		1			303	180	491	935	1163	1269	44.8	14.3			DBHS 120 15 DDD EU
			2			324	192	525	1001	1246	1358					
			3			451	267	731	1393	1733	1890					
	140		1			359	213	582	1109	1379	1504	45.4	16.1			DBHS 140 15 DDD EU
			2			384	228	623	1188	1477	1611					
			3			539	320	874	1666	2073	2261					
	160		1			412	245	669	1274	1585	1729	46.4	19.6			DBHS 160 15 DDD EU
			2			440	261	714	1361	1692	1846					
			3			628	372	1018	1939	2412	2631					
	180		1			421	250	716	1364	1696	1850	46.4	19.6			DBHS 180 15 DDD EU
			2			449	266	764	1456	1811	1975					
			3			640	380	1089	2076	2582	2816					
	200		1			529	314	858	1635	2033	2218	47.1	23.5			DBHS 200 15 DDD EU
			2			557	331	904	1722	2142	2337					
			3			804	477	1304	2486	3092	3372					
	220		1			587	348	952	1815	2257	2462	47.8	27.5			DBHS 220 15 DDD EU
			2			612	363	992	1890	2351	2565					
			3			893	530	1447	2759	3432	3743					
	240		1			646	383	1047	1995	2481	2707	48.1	29.7			DBHS 240 15 DDD EU
			2			669	397	1085	2068	2572	2805					
			3			981	582	1591	3032	3771	4113					
	260		1			654	388	1094	2085	2593	2828	48.1	29.7			DBHS 260 15 DDD EU
			2			678	402	1133	2160	2687	2931					
			3			994	590	1662	3168	3941	4298					
	280		1			762	452	1236	2355	2930	3195	48.9	34.5			DBHS 280 15 DDD EU
			2			779	462	1263	2408	2995	3267					
			3			1158	687	1877	3578	4451	4855					

Output measured in accordance with EN 16430.

control:
Jaga ACO (D09)
Jaga BMS 0-10V control (D03)
Jaga TPT (D01)

DBH SET 15 + LOW-H2O TYPE 16

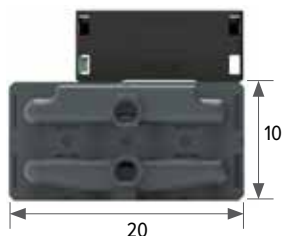


LENGTH RADIATOR				COOLING <i>Room temperature 27°C</i>		HEATING <i>Room temperature 20°C</i>				SOUND PRESSURE* ELECTRIC POWER CONSUMPTION WEIGHT WATER CONTENT				ORDER CODE
L	B	POSITION	16/18	20/22	35/30	45/40	50/45	55/45	dB(A)	Watts	kg	L		
cm	cm		Watts	Watts	Watts	Watts	Watts	Watts						
DBHS	060	15	1	214	131	301	581	726	793	41.1	7.2		DBHS 060 15 DDD EU	
			2	230	141	323	624	779	851					
			3	305	187	428	826	1031	1126					
	070		1	220	134	350	676	844	922	41.1	7.2		DBHS 070 15 DDD EU	
			2	236	144	376	725	906	990					
			3	312	191	498	960	1199	1310					
	080		1	312	191	439	847	1058	1156	42.4	9.0		DBHS 080 15 DDD EU	
			2	335	205	471	908	1134	1239					
			3	450	275	632	1219	1522	1663					
	090		1	358	219	503	970	1211	1323	43.3	10.7		DBHS 090 15 DDD EU	
			2	383	235	539	1039	1298	1418					
			3	522	319	734	1415	1767	1931					
	100		1	403	247	566	1092	1364	1490	44.1	10.7		DBHS 150 15 DDD EU	
			2	431	264	606	1169	1460	1595					
			3	595	364	836	1612	2013	2199					
	110		1	408	250	613	1183	1477	1614	44.1	12.5		DBHS 115 15 DDD EU	
			2	437	267	657	1267	1582	1728					
			3	602	368	905	1746	2181	2382					
	120		1	496	304	698	1346	1681	1836	44.8	14.3		DBHS 120 15 DDD EU	
			2	532	326	747	1441	1800	1966					
			3	740	453	1039	2005	2504	2735					
	140		1	589	360	827	1596	1993	2177	45.4	16.1		DBHS 140 15 DDD EU	
			2	630	386	886	1709	2134	2332					
			3	885	542	1243	2398	2995	3272					
	160		1	676	414	951	1834	2290	2502	46.4	19.6		DBHS 160 15 DDD EU	
			2	722	442	1015	1958	2445	2671					
			3	1030	630	1447	2791	3486	3808					
	180		1	686	420	1042	2011	2511	2743	46.4	19.6		DBHS 180 15 DDD EU	
			2	733	448	1113	2147	2681	2929					
			3	1045	639	1586	3060	3821	4175					
	200		1	868	531	1220	2352	2938	3210	47.1	23.5		DBHS 200 15 DDD EU	
			2	914	559	1285	2479	3096	3382					
			3	1003	808	1855	3577	4468	4881					
	220		1	963	590	1354	2612	3262	3563	47.8	27.5		DBHS 220 15 DDD EU	
			2	1320	614	1410	2721	3398	3712					
			3	1098	896	2058	3970	4958	5417					
	240		1	1059	648	1488	2871	3586	3917	48.1	29.7		DBHS 240 15 DDD EU	
			2	1108	672	1543	2975	3716	4060					
			3	1610	985	2262	4363	5449	5953					
	260		1	1069	654	1580	3048	3806	4158	48.1	29.7		DBHS 260 15 DDD EU	
			2	1465	678	1638	3159	3945	4310					
			3	1625	994	2402	4632	5785	6320					
	280		1	1250	765	1757	3390	4233	4625	48.9	34.5		DBHS 280 15 DDD EU	
			2	1278	782	1797	3465	4328	4728					
			3	1900	1163	2670	5150	6431	7026					

Output measured in accordance with EN 16430.

control:
Jaga ACO (D09)
Jaga BMS 0-10V control (D03)
Jaga TPT (D01)

