

DEKLARACJA WŁAŚCIWOŚCI UŻYTKOWYCH
(DECLARATION OF PERFORMANCE)
Nr (No.) NDWU/1/TUBUS 4 V/2021

1. Niepowtarzalny kod identyfikacyjny typu wyrobu: (Unique identification code of the product-type:) TUBUS 4																								
2. Zamierzone zastosowanie lub zastosowania: W instalacjach grzewczych w budynkach (Intended use/es: In heating systems in buildings)																								
3. Producent: (Manufacturer:) INSTAL-PROJEKT Gawłowscy, Ścierzyńscy Spółka jawna, Nowa Wieś k/ Włocławka, ul. Jana Pawła II 12A, 87-853 Kruszyn, Polska. (INSTAL-PROJEKT Gawłowscy, Ścierzyńscy Spółka jawna, 87-853 Kruszyn, Nowa Wieś near Włocławek, Jana Pawła II 12A str., Poland.)																								
4. System(-y) oceny i weryfikacji stałości właściwości użytkowych: (System/s of AVCP:) System 3																								
5. Norma zharmonizowana: (Harmonised standard:) PN-EN 442-1:2015 EN 442-1:2014																								
6. Jednostka lub jednostki notyfikowane: (Notified body /ies:) Notyfikowana jednostka badawcza Instytut Energetyki - Oddział Techniki Grzewczej i Sanitarnej ul. Wilcza 8, PL- 26-610 Radom . Nr akredytacji: AB 143, Nr notyfikacji: 1452, wykonała wstępne badanie typu i wydała sprawozdanie z badań. (Notified accredited body Instytut Energetyki - Oddział Techniki Grzewczej i Sanitarnej ul. Wilcza 8, PL- 26-610 Radom. Accreditation no. AB 143, Notification no. 1452, performed initial type testing and issued test reports)																								
7. Deklarowane właściwości użytkowe: (Declared performance/s:) <table border="1"> <thead> <tr> <th>Zasadnicze charakterystyki Essential characteristics</th> <th>Właściwości użytkowe Performance</th> <th>Zharmonizowana specyfikacja techniczna Harmonised technical specification</th> </tr> </thead> <tbody> <tr> <td>Reakcja na ogień (Reaction to fire)</td> <td align="center">A1</td> <td align="center" rowspan="10">PN-EN 442-1:2015 EN 442-1:2014</td> </tr> <tr> <td>Uwalnianie substancji niebezpiecznych (Release of dangerous substances)</td> <td align="center">Nie ma (None)</td> </tr> <tr> <td>Szczelność pod działaniem ciśnienia (Pressure tightness)</td> <td>Brak przecieku przy ciśnieniu 1,3 krotnie większym od maksymalnego ciśnienia [kPa] (No leakage at 1,3 x maximum operating pressure [kPa])</td> </tr> <tr> <td>Temperatura powierzchni (Surface temperature)</td> <td align="center">Maksymalnie 95 °C (Maximum 95 °C)</td> </tr> <tr> <td>Odporność na działanie ciśnienia (Resistance to pressure)</td> <td>Brak pęknięć przy ciśnieniu 1,69 krotnie większym od maksymalnego dopuszczalnego ciśnienia roboczego [kPa]. (No breakage at 1,69 x maximum operating pressure [kPa]) Maksymalne dopuszczalne ciśnienie robocze: 1000 [kPa] (Maximum operating pressure 1000 [kPa])</td> </tr> <tr> <td>Nominalna moc cieplna (Φ 50 , Φ 30) (Rated thermal output) (Φ 50 , Φ 30)</td> <td align="center">Patrz Tabela nr.1 (See Table No.1)</td> </tr> <tr> <td>Moc cieplna w różnych warunkach eksploatacyjnych (charakterystyka) (Thermal output in different operating conditions (characteristic curve))</td> <td align="center">Patrz Tabela nr.1 (See Table No.1)</td> </tr> <tr> <td>Odporność na korozję (Resistance against corrosion)</td> <td align="center">Brak korozji po 100 h w wilgoci (No corrosion after 100 h humidity)</td> </tr> <tr> <td>Odporność na słabe uderzenia (Resistance against minor impact)</td> <td align="center">Klasa 0 (Class 0)</td> </tr> </tbody> </table>			Zasadnicze charakterystyki Essential characteristics	Właściwości użytkowe Performance	Zharmonizowana specyfikacja techniczna Harmonised technical specification	Reakcja na ogień (Reaction to fire)	A1	PN-EN 442-1:2015 EN 442-1:2014	Uwalnianie substancji niebezpiecznych (Release of dangerous substances)	Nie ma (None)	Szczelność pod działaniem ciśnienia (Pressure tightness)	Brak przecieku przy ciśnieniu 1,3 krotnie większym od maksymalnego ciśnienia [kPa] (No leakage at 1,3 x maximum operating pressure [kPa])	Temperatura powierzchni (Surface temperature)	Maksymalnie 95 °C (Maximum 95 °C)	Odporność na działanie ciśnienia (Resistance to pressure)	Brak pęknięć przy ciśnieniu 1,69 krotnie większym od maksymalnego dopuszczalnego ciśnienia roboczego [kPa]. (No breakage at 1,69 x maximum operating pressure [kPa]) Maksymalne dopuszczalne ciśnienie robocze: 1000 [kPa] (Maximum operating pressure 1000 [kPa])	Nominalna moc cieplna (Φ 50 , Φ 30) (Rated thermal output) (Φ 50 , Φ 30)	Patrz Tabela nr.1 (See Table No.1)	Moc cieplna w różnych warunkach eksploatacyjnych (charakterystyka) (Thermal output in different operating conditions (characteristic curve))	Patrz Tabela nr.1 (See Table No.1)	Odporność na korozję (Resistance against corrosion)	Brak korozji po 100 h w wilgoci (No corrosion after 100 h humidity)	Odporność na słabe uderzenia (Resistance against minor impact)	Klasa 0 (Class 0)
Zasadnicze charakterystyki Essential characteristics	Właściwości użytkowe Performance	Zharmonizowana specyfikacja techniczna Harmonised technical specification																						
Reakcja na ogień (Reaction to fire)	A1	PN-EN 442-1:2015 EN 442-1:2014																						
Uwalnianie substancji niebezpiecznych (Release of dangerous substances)	Nie ma (None)																							
Szczelność pod działaniem ciśnienia (Pressure tightness)	Brak przecieku przy ciśnieniu 1,3 krotnie większym od maksymalnego ciśnienia [kPa] (No leakage at 1,3 x maximum operating pressure [kPa])																							
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Nominalna moc cieplna (Φ 50 , Φ 30) (Rated thermal output) (Φ 50 , Φ 30)	Patrz Tabela nr.1 (See Table No.1)																							
Moc cieplna w różnych warunkach eksploatacyjnych (charakterystyka) (Thermal output in different operating conditions (characteristic curve))	Patrz Tabela nr.1 (See Table No.1)																							
Odporność na korozję (Resistance against corrosion)	Brak korozji po 100 h w wilgoci (No corrosion after 100 h humidity)																							
Odporność na słabe uderzenia (Resistance against minor impact)	Klasa 0 (Class 0)																							

