

DEKLARACJA WŁAŚCIWOŚCI UŻYTKOWYCH
(DECLARATION OF PERFORMANCE)

Nr (No.) **NDWU/1/TUBUS 2 V/2021**

1. Niepowtarzalny kod identyfikacyjny typu wyrobu (Unique identification code of the product-type): TUBUS 2		
2. Zamierzone zastosowanie lub zastosowania: W instalacjach grzewczych w budynkach (Intended use/es: In heating systems in buildings)		
3. Producent (Manufacturer): INSTAL PROJEKT sp. z o. o., ul. Jana Pawła II 12 A, Nowa Wieś k/Włocławka, 87-853 Kruszyn, Polska (INSTAL PROJEKT sp. z o. o., Jana Pawła II 12 A str., Nowa Wieś near Włocławka, 87-853 Kruszyn, Poland.)		
4. System(-y) oceny i weryfikacji stałości właściwości użytkowych (System/s of AVCP): System 3		
5. Norma zharmonizowana (Harmonised standard): EN 442-1:2014		
6. Jednostka lub jednostki notyfikowane (Notified body/ies): INSTYTUT ENERGETYKI. Numer jednostki notyfikowanej (Notification no.): 1452.		
7. Deklarowane właściwości użytkowe (Declared performance/s):		
Zasadnicze charakterystyki	Właściwości użytkowe	Zharmonizowana specyfikacja techniczna
Essential characteristics	Performance	Harmonised technical specification
Reakcja na ogień (Reaction to fire)	A1	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)	
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.)		

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Tabela nr 1

(Table no. 1)

Model grzejnika	Normalna moc cieplna [W] (75/65/20°C) $\phi 50$	Moc cieplna [W] (55/45/20°C) $\phi 30$	Wykładnik n	ΔT	K_M	Moc cieplna w różnych warunkach eksploatacji			
Radiator model	Rated thermal output (75/65/20°C) $\phi 50$	Rated thermal output (55/45/20°C) $\phi 30$	Index exponent n	ΔT	K_M	Thermal output in different operating conditions (characteristic curve)			
TUB2-020/02V	25	13	1,2611	50	0,17716	$\phi =$	0,17716	x ΔT	1,2611
TUB2-020/03V	37	19	1,2611	50	0,26574	$\phi =$	0,26574	x ΔT	1,2611
TUB2-020/04V	49	26	1,2611	50	0,35432	$\phi =$	0,35432	x ΔT	1,2611
TUB2-020/05V	62	32	1,2611	50	0,44290	$\phi =$	0,44290	x ΔT	1,2611
TUB2-020/06V	74	39	1,2611	50	0,53148	$\phi =$	0,53148	x ΔT	1,2611
TUB2-020/07V	86	45	1,2611	50	0,62006	$\phi =$	0,62006	x ΔT	1,2611
TUB2-020/08V	98	52	1,2611	50	0,70864	$\phi =$	0,70864	x ΔT	1,2611
TUB2-020/09V	111	58	1,2611	50	0,79722	$\phi =$	0,79722	x ΔT	1,2611
TUB2-020/10V	123	65	1,2611	50	0,88580	$\phi =$	0,88580	x ΔT	1,2611
TUB2-020/11V	135	71	1,2611	50	0,97438	$\phi =$	0,97438	x ΔT	1,2611
TUB2-020/12V	148	78	1,2611	50	1,06296	$\phi =$	1,06296	x ΔT	1,2611
TUB2-020/13V	160	84	1,2611	50	1,15154	$\phi =$	1,15154	x ΔT	1,2611
TUB2-020/14V	172	90	1,2611	50	1,24012	$\phi =$	1,24012	x ΔT	1,2611
TUB2-020/15V	185	97	1,2611	50	1,32869	$\phi =$	1,32869	x ΔT	1,2611
TUB2-020/16V	197	103	1,2611	50	1,41727	$\phi =$	1,41727	x ΔT	1,2611
TUB2-020/17V	209	110	1,2611	50	1,50585	$\phi =$	1,50585	x ΔT	1,2611
TUB2-020/18V	221	116	1,2611	50	1,59443	$\phi =$	1,59443	x ΔT	1,2611
TUB2-020/19V	234	123	1,2611	50	1,68301	$\phi =$	1,68301	x ΔT	1,2611
TUB2-020/20V	246	129	1,2611	50	1,77159	$\phi =$	1,77159	x ΔT	1,2611
TUB2-020/21V	258	136	1,2611	50	1,86017	$\phi =$	1,86017	x ΔT	1,2611
TUB2-020/22V	271	142	1,2611	50	1,94875	$\phi =$	1,94875	x ΔT	1,2611
TUB2-020/23V	283	149	1,2611	50	2,03733	$\phi =$	2,03733	x ΔT	1,2611
TUB2-020/24V	295	155	1,2611	50	2,12591	$\phi =$	2,12591	x ΔT	1,2611
TUB2-020/25V	308	161	1,2611	50	2,21449	$\phi =$	2,21449	x ΔT	1,2611
TUB2-020/26V	320	168	1,2611	50	2,30307	$\phi =$	2,30307	x ΔT	1,2611
TUB2-020/27V	332	174	1,2611	50	2,39165	$\phi =$	2,39165	x ΔT	1,2611
TUB2-020/28V	344	181	1,2611	50	2,48023	$\phi =$	2,48023	x ΔT	1,2611
TUB2-020/29V	357	187	1,2611	50	2,56881	$\phi =$	2,56881	x ΔT	1,2611
TUB2-020/30V	369	194	1,2611	50	2,65739	$\phi =$	2,65739	x ΔT	1,2611
TUB2-020/31V	381	200	1,2611	50	2,74597	$\phi =$	2,74597	x ΔT	1,2611
TUB2-020/32V	394	207	1,2611	50	2,83455	$\phi =$	2,83455	x ΔT	1,2611
TUB2-020/33V	406	213	1,2611	50	2,92313	$\phi =$	2,92313	x ΔT	1,2611
TUB2-020/34V	418	220	1,2611	50	3,01171	$\phi =$	3,01171	x ΔT	1,2611
TUB2-020/35V	431	226	1,2611	50	3,10029	$\phi =$	3,10029	x ΔT	1,2611
TUB2-020/36V	443	233	1,2611	50	3,18887	$\phi =$	3,18887	x ΔT	1,2611
TUB2-020/37V	455	239	1,2611	50	3,27745	$\phi =$	3,27745	x ΔT	1,2611
TUB2-020/38V	467	245	1,2611	50	3,36603	$\phi =$	3,36603	x ΔT	1,2611
TUB2-020/39V	480	252	1,2611	50	3,45461	$\phi =$	3,45461	x ΔT	1,2611
TUB2-020/40V	492	258	1,2611	50	3,54319	$\phi =$	3,54319	x ΔT	1,2611
TUB2-020/41V	504	265	1,2611	50	3,63177	$\phi =$	3,63177	x ΔT	1,2611
TUB2-020/42V	517	271	1,2611	50	3,72035	$\phi =$	3,72035	x ΔT	1,2611
TUB2-020/43V	529	278	1,2611	50	3,80893	$\phi =$	3,80893	x ΔT	1,2611
TUB2-020/44V	541	284	1,2611	50	3,89751	$\phi =$	3,89751	x ΔT	1,2611
TUB2-020/45V	554	291	1,2611	50	3,98608	$\phi =$	3,98608	x ΔT	1,2611
TUB2-030/02V	40	21	1,2613	50	0,28640	$\phi =$	0,28640	x ΔT	1,2613
TUB2-030/03V	60	31	1,2613	50	0,42960	$\phi =$	0,42960	x ΔT	1,2613
TUB2-030/04V	80	42	1,2613	50	0,57280	$\phi =$	0,57280	x ΔT	1,2613
TUB2-030/05V	100	52	1,2613	50	0,71600	$\phi =$	0,71600	x ΔT	1,2613
TUB2-030/06V	119	63	1,2613	50	0,85920	$\phi =$	0,85920	x ΔT	1,2613
TUB2-030/07V	139	73	1,2613	50	1,00240	$\phi =$	1,00240	x ΔT	1,2613
TUB2-030/08V	159	84	1,2613	50	1,14560	$\phi =$	1,14560	x ΔT	1,2613
TUB2-030/09V	179	94	1,2613	50	1,28880	$\phi =$	1,28880	x ΔT	1,2613
TUB2-030/10V	199	104	1,2613	50	1,43200	$\phi =$	1,43200	x ΔT	1,2613
TUB2-030/11V	219	115	1,2613	50	1,57520	$\phi =$	1,57520	x ΔT	1,2613
TUB2-030/12V	239	125	1,2613	50	1,71840	$\phi =$	1,71840	x ΔT	1,2613
TUB2-030/13V	259	136	1,2613	50	1,86160	$\phi =$	1,86160	x ΔT	1,2613
TUB2-030/14V	279	146	1,2613	50	2,00480	$\phi =$	2,00480	x ΔT	1,2613
TUB2-030/15V	299	157	1,2613	50	2,14800	$\phi =$	2,14800	x ΔT	1,2613
TUB2-030/16V	318	167	1,2613	50	2,29120	$\phi =$	2,29120	x ΔT	1,2613

