DEKLARACJA WŁAŚCIWOŚCI UŻYTKOWYCH
(DECLARATION OF PERFORMANCE)

Nr (No.) **NDWU/1/TUBUS 3 D50/2022**

1. Niepowtarzalny kod identyfikacyjny typu wyrobu (Unique identification code of the product-type):
TUBUS 3

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 Essential characteristics	**Właściwości użytkowe** Performance	**Zharmonizowana specyfikacja techniczna** 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 impast)	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) ϕ50	Moc cieplna [W] (55/45/20˚C) ϕ30	Wykładnik n	ΔT	K_M	Moc cieplna w różnych warunkach eksploatacji			
Radiator model	Rated thermal output (75/65/20˚C) ϕ50	Rated thermal output (55/45/20˚C) ϕ30	Index exponent n	ΔT	K_M	Thermal output in different operating conditions (characteristic curve)			
TUB3-020/02D50	44	23	1,2616	50	0,31769	ϕ =	0,31769	x ΔT	1,2616
TUB3-020/03D50	66	35	1,2616	50	0,47653	ϕ =	0,47653	x ΔT	1,2616
TUB3-020/04D50	88	46	1,2616	50	0,63538	ϕ =	0,63538	x ΔT	1,2616
TUB3-020/05D50	111	58	1,2616	50	0,79422	ϕ =	0,79422	x ΔT	1,2616
TUB3-020/06D50	133	70	1,2616	50	0,95307	ϕ =	0,95307	x ΔT	1,2616
TUB3-020/07D50	155	81	1,2616	50	1,11191	ϕ =	1,11191	x ΔT	1,2616
TUB3-020/08D50	177	93	1,2616	50	1,27075	ϕ =	1,27075	x ΔT	1,2616
TUB3-020/09D50	199	104	1,2616	50	1,42960	ϕ =	1,42960	x ΔT	1,2616
TUB3-020/10D50	221	116	1,2616	50	1,58844	ϕ =	1,58844	x ΔT	1,2616
TUB3-020/11D50	243	128	1,2616	50	1,74729	ϕ =	1,74729	x ΔT	1,2616
TUB3-020/12D50	265	139	1,2616	50	1,90613	ϕ =	1,90613	x ΔT	1,2616
TUB3-020/13D50	287	151	1,2616	50	2,06498	ϕ =	2,06498	x ΔT	1,2616
TUB3-020/14D50	309	162	1,2616	50	2,22382	ϕ =	2,22382	x ΔT	1,2616
TUB3-020/15D50	332	174	1,2616	50	2,38266	ϕ =	2,38266	x ΔT	1,2616
TUB3-020/16D50	354	186	1,2616	50	2,54151	ϕ =	2,54151	x ΔT	1,2616
TUB3-020/17D50	376	197	1,2616	50	2,70035	ϕ =	2,70035	x ΔT	1,2616
TUB3-020/18D50	398	209	1,2616	50	2,85920	ϕ =	2,85920	x ΔT	1,2616
TUB3-020/19D50	420	220	1,2616	50	3,01804	ϕ =	3,01804	x ΔT	1,2616
TUB3-020/20D50	442	232	1,2616	50	3,17689	ϕ =	3,17689	x ΔT	1,2616
TUB3-020/21D50	464	244	1,2616	50	3,33573	ϕ =	3,33573	x ΔT	1,2616
TUB3-020/22D50	486	255	1,2616	50	3,49458	ϕ =	3,49458	x ΔT	1,2616
TUB3-020/23D50	508	267	1,2616	50	3,65342	ϕ =	3,65342	x ΔT	1,2616
TUB3-020/24D50	530	278	1,2616	50	3,81226	ϕ =	3,81226	x ΔT	1,2616
TUB3-020/25D50	553	290	1,2616	50	3,97111	ϕ =	3,97111	x ΔT	1,2616
TUB3-020/26D50	575	302	1,2616	50	4,12995	ϕ =	4,12995	x ΔT	1,2616
TUB3-020/27D50	597	313	1,2616	50	4,28880	ϕ =	4,28880	x ΔT	1,2616
TUB3-020/28D50	619	325	1,2616	50	4,44764	ϕ =	4,44764	x ΔT	1,2616
TUB3-020/29D50	641	336	1,2616	50	4,60649	ϕ =	4,60649	x ΔT	1,2616
TUB3-020/30D50	663	348	1,2616	50	4,76533	ϕ =	4,76533	x ΔT	1,2616
TUB3-020/31D50	685	360	1,2616	50	4,92417	ϕ =	4,92417	x ΔT	1,2616
TUB3-020/32D50	707	371	1,2616	50	5,08302	ϕ =	5,08302	x ΔT	1,2616
TUB3-020/33D50	729	383	1,2616	50	5,24186	ϕ =	5,24186	x ΔT	1,2616
TUB3-020/34D50	751	394	1,2616	50	5,40071	ϕ =	5,40071	x ΔT	1,2616
TUB3-020/35D50	774	406	1,2616	50	5,55955	ϕ =	5,55955	x ΔT	1,2616
TUB3-020/36D50	796	418	1,2616	50	5,71840	ϕ =	5,71840	x ΔT	1,2616
TUB3-020/37D50	818	429	1,2616	50	5,87724	ϕ =	5,87724	x ΔT	1,2616
TUB3-020/38D50	840	441	1,2616	50	6,03608	ϕ =	6,03608	x ΔT	1,2616
TUB3-020/39D50	862	452	1,2616	50	6,19493	ϕ =	6,19493	x ΔT	1,2616
TUB3-020/40D50	884	464	1,2616	50	6,35377	ϕ =	6,35377	x ΔT	1,2616
TUB3-020/41D50	906	476	1,2616	50	6,51262	ϕ =	6,51262	x ΔT	1,2616
TUB3-020/42D50	928	487	1,2616	50	6,67146	ϕ =	6,67146	x ΔT	1,2616
TUB3-020/43D50	950	499	1,2616	50	6,83031	ϕ =	6,83031	x ΔT	1,2616
TUB3-020/44D50	972	510	1,2616	50	6,98915	ϕ =	6,98915	x ΔT	1,2616
TUB3-020/45D50	995	522	1,2616	50	7,14799	ϕ =	7,14799	x ΔT	1,2616
TUB3-030/02D50	65	34	1,2667	50	0,45514	ϕ =	0,45514	x ΔT	1,2667
TUB3-030/03D50	97	51	1,2667	50	0,68271	ϕ =	0,68271	x ΔT	1,2667
TUB3-030/04D50	129	68	1,2667	50	0,91028	ϕ =	0,91028	x ΔT	1,2667
TUB3-030/05D50	162	85	1,2667	50	1,13786	ϕ =	1,13786	x ΔT	1,2667
TUB3-030/06D50	194	101	1,2667	50	1,36543	ϕ =	1,36543	x ΔT	1,2667
TUB3-030/07D50	226	118	1,2667	50	1,59300	ϕ =	1,59300	x ΔT	1,2667
TUB3-030/08D50	258	135	1,2667	50	1,82057	ϕ =	1,82057	x ΔT	1,2667
TUB3-030/09D50	291	152	1,2667	50	2,04814	ϕ =	2,04814	x ΔT	1,2667
TUB3-030/10D50	323	169	1,2667	50	2,27571	ϕ =	2,27571	x ΔT	1,2667
TUB3-030/11D50	355	186	1,2667	50	2,50328	ϕ =	2,50328	x ΔT	1,2667