8. Właściwości użytkowe określonego powyżej wyrobu są zgodne z zestawem deklarowanych właściwości użytkowych. Niniejsza deklaracja właściwości użytkowych wydana zostaje zgodnie z rozporządzeniem (UE) nr 305/2011 na wyłączną odpowiedzialność producenta określonego powyżej.

(The performance of the product identified above is in conformity with the set of declared performance's. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.)

Tabela nr 1

(Table no. 1)

Model grzejnika	Normalna moc cieplna [W] (75/65/20°C) ϕ_{50}	Moc cieplna [W] (55/45/20°C) ϕ_{30}	Wykładnik n	ΔT	K_M	Moc cieplna w różnych warunkach eksploatacji				
Radiator model	Rated thermal output (75/65/20°C) ϕ_{50}	Rated thermal output (55/45/20°C) ϕ_{30}	Index exponent n	ΔT	K_M	Thermal output in different operating conditions (characteristic curve)				
TUB4-030/02V	91	47	1,2720	50	0,6252	$\phi =$	0,6252	x	ΔT	1,2720
TUB4-030/03V	136	71	1,2720	50	0,9378	$\phi =$	0,9378	x	ΔT	1,2720
TUB4-030/04V	181	95	1,2720	50	1,2505	$\phi =$	1,2505	x	ΔT	1,2720
TUB4-030/05V	227	118	1,2720	50	1,5631	$\phi =$	1,5631	x	ΔT	1,2720
TUB4-030/06V	272	142	1,2720	50	1,8757	$\phi =$	1,8757	x	ΔT	1,2720
TUB4-030/07V	317	166	1,2720	50	2,1883	$\phi =$	2,1883	x	ΔT	1,2720
TUB4-030/08V	362	189	1,2720	50	2,5009	$\phi =$	2,5009	x	ΔT	1,2720
TUB4-030/09V	408	213	1,2720	50	2,8135	$\phi =$	2,8135	x	ΔT	1,2720
TUB4-030/10V	453	237	1,2720	50	3,1261	$\phi =$	3,1261	x	ΔT	1,2720
TUB4-030/11V	498	260	1,2720	50	3,4388	$\phi =$	3,4388	x	ΔT	1,2720
TUB4-030/12V	544	284	1,2720	50	3,7514	$\phi =$	3,7514	x	ΔT	1,2720
TUB4-030/13V	589	308	1,2720	50	4,0640	$\phi =$	4,0640	x	ΔT	1,2720
TUB4-030/14V	634	331	1,2720	50	4,3766	$\phi =$	4,3766	x	ΔT	1,2720
TUB4-030/15V	680	355	1,2720	50	4,6892	$\phi =$	4,6892	x	ΔT	1,2720
TUB4-030/16V	725	378	1,2720	50	5,0018	$\phi =$	5,0018	x	ΔT	1,2720
TUB4-030/17V	770	402	1,2720	50	5,3144	$\phi =$	5,3144	x	ΔT	1,2720
TUB4-030/18V	815	426	1,2720	50	5,6271	$\phi =$	5,6271	x	ΔT	1,2720
TUB4-030/19V	861	449	1,2720	50	5,9397	$\phi =$	5,9397	x	ΔT	1,2720
TUB4-030/20V	906	473	1,2720	50	6,2523	$\phi =$	6,2523	x	ΔT	1,2720
TUB4-030/21V	951	497	1,2720	50	6,5649	$\phi =$	6,5649	x	ΔT	1,2720
TUB4-030/22V	997	520	1,2720	50	6,8775	$\phi =$	6,8775	x	ΔT	1,2720
TUB4-030/23V	1042	544	1,2720	50	7,1901	$\phi =$	7,1901	x	ΔT	1,2720
TUB4-030/24V	1087	568	1,2720	50	7,5027	$\phi =$	7,5027	x	ΔT	1,2720
TUB4-030/25V	1133	591	1,2720	50	7,8153	$\phi =$	7,8153	x	ΔT	1,2720
TUB4-030/26V	1178	615	1,2720	50	8,1280	$\phi =$	8,1280	x	ΔT	1,2720
TUB4-030/27V	1223	639	1,2720	50	8,4406	$\phi =$	8,4406	x	ΔT	1,2720
TUB4-030/28V	1268	662	1,2720	50	8,7532	$\phi =$	8,7532	x	ΔT	1,2720
TUB4-030/29V	1314	686	1,2720	50	9,0658	$\phi =$	9,0658	x	ΔT	1,2720
TUB4-030/30V	1359	710	1,2720	50	9,3784	$\phi =$	9,3784	x	ΔT	1,2720
TUB4-030/31V	1404	733	1,2720	50	9,6910	$\phi =$	9,6910	x	ΔT	1,2720
TUB4-030/32V	1450	757	1,2720	50	10,0036	$\phi =$	10,0036	x	ΔT	1,2720
TUB4-030/33V	1495	781	1,2720	50	10,3163	$\phi =$	10,3163	x	ΔT	1,2720
TUB4-030/34V	1540	804	1,2720	50	10,6289	$\phi =$	10,6289	x	ΔT	1,2720
TUB4-030/35V	1586	828	1,2720	50	10,9415	$\phi =$	10,9415	x	ΔT	1,2720
TUB4-030/36V	1631	852	1,2720	50	11,2541	$\phi =$	11,2541	x	ΔT	1,2720
TUB4-030/37V	1676	875	1,2720	50	11,5667	$\phi =$	11,5667	x	ΔT	1,2720