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TUB2-030/17V	338	178	1,2613	50	2,43440	$\phi =$	2,43440	$\times \Delta T$	1,2613
TUB2-030/18V	358	188	1,2613	50	2,57760	$\phi =$	2,57760	$\times \Delta T$	1,2613
TUB2-030/19V	378	199	1,2613	50	2,72079	$\phi =$	2,72079	$\times \Delta T$	1,2613
TUB2-030/20V	398	209	1,2613	50	2,86399	$\phi =$	2,86399	$\times \Delta T$	1,2613
TUB2-030/21V	418	219	1,2613	50	3,00719	$\phi =$	3,00719	$\times \Delta T$	1,2613
TUB2-030/22V	438	230	1,2613	50	3,15039	$\phi =$	3,15039	$\times \Delta T$	1,2613
TUB2-030/23V	458	240	1,2613	50	3,29359	$\phi =$	3,29359	$\times \Delta T$	1,2613
TUB2-030/24V	478	251	1,2613	50	3,43679	$\phi =$	3,43679	$\times \Delta T$	1,2613
TUB2-030/25V	498	261	1,2613	50	3,57999	$\phi =$	3,57999	$\times \Delta T$	1,2613
TUB2-030/26V	517	272	1,2613	50	3,72319	$\phi =$	3,72319	$\times \Delta T$	1,2613
TUB2-030/27V	537	282	1,2613	50	3,86639	$\phi =$	3,86639	$\times \Delta T$	1,2613
TUB2-030/28V	557	293	1,2613	50	4,00959	$\phi =$	4,00959	$\times \Delta T$	1,2613
TUB2-030/29V	577	303	1,2613	50	4,15279	$\phi =$	4,15279	$\times \Delta T$	1,2613
TUB2-030/30V	597	313	1,2613	50	4,29599	$\phi =$	4,29599	$\times \Delta T$	1,2613
TUB2-030/31V	617	324	1,2613	50	4,43919	$\phi =$	4,43919	$\times \Delta T$	1,2613
TUB2-030/32V	637	334	1,2613	50	4,58239	$\phi =$	4,58239	$\times \Delta T$	1,2613
TUB2-030/33V	657	345	1,2613	50	4,72559	$\phi =$	4,72559	$\times \Delta T$	1,2613
TUB2-030/34V	677	355	1,2613	50	4,86879	$\phi =$	4,86879	$\times \Delta T$	1,2613
TUB2-030/35V	697	366	1,2613	50	5,01199	$\phi =$	5,01199	$\times \Delta T$	1,2613
TUB2-030/36V	716	376	1,2613	50	5,15519	$\phi =$	5,15519	$\times \Delta T$	1,2613
TUB2-030/37V	736	387	1,2613	50	5,29839	$\phi =$	5,29839	$\times \Delta T$	1,2613
TUB2-030/38V	756	397	1,2613	50	5,44159	$\phi =$	5,44159	$\times \Delta T$	1,2613
TUB2-030/39V	776	407	1,2613	50	5,58479	$\phi =$	5,58479	$\times \Delta T$	1,2613
TUB2-030/40V	796	418	1,2613	50	5,72799	$\phi =$	5,72799	$\times \Delta T$	1,2613
TUB2-030/41V	816	428	1,2613	50	5,87119	$\phi =$	5,87119	$\times \Delta T$	1,2613
TUB2-030/42V	836	439	1,2613	50	6,01439	$\phi =$	6,01439	$\times \Delta T$	1,2613
TUB2-030/43V	856	449	1,2613	50	6,15759	$\phi =$	6,15759	$\times \Delta T$	1,2613
TUB2-030/44V	876	460	1,2613	50	6,30079	$\phi =$	6,30079	$\times \Delta T$	1,2613
TUB2-030/45V	896	470	1,2613	50	6,44399	$\phi =$	6,44399	$\times \Delta T$	1,2613
TUB2-040/02V	56	29	1,2616	50	0,39963	$\phi =$	0,39963	$\times \Delta T$	1,2616
TUB2-040/03V	83	44	1,2616	50	0,59944	$\phi =$	0,59944	$\times \Delta T$	1,2616
TUB2-040/04V	111	58	1,2616	50	0,79925	$\phi =$	0,79925	$\times \Delta T$	1,2616
TUB2-040/05V	139	73	1,2616	50	0,99907	$\phi =$	0,99907	$\times \Delta T$	1,2616
TUB2-040/06V	167	88	1,2616	50	1,19888	$\phi =$	1,19888	$\times \Delta T$	1,2616
TUB2-040/07V	195	102	1,2616	50	1,39869	$\phi =$	1,39869	$\times \Delta T$	1,2616
TUB2-040/08V	222	117	1,2616	50	1,59851	$\phi =$	1,59851	$\times \Delta T$	1,2616
TUB2-040/09V	250	131	1,2616	50	1,79832	$\phi =$	1,79832	$\times \Delta T$	1,2616
TUB2-040/10V	278	146	1,2616	50	1,99813	$\phi =$	1,99813	$\times \Delta T$	1,2616
TUB2-040/11V	306	161	1,2616	50	2,19795	$\phi =$	2,19795	$\times \Delta T$	1,2616
TUB2-040/12V	334	175	1,2616	50	2,39776	$\phi =$	2,39776	$\times \Delta T$	1,2616
TUB2-040/13V	361	190	1,2616	50	2,59757	$\phi =$	2,59757	$\times \Delta T$	1,2616
TUB2-040/14V	389	204	1,2616	50	2,79739	$\phi =$	2,79739	$\times \Delta T$	1,2616
TUB2-040/15V	417	219	1,2616	50	2,99720	$\phi =$	2,99720	$\times \Delta T$	1,2616
TUB2-040/16V	445	233	1,2616	50	3,19701	$\phi =$	3,19701	$\times \Delta T$	1,2616
TUB2-040/17V	473	248	1,2616	50	3,39682	$\phi =$	3,39682	$\times \Delta T$	1,2616
TUB2-040/18V	500	263	1,2616	50	3,59664	$\phi =$	3,59664	$\times \Delta T$	1,2616
TUB2-040/19V	528	277	1,2616	50	3,79645	$\phi =$	3,79645	$\times \Delta T$	1,2616
TUB2-040/20V	556	292	1,2616	50	3,99626	$\phi =$	3,99626	$\times \Delta T$	1,2616
TUB2-040/21V	584	306	1,2616	50	4,19608	$\phi =$	4,19608	$\times \Delta T$	1,2616
TUB2-040/22V	612	321	1,2616	50	4,39589	$\phi =$	4,39589	$\times \Delta T$	1,2616
TUB2-040/23V	639	336	1,2616	50	4,59570	$\phi =$	4,59570	$\times \Delta T$	1,2616
TUB2-040/24V	667	350	1,2616	50	4,79552	$\phi =$	4,79552	$\times \Delta T$	1,2616
TUB2-040/25V	695	365	1,2616	50	4,99533	$\phi =$	4,99533	$\times \Delta T$	1,2616
TUB2-040/26V	723	379	1,2616	50	5,19514	$\phi =$	5,19514	$\times \Delta T$	1,2616
TUB2-040/27V	751	394	1,2616	50	5,39496	$\phi =$	5,39496	$\times \Delta T$	1,2616
TUB2-040/28V	778	409	1,2616	50	5,59477	$\phi =$	5,59477	$\times \Delta T$	1,2616
TUB2-040/29V	806	423	1,2616	50	5,79458	$\phi =$	5,79458	$\times \Delta T$	1,2616
TUB2-040/30V	834	438	1,2616	50	5,99440	$\phi =$	5,99440	$\times \Delta T$	1,2616
TUB2-040/31V	862	452	1,2616	50	6,19421	$\phi =$	6,19421	$\times \Delta T$	1,2616
TUB2-040/32V	890	467	1,2616	50	6,39402	$\phi =$	6,39402	$\times \Delta T$	1,2616
TUB2-040/33V	917	482	1,2616	50	6,59384	$\phi =$	6,59384	$\times \Delta T$	1,2616
TUB2-040/34V	945	496	1,2616	50	6,79365	$\phi =$	6,79365	$\times \Delta T$	1,2616
TUB2-040/35V	973	511	1,2616	50	6,99346	$\phi =$	6,99346	$\times \Delta T$	1,2616
TUB2-040/36V	1001	525	1,2616	50	7,19328	$\phi =$	7,19328	$\times \Delta T$	1,2616
TUB2-040/37V	1029	540	1,2616	50	7,39309	$\phi =$	7,39309	$\times \Delta T$	1,2616