DBH SET 15 + LOW-H2O TYPE 20

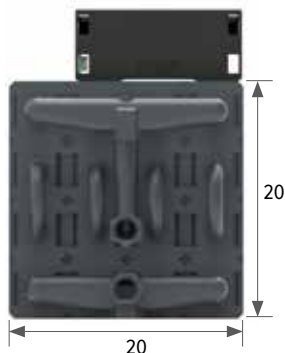


LENGTH RADIATOR				COOLING <i>Room temperature 27°C</i>		HEATING <i>Room temperature 20°C</i>				SOUND PRESSURE* ELECTRIC POWER CONSUMPTION WEIGHT WATER CONTENT				ORDER CODE
L	DBH SET	POSITION	16/18	20/22	35/30	45/40	50/45	55/45	dB(A)	Watts	kg	L		
cm	B		Watts	Watts	Watts	Watts	Watts	Watts						
DBHS	060	15	1	166	102	298	568	706	771	41.1	7.2		DBHS 060 15 DDD EU	
			2	178	109	319	608	757	825					
			3	211	129	378	720	895	976					
	070		1	171	104	334	637	792	864	41.1	7.2		DBHS 070 15 DDD EU	
			2	183	112	358	683	849	927					
			3	219	134	428	817	1016	1108					
	080		1	240	147	430	819	1019	1112	42.4	9.0		DBHS 080 15 DDD EU	
			2	258	158	462	880	1095	1194					
			3	311	190	557	1062	1321	1441					
	090		1	276	169	494	942	1171	1278	43.3	10.7		DBHS 090 15 DDD EU	
			2	297	182	532	1013	1260	1374					
			3	361	221	647	1234	1534	1674					
	100		1	311	191	557	1062	1321	1441	44.1	10.7		DBHS 150 15 DDD EU	
			2	335	205	601	1145	1424	1553					
			3	412	252	737	1405	1748	1906					
	110		1	317	194	596	1136	1413	1541	44.1	12.5		DBHS 115 15 DDD EU	
			2	342	209	642	1224	1522	1660					
			3	419	257	788	1502	1868	2038					
	120		1	381	233	682	1299	1616	1762	44.8	14.3		DBHS 120 15 DDD EU	
			2	411	252	736	1403	1746	1904					
			3	512	313	917	1748	2174	2371					
	140		1	448	274	803	1530	1903	2076	45.4	16.1		DBHS 140 15 DDD EU	
			2	486	297	870	1657	2062	2249					
			3	612	375	1097	2090	2600	2836					
	160		1	515	315	922	1757	2186	2384	46.4	19.6		DBHS 160 15 DDD EU	
			2	559	342	1001	1907	2373	2588					
			3	713	436	1276	2433	3026	3301					
	180		1	526	322	995	1897	2360	2574	46.4	19.6		DBHS 180 15 DDD EU	
			2	571	350	1081	2059	2562	2794					
			3	728	446	1378	2627	3267	3564					
	200		1	644	394	1154	2200	2736	2984	47.1	23.5		DBHS 200 15 DDD EU	
			2	702	430	1258	2397	2982	3253					
			3	914	559	1636	3118	3879	4230					
	220		1	704	431	1261	2403	2989	3260	47.8	27.5		DBHS 220 15 DDD EU	
			2	769	471	1377	2625	3265	3562					
			3	1014	621	1816	3461	4305	4695					
	240		1	763	467	1367	2605	3240	3534	48.1	29.7		DBHS 240 15 DDD EU	
			2	836	512	1497	2854	3550	3872					
			3	1114	682	1996	3804	4731	5160					
	260		1	768	470	1426	2718	3381	3688	48.1	29.7		DBHS 260 15 DDD EU	
			2	848	519	1573	2998	3729	4067					
			3	1130	692	2097	3997	4972	5423					
	280		1	894	547	1602	3052	3797	4141	48.9	34.5		DBHS 280 15 DDD EU	
			2	987	604	1768	3370	4192	4572					
			3	1315	805	2355	4489	5583	6090					

Output measured in accordance with EN 16430.

control:
Jaga ACO (D09)
Jaga BMS 0-10V control (D03)
Jaga TPT (D01)