TUB4-030/38V	1721	899	1,2720	50	11,8793	$\phi =$	11,8793	x	ΔT	1,2720
TUB4-030/39V	1767	923	1,2720	50	12,1919	$\phi =$	12,1919	x	ΔT	1,2720
TUB4-030/40V	1812	946	1,2720	50	12,5046	$\phi =$	12,5046	x	ΔT	1,2720
TUB4-030/41V	1857	970	1,2720	50	12,8172	$\phi =$	12,8172	x	ΔT	1,2720
TUB4-030/42V	1903	993	1,2720	50	13,1298	$\phi =$	13,1298	x	ΔT	1,2720
TUB4-030/43V	1948	1017	1,2720	50	13,4424	$\phi =$	13,4424	x	ΔT	1,2720
TUB4-030/44V	1993	1041	1,2720	50	13,7550	$\phi =$	13,7550	x	ΔT	1,2720
TUB4-030/45V	2039	1064	1,2720	50	14,0676	$\phi =$	14,0676	x	ΔT	1,2720
TUB4-040/02V	127	66	1,2779	50	0,8578	$\phi =$	0,8578	x	ΔT	1,2779
TUB4-040/03V	191	99	1,2779	50	1,2867	$\phi =$	1,2867	x	ΔT	1,2779
TUB4-040/04V	254	132	1,2779	50	1,7155	$\phi =$	1,7155	x	ΔT	1,2779
TUB4-040/05V	318	166	1,2779	50	2,1444	$\phi =$	2,1444	x	ΔT	1,2779
TUB4-040/06V	382	199	1,2779	50	2,5733	$\phi =$	2,5733	x	ΔT	1,2779
TUB4-040/07V	445	232	1,2779	50	3,0022	$\phi =$	3,0022	x	ΔT	1,2779
TUB4-040/08V	509	265	1,2779	50	3,4311	$\phi =$	3,4311	x	ΔT	1,2779
TUB4-040/09V	572	298	1,2779	50	3,8600	$\phi =$	3,8600	x	ΔT	1,2779
TUB4-040/10V	636	331	1,2779	50	4,2889	$\phi =$	4,2889	x	ΔT	1,2779
TUB4-040/11V	700	364	1,2779	50	4,7178	$\phi =$	4,7178	x	ΔT	1,2779
TUB4-040/12V	763	397	1,2779	50	5,1466	$\phi =$	5,1466	x	ΔT	1,2779
TUB4-040/13V	827	430	1,2779	50	5,5755	$\phi =$	5,5755	x	ΔT	1,2779
TUB4-040/14V	890	464	1,2779	50	6,0044	$\phi =$	6,0044	x	ΔT	1,2779
TUB4-040/15V	954	497	1,2779	50	6,4333	$\phi =$	6,4333	x	ΔT	1,2779
TUB4-040/16V	1018	530	1,2779	50	6,8622	$\phi =$	6,8622	x	ΔT	1,2779
TUB4-040/17V	1081	563	1,2779	50	7,2911	$\phi =$	7,2911	x	ΔT	1,2779
TUB4-040/18V	1145	596	1,2779	50	7,7200	$\phi =$	7,7200	x	ΔT	1,2779
TUB4-040/19V	1208	629	1,2779	50	8,1489	$\phi =$	8,1489	x	ΔT	1,2779
TUB4-040/20V	1272	662	1,2779	50	8,5777	$\phi =$	8,5777	x	ΔT	1,2779
TUB4-040/21V	1336	695	1,2779	50	9,0066	$\phi =$	9,0066	x	ΔT	1,2779
TUB4-040/22V	1399	728	1,2779	50	9,4355	$\phi =$	9,4355	x	ΔT	1,2779
TUB4-040/23V	1463	762	1,2779	50	9,8644	$\phi =$	9,8644	x	ΔT	1,2779
TUB4-040/24V	1526	795	1,2779	50	10,2933	$\phi =$	10,2933	x	ΔT	1,2779
TUB4-040/25V	1590	828	1,2779	50	10,7222	$\phi =$	10,7222	x	ΔT	1,2779
TUB4-040/26V	1654	861	1,2779	50	11,1511	$\phi =$	11,1511	x	ΔT	1,2779
TUB4-040/27V	1717	894	1,2779	50	11,5800	$\phi =$	11,5800	x	ΔT	1,2779
TUB4-040/28V	1781	927	1,2779	50	12,0088	$\phi =$	12,0088	x	ΔT	1,2779
TUB4-040/29V	1844	960	1,2779	50	12,4377	$\phi =$	12,4377	x	ΔT	1,2779
TUB4-040/30V	1908	993	1,2779	50	12,8666	$\phi =$	12,8666	x	ΔT	1,2779
TUB4-040/31V	1972	1026	1,2779	50	13,2955	$\phi =$	13,2955	x	ΔT	1,2779
TUB4-040/32V	2035	1060	1,2779	50	13,7244	$\phi =$	13,7244	x	ΔT	1,2779
TUB4-040/33V	2099	1093	1,2779	50	14,1533	$\phi =$	14,1533	x	ΔT	1,2779
TUB4-040/34V	2162	1126	1,2779	50	14,5822	$\phi =$	14,5822	x	ΔT	1,2779
TUB4-040/35V	2226	1159	1,2779	50	15,0111	$\phi =$	15,0111	x	ΔT	1,2779
TUB4-040/36V	2290	1192	1,2779	50	15,4399	$\phi =$	15,4399	x	ΔT	1,2779
TUB4-040/37V	2353	1225	1,2779	50	15,8688	$\phi =$	15,8688	x	ΔT	1,2779
TUB4-040/38V	2417	1258	1,2779	50	16,2977	$\phi =$	16,2977	x	ΔT	1,2779
TUB4-040/39V	2480	1291	1,2779	50	16,7266	$\phi =$	16,7266	x	ΔT	1,2779