TUB3-030/12D50	388	203	1,2667	50	2,73085	ϕ =	2,73085	x ΔT	1,2667
TUB3-030/13D50	420	220	1,2667	50	2,95843	ϕ =	2,95843	x ΔT	1,2667
TUB3-030/14D50	452	237	1,2667	50	3,18600	ϕ =	3,18600	x ΔT	1,2667
TUB3-030/15D50	485	254	1,2667	50	3,41357	ϕ =	3,41357	x ΔT	1,2667
TUB3-030/16D50	517	271	1,2667	50	3,64114	ϕ =	3,64114	x ΔT	1,2667

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TUB3-030/17D50	**549**	**287**	**1,2667**	50	**3,86871**	ϕ =	3,86871	x ΔT	1,2667
TUB3-030/18D50	**581**	**304**	**1,2667**	50	**4,09628**	ϕ =	4,09628	x ΔT	1,2667
TUB3-030/19D50	**614**	**321**	**1,2667**	50	**4,32385**	ϕ =	4,32385	x ΔT	1,2667
TUB3-030/20D50	**646**	**338**	**1,2667**	50	**4,55142**	ϕ =	4,55142	x ΔT	1,2667
TUB3-030/21D50	**678**	**355**	**1,2667**	50	**4,77899**	ϕ =	4,77899	x ΔT	1,2667
TUB3-030/22D50	**711**	**372**	**1,2667**	50	**5,00657**	ϕ =	5,00657	x ΔT	1,2667
TUB3-030/23D50	**743**	**389**	**1,2667**	50	**5,23414**	ϕ =	5,23414	x ΔT	1,2667
TUB3-030/24D50	**775**	**406**	**1,2667**	50	**5,46171**	ϕ =	5,46171	x ΔT	1,2667
TUB3-030/25D50	**808**	**423**	**1,2667**	50	**5,68928**	ϕ =	5,68928	x ΔT	1,2667
TUB3-030/26D50	**840**	**440**	**1,2667**	50	**5,91685**	ϕ =	5,91685	x ΔT	1,2667
TUB3-030/27D50	**872**	**457**	**1,2667**	50	**6,14442**	ϕ =	6,14442	x ΔT	1,2667
TUB3-030/28D50	**904**	**474**	**1,2667**	50	**6,37199**	ϕ =	6,37199	x ΔT	1,2667
TUB3-030/29D50	**937**	**490**	**1,2667**	50	**6,59956**	ϕ =	6,59956	x ΔT	1,2667
TUB3-030/30D50	**969**	**507**	**1,2667**	50	**6,82713**	ϕ =	6,82713	x ΔT	1,2667
TUB3-030/31D50	**1001**	**524**	**1,2667**	50	**7,05471**	ϕ =	7,05471	x ΔT	1,2667
TUB3-030/32D50	**1034**	**541**	**1,2667**	50	**7,28228**	ϕ =	7,28228	x ΔT	1,2667
TUB3-030/33D50	**1066**	**558**	**1,2667**	50	**7,50985**	ϕ =	7,50985	x ΔT	1,2667
TUB3-030/34D50	**1098**	**575**	**1,2667**	50	**7,73742**	ϕ =	7,73742	x ΔT	1,2667
TUB3-030/35D50	**1131**	**592**	**1,2667**	50	**7,96499**	ϕ =	7,96499	x ΔT	1,2667
TUB3-030/36D50	**1163**	**609**	**1,2667**	50	**8,19256**	ϕ =	8,19256	x ΔT	1,2667
TUB3-030/37D50	**1195**	**626**	**1,2667**	50	**8,42013**	ϕ =	8,42013	x ΔT	1,2667
TUB3-030/38D50	**1227**	**643**	**1,2667**	50	**8,64770**	ϕ =	8,64770	x ΔT	1,2667
TUB3-030/39D50	**1260**	**660**	**1,2667**	50	**8,87528**	ϕ =	8,87528	x ΔT	1,2667
TUB3-030/40D50	**1292**	**676**	**1,2667**	50	**9,10285**	ϕ =	9,10285	x ΔT	1,2667
TUB3-030/41D50	**1324**	**693**	**1,2667**	50	**9,33042**	ϕ =	9,33042	x ΔT	1,2667
TUB3-030/42D50	**1357**	**710**	**1,2667**	50	**9,55799**	ϕ =	9,55799	x ΔT	1,2667
TUB3-030/43D50	**1389**	**727**	**1,2667**	50	**9,78556**	ϕ =	9,78556	x ΔT	1,2667
TUB3-030/44D50	**1421**	**744**	**1,2667**	50	**10,01313**	ϕ =	10,01313	x ΔT	1,2667
TUB3-030/45D50	**1454**	**761**	**1,2667**	50	**10,24070**	ϕ =	10,24070	x ΔT	1,2667
TUB3-040/02D50	**85**	**44**	**1,2698**	50	**0,58887**	ϕ =	0,58887	x ΔT	1,2698
TUB3-040/03D50	**127**	**66**	**1,2698**	50	**0,88330**	ϕ =	0,88330	x ΔT	1,2698
TUB3-040/04D50	**169**	**88**	**1,2698**	50	**1,17774**	ϕ =	1,17774	x ΔT	1,2698
TUB3-040/05D50	**212**	**111**	**1,2698**	50	**1,47217**	ϕ =	1,47217	x ΔT	1,2698
TUB3-040/06D50	**254**	**133**	**1,2698**	50	**1,76661**	ϕ =	1,76661	x ΔT	1,2698
TUB3-040/07D50	**296**	**155**	**1,2698**	50	**2,06104**	ϕ =	2,06104	x ΔT	1,2698
TUB3-040/08D50	**338**	**177**	**1,2698**	50	**2,35547**	ϕ =	2,35547	x ΔT	1,2698
TUB3-040/09D50	**381**	**199**	**1,2698**	50	**2,64991**	ϕ =	2,64991	x ΔT	1,2698
TUB3-040/10D50	**423**	**221**	**1,2698**	50	**2,94434**	ϕ =	2,94434	x ΔT	1,2698
TUB3-040/11D50	**465**	**243**	**1,2698**	50	**3,23878**	ϕ =	3,23878	x ΔT	1,2698
TUB3-040/12D50	**508**	**265**	**1,2698**	50	**3,53321**	ϕ =	3,53321	x ΔT	1,2698
TUB3-040/13D50	**550**	**287**	**1,2698**	50	**3,82764**	ϕ =	3,82764	x ΔT	1,2698
TUB3-040/14D50	**592**	**310**	**1,2698**	50	**4,12208**	ϕ =	4,12208	x ΔT	1,2698
TUB3-040/15D50	**635**	**332**	**1,2698**	50	**4,41651**	ϕ =	4,41651	x ΔT	1,2698
TUB3-040/16D50	**677**	**354**	**1,2698**	50	**4,71095**	ϕ =	4,71095	x ΔT	1,2698
TUB3-040/17D50	**719**	**376**	**1,2698**	50	**5,00538**	ϕ =	5,00538	x ΔT	1,2698
TUB3-040/18D50	**761**	**398**	**1,2698**	50	**5,29982**	ϕ =	5,29982	x ΔT	1,2698
TUB3-040/19D50	**804**	**420**	**1,2698**	50	**5,59425**	ϕ =	5,59425	x ΔT	1,2698