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TUB2-040/38V	1056	555	1,2616	50	7,59290	$\phi =$	7,59290	$\times \Delta T$	1,2616
TUB2-040/39V	1084	569	1,2616	50	7,79272	$\phi =$	7,79272	$\times \Delta T$	1,2616
TUB2-040/40V	1112	584	1,2616	50	7,99253	$\phi =$	7,99253	$\times \Delta T$	1,2616
TUB2-040/41V	1140	598	1,2616	50	8,19234	$\phi =$	8,19234	$\times \Delta T$	1,2616
TUB2-040/42V	1168	613	1,2616	50	8,39216	$\phi =$	8,39216	$\times \Delta T$	1,2616
TUB2-040/43V	1195	628	1,2616	50	8,59197	$\phi =$	8,59197	$\times \Delta T$	1,2616
TUB2-040/44V	1223	642	1,2616	50	8,79178	$\phi =$	8,79178	$\times \Delta T$	1,2616
TUB2-040/45V	1251	657	1,2616	50	8,99160	$\phi =$	8,99160	$\times \Delta T$	1,2616
TUB2-050/02V	72	38	1,2620	50	0,51526	$\phi =$	0,51526	$\times \Delta T$	1,2620
TUB2-050/03V	108	57	1,2620	50	0,77289	$\phi =$	0,77289	$\times \Delta T$	1,2620
TUB2-050/04V	144	75	1,2620	50	1,03051	$\phi =$	1,03051	$\times \Delta T$	1,2620
TUB2-050/05V	180	94	1,2620	50	1,28814	$\phi =$	1,28814	$\times \Delta T$	1,2620
TUB2-050/06V	215	113	1,2620	50	1,54577	$\phi =$	1,54577	$\times \Delta T$	1,2620
TUB2-050/07V	251	132	1,2620	50	1,80340	$\phi =$	1,80340	$\times \Delta T$	1,2620
TUB2-050/08V	287	151	1,2620	50	2,06103	$\phi =$	2,06103	$\times \Delta T$	1,2620
TUB2-050/09V	323	170	1,2620	50	2,31866	$\phi =$	2,31866	$\times \Delta T$	1,2620
TUB2-050/10V	359	188	1,2620	50	2,57629	$\phi =$	2,57629	$\times \Delta T$	1,2620
TUB2-050/11V	395	207	1,2620	50	2,83392	$\phi =$	2,83392	$\times \Delta T$	1,2620
TUB2-050/12V	431	226	1,2620	50	3,09154	$\phi =$	3,09154	$\times \Delta T$	1,2620
TUB2-050/13V	467	245	1,2620	50	3,34917	$\phi =$	3,34917	$\times \Delta T$	1,2620
TUB2-050/14V	503	264	1,2620	50	3,60680	$\phi =$	3,60680	$\times \Delta T$	1,2620
TUB2-050/15V	539	283	1,2620	50	3,86443	$\phi =$	3,86443	$\times \Delta T$	1,2620
TUB2-050/16V	574	301	1,2620	50	4,12206	$\phi =$	4,12206	$\times \Delta T$	1,2620
TUB2-050/17V	610	320	1,2620	50	4,37969	$\phi =$	4,37969	$\times \Delta T$	1,2620
TUB2-050/18V	646	339	1,2620	50	4,63732	$\phi =$	4,63732	$\times \Delta T$	1,2620
TUB2-050/19V	682	358	1,2620	50	4,89495	$\phi =$	4,89495	$\times \Delta T$	1,2620
TUB2-050/20V	718	377	1,2620	50	5,15257	$\phi =$	5,15257	$\times \Delta T$	1,2620
TUB2-050/21V	754	396	1,2620	50	5,41020	$\phi =$	5,41020	$\times \Delta T$	1,2620
TUB2-050/22V	790	415	1,2620	50	5,66783	$\phi =$	5,66783	$\times \Delta T$	1,2620
TUB2-050/23V	826	433	1,2620	50	5,92546	$\phi =$	5,92546	$\times \Delta T$	1,2620
TUB2-050/24V	862	452	1,2620	50	6,18309	$\phi =$	6,18309	$\times \Delta T$	1,2620
TUB2-050/25V	898	471	1,2620	50	6,44072	$\phi =$	6,44072	$\times \Delta T$	1,2620
TUB2-050/26V	933	490	1,2620	50	6,69835	$\phi =$	6,69835	$\times \Delta T$	1,2620
TUB2-050/27V	969	509	1,2620	50	6,95598	$\phi =$	6,95598	$\times \Delta T$	1,2620
TUB2-050/28V	1005	528	1,2620	50	7,21360	$\phi =$	7,21360	$\times \Delta T$	1,2620
TUB2-050/29V	1041	546	1,2620	50	7,47123	$\phi =$	7,47123	$\times \Delta T$	1,2620
TUB2-050/30V	1077	565	1,2620	50	7,72886	$\phi =$	7,72886	$\times \Delta T$	1,2620
TUB2-050/31V	1113	584	1,2620	50	7,98649	$\phi =$	7,98649	$\times \Delta T$	1,2620
TUB2-050/32V	1149	603	1,2620	50	8,24412	$\phi =$	8,24412	$\times \Delta T$	1,2620
TUB2-050/33V	1185	622	1,2620	50	8,50175	$\phi =$	8,50175	$\times \Delta T$	1,2620
TUB2-050/34V	1221	641	1,2620	50	8,75938	$\phi =$	8,75938	$\times \Delta T$	1,2620
TUB2-050/35V	1257	659	1,2620	50	9,01701	$\phi =$	9,01701	$\times \Delta T$	1,2620
TUB2-050/36V	1292	678	1,2620	50	9,27463	$\phi =$	9,27463	$\times \Delta T$	1,2620
TUB2-050/37V	1328	697	1,2620	50	9,53226	$\phi =$	9,53226	$\times \Delta T$	1,2620
TUB2-050/38V	1364	716	1,2620	50	9,78989	$\phi =$	9,78989	$\times \Delta T$	1,2620
TUB2-050/39V	1400	735	1,2620	50	10,04752	$\phi =$	10,04752	$\times \Delta T$	1,2620
TUB2-050/40V	1436	754	1,2620	50	10,30515	$\phi =$	10,30515	$\times \Delta T$	1,2620
TUB2-050/41V	1472	773	1,2620	50	10,56278	$\phi =$	10,56278	$\times \Delta T$	1,2620
TUB2-050/42V	1508	791	1,2620	50	10,82041	$\phi =$	10,82041	$\times \Delta T$	1,2620
TUB2-050/43V	1544	810	1,2620	50	11,07804	$\phi =$	11,07804	$\times \Delta T$	1,2620
TUB2-050/44V	1580	829	1,2620	50	11,33566	$\phi =$	11,33566	$\times \Delta T$	1,2620
TUB2-050/45V	1616	848	1,2620	50	11,59329	$\phi =$	11,59329	$\times \Delta T$	1,2620
TUB2-070/02V	105	55	1,2631	50	0,74742	$\phi =$	0,74742	$\times \Delta T$	1,2631
TUB2-070/03V	157	82	1,2631	50	1,12112	$\phi =$	1,12112	$\times \Delta T$	1,2631
TUB2-070/04V	209	110	1,2631	50	1,49483	$\phi =$	1,49483	$\times \Delta T$	1,2631
TUB2-070/05V	262	137	1,2631	50	1,86854	$\phi =$	1,86854	$\times \Delta T$	1,2631
TUB2-070/06V	314	165	1,2631	50	2,24225	$\phi =$	2,24225	$\times \Delta T$	1,2631
TUB2-070/07V	366	192	1,2631	50	2,61596	$\phi =$	2,61596	$\times \Delta T$	1,2631
TUB2-070/08V	418	219	1,2631	50	2,98967	$\phi =$	2,98967	$\times \Delta T$	1,2631
TUB2-070/09V	471	247	1,2631	50	3,36337	$\phi =$	3,36337	$\times \Delta T$	1,2631
TUB2-070/10V	523	274	1,2631	50	3,73708	$\phi =$	3,73708	$\times \Delta T$	1,2631
TUB2-070/11V	575	302	1,2631	50	4,11079	$\phi =$	4,11079	$\times \Delta T$	1,2631
TUB2-070/12V	628	329	1,2631	50	4,48450	$\phi =$	4,48450	$\times \Delta T$	1,2631
TUB2-070/13V	680	357	1,2631	50	4,85821	$\phi =$	4,85821	$\times \Delta T$	1,2631
TUB2-070/14V	732	384	1,2631	50	5,23192	$\phi =$	5,23192	$\times \Delta T$	1,2631