TUB4-040/40V	2544	1324	1,2779	50	17,1555	$\phi =$	17,1555	x	ΔT	1,2779
TUB4-040/41V	2608	1358	1,2779	50	17,5844	$\phi =$	17,5844	x	ΔT	1,2779
TUB4-040/42V	2671	1391	1,2779	50	18,0133	$\phi =$	18,0133	x	ΔT	1,2779
TUB4-040/43V	2735	1424	1,2779	50	18,4422	$\phi =$	18,4422	x	ΔT	1,2779
TUB4-040/44V	2798	1457	1,2779	50	18,8710	$\phi =$	18,8710	x	ΔT	1,2779
TUB4-040/45V	2862	1490	1,2779	50	19,2999	$\phi =$	19,2999	x	ΔT	1,2779
TUB4-050/02V	161	84	1,2824	50	1,0681	$\phi =$	1,0681	x	ΔT	1,2824
TUB4-050/03V	242	126	1,2824	50	1,6021	$\phi =$	1,6021	x	ΔT	1,2824
TUB4-050/04V	322	167	1,2824	50	2,1362	$\phi =$	2,1362	x	ΔT	1,2824
TUB4-050/05V	403	209	1,2824	50	2,6702	$\phi =$	2,6702	x	ΔT	1,2824
TUB4-050/06V	484	251	1,2824	50	3,2043	$\phi =$	3,2043	x	ΔT	1,2824
TUB4-050/07V	564	293	1,2824	50	3,7383	$\phi =$	3,7383	x	ΔT	1,2824
TUB4-050/08V	645	335	1,2824	50	4,2723	$\phi =$	4,2723	x	ΔT	1,2824
TUB4-050/09V	725	377	1,2824	50	4,8064	$\phi =$	4,8064	x	ΔT	1,2824
TUB4-050/10V	806	419	1,2824	50	5,3404	$\phi =$	5,3404	x	ΔT	1,2824
TUB4-050/11V	887	460	1,2824	50	5,8745	$\phi =$	5,8745	x	ΔT	1,2824
TUB4-050/12V	967	502	1,2824	50	6,4085	$\phi =$	6,4085	x	ΔT	1,2824
TUB4-050/13V	1048	544	1,2824	50	6,9426	$\phi =$	6,9426	x	ΔT	1,2824
TUB4-050/14V	1128	586	1,2824	50	7,4766	$\phi =$	7,4766	x	ΔT	1,2824
TUB4-050/15V	1209	628	1,2824	50	8,0106	$\phi =$	8,0106	x	ΔT	1,2824
TUB4-050/16V	1290	670	1,2824	50	8,5447	$\phi =$	8,5447	x	ΔT	1,2824
TUB4-050/17V	1370	712	1,2824	50	9,0787	$\phi =$	9,0787	x	ΔT	1,2824
TUB4-050/18V	1451	754	1,2824	50	9,6128	$\phi =$	9,6128	x	ΔT	1,2824
TUB4-050/19V	1531	795	1,2824	50	10,1468	$\phi =$	10,1468	x	ΔT	1,2824
TUB4-050/20V	1612	837	1,2824	50	10,6809	$\phi =$	10,6809	x	ΔT	1,2824
TUB4-050/21V	1693	879	1,2824	50	11,2149	$\phi =$	11,2149	x	ΔT	1,2824
TUB4-050/22V	1773	921	1,2824	50	11,7489	$\phi =$	11,7489	x	ΔT	1,2824
TUB4-050/23V	1854	963	1,2824	50	12,2830	$\phi =$	12,2830	x	ΔT	1,2824
TUB4-050/24V	1934	1005	1,2824	50	12,8170	$\phi =$	12,8170	x	ΔT	1,2824
TUB4-050/25V	2015	1047	1,2824	50	13,3511	$\phi =$	13,3511	x	ΔT	1,2824
TUB4-050/26V	2096	1088	1,2824	50	13,8851	$\phi =$	13,8851	x	ΔT	1,2824
TUB4-050/27V	2176	1130	1,2824	50	14,4192	$\phi =$	14,4192	x	ΔT	1,2824
TUB4-050/28V	2257	1172	1,2824	50	14,9532	$\phi =$	14,9532	x	ΔT	1,2824
TUB4-050/29V	2337	1214	1,2824	50	15,4872	$\phi =$	15,4872	x	ΔT	1,2824
TUB4-050/30V	2418	1256	1,2824	50	16,0213	$\phi =$	16,0213	x	ΔT	1,2824
TUB4-050/31V	2499	1298	1,2824	50	16,5553	$\phi =$	16,5553	x	ΔT	1,2824
TUB4-050/32V	2579	1340	1,2824	50	17,0894	$\phi =$	17,0894	x	ΔT	1,2824
TUB4-050/33V	2660	1381	1,2824	50	17,6234	$\phi =$	17,6234	x	ΔT	1,2824
TUB4-050/34V	2740	1423	1,2824	50	18,1574	$\phi =$	18,1574	x	ΔT	1,2824
TUB4-050/35V	2821	1465	1,2824	50	18,6915	$\phi =$	18,6915	x	ΔT	1,2824
TUB4-050/36V	2902	1507	1,2824	50	19,2255	$\phi =$	19,2255	x	ΔT	1,2824
TUB4-050/37V	2982	1549	1,2824	50	19,7596	$\phi =$	19,7596	x	ΔT	1,2824
TUB4-050/38V	3063	1591	1,2824	50	20,2936	$\phi =$	20,2936	x	ΔT	1,2824
TUB4-050/39V	3143	1633	1,2824	50	20,8277	$\phi =$	20,8277	x	ΔT	1,2824
TUB4-050/40V	3224	1675	1,2824	50	21,3617	$\phi =$	21,3617	x	ΔT	1,2824
TUB4-050/41V	3305	1716	1,2824	50	21,8957	$\phi =$	21,8957	x	ΔT	1,2824