TUB3-040/20D50	**846**	**442**	**1,2698**	50	**5,88868**	ϕ =	5,88868	x ΔT	1,2698
TUB3-040/21D50	**888**	**464**	**1,2698**	50	**6,18312**	ϕ =	6,18312	x ΔT	1,2698
TUB3-040/22D50	**931**	**486**	**1,2698**	50	**6,47755**	ϕ =	6,47755	x ΔT	1,2698
TUB3-040/23D50	**973**	**509**	**1,2698**	50	**6,77199**	ϕ =	6,77199	x ΔT	1,2698
TUB3-040/24D50	**1015**	**531**	**1,2698**	50	**7,06642**	ϕ =	7,06642	x ΔT	1,2698
TUB3-040/25D50	**1058**	**553**	**1,2698**	50	**7,36086**	ϕ =	7,36086	x ΔT	1,2698
TUB3-040/26D50	**1100**	**575**	**1,2698**	50	**7,65529**	ϕ =	7,65529	x ΔT	1,2698
TUB3-040/27D50	**1142**	**597**	**1,2698**	50	**7,94972**	ϕ =	7,94972	x ΔT	1,2698
TUB3-040/28D50	**1184**	**619**	**1,2698**	50	**8,24416**	ϕ =	8,24416	x ΔT	1,2698
TUB3-040/29D50	**1227**	**641**	**1,2698**	50	**8,53859**	ϕ =	8,53859	x ΔT	1,2698
TUB3-040/30D50	**1269**	**663**	**1,2698**	50	**8,83303**	ϕ =	8,83303	x ΔT	1,2698
TUB3-040/31D50	**1311**	**685**	**1,2698**	50	**9,12746**	ϕ =	9,12746	x ΔT	1,2698
TUB3-040/32D50	**1354**	**708**	**1,2698**	50	**9,42189**	ϕ =	9,42189	x ΔT	1,2698
TUB3-040/33D50	**1396**	**730**	**1,2698**	50	**9,71633**	ϕ =	9,71633	x ΔT	1,2698
TUB3-040/34D50	**1438**	**752**	**1,2698**	50	**10,01076**	ϕ =	10,01076	x ΔT	1,2698
TUB3-040/35D50	**1481**	**774**	**1,2698**	50	**10,30520**	ϕ =	10,30520	x ΔT	1,2698
TUB3-040/36D50	**1523**	**796**	**1,2698**	50	**10,59963**	ϕ =	10,59963	x ΔT	1,2698
TUB3-040/37D50	**1565**	**818**	**1,2698**	50	**10,89407**	ϕ =	10,89407	x ΔT	1,2698

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TUB3-040/38D50	**1607**	**840**	**1,2698**	50	**11,18850**	ϕ =	11,18850	x ΔT	1,2698
TUB3-040/39D50	**1650**	**862**	**1,2698**	50	**11,48293**	ϕ =	11,48293	x ΔT	1,2698
TUB3-040/40D50	**1692**	**884**	**1,2698**	50	**11,77737**	ϕ =	11,77737	x ΔT	1,2698
TUB3-040/41D50	**1734**	**907**	**1,2698**	50	**12,07180**	ϕ =	12,07180	x ΔT	1,2698
TUB3-040/42D50	**1777**	**929**	**1,2698**	50	**12,36624**	ϕ =	12,36624	x ΔT	1,2698
TUB3-040/43D50	**1819**	**951**	**1,2698**	50	**12,66067**	ϕ =	12,66067	x ΔT	1,2698
TUB3-040/44D50	**1861**	**973**	**1,2698**	50	**12,95510**	ϕ =	12,95510	x ΔT	1,2698
TUB3-040/45D50	**1904**	**995**	**1,2698**	50	**13,24954**	ϕ =	13,24954	x ΔT	1,2698
TUB3-050/02D50	**104**	**55**	**1,2722**	50	**0,71990**	ϕ =	0,71990	x ΔT	1,2722
TUB3-050/03D50	**157**	**82**	**1,2722**	50	**1,07985**	ϕ =	1,07985	x ΔT	1,2722
TUB3-050/04D50	**209**	**109**	**1,2722**	50	**1,43980**	ϕ =	1,43980	x ΔT	1,2722
TUB3-050/05D50	**261**	**136**	**1,2722**	50	**1,79974**	ϕ =	1,79974	x ΔT	1,2722
TUB3-050/06D50	**313**	**164**	**1,2722**	50	**2,15969**	ϕ =	2,15969	x ΔT	1,2722
TUB3-050/07D50	**365**	**191**	**1,2722**	50	**2,51964**	ϕ =	2,51964	x ΔT	1,2722
TUB3-050/08D50	**418**	**218**	**1,2722**	50	**2,87959**	ϕ =	2,87959	x ΔT	1,2722
TUB3-050/09D50	**470**	**245**	**1,2722**	50	**3,23954**	ϕ =	3,23954	x ΔT	1,2722
TUB3-050/10D50	**522**	**273**	**1,2722**	50	**3,59949**	ϕ =	3,59949	x ΔT	1,2722
TUB3-050/11D50	**574**	**300**	**1,2722**	50	**3,95944**	ϕ =	3,95944	x ΔT	1,2722
TUB3-050/12D50	**626**	**327**	**1,2722**	50	**4,31939**	ϕ =	4,31939	x ΔT	1,2722
TUB3-050/13D50	**679**	**354**	**1,2722**	50	**4,67934**	ϕ =	4,67934	x ΔT	1,2722
TUB3-050/14D50	**731**	**382**	**1,2722**	50	**5,03928**	ϕ =	5,03928	x ΔT	1,2722
TUB3-050/15D50	**783**	**409**	**1,2722**	50	**5,39923**	ϕ =	5,39923	x ΔT	1,2722
TUB3-050/16D50	**835**	**436**	**1,2722**	50	**5,75918**	ϕ =	5,75918	x ΔT	1,2722
TUB3-050/17D50	**887**	**463**	**1,2722**	50	**6,11913**	ϕ =	6,11913	x ΔT	1,2722
TUB3-050/18D50	**940**	**491**	**1,2722**	50	**6,47908**	ϕ =	6,47908	x ΔT	1,2722
TUB3-050/19D50	**992**	**518**	**1,2722**	50	**6,83903**	ϕ =	6,83903	x ΔT	1,2722
TUB3-050/20D50	**1044**	**545**	**1,2722**	50	**7,19898**	ϕ =	7,19898	x ΔT	1,2722
TUB3-050/21D50	**1096**	**572**	**1,2722**	50	**7,55893**	ϕ =	7,55893	x ΔT	1,2722
TUB3-050/22D50	**1148**	**600**	**1,2722**	50	**7,91888**	ϕ =	7,91888	x ΔT	1,2722
TUB3-050/23D50	**1201**	**627**	**1,2722**	50	**8,27882**	ϕ =	8,27882	x ΔT	1,2722
TUB3-050/24D50	**1253**	**654**	**1,2722**	50	**8,63877**	ϕ =	8,63877	x ΔT	1,2722
TUB3-050/25D50	**1305**	**681**	**1,2722**	50	**8,99872**	ϕ =	8,99872	x ΔT	1,2722
TUB3-050/26D50	**1357**	**709**	**1,2722**	50	**9,35867**	ϕ =	9,35867	x ΔT	1,2722
TUB3-050/27D50	**1409**	**736**	**1,2722**	50	**9,71862**	ϕ =	9,71862	x ΔT	1,2722