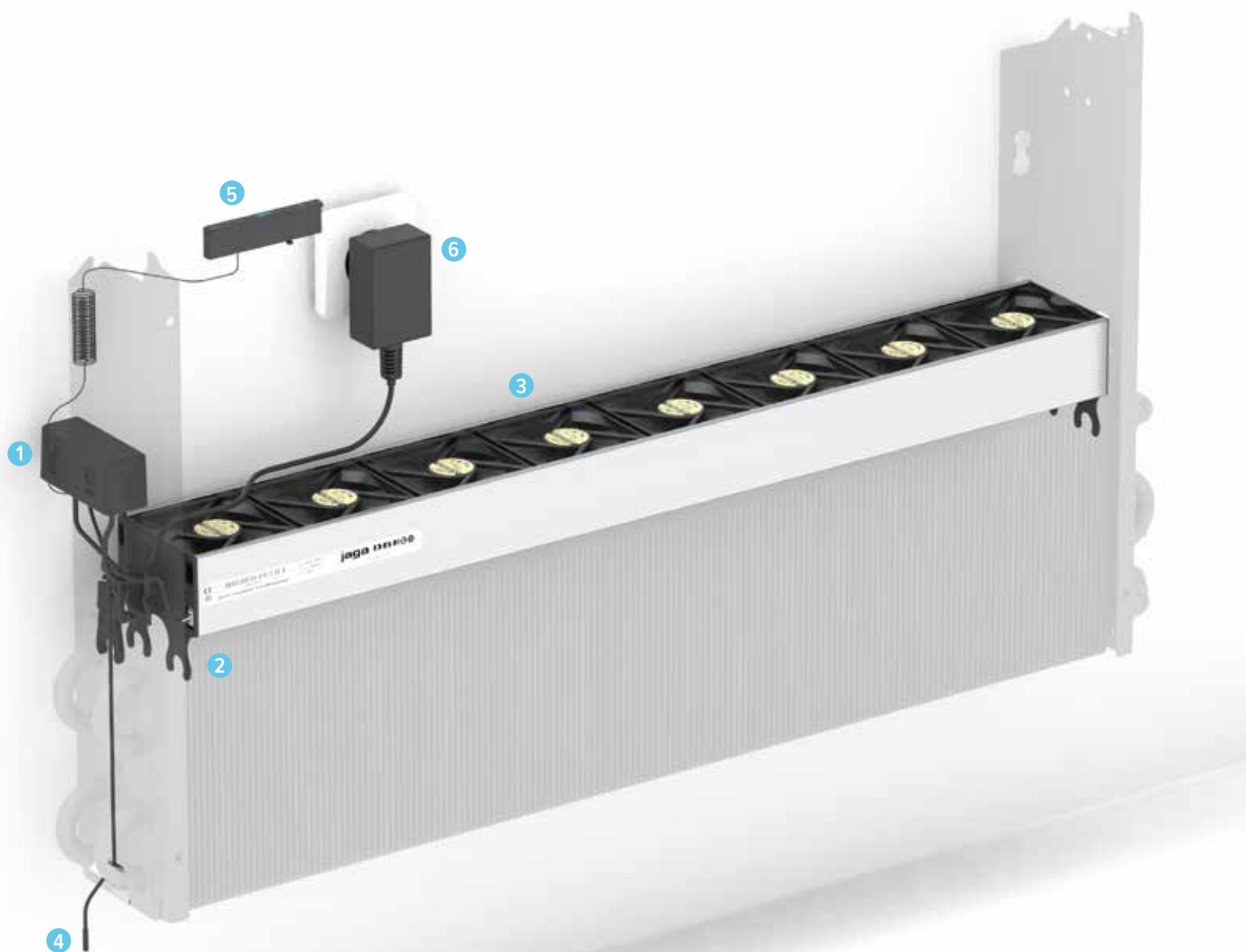
DBH SET 15 + LOW-H2O TYPE 21



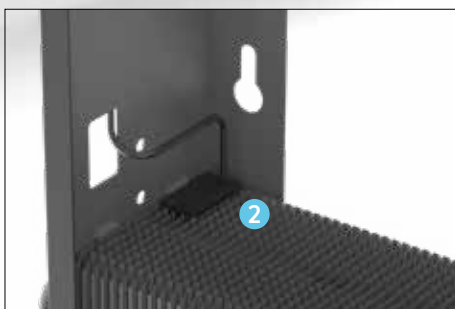
LENGTH RADIATOR				COOLING <i>Room temperature 27°C</i>		HEATING <i>Room temperature 20°C</i>				SOUND PRESSURE* ELECTRIC POWER CONSUMPTION WEIGHT WATER CONTENT				ORDER CODE
L	DBH SET	POSITION	16/18	20/22	35/30	45/40	50/45	55/45	dB(A)	Watts	kg	L		
cm	cm		Watts	Watts	Watts	Watts	Watts	Watts						
DBHS	060	15	1	234	151	416	779	963	1048	41.1	7.2		DBHS 060 15 DDD EU	
			2	251	162	447	836	1034	1125					
			3	332	214	591	1106	1368	1488					
	070		1	240	155	456	854	1056	1149	41.1	7.2		DBHS 070 15 DDD EU	
			2	258	166	490	917	1134	1234					
			3	341	220	648	1214	1501	1633					
	080		1	341	220	606	1135	1404	1527	42.4	9.0		DBHS 080 15 DDD EU	
			2	366	236	650	1217	1505	1638					
			3	490	316	872	1633	2019	2197					
	090		1	390	252	694	1300	1607	1749	43.3	10.7		DBHS 090 15 DDD EU	
			2	418	270	744	1393	1722	1874					
			3	570	367	1013	1897	2345	2552					
	100		1	439	283	782	1464	1809	1969	44.1	10.7		DBHS 150 15 DDD EU	
			2	471	303	837	1567	1937	2108					
			3	649	418	1154	2160	2671	2906					
	110		1	446	287	821	1536	1899	2067	44.1	12.5		DBHS 115 15 DDD EU	
			2	477	308	879	1645	2034	2213					
			3	658	424	1211	2268	2804	3051					
	120		1	542	349	963	1804	2230	2426	44.8	14.3		DBHS 120 15 DDD EU	
			2	580	374	1032	1932	2388	2598					
			3	807	520	1435	2687	3322	3615					
	140		1	642	414	1143	2139	2645	2877	45.4	16.1		DBHS 140 15 DDD EU	
			2	688	443	1224	2291	2832	3082					
			3	965	622	1717	3214	3974	4324					
	160		1	738	476	1313	2458	3039	3307	46.4	19.6		DBHS 160 15 DDD EU	
			2	788	508	1402	2624	3245	3530					
			3	1123	724	1998	3741	4625	5033					
	180		1	750	483	1388	2599	3214	3497	46.4	19.6		DBHS 180 15 DDD EU	
			2	801	516	1482	2775	3431	3733					
			3	1142	736	2113	3956	4891	5322					
	200		1	947	610	1684	3153	3898	4242	47.1	23.5		DBHS 200 15 DDD EU	
			2	998	643	1775	3322	4108	4469					
			3	1440	928	2561	4795	5928	6450					
	220		1	1051	677	1870	3501	4328	4709	47.8	27.5		DBHS 220 15 DDD EU	
			2	1095	706	1948	3646	4508	4905					
			3	1598	1030	2843	5322	6579	7159					
	240		1	1155	745	2056	3848	4758	5177	48.1	29.7		DBHS 240 15 DDD EU	
			2	1197	772	2130	3988	4931	5365					
			3	1756	1132	3124	5849	7231	7868					
	260		1	1168	752	2131	3990	4933	5367	48.1	29.7		DBHS 260 15 DDD EU	
			2	1210	780	2209	4135	5112	5562					
			3	1774	1144	3239	6064	7497	8157					
	280		1	1364	879	2427	4543	5617	6112	48.9	34.5		DBHS 280 15 DDD EU	
			2	1395	899	2481	4645	5743	6249					
			3	2072	1336	3687	6902	8534	9285					

Output measured in accordance with EN 16430.

control:
Jaga ACO (D09)
Jaga BMS 0-10V control (D03)
Jaga TPT (D01)



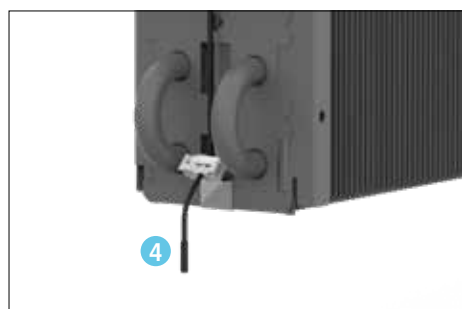
Stick the controller against the console.



