

DEKLARACJA WŁAŚCIWOŚCI UŻYTKOWYCH
(DECLARATION OF PERFORMANCE)

Nr (No.) **NDWU/1/TUBUS 3 D50P/2021**

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	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)			
TUB3-020/02D50P	44	23	1,2616	50	0,31913	$\phi =$	0,31913	x ΔT	1,2616
TUB3-020/03D50P	67	35	1,2616	50	0,47869	$\phi =$	0,47869	x ΔT	1,2616
TUB3-020/04D50P	89	47	1,2616	50	0,63825	$\phi =$	0,63825	x ΔT	1,2616
TUB3-020/05D50P	111	58	1,2616	50	0,79782	$\phi =$	0,79782	x ΔT	1,2616
TUB3-020/06D50P	133	70	1,2616	50	0,95738	$\phi =$	0,95738	x ΔT	1,2616
TUB3-020/07D50P	155	82	1,2616	50	1,11694	$\phi =$	1,11694	x ΔT	1,2616
TUB3-020/08D50P	178	93	1,2616	50	1,27650	$\phi =$	1,27650	x ΔT	1,2616
TUB3-020/09D50P	200	105	1,2616	50	1,43607	$\phi =$	1,43607	x ΔT	1,2616
TUB3-020/10D50P	222	117	1,2616	50	1,59563	$\phi =$	1,59563	x ΔT	1,2616
TUB3-020/11D50P	244	128	1,2616	50	1,75519	$\phi =$	1,75519	x ΔT	1,2616
TUB3-020/12D50P	266	140	1,2616	50	1,91476	$\phi =$	1,91476	x ΔT	1,2616
TUB3-020/13D50P	289	151	1,2616	50	2,07432	$\phi =$	2,07432	x ΔT	1,2616
TUB3-020/14D50P	311	163	1,2616	50	2,23388	$\phi =$	2,23388	x ΔT	1,2616
TUB3-020/15D50P	333	175	1,2616	50	2,39345	$\phi =$	2,39345	x ΔT	1,2616
TUB3-020/16D50P	355	186	1,2616	50	2,55301	$\phi =$	2,55301	x ΔT	1,2616
TUB3-020/17D50P	377	198	1,2616	50	2,71257	$\phi =$	2,71257	x ΔT	1,2616
TUB3-020/18D50P	400	210	1,2616	50	2,87214	$\phi =$	2,87214	x ΔT	1,2616
TUB3-020/19D50P	422	221	1,2616	50	3,03170	$\phi =$	3,03170	x ΔT	1,2616
TUB3-020/20D50P	444	233	1,2616	50	3,19126	$\phi =$	3,19126	x ΔT	1,2616
TUB3-020/21D50P	466	245	1,2616	50	3,35082	$\phi =$	3,35082	x ΔT	1,2616
TUB3-020/22D50P	488	256	1,2616	50	3,51039	$\phi =$	3,51039	x ΔT	1,2616
TUB3-020/23D50P	511	268	1,2616	50	3,66995	$\phi =$	3,66995	x ΔT	1,2616
TUB3-020/24D50P	533	280	1,2616	50	3,82951	$\phi =$	3,82951	x ΔT	1,2616
TUB3-020/25D50P	555	291	1,2616	50	3,98908	$\phi =$	3,98908	x ΔT	1,2616
TUB3-020/26D50P	577	303	1,2616	50	4,14864	$\phi =$	4,14864	x ΔT	1,2616
TUB3-020/27D50P	599	315	1,2616	50	4,30820	$\phi =$	4,30820	x ΔT	1,2616
TUB3-020/28D50P	622	326	1,2616	50	4,46777	$\phi =$	4,46777	x ΔT	1,2616
TUB3-020/29D50P	644	338	1,2616	50	4,62733	$\phi =$	4,62733	x ΔT	1,2616
TUB3-020/30D50P	666	350	1,2616	50	4,78689	$\phi =$	4,78689	x ΔT	1,2616
TUB3-020/31D50P	688	361	1,2616	50	4,94646	$\phi =$	4,94646	x ΔT	1,2616
TUB3-020/32D50P	710	373	1,2616	50	5,10602	$\phi =$	5,10602	x ΔT	1,2616
TUB3-020/33D50P	733	385	1,2616	50	5,26558	$\phi =$	5,26558	x ΔT	1,2616
TUB3-020/34D50P	755	396	1,2616	50	5,42514	$\phi =$	5,42514	x ΔT	1,2616