TUB3-050/28D50	**1462**	**763**	**1,2722**	50	**10,07857**	ϕ =	10,07857	x ΔT	1,2722
TUB3-050/29D50	**1514**	**790**	**1,2722**	50	**10,43852**	ϕ =	10,43852	x ΔT	1,2722
TUB3-050/30D50	**1566**	**818**	**1,2722**	50	**10,79847**	ϕ =	10,79847	x ΔT	1,2722
TUB3-050/31D50	**1618**	**845**	**1,2722**	50	**11,15842**	ϕ =	11,15842	x ΔT	1,2722
TUB3-050/32D50	**1670**	**872**	**1,2722**	50	**11,51837**	ϕ =	11,51837	x ΔT	1,2722
TUB3-050/33D50	**1723**	**899**	**1,2722**	50	**11,87831**	ϕ =	11,87831	x ΔT	1,2722
TUB3-050/34D50	**1775**	**927**	**1,2722**	50	**12,23826**	ϕ =	12,23826	x ΔT	1,2722
TUB3-050/35D50	**1827**	**954**	**1,2722**	50	**12,59821**	ϕ =	12,59821	x ΔT	1,2722
TUB3-050/36D50	**1879**	**981**	**1,2722**	50	**12,95816**	ϕ =	12,95816	x ΔT	1,2722
TUB3-050/37D50	**1931**	**1008**	**1,2722**	50	**13,31811**	ϕ =	13,31811	x ΔT	1,2722
TUB3-050/38D50	**1984**	**1036**	**1,2722**	50	**13,67806**	ϕ =	13,67806	x ΔT	1,2722
TUB3-050/39D50	**2036**	**1063**	**1,2722**	50	**14,03801**	ϕ =	14,03801	x ΔT	1,2722
TUB3-050/40D50	**2088**	**1090**	**1,2722**	50	**14,39796**	ϕ =	14,39796	x ΔT	1,2722
TUB3-050/41D50	**2140**	**1117**	**1,2722**	50	**14,75791**	ϕ =	14,75791	x ΔT	1,2722
TUB3-050/42D50	**2192**	**1145**	**1,2722**	50	**15,11785**	ϕ =	15,11785	x ΔT	1,2722
TUB3-050/43D50	**2245**	**1172**	**1,2722**	50	**15,47780**	ϕ =	15,47780	x ΔT	1,2722
TUB3-050/44D50	**2297**	**1199**	**1,2722**	50	**15,83775**	ϕ =	15,83775	x ΔT	1,2722
TUB3-050/45D50	**2349**	**1226**	**1,2722**	50	**16,19770**	ϕ =	16,19770	x ΔT	1,2722
TUB3-070/02D50	**143**	**75**	**1,2762**	50	**0,97347**	ϕ =	0,97347	x ΔT	1,2762
TUB3-070/03D50	**215**	**112**	**1,2762**	50	**1,46021**	ϕ =	1,46021	x ΔT	1,2762
TUB3-070/04D50	**287**	**149**	**1,2762**	50	**1,94694**	ϕ =	1,94694	x ΔT	1,2762
TUB3-070/05D50	**359**	**187**	**1,2762**	50	**2,43368**	ϕ =	2,43368	x ΔT	1,2762
TUB3-070/06D50	**430**	**224**	**1,2762**	50	**2,92042**	ϕ =	2,92042	x ΔT	1,2762
TUB3-070/07D50	**502**	**262**	**1,2762**	50	**3,40715**	ϕ =	3,40715	x ΔT	1,2762
TUB3-070/08D50	**574**	**299**	**1,2762**	50	**3,89389**	ϕ =	3,89389	x ΔT	1,2762
TUB3-070/09D50	**645**	**336**	**1,2762**	50	**4,38063**	ϕ =	4,38063	x ΔT	1,2762
TUB3-070/10D50	**717**	**374**	**1,2762**	50	**4,86736**	ϕ =	4,86736	x ΔT	1,2762
TUB3-070/11D50	**789**	**411**	**1,2762**	50	**5,35410**	ϕ =	5,35410	x ΔT	1,2762
TUB3-070/12D50	**860**	**448**	**1,2762**	50	**5,84083**	ϕ =	5,84083	x ΔT	1,2762
TUB3-070/13D50	**932**	**486**	**1,2762**	50	**6,32757**	ϕ =	6,32757	x ΔT	1,2762
TUB3-070/14D50	**1004**	**523**	**1,2762**	50	**6,81431**	ϕ =	6,81431	x ΔT	1,2762

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TUB3-070/15D50	**1076**	**560**	**1,2762**	50	**7,30104**	ϕ =	7,30104	x ΔT	1,2762
TUB3-070/16D50	**1147**	**598**	**1,2762**	50	**7,78778**	ϕ =	7,78778	x ΔT	1,2762
TUB3-070/17D50	**1219**	**635**	**1,2762**	50	**8,27452**	ϕ =	8,27452	x ΔT	1,2762
TUB3-070/18D50	**1291**	**672**	**1,2762**	50	**8,76125**	ϕ =	8,76125	x ΔT	1,2762
TUB3-070/19D50	**1362**	**710**	**1,2762**	50	**9,24799**	ϕ =	9,24799	x ΔT	1,2762
TUB3-070/20D50	**1434**	**747**	**1,2762**	50	**9,73472**	ϕ =	9,73472	x ΔT	1,2762
TUB3-070/21D50	**1506**	**785**	**1,2762**	50	**10,22146**	ϕ =	10,22146	x ΔT	1,2762
TUB3-070/22D50	**1577**	**822**	**1,2762**	50	**10,70820**	ϕ =	10,70820	x ΔT	1,2762
TUB3-070/23D50	**1649**	**859**	**1,2762**	50	**11,19493**	ϕ =	11,19493	x ΔT	1,2762
TUB3-070/24D50	**1721**	**897**	**1,2762**	50	**11,68167**	ϕ =	11,68167	x ΔT	1,2762
TUB3-070/25D50	**1793**	**934**	**1,2762**	50	**12,16840**	ϕ =	12,16840	x ΔT	1,2762
TUB3-070/26D50	**1864**	**971**	**1,2762**	50	**12,65514**	ϕ =	12,65514	x ΔT	1,2762
TUB3-070/27D50	**1936**	**1009**	**1,2762**	50	**13,14188**	ϕ =	13,14188	x ΔT	1,2762
TUB3-070/28D50	**2008**	**1046**	**1,2762**	50	**13,62861**	ϕ =	13,62861	x ΔT	1,2762
TUB3-070/29D50	**2079**	**1083**	**1,2762**	50	**14,11535**	ϕ =	14,11535	x ΔT	1,2762
TUB3-070/30D50	**2151**	**1121**	**1,2762**	50	**14,60209**	ϕ =	14,60209	x ΔT	1,2762
TUB3-070/31D50	**2223**	**1158**	**1,2762**	50	**15,08882**	ϕ =	15,08882	x ΔT	1,2762
TUB3-070/32D50	**2294**	**1195**	**1,2762**	50	**15,57556**	ϕ =	15,57556	x ΔT	1,2762
TUB3-070/33D50	**2366**	**1233**	**1,2762**	50	**16,06229**	ϕ =	16,06229	x ΔT	1,2762