TUB4-050/42V	3385	1758	1,2824	50	22,4298	$\phi =$	22,4298	x	ΔT	1,2824
TUB4-050/43V	3466	1800	1,2824	50	22,9638	$\phi =$	22,9638	x	ΔT	1,2824
TUB4-050/44V	3546	1842	1,2824	50	23,4979	$\phi =$	23,4979	x	ΔT	1,2824
TUB4-050/45V	3627	1884	1,2824	50	24,0319	$\phi =$	24,0319	x	ΔT	1,2824
TUB4-070/02V	218	113	1,2893	50	1,4047	$\phi =$	1,4047	x	ΔT	1,2893
TUB4-070/03V	327	169	1,2893	50	2,1070	$\phi =$	2,1070	x	ΔT	1,2893
TUB4-070/04V	436	225	1,2893	50	2,8093	$\phi =$	2,8093	x	ΔT	1,2893
TUB4-070/05V	545	282	1,2893	50	3,5117	$\phi =$	3,5117	x	ΔT	1,2893
TUB4-070/06V	653	338	1,2893	50	4,2140	$\phi =$	4,2140	x	ΔT	1,2893
TUB4-070/07V	762	395	1,2893	50	4,9164	$\phi =$	4,9164	x	ΔT	1,2893
TUB4-070/08V	871	451	1,2893	50	5,6187	$\phi =$	5,6187	x	ΔT	1,2893
TUB4-070/09V	980	507	1,2893	50	6,3210	$\phi =$	6,3210	x	ΔT	1,2893
TUB4-070/10V	1089	564	1,2893	50	7,0234	$\phi =$	7,0234	x	ΔT	1,2893
TUB4-070/11V	1198	620	1,2893	50	7,7257	$\phi =$	7,7257	x	ΔT	1,2893
TUB4-070/12V	1307	676	1,2893	50	8,4280	$\phi =$	8,4280	x	ΔT	1,2893
TUB4-070/13V	1416	733	1,2893	50	9,1304	$\phi =$	9,1304	x	ΔT	1,2893
TUB4-070/14V	1525	789	1,2893	50	9,8327	$\phi =$	9,8327	x	ΔT	1,2893
TUB4-070/15V	1634	845	1,2893	50	10,5351	$\phi =$	10,5351	x	ΔT	1,2893
TUB4-070/16V	1742	902	1,2893	50	11,2374	$\phi =$	11,2374	x	ΔT	1,2893
TUB4-070/17V	1851	958	1,2893	50	11,9397	$\phi =$	11,9397	x	ΔT	1,2893
TUB4-070/18V	1960	1015	1,2893	50	12,6421	$\phi =$	12,6421	x	ΔT	1,2893
TUB4-070/19V	2069	1071	1,2893	50	13,3444	$\phi =$	13,3444	x	ΔT	1,2893
TUB4-070/20V	2178	1127	1,2893	50	14,0467	$\phi =$	14,0467	x	ΔT	1,2893
TUB4-070/21V	2287	1184	1,2893	50	14,7491	$\phi =$	14,7491	x	ΔT	1,2893
TUB4-070/22V	2396	1240	1,2893	50	15,4514	$\phi =$	15,4514	x	ΔT	1,2893
TUB4-070/23V	2505	1296	1,2893	50	16,1538	$\phi =$	16,1538	x	ΔT	1,2893
TUB4-070/24V	2614	1353	1,2893	50	16,8561	$\phi =$	16,8561	x	ΔT	1,2893
TUB4-070/25V	2723	1409	1,2893	50	17,5584	$\phi =$	17,5584	x	ΔT	1,2893
TUB4-070/26V	2831	1465	1,2893	50	18,2608	$\phi =$	18,2608	x	ΔT	1,2893
TUB4-070/27V	2940	1522	1,2893	50	18,9631	$\phi =$	18,9631	x	ΔT	1,2893
TUB4-070/28V	3049	1578	1,2893	50	19,6654	$\phi =$	19,6654	x	ΔT	1,2893
TUB4-070/29V	3158	1635	1,2893	50	20,3678	$\phi =$	20,3678	x	ΔT	1,2893
TUB4-070/30V	3267	1691	1,2893	50	21,0701	$\phi =$	21,0701	x	ΔT	1,2893
TUB4-070/31V	3376	1747	1,2893	50	21,7725	$\phi =$	21,7725	x	ΔT	1,2893
TUB4-070/32V	3485	1804	1,2893	50	22,4748	$\phi =$	22,4748	x	ΔT	1,2893
TUB4-070/33V	3594	1860	1,2893	50	23,1771	$\phi =$	23,1771	x	ΔT	1,2893
TUB4-070/34V	3703	1916	1,2893	50	23,8795	$\phi =$	23,8795	x	ΔT	1,2893
TUB4-070/35V	3812	1973	1,2893	50	24,5818	$\phi =$	24,5818	x	ΔT	1,2893
TUB4-070/36V	3920	2029	1,2893	50	25,2841	$\phi =$	25,2841	x	ΔT	1,2893
TUB4-070/37V	4029	2085	1,2893	50	25,9865	$\phi =$	25,9865	x	ΔT	1,2893
TUB4-070/38V	4138	2142	1,2893	50	26,6888	$\phi =$	26,6888	x	ΔT	1,2893
TUB4-070/39V	4247	2198	1,2893	50	27,3912	$\phi =$	27,3912	x	ΔT	1,2893
TUB4-070/40V	4356	2255	1,2893	50	28,0935	$\phi =$	28,0935	x	ΔT	1,2893
TUB4-070/41V	4465	2311	1,2893	50	28,7958	$\phi =$	28,7958	x	ΔT	1,2893
TUB4-070/42V	4574	2367	1,2893	50	29,4982	$\phi =$	29,4982	x	ΔT	1,2893
TUB4-080/02V	240	124	1,2920	50	1,5303	$\phi =$	1,5303	x	ΔT	1,2920