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TUB2-070/15V	785	412	1,2631	50	5,60562	φ =	5,60562	x ΔT	1,2631
TUB2-070/16V	837	439	1,2631	50	5,97933	φ =	5,97933	x ΔT	1,2631
TUB2-070/17V	889	466	1,2631	50	6,35304	φ =	6,35304	x ΔT	1,2631
TUB2-070/18V	941	494	1,2631	50	6,72675	φ =	6,72675	x ΔT	1,2631
TUB2-070/19V	994	521	1,2631	50	7,10046	φ =	7,10046	x ΔT	1,2631
TUB2-070/20V	1046	549	1,2631	50	7,47416	φ =	7,47416	x ΔT	1,2631
TUB2-070/21V	1098	576	1,2631	50	7,84787	φ =	7,84787	x ΔT	1,2631
TUB2-070/22V	1151	604	1,2631	50	8,22158	φ =	8,22158	x ΔT	1,2631
TUB2-070/23V	1203	631	1,2631	50	8,59529	φ =	8,59529	x ΔT	1,2631
TUB2-070/24V	1255	658	1,2631	50	8,96900	φ =	8,96900	x ΔT	1,2631
TUB2-070/25V	1308	686	1,2631	50	9,34271	φ =	9,34271	x ΔT	1,2631
TUB2-070/26V	1360	713	1,2631	50	9,71641	φ =	9,71641	x ΔT	1,2631
TUB2-070/27V	1412	741	1,2631	50	10,09012	φ =	10,09012	x ΔT	1,2631
TUB2-070/28V	1464	768	1,2631	50	10,46383	φ =	10,46383	x ΔT	1,2631
TUB2-070/29V	1517	796	1,2631	50	10,83754	φ =	10,83754	x ΔT	1,2631
TUB2-070/30V	1569	823	1,2631	50	11,21125	φ =	11,21125	x ΔT	1,2631
TUB2-070/31V	1621	850	1,2631	50	11,58496	φ =	11,58496	x ΔT	1,2631
TUB2-070/32V	1674	878	1,2631	50	11,95866	φ =	11,95866	x ΔT	1,2631
TUB2-070/33V	1726	905	1,2631	50	12,33237	φ =	12,33237	x ΔT	1,2631
TUB2-070/34V	1778	933	1,2631	50	12,70608	φ =	12,70608	x ΔT	1,2631
TUB2-070/35V	1831	960	1,2631	50	13,07979	φ =	13,07979	x ΔT	1,2631
TUB2-070/36V	1883	988	1,2631	50	13,45350	φ =	13,45350	x ΔT	1,2631
TUB2-070/37V	1935	1015	1,2631	50	13,82720	φ =	13,82720	x ΔT	1,2631
TUB2-070/38V	1987	1042	1,2631	50	14,20091	φ =	14,20091	x ΔT	1,2631
TUB2-070/39V	2040	1070	1,2631	50	14,57462	φ =	14,57462	x ΔT	1,2631
TUB2-070/40V	2092	1097	1,2631	50	14,94833	φ =	14,94833	x ΔT	1,2631
TUB2-070/41V	2144	1125	1,2631	50	15,32204	φ =	15,32204	x ΔT	1,2631
TUB2-070/42V	2197	1152	1,2631	50	15,69575	φ =	15,69575	x ΔT	1,2631
TUB2-070/43V	2249	1180	1,2631	50	16,06945	φ =	16,06945	x ΔT	1,2631
TUB2-070/44V	2301	1207	1,2631	50	16,44316	φ =	16,44316	x ΔT	1,2631
TUB2-070/45V	2354	1235	1,2631	50	16,81687	φ =	16,81687	x ΔT	1,2631
TUB2-080/02V	121	63	1,2638	50	0,86224	φ =	0,86224	x ΔT	1,2638
TUB2-080/03V	182	95	1,2638	50	1,29336	φ =	1,29336	x ΔT	1,2638
TUB2-080/04V	242	127	1,2638	50	1,72448	φ =	1,72448	x ΔT	1,2638
TUB2-080/05V	303	159	1,2638	50	2,15559	φ =	2,15559	x ΔT	1,2638
TUB2-080/06V	363	190	1,2638	50	2,58671	φ =	2,58671	x ΔT	1,2638
TUB2-080/07V	424	222	1,2638	50	3,01783	φ =	3,01783	x ΔT	1,2638
TUB2-080/08V	484	254	1,2638	50	3,44895	φ =	3,44895	x ΔT	1,2638
TUB2-080/09V	545	286	1,2638	50	3,88007	φ =	3,88007	x ΔT	1,2638
TUB2-080/10V	605	317	1,2638	50	4,31119	φ =	4,31119	x ΔT	1,2638
TUB2-080/11V	666	349	1,2638	50	4,74231	φ =	4,74231	x ΔT	1,2638
TUB2-080/12V	726	381	1,2638	50	5,17343	φ =	5,17343	x ΔT	1,2638
TUB2-080/13V	787	412	1,2638	50	5,60455	φ =	5,60455	x ΔT	1,2638
TUB2-080/14V	847	444	1,2638	50	6,03566	φ =	6,03566	x ΔT	1,2638
TUB2-080/15V	908	476	1,2638	50	6,46678	φ =	6,46678	x ΔT	1,2638
TUB2-080/16V	968	508	1,2638	50	6,89790	φ =	6,89790	x ΔT	1,2638
TUB2-080/17V	1029	539	1,2638	50	7,32902	φ =	7,32902	x ΔT	1,2638
TUB2-080/18V	1089	571	1,2638	50	7,76014	φ =	7,76014	x ΔT	1,2638
TUB2-080/19V	1150	603	1,2638	50	8,19126	φ =	8,19126	x ΔT	1,2638
TUB2-080/20V	1210	634	1,2638	50	8,62238	φ =	8,62238	x ΔT	1,2638
TUB2-080/21V	1271	666	1,2638	50	9,05350	φ =	9,05350	x ΔT	1,2638
TUB2-080/22V	1331	698	1,2638	50	9,48462	φ =	9,48462	x ΔT	1,2638
TUB2-080/23V	1392	730	1,2638	50	9,91574	φ =	9,91574	x ΔT	1,2638
TUB2-080/24V	1452	761	1,2638	50	10,34685	φ =	10,34685	x ΔT	1,2638
TUB2-080/25V	1513	793	1,2638	50	10,77797	φ =	10,77797	x ΔT	1,2638
TUB2-080/26V	1573	825	1,2638	50	11,20909	φ =	11,20909	x ΔT	1,2638
TUB2-080/27V	1634	857	1,2638	50	11,64021	φ =	11,64021	x ΔT	1,2638
TUB2-080/28V	1694	888	1,2638	50	12,07133	φ =	12,07133	x ΔT	1,2638
TUB2-080/29V	1755	920	1,2638	50	12,50245	φ =	12,50245	x ΔT	1,2638
TUB2-080/30V	1815	952	1,2638	50	12,93357	φ =	12,93357	x ΔT	1,2638
TUB2-080/31V	1876	983	1,2638	50	13,36469	φ =	13,36469	x ΔT	1,2638
TUB2-080/32V	1936	1015	1,2638	50	13,79581	φ =	13,79581	x ΔT	1,2638
TUB2-080/33V	1997	1047	1,2638	50	14,22692	φ =	14,22692	x ΔT	1,2638
TUB2-080/34V	2057	1079	1,2638	50	14,65804	φ =	14,65804	x ΔT	1,2638
TUB2-080/35V	2118	1110	1,2638	50	15,08916	φ =	15,08916	x ΔT	1,2638