TUB3-020/35D50P	777	408	1,2616	50	5,58471	$\phi =$	5,58471	x ΔT	1,2616
TUB3-020/36D50P	799	420	1,2616	50	5,74427	$\phi =$	5,74427	x ΔT	1,2616
TUB3-020/37D50P	821	431	1,2616	50	5,90383	$\phi =$	5,90383	x ΔT	1,2616
TUB3-020/38D50P	844	443	1,2616	50	6,06340	$\phi =$	6,06340	x ΔT	1,2616
TUB3-020/39D50P	866	454	1,2616	50	6,22296	$\phi =$	6,22296	x ΔT	1,2616
TUB3-020/40D50P	888	466	1,2616	50	6,38252	$\phi =$	6,38252	x ΔT	1,2616
TUB3-020/41D50P	910	478	1,2616	50	6,54209	$\phi =$	6,54209	x ΔT	1,2616
TUB3-020/42D50P	932	489	1,2616	50	6,70165	$\phi =$	6,70165	x ΔT	1,2616
TUB3-020/43D50P	955	501	1,2616	50	6,86121	$\phi =$	6,86121	x ΔT	1,2616
TUB3-020/44D50P	977	513	1,2616	50	7,02078	$\phi =$	7,02078	x ΔT	1,2616
TUB3-020/45D50P	999	524	1,2616	50	7,18034	$\phi =$	7,18034	x ΔT	1,2616
TUB3-030/02D50P	65	34	1,2667	50	0,45796	$\phi =$	0,45796	x ΔT	1,2667
TUB3-030/03D50P	98	51	1,2667	50	0,68694	$\phi =$	0,68694	x ΔT	1,2667
TUB3-030/04D50P	130	68	1,2667	50	0,91592	$\phi =$	0,91592	x ΔT	1,2667
TUB3-030/05D50P	163	85	1,2667	50	1,14490	$\phi =$	1,14490	x ΔT	1,2667
TUB3-030/06D50P	195	102	1,2667	50	1,37388	$\phi =$	1,37388	x ΔT	1,2667
TUB3-030/07D50P	228	119	1,2667	50	1,60286	$\phi =$	1,60286	x ΔT	1,2667
TUB3-030/08D50P	260	136	1,2667	50	1,83184	$\phi =$	1,83184	x ΔT	1,2667
TUB3-030/09D50P	293	153	1,2667	50	2,06082	$\phi =$	2,06082	x ΔT	1,2667
TUB3-030/10D50P	325	170	1,2667	50	2,28980	$\phi =$	2,28980	x ΔT	1,2667
TUB3-030/11D50P	358	187	1,2667	50	2,51878	$\phi =$	2,51878	x ΔT	1,2667
TUB3-030/12D50P	390	204	1,2667	50	2,74776	$\phi =$	2,74776	x ΔT	1,2667
TUB3-030/13D50P	423	221	1,2667	50	2,97674	$\phi =$	2,97674	x ΔT	1,2667
TUB3-030/14D50P	455	238	1,2667	50	3,20572	$\phi =$	3,20572	x ΔT	1,2667
TUB3-030/15D50P	488	255	1,2667	50	3,43470	$\phi =$	3,43470	x ΔT	1,2667
TUB3-030/16D50P	520	272	1,2667	50	3,66368	$\phi =$	3,66368	x ΔT	1,2667

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TUB3-030/17D50P	553	289	1,2667	50	3,89266	$\phi =$	3,89266	$\times \Delta T$	1,2667
TUB3-030/18D50P	585	306	1,2667	50	4,12164	$\phi =$	4,12164	$\times \Delta T$	1,2667
TUB3-030/19D50P	618	323	1,2667	50	4,35063	$\phi =$	4,35063	$\times \Delta T$	1,2667
TUB3-030/20D50P	650	340	1,2667	50	4,57961	$\phi =$	4,57961	$\times \Delta T$	1,2667
TUB3-030/21D50P	683	357	1,2667	50	4,80859	$\phi =$	4,80859	$\times \Delta T$	1,2667
TUB3-030/22D50P	715	374	1,2667	50	5,03757	$\phi =$	5,03757	$\times \Delta T$	1,2667
TUB3-030/23D50P	748	391	1,2667	50	5,26655	$\phi =$	5,26655	$\times \Delta T$	1,2667