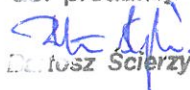
TUB4-080/03V	360	186	1,2920	50	2,2955	$\phi =$	2,2955	x	ΔT	1,2920
TUB4-080/04V	480	248	1,2920	50	3,0606	$\phi =$	3,0606	x	ΔT	1,2920
TUB4-080/05V	600	310	1,2920	50	3,8258	$\phi =$	3,8258	x	ΔT	1,2920
TUB4-080/06V	719	372	1,2920	50	4,5909	$\phi =$	4,5909	x	ΔT	1,2920
TUB4-080/07V	839	434	1,2920	50	5,3561	$\phi =$	5,3561	x	ΔT	1,2920
TUB4-080/08V	959	496	1,2920	50	6,1212	$\phi =$	6,1212	x	ΔT	1,2920
TUB4-080/09V	1079	558	1,2920	50	6,8864	$\phi =$	6,8864	x	ΔT	1,2920
TUB4-080/10V	1199	620	1,2920	50	7,6516	$\phi =$	7,6516	x	ΔT	1,2920
TUB4-080/11V	1319	682	1,2920	50	8,4167	$\phi =$	8,4167	x	ΔT	1,2920
TUB4-080/12V	1439	744	1,2920	50	9,1819	$\phi =$	9,1819	x	ΔT	1,2920
TUB4-080/13V	1559	806	1,2920	50	9,9470	$\phi =$	9,9470	x	ΔT	1,2920
TUB4-080/14V	1679	868	1,2920	50	10,7122	$\phi =$	10,7122	x	ΔT	1,2920
TUB4-080/15V	1799	930	1,2920	50	11,4773	$\phi =$	11,4773	x	ΔT	1,2920
TUB4-080/16V	1918	992	1,2920	50	12,2425	$\phi =$	12,2425	x	ΔT	1,2920
TUB4-080/17V	2038	1054	1,2920	50	13,0077	$\phi =$	13,0077	x	ΔT	1,2920
TUB4-080/18V	2158	1115	1,2920	50	13,7728	$\phi =$	13,7728	x	ΔT	1,2920
TUB4-080/19V	2278	1177	1,2920	50	14,5380	$\phi =$	14,5380	x	ΔT	1,2920
TUB4-080/20V	2398	1239	1,2920	50	15,3031	$\phi =$	15,3031	x	ΔT	1,2920
TUB4-080/21V	2518	1301	1,2920	50	16,0683	$\phi =$	16,0683	x	ΔT	1,2920
TUB4-080/22V	2638	1363	1,2920	50	16,8334	$\phi =$	16,8334	x	ΔT	1,2920
TUB4-080/23V	2758	1425	1,2920	50	17,5986	$\phi =$	17,5986	x	ΔT	1,2920
TUB4-080/24V	2878	1487	1,2920	50	18,3637	$\phi =$	18,3637	x	ΔT	1,2920
TUB4-080/25V	2998	1549	1,2920	50	19,1289	$\phi =$	19,1289	x	ΔT	1,2920
TUB4-080/26V	3117	1611	1,2920	50	19,8941	$\phi =$	19,8941	x	ΔT	1,2920
TUB4-080/27V	3237	1673	1,2920	50	20,6592	$\phi =$	20,6592	x	ΔT	1,2920
TUB4-080/28V	3357	1735	1,2920	50	21,4244	$\phi =$	21,4244	x	ΔT	1,2920
TUB4-080/29V	3477	1797	1,2920	50	22,1895	$\phi =$	22,1895	x	ΔT	1,2920
TUB4-080/30V	3597	1859	1,2920	50	22,9547	$\phi =$	22,9547	x	ΔT	1,2920
TUB4-080/31V	3717	1921	1,2920	50	23,7198	$\phi =$	23,7198	x	ΔT	1,2920
TUB4-080/32V	3837	1983	1,2920	50	24,4850	$\phi =$	24,4850	x	ΔT	1,2920
TUB4-080/33V	3957	2045	1,2920	50	25,2501	$\phi =$	25,2501	x	ΔT	1,2920
TUB4-080/34V	4077	2107	1,2920	50	26,0153	$\phi =$	26,0153	x	ΔT	1,2920
TUB4-080/35V	4197	2169	1,2920	50	26,7805	$\phi =$	26,7805	x	ΔT	1,2920
TUB4-080/36V	4316	2231	1,2920	50	27,5456	$\phi =$	27,5456	x	ΔT	1,2920
TUB4-080/37V	4436	2293	1,2920	50	28,3108	$\phi =$	28,3108	x	ΔT	1,2920
TUB4-090/02V	257	133	1,2944	50	1,6273	$\phi =$	1,6273	x	ΔT	1,2944
TUB4-090/03V	386	199	1,2944	50	2,4409	$\phi =$	2,4409	x	ΔT	1,2944
TUB4-090/04V	515	266	1,2944	50	3,2546	$\phi =$	3,2546	x	ΔT	1,2944
TUB4-090/05V	644	332	1,2944	50	4,0682	$\phi =$	4,0682	x	ΔT	1,2944
TUB4-090/06V	772	399	1,2944	50	4,8818	$\phi =$	4,8818	x	ΔT	1,2944
TUB4-090/07V	901	465	1,2944	50	5,6955	$\phi =$	5,6955	x	ΔT	1,2944
TUB4-090/08V	1030	532	1,2944	50	6,5091	$\phi =$	6,5091	x	ΔT	1,2944
TUB4-090/09V	1158	598	1,2944	50	7,3228	$\phi =$	7,3228	x	ΔT	1,2944
TUB4-090/10V	1287	664	1,2944	50	8,1364	$\phi =$	8,1364	x	ΔT	1,2944
TUB4-090/11V	1416	731	1,2944	50	8,9500	$\phi =$	8,9500	x	ΔT	1,2944
TUB4-090/12V	1544	797	1,2944	50	9,7637	$\phi =$	9,7637	x	ΔT	1,2944