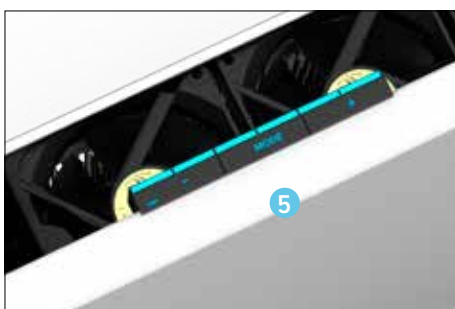
Click the water temperature sensor on the coil.



Connect the fan unit to the controller and click it on the heat exchanger.



Fix the room temperature sensor.



Put the cover back on the heating unit, but without the grille. Place the controls on the front panel.



Put the plug in the wall socket and put the grille back on the heating unit

RADIATORS WITH DBH UPGRADE SET

CORRECTION FACTORS

The indicated outputs at ΔT 50 are exact values, measured in accordance with EN442. This table provides a calculated value using an average correction factor for all other ΔT outputs, valid for all dimensions.

Click www.jaga.com/selection-tools/ to download the calculation tools with the exact outputs. The online calculation tools are kept up to date with the most recent data. Minor output differences between printed tables and the different online calculation tools are therefore completely normal and within the margins of tolerance imposed by the standard.

AVERAGE CORRECTION FACTORS FOR HYBRID PRODUCTS - 75/65/20°C

room temperature: 20°C Average N-value: 1.10

	TR	65	60	55	50	45	40	35	30	25
TA										
75		1.00	0.94	0.88	0.81	0.74	0.67	0.59	0.50	0.38
70		0.95	0.89	0.83	0.77	0.70	0.63	0.55	0.47	0.36
65			0.84	0.78	0.72	0.66	0.59	0.52	0.43	0.33
60				0.73	0.67	0.61	0.55	0.48	0.40	0.30
55					0.62	0.57	0.51	0.44	0.37	0.28
50						0.52	0.46	0.40	0.33	0.25
45							0.42	0.36	0.29	0.22
40								0.31	0.26	0.19
35									0.22	0.15
30										0.12

room temperature: 24°C Average N-value: 1.10

	TR	65	60	55	50	45	40	35	30	25
TA										
75		0.91	0.85	0.79	0.72	0.65	0.58	0.49	0.39	0.22
70		0.86	0.80	0.74	0.68	0.61	0.54	0.46	0.36	0.20
65			0.75	0.69	0.63	0.57	0.50	0.42	0.33	0.19
60				0.64	0.59	0.53	0.46	0.39	0.30	0.17
55					0.54	0.48	0.42	0.35	0.27	0.15
50						0.44	0.38	0.32	0.24	0.13
45							0.33	0.28	0.21	0.11
40								0.23	0.17	0.09
35									0.14	0.07
30										0.04