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TUB2-080/36V	2178	1142	1,2638	50	15,52028	$\phi =$	15,52028	$\times \Delta T$	1,2638
TUB2-080/37V	2239	1174	1,2638	50	15,95140	$\phi =$	15,95140	$\times \Delta T$	1,2638
TUB2-080/38V	2299	1205	1,2638	50	16,38252	$\phi =$	16,38252	$\times \Delta T$	1,2638
TUB2-080/39V	2360	1237	1,2638	50	16,81364	$\phi =$	16,81364	$\times \Delta T$	1,2638
TUB2-080/40V	2420	1269	1,2638	50	17,24476	$\phi =$	17,24476	$\times \Delta T$	1,2638
TUB2-080/41V	2481	1301	1,2638	50	17,67588	$\phi =$	17,67588	$\times \Delta T$	1,2638
TUB2-080/42V	2541	1332	1,2638	50	18,10699	$\phi =$	18,10699	$\times \Delta T$	1,2638
TUB2-080/43V	2602	1364	1,2638	50	18,53811	$\phi =$	18,53811	$\times \Delta T$	1,2638
TUB2-080/44V	2662	1396	1,2638	50	18,96923	$\phi =$	18,96923	$\times \Delta T$	1,2638
TUB2-080/45V	2723	1428	1,2638	50	19,40035	$\phi =$	19,40035	$\times \Delta T$	1,2638
TUB2-090/02V	137	72	1,2645	50	0,97643	$\phi =$	0,97643	$\times \Delta T$	1,2645
TUB2-090/03V	206	108	1,2645	50	1,46464	$\phi =$	1,46464	$\times \Delta T$	1,2645
TUB2-090/04V	275	144	1,2645	50	1,95285	$\phi =$	1,95285	$\times \Delta T$	1,2645
TUB2-090/05V	344	180	1,2645	50	2,44106	$\phi =$	2,44106	$\times \Delta T$	1,2645
TUB2-090/06V	412	216	1,2645	50	2,92928	$\phi =$	2,92928	$\times \Delta T$	1,2645
TUB2-090/07V	481	252	1,2645	50	3,41749	$\phi =$	3,41749	$\times \Delta T$	1,2645
TUB2-090/08V	550	288	1,2645	50	3,90570	$\phi =$	3,90570	$\times \Delta T$	1,2645
TUB2-090/09V	618	324	1,2645	50	4,39392	$\phi =$	4,39392	$\times \Delta T$	1,2645
TUB2-090/10V	687	360	1,2645	50	4,88213	$\phi =$	4,88213	$\times \Delta T$	1,2645
TUB2-090/11V	756	396	1,2645	50	5,37034	$\phi =$	5,37034	$\times \Delta T$	1,2645
TUB2-090/12V	824	432	1,2645	50	5,85855	$\phi =$	5,85855	$\times \Delta T$	1,2645
TUB2-090/13V	893	468	1,2645	50	6,34677	$\phi =$	6,34677	$\times \Delta T$	1,2645
TUB2-090/14V	962	504	1,2645	50	6,83498	$\phi =$	6,83498	$\times \Delta T$	1,2645
TUB2-090/15V	1031	540	1,2645	50	7,32319	$\phi =$	7,32319	$\times \Delta T$	1,2645
TUB2-090/16V	1099	576	1,2645	50	7,81140	$\phi =$	7,81140	$\times \Delta T$	1,2645
TUB2-090/17V	1168	612	1,2645	50	8,29962	$\phi =$	8,29962	$\times \Delta T$	1,2645
TUB2-090/18V	1237	648	1,2645	50	8,78783	$\phi =$	8,78783	$\times \Delta T$	1,2645
TUB2-090/19V	1305	684	1,2645	50	9,27604	$\phi =$	9,27604	$\times \Delta T$	1,2645
TUB2-090/20V	1374	720	1,2645	50	9,76426	$\phi =$	9,76426	$\times \Delta T$	1,2645
TUB2-090/21V	1443	756	1,2645	50	10,25247	$\phi =$	10,25247	$\times \Delta T$	1,2645
TUB2-090/22V	1511	792	1,2645	50	10,74068	$\phi =$	10,74068	$\times \Delta T$	1,2645
TUB2-090/23V	1580	828	1,2645	50	11,22889	$\phi =$	11,22889	$\times \Delta T$	1,2645
TUB2-090/24V	1649	864	1,2645	50	11,71711	$\phi =$	11,71711	$\times \Delta T$	1,2645
TUB2-090/25V	1718	900	1,2645	50	12,20532	$\phi =$	12,20532	$\times \Delta T$	1,2645
TUB2-090/26V	1786	936	1,2645	50	12,69353	$\phi =$	12,69353	$\times \Delta T$	1,2645
TUB2-090/27V	1855	972	1,2645	50	13,18175	$\phi =$	13,18175	$\times \Delta T$	1,2645
TUB2-090/28V	1924	1008	1,2645	50	13,66996	$\phi =$	13,66996	$\times \Delta T$	1,2645
TUB2-090/29V	1992	1044	1,2645	50	14,15817	$\phi =$	14,15817	$\times \Delta T$	1,2645
TUB2-090/30V	2061	1080	1,2645	50	14,64638	$\phi =$	14,64638	$\times \Delta T$	1,2645
TUB2-090/31V	2130	1116	1,2645	50	15,13460	$\phi =$	15,13460	$\times \Delta T$	1,2645
TUB2-090/32V	2198	1152	1,2645	50	15,62281	$\phi =$	15,62281	$\times \Delta T$	1,2645
TUB2-090/33V	2267	1188	1,2645	50	16,11102	$\phi =$	16,11102	$\times \Delta T$	1,2645
TUB2-090/34V	2336	1224	1,2645	50	16,59924	$\phi =$	16,59924	$\times \Delta T$	1,2645
TUB2-090/35V	2405	1260	1,2645	50	17,08745	$\phi =$	17,08745	$\times \Delta T$	1,2645
TUB2-090/36V	2473	1296	1,2645	50	17,57566	$\phi =$	17,57566	$\times \Delta T$	1,2645
TUB2-090/37V	2542	1332	1,2645	50	18,06387	$\phi =$	18,06387	$\times \Delta T$	1,2645
TUB2-090/38V	2611	1368	1,2645	50	18,55209	$\phi =$	18,55209	$\times \Delta T$	1,2645
TUB2-090/39V	2679	1404	1,2645	50	19,04030	$\phi =$	19,04030	$\times \Delta T$	1,2645
TUB2-090/40V	2748	1440	1,2645	50	19,52851	$\phi =$	19,52851	$\times \Delta T$	1,2645
TUB2-090/41V	2817	1476	1,2645	50	20,01673	$\phi =$	20,01673	$\times \Delta T$	1,2645
TUB2-090/42V	2885	1512	1,2645	50	20,50494	$\phi =$	20,50494	$\times \Delta T$	1,2645
TUB2-090/43V	2954	1548	1,2645	50	20,99315	$\phi =$	20,99315	$\times \Delta T$	1,2645
TUB2-090/44V	3023	1584	1,2645	50	21,48136	$\phi =$	21,48136	$\times \Delta T$	1,2645
TUB2-090/45V	3092	1620	1,2645	50	21,96958	$\phi =$	21,96958	$\times \Delta T$	1,2645
TUB2-100/02V	153	80	1,2653	50	1,08672	$\phi =$	1,08672	$\times \Delta T$	1,2653
TUB2-100/03V	230	121	1,2653	50	1,63008	$\phi =$	1,63008	$\times \Delta T$	1,2653
TUB2-100/04V	307	161	1,2653	50	2,17344	$\phi =$	2,17344	$\times \Delta T$	1,2653
TUB2-100/05V	384	201	1,2653	50	2,71681	$\phi =$	2,71681	$\times \Delta T$	1,2653
TUB2-100/06V	460	241	1,2653	50	3,26017	$\phi =$	3,26017	$\times \Delta T$	1,2653
TUB2-100/07V	537	281	1,2653	50	3,80353	$\phi =$	3,80353	$\times \Delta T$	1,2653
TUB2-100/08V	614	321	1,2653	50	4,34689	$\phi =$	4,34689	$\times \Delta T$	1,2653
TUB2-100/09V	690	362	1,2653	50	4,89025	$\phi =$	4,89025	$\times \Delta T$	1,2653
TUB2-100/10V	767	402	1,2653	50	5,43361	$\phi =$	5,43361	$\times \Delta T$	1,2653
TUB2-100/11V	844	442	1,2653	50	5,97697	$\phi =$	5,97697	$\times \Delta T$	1,2653
TUB2-100/12V	920	482	1,2653	50	6,52033	$\phi =$	6,52033	$\times \Delta T$	1,2653