TUB4-090/13V	1673	864	1,2944	50	10,5773	$\phi =$	10,5773	x	ΔT	1,2944
TUB4-090/14V	1802	930	1,2944	50	11,3909	$\phi =$	11,3909	x	ΔT	1,2944
TUB4-090/15V	1931	997	1,2944	50	12,2046	$\phi =$	12,2046	x	ΔT	1,2944
TUB4-090/16V	2059	1063	1,2944	50	13,0182	$\phi =$	13,0182	x	ΔT	1,2944
TUB4-090/17V	2188	1129	1,2944	50	13,8319	$\phi =$	13,8319	x	ΔT	1,2944
TUB4-090/18V	2317	1196	1,2944	50	14,6455	$\phi =$	14,6455	x	ΔT	1,2944
TUB4-090/19V	2445	1262	1,2944	50	15,4591	$\phi =$	15,4591	x	ΔT	1,2944
TUB4-090/20V	2574	1329	1,2944	50	16,2728	$\phi =$	16,2728	x	ΔT	1,2944
TUB4-090/21V	2703	1395	1,2944	50	17,0864	$\phi =$	17,0864	x	ΔT	1,2944
TUB4-090/22V	2831	1462	1,2944	50	17,9001	$\phi =$	17,9001	x	ΔT	1,2944
TUB4-090/23V	2960	1528	1,2944	50	18,7137	$\phi =$	18,7137	x	ΔT	1,2944
TUB4-090/24V	3089	1595	1,2944	50	19,5273	$\phi =$	19,5273	x	ΔT	1,2944
TUB4-090/25V	3218	1661	1,2944	50	20,3410	$\phi =$	20,3410	x	ΔT	1,2944
TUB4-090/26V	3346	1727	1,2944	50	21,1546	$\phi =$	21,1546	x	ΔT	1,2944
TUB4-090/27V	3475	1794	1,2944	50	21,9683	$\phi =$	21,9683	x	ΔT	1,2944
TUB4-090/28V	3604	1860	1,2944	50	22,7819	$\phi =$	22,7819	x	ΔT	1,2944
TUB4-090/29V	3732	1927	1,2944	50	23,5955	$\phi =$	23,5955	x	ΔT	1,2944
TUB4-090/30V	3861	1993	1,2944	50	24,4092	$\phi =$	24,4092	x	ΔT	1,2944
TUB4-090/31V	3990	2060	1,2944	50	25,2228	$\phi =$	25,2228	x	ΔT	1,2944
TUB4-090/32V	4118	2126	1,2944	50	26,0364	$\phi =$	26,0364	x	ΔT	1,2944
TUB4-090/33V	4247	2192	1,2944	50	26,8501	$\phi =$	26,8501	x	ΔT	1,2944
TUB4-100/02V	271	140	1,2966	50	1,6986	$\phi =$	1,6986	x	ΔT	1,2966
TUB4-100/03V	407	210	1,2966	50	2,5479	$\phi =$	2,5479	x	ΔT	1,2966
TUB4-100/04V	542	279	1,2966	50	3,3972	$\phi =$	3,3972	x	ΔT	1,2966
TUB4-100/05V	678	349	1,2966	50	4,2464	$\phi =$	4,2464	x	ΔT	1,2966
TUB4-100/06V	813	419	1,2966	50	5,0957	$\phi =$	5,0957	x	ΔT	1,2966
TUB4-100/07V	949	489	1,2966	50	5,9450	$\phi =$	5,9450	x	ΔT	1,2966
TUB4-100/08V	1084	559	1,2966	50	6,7943	$\phi =$	6,7943	x	ΔT	1,2966
TUB4-100/09V	1220	629	1,2966	50	7,6436	$\phi =$	7,6436	x	ΔT	1,2966
TUB4-100/10V	1355	699	1,2966	50	8,4929	$\phi =$	8,4929	x	ΔT	1,2966
TUB4-100/11V	1491	769	1,2966	50	9,3422	$\phi =$	9,3422	x	ΔT	1,2966
TUB4-100/12V	1626	838	1,2966	50	10,1915	$\phi =$	10,1915	x	ΔT	1,2966
TUB4-100/13V	1762	908	1,2966	50	11,0407	$\phi =$	11,0407	x	ΔT	1,2966
TUB4-100/14V	1897	978	1,2966	50	11,8900	$\phi =$	11,8900	x	ΔT	1,2966
TUB4-100/15V	2033	1048	1,2966	50	12,7393	$\phi =$	12,7393	x	ΔT	1,2966
TUB4-100/16V	2168	1118	1,2966	50	13,5886	$\phi =$	13,5886	x	ΔT	1,2966
TUB4-100/17V	2304	1188	1,2966	50	14,4379	$\phi =$	14,4379	x	ΔT	1,2966
TUB4-100/18V	2439	1258	1,2966	50	15,2872	$\phi =$	15,2872	x	ΔT	1,2966
TUB4-100/19V	2575	1328	1,2966	50	16,1365	$\phi =$	16,1365	x	ΔT	1,2966
TUB4-100/20V	2710	1397	1,2966	50	16,9858	$\phi =$	16,9858	x	ΔT	1,2966
TUB4-100/21V	2846	1467	1,2966	50	17,8350	$\phi =$	17,8350	x	ΔT	1,2966
TUB4-100/22V	2981	1537	1,2966	50	18,6843	$\phi =$	18,6843	x	ΔT	1,2966
TUB4-100/23V	3117	1607	1,2966	50	19,5336	$\phi =$	19,5336	x	ΔT	1,2966
TUB4-100/24V	3252	1677	1,2966	50	20,3829	$\phi =$	20,3829	x	ΔT	1,2966
TUB4-100/25V	3388	1747	1,2966	50	21,2322	$\phi =$	21,2322	x	ΔT	1,2966
TUB4-100/26V	3523	1817	1,2966	50	22,0815	$\phi =$	22,0815	x	ΔT	1,2966

TUB4-100/27V	3659	1886	1,2966	50	22,9308	$\phi =$	22,9308	x	ΔT	1,2966
TUB4-100/28V	3794	1956	1,2966	50	23,7801	$\phi =$	23,7801	x	ΔT	1,2966
TUB4-100/29V	3930	2026	1,2966	50	24,6293	$\phi =$	24,6293	x	ΔT	1,2966
TUB4-100/30V	4065	2096	1,2966	50	25,4786	$\phi =$	25,4786	x	ΔT	1,2966

W imieniu producenta podpisał:
(Signed for and on behalf of the manufacturer by:)

Z-ca Prezesa ds. Produkcji
Bartosz Ścierzyński
Nowa Wieś 19.05.2021 r.

Z-ca PREZESA
ds. produkcji

Bartosz Ścierzyński

.....
(podpis)
(signature)

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