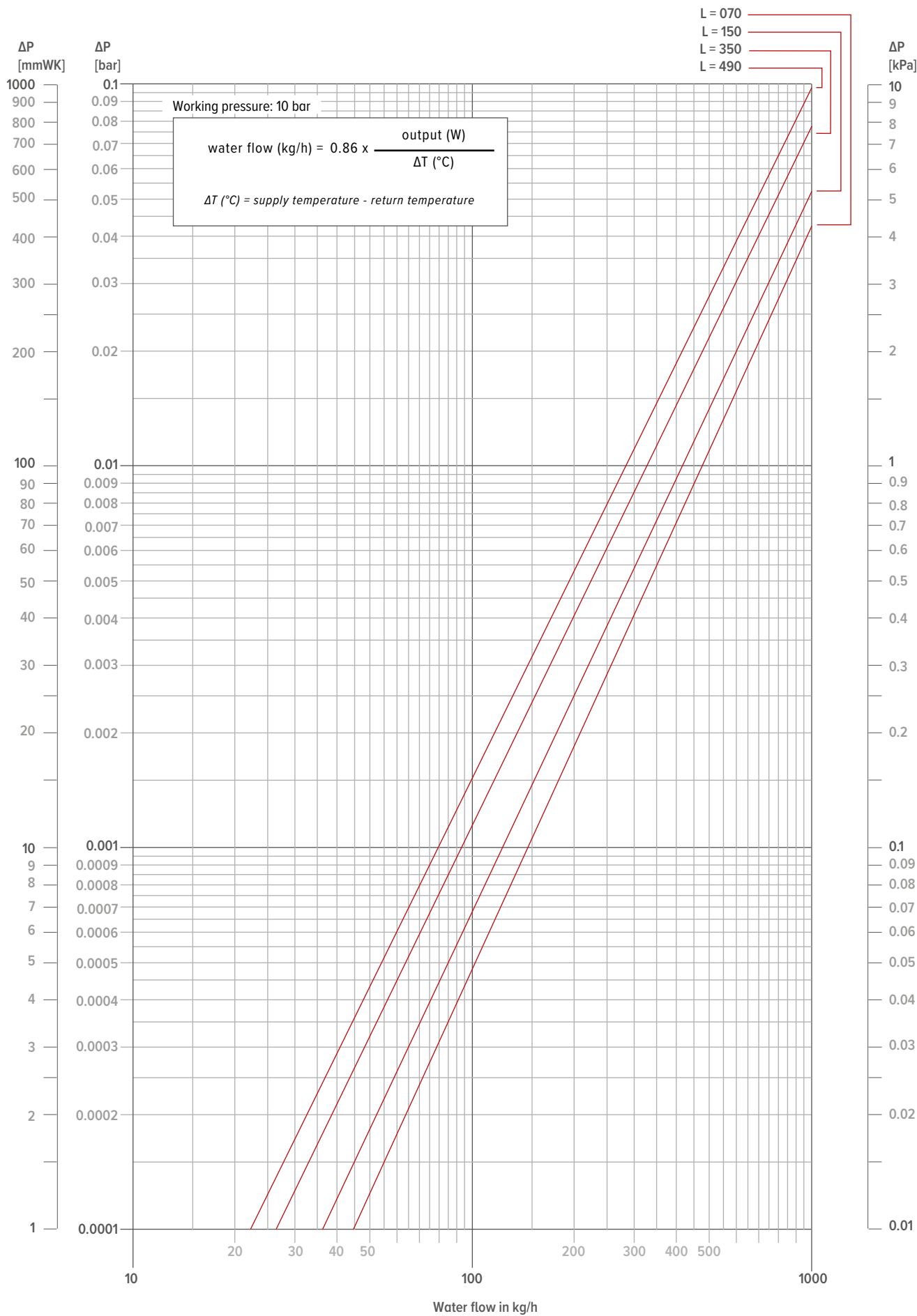
COOLING CAPACITY CORRECTION FACTORS FOR TYPES 11, 16 AND 21

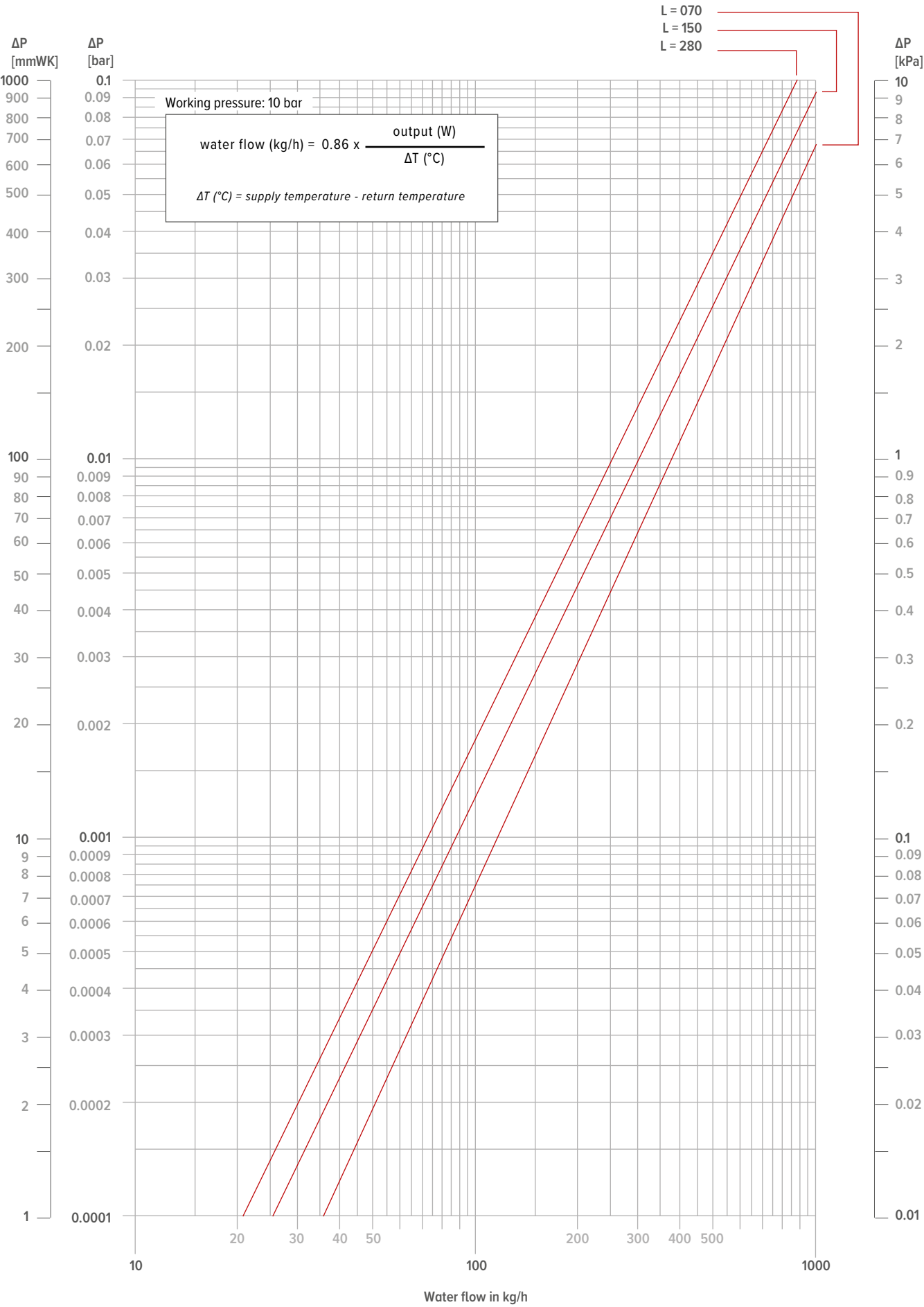
HEIGHT	CORRECTION FACTOR
20 - 30 - 40 - 50	1.00
60	0.95
65	0.92
70	0.90
80	0.85
90	0.80
95	0.77
100	0.75