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TUB2-100/13V	997	522	1,2653	50	7,06370	$\phi =$	7,06370	$\times \Delta T$	1,2653
TUB2-100/14V	1074	563	1,2653	50	7,60706	$\phi =$	7,60706	$\times \Delta T$	1,2653
TUB2-100/15V	1151	603	1,2653	50	8,15042	$\phi =$	8,15042	$\times \Delta T$	1,2653
TUB2-100/16V	1227	643	1,2653	50	8,69378	$\phi =$	8,69378	$\times \Delta T$	1,2653
TUB2-100/17V	1304	683	1,2653	50	9,23714	$\phi =$	9,23714	$\times \Delta T$	1,2653
TUB2-100/18V	1381	723	1,2653	50	9,78050	$\phi =$	9,78050	$\times \Delta T$	1,2653
TUB2-100/19V	1457	764	1,2653	50	10,32386	$\phi =$	10,32386	$\times \Delta T$	1,2653
TUB2-100/20V	1534	804	1,2653	50	10,86722	$\phi =$	10,86722	$\times \Delta T$	1,2653
TUB2-100/21V	1611	844	1,2653	50	11,41059	$\phi =$	11,41059	$\times \Delta T$	1,2653
TUB2-100/22V	1687	884	1,2653	50	11,95395	$\phi =$	11,95395	$\times \Delta T$	1,2653
TUB2-100/23V	1764	924	1,2653	50	12,49731	$\phi =$	12,49731	$\times \Delta T$	1,2653
TUB2-100/24V	1841	964	1,2653	50	13,04067	$\phi =$	13,04067	$\times \Delta T$	1,2653
TUB2-100/25V	1918	1005	1,2653	50	13,58403	$\phi =$	13,58403	$\times \Delta T$	1,2653
TUB2-100/26V	1994	1045	1,2653	50	14,12739	$\phi =$	14,12739	$\times \Delta T$	1,2653
TUB2-100/27V	2071	1085	1,2653	50	14,67075	$\phi =$	14,67075	$\times \Delta T$	1,2653
TUB2-100/28V	2148	1125	1,2653	50	15,21411	$\phi =$	15,21411	$\times \Delta T$	1,2653
TUB2-100/29V	2224	1165	1,2653	50	15,75747	$\phi =$	15,75747	$\times \Delta T$	1,2653
TUB2-100/30V	2301	1206	1,2653	50	16,30084	$\phi =$	16,30084	$\times \Delta T$	1,2653
TUB2-100/31V	2378	1246	1,2653	50	16,84420	$\phi =$	16,84420	$\times \Delta T$	1,2653
TUB2-100/32V	2454	1286	1,2653	50	17,38756	$\phi =$	17,38756	$\times \Delta T$	1,2653
TUB2-100/33V	2531	1326	1,2653	50	17,93092	$\phi =$	17,93092	$\times \Delta T$	1,2653
TUB2-100/34V	2608	1366	1,2653	50	18,47428	$\phi =$	18,47428	$\times \Delta T$	1,2653
TUB2-100/35V	2685	1407	1,2653	50	19,01764	$\phi =$	19,01764	$\times \Delta T$	1,2653
TUB2-100/36V	2761	1447	1,2653	50	19,56100	$\phi =$	19,56100	$\times \Delta T$	1,2653
TUB2-100/37V	2838	1487	1,2653	50	20,10436	$\phi =$	20,10436	$\times \Delta T$	1,2653
TUB2-100/38V	2915	1527	1,2653	50	20,64773	$\phi =$	20,64773	$\times \Delta T$	1,2653
TUB2-100/39V	2991	1567	1,2653	50	21,19109	$\phi =$	21,19109	$\times \Delta T$	1,2653
TUB2-100/40V	3068	1607	1,2653	50	21,73445	$\phi =$	21,73445	$\times \Delta T$	1,2653
TUB2-100/41V	3145	1648	1,2653	50	22,27781	$\phi =$	22,27781	$\times \Delta T$	1,2653
TUB2-100/42V	3221	1688	1,2653	50	22,82117	$\phi =$	22,82117	$\times \Delta T$	1,2653
TUB2-120/02V	185	97	1,2672	50	1,30088	$\phi =$	1,30088	$\times \Delta T$	1,2672
TUB2-120/03V	278	145	1,2672	50	1,95132	$\phi =$	1,95132	$\times \Delta T$	1,2672
TUB2-120/04V	370	194	1,2672	50	2,60176	$\phi =$	2,60176	$\times \Delta T$	1,2672
TUB2-120/05V	463	242	1,2672	50	3,25220	$\phi =$	3,25220	$\times \Delta T$	1,2672
TUB2-120/06V	555	291	1,2672	50	3,90264	$\phi =$	3,90264	$\times \Delta T$	1,2672
TUB2-120/07V	648	339	1,2672	50	4,55308	$\phi =$	4,55308	$\times \Delta T$	1,2672
TUB2-120/08V	740	387	1,2672	50	5,20352	$\phi =$	5,20352	$\times \Delta T$	1,2672
TUB2-120/09V	833	436	1,2672	50	5,85396	$\phi =$	5,85396	$\times \Delta T$	1,2672
TUB2-120/10V	925	484	1,2672	50	6,50440	$\phi =$	6,50440	$\times \Delta T$	1,2672
TUB2-120/11V	1018	533	1,2672	50	7,15484	$\phi =$	7,15484	$\times \Delta T$	1,2672
TUB2-120/12V	1110	581	1,2672	50	7,80527	$\phi =$	7,80527	$\times \Delta T$	1,2672
TUB2-120/13V	1203	629	1,2672	50	8,45571	$\phi =$	8,45571	$\times \Delta T$	1,2672
TUB2-120/14V	1295	678	1,2672	50	9,10615	$\phi =$	9,10615	$\times \Delta T$	1,2672
TUB2-120/15V	1388	726	1,2672	50	9,75659	$\phi =$	9,75659	$\times \Delta T$	1,2672
TUB2-120/16V	1480	775	1,2672	50	10,40703	$\phi =$	10,40703	$\times \Delta T$	1,2672
TUB2-120/17V	1573	823	1,2672	50	11,05747	$\phi =$	11,05747	$\times \Delta T$	1,2672
TUB2-120/18V	1665	872	1,2672	50	11,70791	$\phi =$	11,70791	$\times \Delta T$	1,2672
TUB2-120/19V	1758	920	1,2672	50	12,35835	$\phi =$	12,35835	$\times \Delta T$	1,2672
TUB2-120/20V	1850	968	1,2672	50	13,00879	$\phi =$	13,00879	$\times \Delta T$	1,2672
TUB2-120/21V	1943	1017	1,2672	50	13,65923	$\phi =$	13,65923	$\times \Delta T$	1,2672
TUB2-120/22V	2035	1065	1,2672	50	14,30967	$\phi =$	14,30967	$\times \Delta T$	1,2672
TUB2-120/23V	2128	1114	1,2672	50	14,96011	$\phi =$	14,96011	$\times \Delta T$	1,2672
TUB2-120/24V	2220	1162	1,2672	50	15,61055	$\phi =$	15,61055	$\times \Delta T$	1,2672
TUB2-120/25V	2313	1210	1,2672	50	16,26099	$\phi =$	16,26099	$\times \Delta T$	1,2672
TUB2-120/26V	2405	1259	1,2672	50	16,91143	$\phi =$	16,91143	$\times \Delta T$	1,2672
TUB2-120/27V	2498	1307	1,2672	50	17,56187	$\phi =$	17,56187	$\times \Delta T$	1,2672
TUB2-120/28V	2590	1356	1,2672	50	18,21231	$\phi =$	18,21231	$\times \Delta T$	1,2672
TUB2-120/29V	2683	1404	1,2672	50	18,86275	$\phi =$	18,86275	$\times \Delta T$	1,2672
TUB2-120/30V	2775	1453	1,2672	50	19,51319	$\phi =$	19,51319	$\times \Delta T$	1,2672
TUB2-120/31V	2868	1501	1,2672	50	20,16363	$\phi =$	20,16363	$\times \Delta T$	1,2672
TUB2-120/32V	2960	1549	1,2672	50	20,81407	$\phi =$	20,81407	$\times \Delta T$	1,2672
TUB2-120/33V	3053	1598	1,2672	50	21,46451	$\phi =$	21,46451	$\times \Delta T$	1,2672
TUB2-120/34V	3145	1646	1,2672	50	22,11494	$\phi =$	22,11494	$\times \Delta T$	1,2672
TUB2-120/35V	3238	1695	1,2672	50	22,76538	$\phi =$	22,76538	$\times \Delta T$	1,2672
TUB2-150/02V	230	120	1,2706	50	1,59872	$\phi =$	1,59872	$\times \Delta T$	1,2706