TUB3-070/34D50	**2438**	**1270**	**1,2762**	50	**16,54903**	ϕ =	16,54903	x ΔT	1,2762
TUB3-070/35D50	**2510**	**1308**	**1,2762**	50	**17,03577**	ϕ =	17,03577	x ΔT	1,2762
TUB3-070/36D50	**2581**	**1345**	**1,2762**	50	**17,52250**	ϕ =	17,52250	x ΔT	1,2762
TUB3-070/37D50	**2653**	**1382**	**1,2762**	50	**18,00924**	ϕ =	18,00924	x ΔT	1,2762
TUB3-070/38D50	**2725**	**1420**	**1,2762**	50	**18,49598**	ϕ =	18,49598	x ΔT	1,2762
TUB3-070/39D50	**2796**	**1457**	**1,2762**	50	**18,98271**	ϕ =	18,98271	x ΔT	1,2762
TUB3-070/40D50	**2868**	**1494**	**1,2762**	50	**19,46945**	ϕ =	19,46945	x ΔT	1,2762
TUB3-070/41D50	**2940**	**1532**	**1,2762**	50	**19,95618**	ϕ =	19,95618	x ΔT	1,2762
TUB3-070/42D50	**3011**	**1569**	**1,2762**	50	**20,44292**	ϕ =	20,44292	x ΔT	1,2762
TUB3-080/02D50	**163**	**85**	**1,2779**	50	**1,09784**	ϕ =	1,09784	x ΔT	1,2779
TUB3-080/03D50	**244**	**127**	**1,2779**	50	**1,64677**	ϕ =	1,64677	x ΔT	1,2779
TUB3-080/04D50	**326**	**170**	**1,2779**	50	**2,19569**	ϕ =	2,19569	x ΔT	1,2779
TUB3-080/05D50	**407**	**212**	**1,2779**	50	**2,74461**	ϕ =	2,74461	x ΔT	1,2779
TUB3-080/06D50	**488**	**254**	**1,2779**	50	**3,29353**	ϕ =	3,29353	x ΔT	1,2779
TUB3-080/07D50	**570**	**297**	**1,2779**	50	**3,84245**	ϕ =	3,84245	x ΔT	1,2779
TUB3-080/08D50	**651**	**339**	**1,2779**	50	**4,39138**	ϕ =	4,39138	x ΔT	1,2779
TUB3-080/09D50	**733**	**381**	**1,2779**	50	**4,94030**	ϕ =	4,94030	x ΔT	1,2779
TUB3-080/10D50	**814**	**424**	**1,2779**	50	**5,48922**	ϕ =	5,48922	x ΔT	1,2779
TUB3-080/11D50	**895**	**466**	**1,2779**	50	**6,03814**	ϕ =	6,03814	x ΔT	1,2779
TUB3-080/12D50	**977**	**509**	**1,2779**	50	**6,58706**	ϕ =	6,58706	x ΔT	1,2779
TUB3-080/13D50	**1058**	**551**	**1,2779**	50	**7,13599**	ϕ =	7,13599	x ΔT	1,2779
TUB3-080/14D50	**1140**	**593**	**1,2779**	50	**7,68491**	ϕ =	7,68491	x ΔT	1,2779
TUB3-080/15D50	**1221**	**636**	**1,2779**	50	**8,23383**	ϕ =	8,23383	x ΔT	1,2779
TUB3-080/16D50	**1302**	**678**	**1,2779**	50	**8,78275**	ϕ =	8,78275	x ΔT	1,2779
TUB3-080/17D50	**1384**	**720**	**1,2779**	50	**9,33167**	ϕ =	9,33167	x ΔT	1,2779
TUB3-080/18D50	**1465**	**763**	**1,2779**	50	**9,88060**	ϕ =	9,88060	x ΔT	1,2779
TUB3-080/19D50	**1547**	**805**	**1,2779**	50	**10,42952**	ϕ =	10,42952	x ΔT	1,2779
TUB3-080/20D50	**1628**	**848**	**1,2779**	50	**10,97844**	ϕ =	10,97844	x ΔT	1,2779
TUB3-080/21D50	**1709**	**890**	**1,2779**	50	**11,52736**	ϕ =	11,52736	x ΔT	1,2779
TUB3-080/22D50	**1791**	**932**	**1,2779**	50	**12,07628**	ϕ =	12,07628	x ΔT	1,2779
TUB3-080/23D50	**1872**	**975**	**1,2779**	50	**12,62521**	ϕ =	12,62521	x ΔT	1,2779
TUB3-080/24D50	**1954**	**1017**	**1,2779**	50	**13,17413**	ϕ =	13,17413	x ΔT	1,2779
TUB3-080/25D50	**2035**	**1059**	**1,2779**	50	**13,72305**	ϕ =	13,72305	x ΔT	1,2779
TUB3-080/26D50	**2116**	**1102**	**1,2779**	50	**14,27197**	ϕ =	14,27197	x ΔT	1,2779
TUB3-080/27D50	**2198**	**1144**	**1,2779**	50	**14,82089**	ϕ =	14,82089	x ΔT	1,2779
TUB3-080/28D50	**2279**	**1187**	**1,2779**	50	**15,36982**	ϕ =	15,36982	x ΔT	1,2779
TUB3-080/29D50	**2361**	**1229**	**1,2779**	50	**15,91874**	ϕ =	15,91874	x ΔT	1,2779
TUB3-080/30D50	**2442**	**1271**	**1,2779**	50	**16,46766**	ϕ =	16,46766	x ΔT	1,2779
TUB3-080/31D50	**2523**	**1314**	**1,2779**	50	**17,01658**	ϕ =	17,01658	x ΔT	1,2779
TUB3-080/32D50	**2605**	**1356**	**1,2779**	50	**17,56550**	ϕ =	17,56550	x ΔT	1,2779
TUB3-080/33D50	**2686**	**1398**	**1,2779**	50	**18,11443**	ϕ =	18,11443	x ΔT	1,2779
TUB3-080/34D50	**2768**	**1441**	**1,2779**	50	**18,66335**	ϕ =	18,66335	x ΔT	1,2779
TUB3-080/35D50	**2849**	**1483**	**1,2779**	50	**19,21227**	ϕ =	19,21227	x ΔT	1,2779
TUB3-080/36D50	**2930**	**1526**	**1,2779**	50	**19,76119**	ϕ =	19,76119	x ΔT	1,2779
TUB3-080/37D50	**3012**	**1568**	**1,2779**	50	**20,31011**	ϕ =	20,31011	x ΔT	1,2779
TUB3-090/02D50	**182**	**95**	**1,2795**	50	**1,21966**	ϕ =	1,21966	x ΔT	1,2795

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TUB3-090/03D50	**273**	**142**	**1,2795**	50	**1,82949**	ϕ =	1,82949	x ΔT	**1,2795**
TUB3-090/04D50	**364**	**189**	**1,2795**	50	**2,43932**	ϕ =	2,43932	x ΔT	**1,2795**
TUB3-090/05D50	**455**	**237**	**1,2795**	50	**3,04915**	ϕ =	3,04915	x ΔT	**1,2795**
TUB3-090/06D50	**546**	**284**	**1,2795**	50	**3,65898**	ϕ =	3,65898	x ΔT	**1,2795**