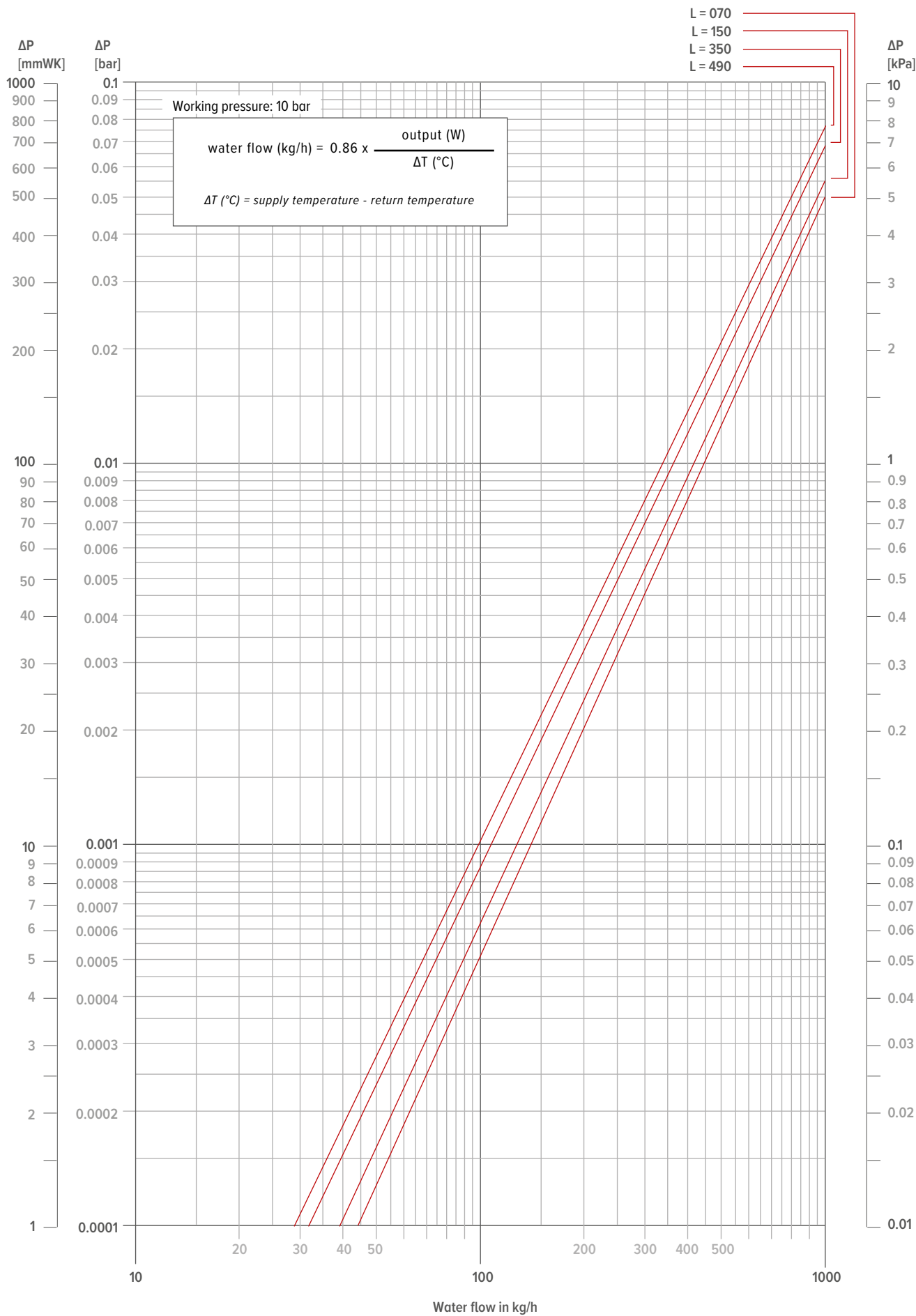
RADIATORS WITH DBH UPGRADE SET

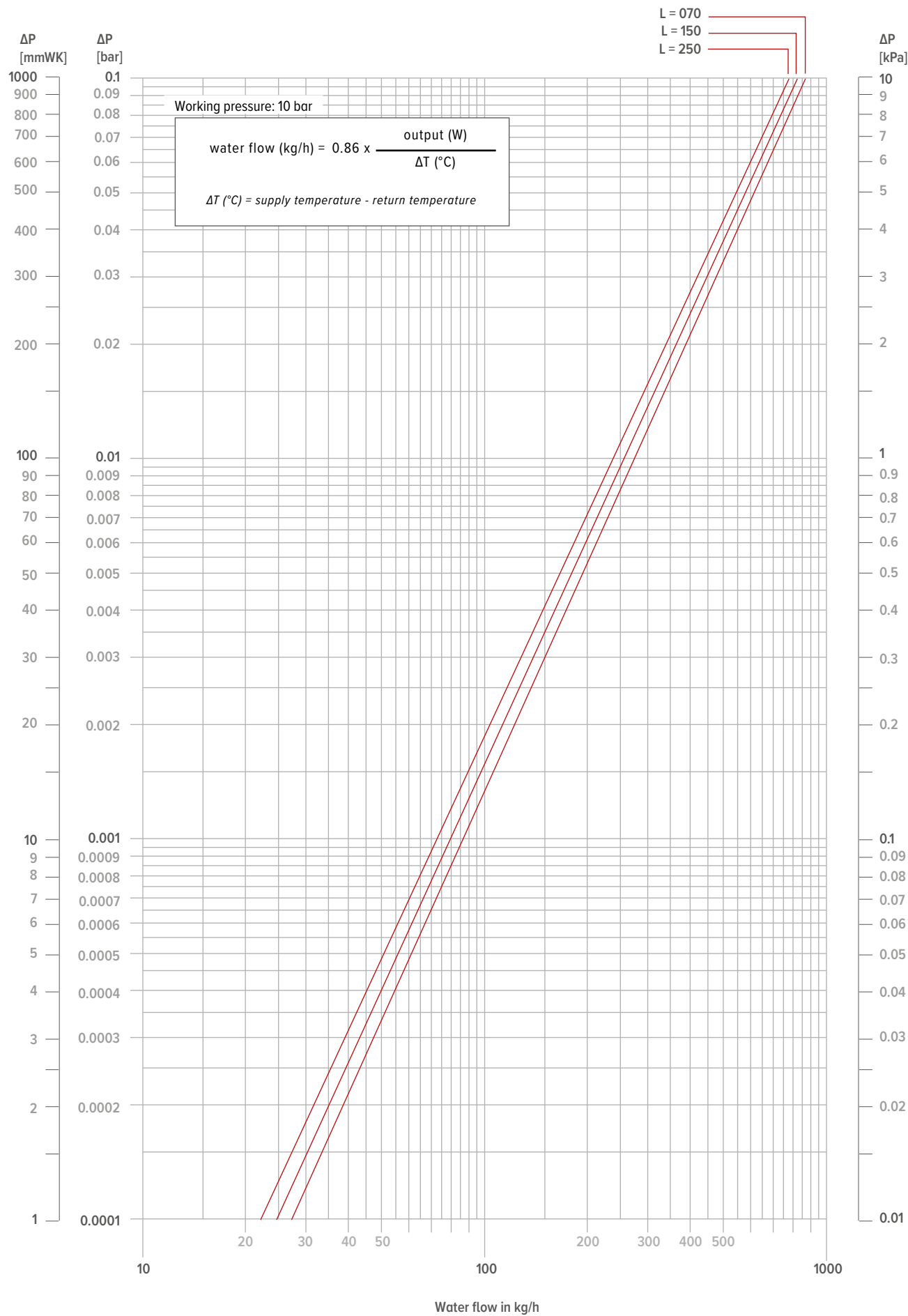
GUIDELINE FOR LIMITING FLOW NOISE

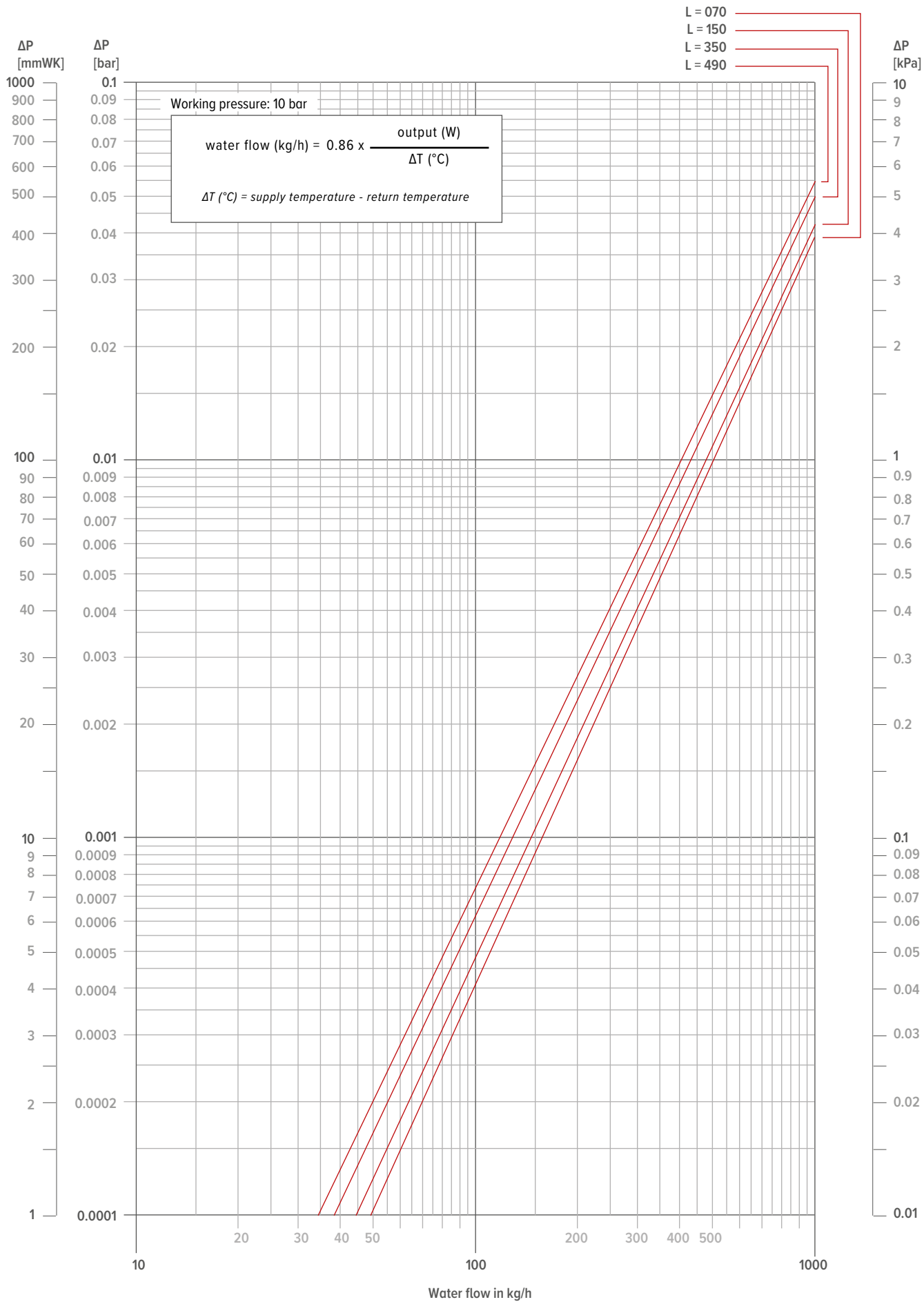
TUBE	outer Ø	Wall thick-ness	Max. water speed (EN10255)	water content per metre	max. water flow	Maximum power at ΔT (° C) (T supply - T return)						
						ΔT 30	ΔT 20	ΔT 10	ΔT 5	ΔT 4	ΔT 3	ΔT 2
						Watts	Watts	Watts	Watts	Watts	Watts	Watts
	mm	mm	m/s	l	kg/h							
GALVANISED PIPE DIN 2440												
3/8 DN10 OD	17.2	2.35	0.40	0.12	173	6028	4019	2009	1005	804	603	402
1/2 DN15 OD	21.3	2.65	0.40	0.20	288	10046	6698	3349	1674	1340	1005	670
3/4 DN20 OD	26.9	2.65	0.42	0.37	559	19515	13010	6505	3253	2602	1952	1301
1 DN25 OD	33.7	3.25	0.49	0.58	1023	35690	23793	11897	5948	4759	3569	2379
1 1/4 DN32 OD	42.4	3.25	0.60	1.01	2182	76101	50734	25367	12684	10147	7610	5073
1 1/2 DN40 OD	48.3	3.25	0.66	1.37	3255	113549	75700	37850	18925	15140	11355	7570
2 DN50 OD	60.3	3.65	0.80	2.21	6365	222025	148017	74008	37004	29603	22203	14802
PRECISION METAL TUBE												
10/1	10	1.00	0.40	0.05	72	2512	1674	837	419	335	251	167
12/1	12	1.00	0.40	0.08	115	4019	2679	1340	670	536	402	268