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TUB2-150/03V	346	181	1,2706	50	2,39807	$\phi =$	2,39807	$\times \Delta T$	1,2706
TUB2-150/04V	461	241	1,2706	50	3,19743	$\phi =$	3,19743	$\times \Delta T$	1,2706
TUB2-150/05V	576	301	1,2706	50	3,99679	$\phi =$	3,99679	$\times \Delta T$	1,2706
TUB2-150/06V	691	361	1,2706	50	4,79615	$\phi =$	4,79615	$\times \Delta T$	1,2706
TUB2-150/07V	806	421	1,2706	50	5,59550	$\phi =$	5,59550	$\times \Delta T$	1,2706
TUB2-150/08V	922	482	1,2706	50	6,39486	$\phi =$	6,39486	$\times \Delta T$	1,2706
TUB2-150/09V	1037	542	1,2706	50	7,19422	$\phi =$	7,19422	$\times \Delta T$	1,2706
TUB2-150/10V	1152	602	1,2706	50	7,99358	$\phi =$	7,99358	$\times \Delta T$	1,2706
TUB2-150/11V	1267	662	1,2706	50	8,79294	$\phi =$	8,79294	$\times \Delta T$	1,2706
TUB2-150/12V	1382	722	1,2706	50	9,59229	$\phi =$	9,59229	$\times \Delta T$	1,2706
TUB2-150/13V	1498	783	1,2706	50	10,39165	$\phi =$	10,39165	$\times \Delta T$	1,2706
TUB2-150/14V	1613	843	1,2706	50	11,19101	$\phi =$	11,19101	$\times \Delta T$	1,2706
TUB2-150/15V	1728	903	1,2706	50	11,99037	$\phi =$	11,99037	$\times \Delta T$	1,2706
TUB2-150/16V	1843	963	1,2706	50	12,78972	$\phi =$	12,78972	$\times \Delta T$	1,2706
TUB2-150/17V	1958	1023	1,2706	50	13,58908	$\phi =$	13,58908	$\times \Delta T$	1,2706
TUB2-150/18V	2074	1084	1,2706	50	14,38844	$\phi =$	14,38844	$\times \Delta T$	1,2706
TUB2-150/19V	2189	1144	1,2706	50	15,18780	$\phi =$	15,18780	$\times \Delta T$	1,2706
TUB2-150/20V	2304	1204	1,2706	50	15,98716	$\phi =$	15,98716	$\times \Delta T$	1,2706
TUB2-150/21V	2419	1264	1,2706	50	16,78651	$\phi =$	16,78651	$\times \Delta T$	1,2706
TUB2-150/22V	2534	1324	1,2706	50	17,58587	$\phi =$	17,58587	$\times \Delta T$	1,2706
TUB2-150/23V	2650	1385	1,2706	50	18,38523	$\phi =$	18,38523	$\times \Delta T$	1,2706
TUB2-150/24V	2765	1445	1,2706	50	19,18459	$\phi =$	19,18459	$\times \Delta T$	1,2706
TUB2-150/25V	2880	1505	1,2706	50	19,98394	$\phi =$	19,98394	$\times \Delta T$	1,2706
TUB2-150/26V	2995	1565	1,2706	50	20,78330	$\phi =$	20,78330	$\times \Delta T$	1,2706
TUB2-150/27V	3110	1625	1,2706	50	21,58266	$\phi =$	21,58266	$\times \Delta T$	1,2706
TUB2-150/28V	3226	1686	1,2706	50	22,38202	$\phi =$	22,38202	$\times \Delta T$	1,2706
TUB2-180/02V	273	142	1,2747	50	1,86417	$\phi =$	1,86417	$\times \Delta T$	1,2747
TUB2-180/03V	410	214	1,2747	50	2,79626	$\phi =$	2,79626	$\times \Delta T$	1,2747
TUB2-180/04V	546	285	1,2747	50	3,72834	$\phi =$	3,72834	$\times \Delta T$	1,2747
TUB2-180/05V	683	356	1,2747	50	4,66043	$\phi =$	4,66043	$\times \Delta T$	1,2747
TUB2-180/06V	819	427	1,2747	50	5,59251	$\phi =$	5,59251	$\times \Delta T$	1,2747
TUB2-180/07V	956	498	1,2747	50	6,52460	$\phi =$	6,52460	$\times \Delta T$	1,2747
TUB2-180/08V	1092	569	1,2747	50	7,45668	$\phi =$	7,45668	$\times \Delta T$	1,2747
TUB2-180/09V	1229	641	1,2747	50	8,38877	$\phi =$	8,38877	$\times \Delta T$	1,2747
TUB2-180/10V	1365	712	1,2747	50	9,32085	$\phi =$	9,32085	$\times \Delta T$	1,2747
TUB2-180/11V	1502	783	1,2747	50	10,25294	$\phi =$	10,25294	$\times \Delta T$	1,2747