TUB3-090/07D50	**637**	**331**	**1,2795**	50	**4,26881**	ϕ =	4,26881	x ΔT	**1,2795**
TUB3-090/08D50	**728**	**379**	**1,2795**	50	**4,87865**	ϕ =	4,87865	x ΔT	**1,2795**
TUB3-090/09D50	**819**	**426**	**1,2795**	50	**5,48848**	ϕ =	5,48848	x ΔT	**1,2795**
TUB3-090/10D50	**910**	**473**	**1,2795**	50	**6,09831**	ϕ =	6,09831	x ΔT	**1,2795**
TUB3-090/11D50	**1001**	**521**	**1,2795**	50	**6,70814**	ϕ =	6,70814	x ΔT	**1,2795**
TUB3-090/12D50	**1092**	**568**	**1,2795**	50	**7,31797**	ϕ =	7,31797	x ΔT	**1,2795**
TUB3-090/13D50	**1183**	**615**	**1,2795**	50	**7,92780**	ϕ =	7,92780	x ΔT	**1,2795**
TUB3-090/14D50	**1274**	**663**	**1,2795**	50	**8,53763**	ϕ =	8,53763	x ΔT	**1,2795**
TUB3-090/15D50	**1365**	**710**	**1,2795**	50	**9,14746**	ϕ =	9,14746	x ΔT	**1,2795**
TUB3-090/16D50	**1456**	**757**	**1,2795**	50	**9,75729**	ϕ =	9,75729	x ΔT	**1,2795**
TUB3-090/17D50	**1547**	**805**	**1,2795**	50	**10,36712**	ϕ =	10,36712	x ΔT	**1,2795**
TUB3-090/18D50	**1638**	**852**	**1,2795**	50	**10,97695**	ϕ =	10,97695	x ΔT	**1,2795**
TUB3-090/19D50	**1729**	**899**	**1,2795**	50	**11,58678**	ϕ =	11,58678	x ΔT	**1,2795**
TUB3-090/20D50	**1820**	**947**	**1,2795**	50	**12,19661**	ϕ =	12,19661	x ΔT	**1,2795**
TUB3-090/21D50	**1911**	**994**	**1,2795**	50	**12,80644**	ϕ =	12,80644	x ΔT	**1,2795**
TUB3-090/22D50	**2002**	**1041**	**1,2795**	50	**13,41628**	ϕ =	13,41628	x ΔT	**1,2795**
TUB3-090/23D50	**2093**	**1089**	**1,2795**	50	**14,02611**	ϕ =	14,02611	x ΔT	**1,2795**
TUB3-090/24D50	**2184**	**1136**	**1,2795**	50	**14,63594**	ϕ =	14,63594	x ΔT	**1,2795**
TUB3-090/25D50	**2275**	**1183**	**1,2795**	50	**15,24577**	ϕ =	15,24577	x ΔT	**1,2795**
TUB3-090/26D50	**2366**	**1231**	**1,2795**	50	**15,85560**	ϕ =	15,85560	x ΔT	**1,2795**
TUB3-090/27D50	**2457**	**1278**	**1,2795**	50	**16,46543**	ϕ =	16,46543	x ΔT	**1,2795**
TUB3-090/28D50	**2548**	**1325**	**1,2795**	50	**17,07526**	ϕ =	17,07526	x ΔT	**1,2795**
TUB3-090/29D50	**2639**	**1373**	**1,2795**	50	**17,68509**	ϕ =	17,68509	x ΔT	**1,2795**
TUB3-090/30D50	**2730**	**1420**	**1,2795**	50	**18,29492**	ϕ =	18,29492	x ΔT	**1,2795**
TUB3-090/31D50	**2821**	**1467**	**1,2795**	50	**18,90475**	ϕ =	18,90475	x ΔT	**1,2795**
TUB3-090/32D50	**2912**	**1515**	**1,2795**	50	**19,51458**	ϕ =	19,51458	x ΔT	**1,2795**
TUB3-090/33D50	**3003**	**1562**	**1,2795**	50	**20,12441**	ϕ =	20,12441	x ΔT	**1,2795**
TUB3-090/34D50	**3094**	**1609**	**1,2795**	50	**20,73424**	ϕ =	20,73424	x ΔT	**1,2795**
TUB3-100/02D50	**201**	**105**	**1,2811**	50	**1,34125**	ϕ =	1,34125	x ΔT	**1,2811**
TUB3-100/03D50	**302**	**157**	**1,2811**	50	**2,01187**	ϕ =	2,01187	x ΔT	**1,2811**
TUB3-100/04D50	**403**	**209**	**1,2811**	50	**2,68250**	ϕ =	2,68250	x ΔT	**1,2811**
TUB3-100/05D50	**504**	**262**	**1,2811**	50	**3,35312**	ϕ =	3,35312	x ΔT	**1,2811**
TUB3-100/06D50	**604**	**314**	**1,2811**	50	**4,02374**	ϕ =	4,02374	x ΔT	**1,2811**
TUB3-100/07D50	**705**	**366**	**1,2811**	50	**4,69437**	ϕ =	4,69437	x ΔT	**1,2811**
TUB3-100/08D50	**806**	**419**	**1,2811**	50	**5,36499**	ϕ =	5,36499	x ΔT	**1,2811**
TUB3-100/09D50	**906**	**471**	**1,2811**	50	**6,03561**	ϕ =	6,03561	x ΔT	**1,2811**
TUB3-100/10D50	**1007**	**523**	**1,2811**	50	**6,70624**	ϕ =	6,70624	x ΔT	**1,2811**
TUB3-100/11D50	**1108**	**576**	**1,2811**	50	**7,37686**	ϕ =	7,37686	x ΔT	**1,2811**
TUB3-100/12D50	**1208**	**628**	**1,2811**	50	**8,04749**	ϕ =	8,04749	x ΔT	**1,2811**
TUB3-100/13D50	**1309**	**680**	**1,2811**	50	**8,71811**	ϕ =	8,71811	x ΔT	**1,2811**
TUB3-100/14D50	**1410**	**733**	**1,2811**	50	**9,38873**	ϕ =	9,38873	x ΔT	**1,2811**
TUB3-100/15D50	**1511**	**785**	**1,2811**	50	**10,05936**	ϕ =	10,05936	x ΔT	**1,2811**
TUB3-100/16D50	**1611**	**837**	**1,2811**	50	**10,72998**	ϕ =	10,72998	x ΔT	**1,2811**
TUB3-100/17D50	**1712**	**890**	**1,2811**	50	**11,40061**	ϕ =	11,40061	x ΔT	**1,2811**
TUB3-100/18D50	**1813**	**942**	**1,2811**	50	**12,07123**	ϕ =	12,07123	x ΔT	**1,2811**
TUB3-100/19D50	**1913**	**994**	**1,2811**	50	**12,74185**	ϕ =	12,74185	x ΔT	**1,2811**
TUB3-100/20D50	**2014**	**1047**	**1,2811**	50	**13,41248**	ϕ =	13,41248	x ΔT	**1,2811**
TUB3-100/21D50	**2115**	**1099**	**1,2811**	50	**14,08310**	ϕ =	14,08310	x ΔT	**1,2811**
TUB3-100/22D50	**2215**	**1151**	**1,2811**	50	**14,75372**	ϕ =	14,75372	x ΔT	**1,2811**