14/1	14	1.00	0.40	0.11	158	5526	3684	1842	921	737	553	368
15/1	15	1.00	0.40	0.13	187	6530	4353	2177	1088	871	653	435
16/1	16	1.00	0.40	0.15	216	7535	5023	2512	1256	1005	753	502
18/1	18	1.00	0.40	0.20	288	10046	6698	3349	1674	1340	1005	670
22/1	22	1.00	0.40	0.31	446	15572	10381	5191	2595	2076	1557	1038
28/1	28	1.00	0.47	0.53	904	31522	21014	10507	5254	4203	3152	2101
RPE/ALU												
12/2	12	2.00	0.40	0.05	72	2512	1674	837	419	335	251	167
14/2	14	2.00	0.40	0.08	115	4019	2679	1340	670	536	402	268
16/1.5	16	1.50	0.40	0.13	187	6530	4353	2177	1088	871	653	435
16/2	16	2.00	0.40	0.11	158	5526	3684	1842	921	737	553	368
17/2	17	2.00	0.40	0.13	187	6530	4353	2177	1088	871	653	435
18/2	18	2.00	0.40	0.15	216	7535	5023	2512	1256	1005	753	502
20/2	20	2.00	0.40	0.20	288	10046	6698	3349	1674	1340	1005	670
26/3	26	3.00	0.40	0.31	446	15572	10381	5191	2595	2076	1557	1038
32/3	32	3.00	0.47	0.53	904	31522	21014	10507	5254	4203	3152	2101
40/3.5	40	3.50	0.56	0.86	1726	60220	40147	20073	10037	8029	6022	4015
50/4.25	50	4.25	0.66	1.35	3206	111824	74549	37275	18637	14910	11182	7455
63/5	63	5.00	0.80	2.21	6346	221359	147573	73786	36893	29515	22136	14757