TUB2-180/12V	1638	854	1,2747	50	11,18502	$\phi =$	11,18502	$\times \Delta T$	1,2747
TUB2-180/13V	1775	925	1,2747	50	12,11711	$\phi =$	12,11711	$\times \Delta T$	1,2747
TUB2-180/14V	1911	996	1,2747	50	13,04919	$\phi =$	13,04919	$\times \Delta T$	1,2747
TUB2-180/15V	2048	1068	1,2747	50	13,98128	$\phi =$	13,98128	$\times \Delta T$	1,2747
TUB2-180/16V	2184	1139	1,2747	50	14,91336	$\phi =$	14,91336	$\times \Delta T$	1,2747
TUB2-180/17V	2321	1210	1,2747	50	15,84545	$\phi =$	15,84545	$\times \Delta T$	1,2747
TUB2-180/18V	2457	1281	1,2747	50	16,77753	$\phi =$	16,77753	$\times \Delta T$	1,2747
TUB2-180/19V	2594	1352	1,2747	50	17,70962	$\phi =$	17,70962	$\times \Delta T$	1,2747
TUB2-180/20V	2730	1424	1,2747	50	18,64170	$\phi =$	18,64170	$\times \Delta T$	1,2747
TUB2-180/21V	2867	1495	1,2747	50	19,57379	$\phi =$	19,57379	$\times \Delta T$	1,2747
TUB2-180/22V	3003	1566	1,2747	50	20,50587	$\phi =$	20,50587	$\times \Delta T$	1,2747
TUB2-180/23V	3140	1637	1,2747	50	21,43796	$\phi =$	21,43796	$\times \Delta T$	1,2747
TUB2-200/02V	300	156	1,2778	50	2,02115	$\phi =$	2,02115	$\times \Delta T$	1,2778
TUB2-200/03V	449	234	1,2778	50	3,03172	$\phi =$	3,03172	$\times \Delta T$	1,2778
TUB2-200/04V	599	312	1,2778	50	4,04229	$\phi =$	4,04229	$\times \Delta T$	1,2778
TUB2-200/05V	749	390	1,2778	50	5,05287	$\phi =$	5,05287	$\times \Delta T$	1,2778
TUB2-200/06V	899	468	1,2778	50	6,06344	$\phi =$	6,06344	$\times \Delta T$	1,2778
TUB2-200/07V	1049	546	1,2778	50	7,07402	$\phi =$	7,07402	$\times \Delta T$	1,2778
TUB2-200/08V	1198	624	1,2778	50	8,08459	$\phi =$	8,08459	$\times \Delta T$	1,2778
TUB2-200/09V	1348	702	1,2778	50	9,09516	$\phi =$	9,09516	$\times \Delta T$	1,2778
TUB2-200/10V	1498	780	1,2778	50	10,10574	$\phi =$	10,10574	$\times \Delta T$	1,2778
TUB2-200/11V	1648	858	1,2778	50	11,11631	$\phi =$	11,11631	$\times \Delta T$	1,2778
TUB2-200/12V	1798	936	1,2778	50	12,12688	$\phi =$	12,12688	$\times \Delta T$	1,2778
TUB2-200/13V	1947	1014	1,2778	50	13,13746	$\phi =$	13,13746	$\times \Delta T$	1,2778
TUB2-200/14V	2097	1092	1,2778	50	14,14803	$\phi =$	14,14803	$\times \Delta T$	1,2778
TUB2-200/15V	2247	1170	1,2778	50	15,15860	$\phi =$	15,15860	$\times \Delta T$	1,2778
TUB2-200/16V	2397	1248	1,2778	50	16,16918	$\phi =$	16,16918	$\times \Delta T$	1,2778
TUB2-200/17V	2547	1326	1,2778	50	17,17975	$\phi =$	17,17975	$\times \Delta T$	1,2778
TUB2-200/18V	2696	1404	1,2778	50	18,19032	$\phi =$	18,19032	$\times \Delta T$	1,2778

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TUB2-200/19V	2846	1482	1,2778	50	19,20090	$\phi =$	19,20090	x ΔT	1,2778
TUB2-200/20V	2996	1560	1,2778	50	20,21147	$\phi =$	20,21147	x ΔT	1,2778
TUB2-200/21V	3146	1638	1,2778	50	21,22205	$\phi =$	21,22205	x ΔT	1,2778

W imieniu producenta podpisać:

(Signed for and on behalf of the manufacturer by:)

Z-ca Prezesa ds. realizacji

Bartosz Ścierzyński

Nowa Wieś 03.03.2023

INSTAL PROJEKT sp. z o.o.

(dawniej INSTAL-PROJEKT Gawłowski, Ścierzyński Sp. J.)

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Bartosz Ścierzyński
Bartosz Ścierzyński
 Członek Zarządu

.....
(podpis)

(signature)