TUB3-100/23D50	**2316**	**1204**	**1,2811**	50	**15,42435**	ϕ =	15,42435	x ΔT	**1,2811**
TUB3-100/24D50	**2417**	**1256**	**1,2811**	50	**16,09497**	ϕ =	16,09497	x ΔT	**1,2811**
TUB3-100/25D50	**2518**	**1308**	**1,2811**	50	**16,76560**	ϕ =	16,76560	x ΔT	**1,2811**
TUB3-100/26D50	**2618**	**1361**	**1,2811**	50	**17,43622**	ϕ =	17,43622	x ΔT	**1,2811**
TUB3-100/27D50	**2719**	**1413**	**1,2811**	50	**18,10684**	ϕ =	18,10684	x ΔT	**1,2811**
TUB3-100/28D50	**2820**	**1465**	**1,2811**	50	**18,77747**	ϕ =	18,77747	x ΔT	**1,2811**
TUB3-100/29D50	**2920**	**1518**	**1,2811**	50	**19,44809**	ϕ =	19,44809	x ΔT	**1,2811**
TUB3-100/30D50	**3021**	**1570**	**1,2811**	50	**20,11872**	ϕ =	20,11872	x ΔT	**1,2811**
TUB3-100/31D50	**3122**	**1622**	**1,2811**	50	**20,78934**	ϕ =	20,78934	x ΔT	**1,2811**
TUB3-120/02D50	**240**	**124**	**1,2828**	50	**1,58507**	ϕ =	1,58507	x ΔT	**1,2828**
TUB3-120/03D50	**359**	**187**	**1,2828**	50	**2,37760**	ϕ =	2,37760	x ΔT	**1,2828**
TUB3-120/04D50	**479**	**249**	**1,2828**	50	**3,17014**	ϕ =	3,17014	x ΔT	**1,2828**

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TUB3-120/05D50	**599**	**311**	**1,2828**	50	**3,96267**	ϕ =	3,96267	x ΔT	1,2828
TUB3-120/06D50	**719**	**373**	**1,2828**	50	**4,75521**	ϕ =	4,75521	x ΔT	1,2828
TUB3-120/07D50	**839**	**435**	**1,2828**	50	**5,54774**	ϕ =	5,54774	x ΔT	1,2828
TUB3-120/08D50	**958**	**498**	**1,2828**	50	**6,34027**	ϕ =	6,34027	x ΔT	1,2828
TUB3-120/09D50	**1078**	**560**	**1,2828**	50	**7,13281**	ϕ =	7,13281	x ΔT	1,2828
TUB3-120/10D50	**1198**	**622**	**1,2828**	50	**7,92534**	ϕ =	7,92534	x ΔT	1,2828
TUB3-120/11D50	**1318**	**684**	**1,2828**	50	**8,71788**	ϕ =	8,71788	x ΔT	1,2828
TUB3-120/12D50	**1438**	**747**	**1,2828**	50	**9,51041**	ϕ =	9,51041	x ΔT	1,2828
TUB3-120/13D50	**1557**	**809**	**1,2828**	50	**10,30295**	ϕ =	10,30295	x ΔT	1,2828
TUB3-120/14D50	**1677**	**871**	**1,2828**	50	**11,09548**	ϕ =	11,09548	x ΔT	1,2828
TUB3-120/15D50	**1797**	**933**	**1,2828**	50	**11,88802**	ϕ =	11,88802	x ΔT	1,2828
TUB3-120/16D50	**1917**	**995**	**1,2828**	50	**12,68055**	ϕ =	12,68055	x ΔT	1,2828
TUB3-120/17D50	**2037**	**1058**	**1,2828**	50	**13,47308**	ϕ =	13,47308	x ΔT	1,2828
TUB3-120/18D50	**2156**	**1120**	**1,2828**	50	**14,26562**	ϕ =	14,26562	x ΔT	1,2828
TUB3-120/19D50	**2276**	**1182**	**1,2828**	50	**15,05815**	ϕ =	15,05815	x ΔT	1,2828
TUB3-120/20D50	**2396**	**1244**	**1,2828**	50	**15,85069**	ϕ =	15,85069	x ΔT	1,2828
TUB3-120/21D50	**2516**	**1306**	**1,2828**	50	**16,64322**	ϕ =	16,64322	x ΔT	1,2828
TUB3-120/22D50	**2636**	**1369**	**1,2828**	50	**17,43576**	ϕ =	17,43576	x ΔT	1,2828
TUB3-120/23D50	**2755**	**1431**	**1,2828**	50	**18,22829**	ϕ =	18,22829	x ΔT	1,2828
TUB3-120/24D50	**2875**	**1493**	**1,2828**	50	**19,02082**	ϕ =	19,02082	x ΔT	1,2828
TUB3-120/25D50	**2995**	**1555**	**1,2828**	50	**19,81336**	ϕ =	19,81336	x ΔT	1,2828
TUB3-120/26D50	**3115**	**1617**	**1,2828**	50	**20,60589**	ϕ =	20,60589	x ΔT	1,2828
TUB3-150/02D50	**297**	**154**	**1,2854**	50	**1,94491**	ϕ =	1,94491	x ΔT	1,2854
TUB3-150/03D50	**446**	**231**	**1,2854**	50	**2,91737**	ϕ =	2,91737	x ΔT	1,2854
TUB3-150/04D50	**594**	**308**	**1,2854**	50	**3,88983**	ϕ =	3,88983	x ΔT	1,2854
TUB3-150/05D50	**743**	**385**	**1,2854**	50	**4,86229**	ϕ =	4,86229	x ΔT	1,2854
TUB3-150/06D50	**891**	**462**	**1,2854**	50	**5,83474**	ϕ =	5,83474	x ΔT	1,2854
TUB3-150/07D50	**1040**	**539**	**1,2854**	50	**6,80720**	ϕ =	6,80720	x ΔT	1,2854
TUB3-150/08D50	**1188**	**616**	**1,2854**	50	**7,77966**	ϕ =	7,77966	x ΔT	1,2854
TUB3-150/09D50	**1337**	**693**	**1,2854**	50	**8,75211**	ϕ =	8,75211	x ΔT	1,2854
TUB3-150/10D50	**1485**	**770**	**1,2854**	50	**9,72457**	ϕ =	9,72457	x ΔT	1,2854
TUB3-150/11D50	**1634**	**847**	**1,2854**	50	**10,69703**	ϕ =	10,69703	x ΔT	1,2854
TUB3-150/12D50	**1782**	**924**	**1,2854**	50	**11,66948**	ϕ =	11,66948	x ΔT	1,2854
TUB3-150/13D50	**1931**	**1001**	**1,2854**	50	**12,64194**	ϕ =	12,64194	x ΔT	1,2854
TUB3-150/14D50	**2079**	**1078**	**1,2854**	50	**13,61440**	ϕ =	13,61440	x ΔT	1,2854
TUB3-150/15D50	**2228**	**1155**	**1,2854**	50	**14,58686**	ϕ =	14,58686	x ΔT	1,2854
TUB3-150/16D50	**2376**	**1232**	**1,2854**	50	**15,55931**	ϕ =	15,55931	x ΔT	1,2854
TUB3-150/17D50	**2525**	**1309**	**1,2854**	50	**16,53177**	ϕ =	16,53177	x ΔT	1,2854