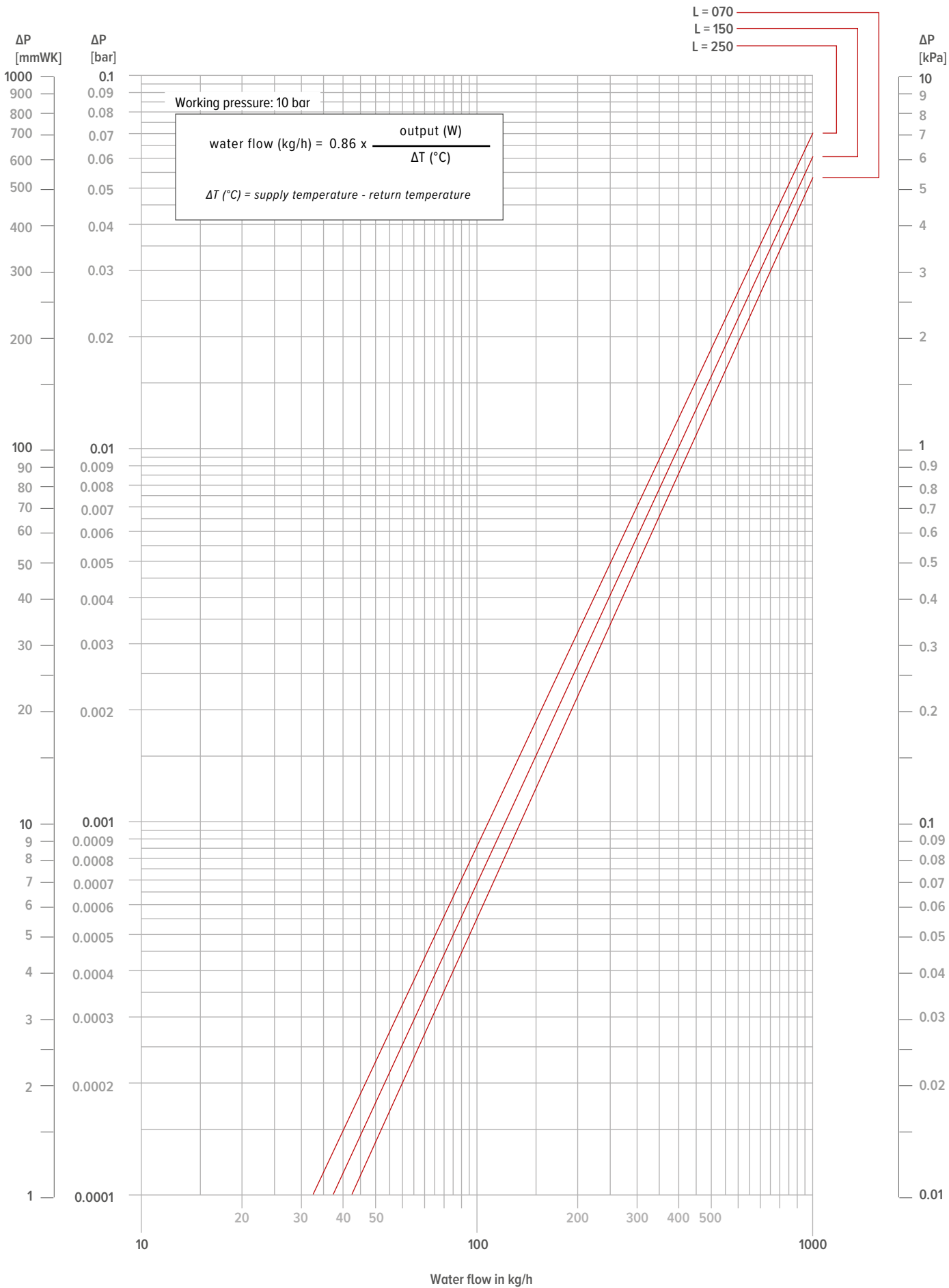














JAGA INTERNATIONAL JAGA NV

In need of some advice? Make an appointment at the Jaga Advice Centre.

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