TUB3-150/18D50	**2673**	**1386**	**1,2854**	50	**17,50423**	ϕ =	17,50423	x ΔT	1,2854
TUB3-150/19D50	**2822**	**1463**	**1,2854**	50	**18,47668**	ϕ =	18,47668	x ΔT	1,2854
TUB3-150/20D50	**2970**	**1540**	**1,2854**	50	**19,44914**	ϕ =	19,44914	x ΔT	1,2854
TUB3-150/21D50	**3119**	**1617**	**1,2854**	50	**20,42160**	ϕ =	20,42160	x ΔT	1,2854
TUB3-150/22D50	**3267**	**1694**	**1,2854**	50	**21,39405**	ϕ =	21,39405	x ΔT	1,2854
TUB3-180/02D50	**354**	**184**	**1,2876**	50	**2,30091**	ϕ =	2,30091	x ΔT	1,2876
TUB3-180/03D50	**532**	**275**	**1,2876**	50	**3,45137**	ϕ =	3,45137	x ΔT	1,2876
TUB3-180/04D50	**709**	**367**	**1,2876**	50	**4,60182**	ϕ =	4,60182	x ΔT	1,2876
TUB3-180/05D50	**886**	**459**	**1,2876**	50	**5,75228**	ϕ =	5,75228	x ΔT	1,2876
TUB3-180/06D50	**1063**	**551**	**1,2876**	50	**6,90273**	ϕ =	6,90273	x ΔT	1,2876
TUB3-180/07D50	**1240**	**643**	**1,2876**	50	**8,05319**	ϕ =	8,05319	x ΔT	1,2876
TUB3-180/08D50	**1418**	**734**	**1,2876**	50	**9,20365**	ϕ =	9,20365	x ΔT	1,2876
TUB3-180/09D50	**1595**	**826**	**1,2876**	50	**10,35410**	ϕ =	10,35410	x ΔT	1,2876
TUB3-180/10D50	**1772**	**918**	**1,2876**	50	**11,50456**	ϕ =	11,50456	x ΔT	1,2876
TUB3-180/11D50	**1949**	**1010**	**1,2876**	50	**12,65501**	ϕ =	12,65501	x ΔT	1,2876
TUB3-180/12D50	**2126**	**1102**	**1,2876**	50	**13,80547**	ϕ =	13,80547	x ΔT	1,2876
TUB3-180/13D50	**2304**	**1193**	**1,2876**	50	**14,95593**	ϕ =	14,95593	x ΔT	1,2876
TUB3-180/14D50	**2481**	**1285**	**1,2876**	50	**16,10638**	ϕ =	16,10638	x ΔT	1,2876
TUB3-180/15D50	**2658**	**1377**	**1,2876**	50	**17,25684**	ϕ =	17,25684	x ΔT	1,2876
TUB3-180/16D50	**2835**	**1469**	**1,2876**	50	**18,40729**	ϕ =	18,40729	x ΔT	1,2876
TUB3-180/17D50	**3012**	**1560**	**1,2876**	50	**19,55775**	ϕ =	19,55775	x ΔT	1,2876
TUB3-180/18D50	**3190**	**1652**	**1,2876**	50	**20,70820**	ϕ =	20,70820	x ΔT	1,2876
TUB3-180/19D50	**3367**	**1744**	**1,2876**	50	**21,85866**	ϕ =	21,85866	x ΔT	1,2876
TUB3-180/20D50	**3544**	**1836**	**1,2876**	50	**23,00912**	ϕ =	23,00912	x ΔT	1,2876
TUB3-180/21D50	**3721**	**1928**	**1,2876**	50	**24,15957**	ϕ =	24,15957	x ΔT	1,2876
TUB3-180/22D50	**3898**	**2019**	**1,2876**	50	**25,31003**	ϕ =	25,31003	x ΔT	1,2876
TUB3-180/23D50	**4076**	**2111**	**1,2876**	50	**26,46048**	ϕ =	26,46048	x ΔT	1,2876

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TUB3-200/02D50	**392**	**203**	**1,2889**	50	**2,53470**	ϕ =	2,53470	x ΔT	1,2889
TUB3-200/03D50	**589**	**305**	**1,2889**	50	**3,80205**	ϕ =	3,80205	x ΔT	1,2889
TUB3-200/04D50	**785**	**406**	**1,2889**	50	**5,06940**	ϕ =	5,06940	x ΔT	1,2889
TUB3-200/05D50	**981**	**508**	**1,2889**	50	**6,33675**	ϕ =	6,33675	x ΔT	1,2889
TUB3-200/06D50	**1177**	**609**	**1,2889**	50	**7,60410**	ϕ =	7,60410	x ΔT	1,2889
TUB3-200/07D50	**1373**	**711**	**1,2889**	50	**8,87145**	ϕ =	8,87145	x ΔT	1,2889
TUB3-200/08D50	**1570**	**813**	**1,2889**	50	**10,13880**	ϕ =	10,13880	x ΔT	1,2889
TUB3-200/09D50	**1766**	**914**	**1,2889**	50	**11,40615**	ϕ =	11,40615	x ΔT	1,2889
TUB3-200/10D50	**1962**	**1016**	**1,2889**	50	**12,67350**	ϕ =	12,67350	x ΔT	1,2889
TUB3-200/11D50	**2158**	**1117**	**1,2889**	50	**13,94085**	ϕ =	13,94085	x ΔT	1,2889
TUB3-200/12D50	**2354**	**1219**	**1,2889**	50	**15,20820**	ϕ =	15,20820	x ΔT	1,2889
TUB3-200/13D50	**2551**	**1320**	**1,2889**	50	**16,47555**	ϕ =	16,47555	x ΔT	1,2889
TUB3-200/14D50	**2747**	**1422**	**1,2889**	50	**17,74290**	ϕ =	17,74290	x ΔT	1,2889
TUB3-200/15D50	**2943**	**1524**	**1,2889**	50	**19,01025**	ϕ =	19,01025	x ΔT	1,2889
TUB3-200/16D50	**3139**	**1625**	**1,2889**	50	**20,27760**	ϕ =	20,27760	x ΔT	1,2889
TUB3-200/17D50	**3335**	**1727**	**1,2889**	50	**21,54495**	ϕ =	21,54495	x ΔT	1,2889
TUB3-200/18D50	**3532**	**1828**	**1,2889**	50	**22,81230**	ϕ =	22,81230	x ΔT	1,2889
TUB3-200/19D50	**3728**	**1930**	**1,2889**	50	**24,07965**	ϕ =	24,07965	x ΔT	1,2889
TUB3-200/20D50	**3924**	**2031**	**1,2889**	50	**25,34700**	ϕ =	25,34700	x ΔT	1,2889
TUB3-200/21D50	**4120**	**2133**	**1,2889**	50	**26,61435**	ϕ =	26,61435	x ΔT	1,2889

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

Z-ca Prezesa ds. realizacji
Bartosz Ścierzyński
Nowa Wieś 17.11.2022

Bartosz Ścierzyński
Członek Zarządu

.....
(podpis)
(signature)

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