TUB3-030/24D50P	780	408	1,2667	50	5,49553	$\phi =$	5,49553	$\times \Delta T$	1,2667
TUB3-030/25D50P	813	425	1,2667	50	5,72451	$\phi =$	5,72451	$\times \Delta T$	1,2667
TUB3-030/26D50P	845	442	1,2667	50	5,95349	$\phi =$	5,95349	$\times \Delta T$	1,2667
TUB3-030/27D50P	878	459	1,2667	50	6,18247	$\phi =$	6,18247	$\times \Delta T$	1,2667
TUB3-030/28D50P	910	476	1,2667	50	6,41145	$\phi =$	6,41145	$\times \Delta T$	1,2667
TUB3-030/29D50P	943	493	1,2667	50	6,64043	$\phi =$	6,64043	$\times \Delta T$	1,2667
TUB3-030/30D50P	975	510	1,2667	50	6,86941	$\phi =$	6,86941	$\times \Delta T$	1,2667
TUB3-030/31D50P	1008	528	1,2667	50	7,09839	$\phi =$	7,09839	$\times \Delta T$	1,2667
TUB3-030/32D50P	1040	545	1,2667	50	7,32737	$\phi =$	7,32737	$\times \Delta T$	1,2667
TUB3-030/33D50P	1073	562	1,2667	50	7,55635	$\phi =$	7,55635	$\times \Delta T$	1,2667
TUB3-030/34D50P	1105	579	1,2667	50	7,78533	$\phi =$	7,78533	$\times \Delta T$	1,2667
TUB3-030/35D50P	1138	596	1,2667	50	8,01431	$\phi =$	8,01431	$\times \Delta T$	1,2667
TUB3-030/36D50P	1170	613	1,2667	50	8,24329	$\phi =$	8,24329	$\times \Delta T$	1,2667
TUB3-030/37D50P	1203	630	1,2667	50	8,47227	$\phi =$	8,47227	$\times \Delta T$	1,2667
TUB3-030/38D50P	1235	647	1,2667	50	8,70125	$\phi =$	8,70125	$\times \Delta T$	1,2667
TUB3-030/39D50P	1268	664	1,2667	50	8,93023	$\phi =$	8,93023	$\times \Delta T$	1,2667
TUB3-030/40D50P	1300	681	1,2667	50	9,15921	$\phi =$	9,15921	$\times \Delta T$	1,2667
TUB3-030/41D50P	1333	698	1,2667	50	9,38819	$\phi =$	9,38819	$\times \Delta T$	1,2667
TUB3-030/42D50P	1365	715	1,2667	50	9,61717	$\phi =$	9,61717	$\times \Delta T$	1,2667
TUB3-030/43D50P	1398	732	1,2667	50	9,84615	$\phi =$	9,84615	$\times \Delta T$	1,2667
TUB3-030/44D50P	1430	749	1,2667	50	10,07513	$\phi =$	10,07513	$\times \Delta T$	1,2667
TUB3-030/45D50P	1463	766	1,2667	50	10,30411	$\phi =$	10,30411	$\times \Delta T$	1,2667
TUB3-040/02D50P	85	45	1,2698	50	0,59304	$\phi =$	0,59304	$\times \Delta T$	1,2698
TUB3-040/03D50P	128	67	1,2698	50	0,88957	$\phi =$	0,88957	$\times \Delta T$	1,2698
TUB3-040/04D50P	170	89	1,2698	50	1,18609	$\phi =$	1,18609	$\times \Delta T$	1,2698
TUB3-040/05D50P	213	111	1,2698	50	1,48261	$\phi =$	1,48261	$\times \Delta T$	1,2698
TUB3-040/06D50P	256	134	1,2698	50	1,77913	$\phi =$	1,77913	$\times \Delta T$	1,2698
TUB3-040/07D50P	298	156	1,2698	50	2,07566	$\phi =$	2,07566	$\times \Delta T$	1,2698
TUB3-040/08D50P	341	178	1,2698	50	2,37218	$\phi =$	2,37218	$\times \Delta T$	1,2698
TUB3-040/09D50P	383	200	1,2698	50	2,66870	$\phi =$	2,66870	$\times \Delta T$	1,2698
TUB3-040/10D50P	426	223	1,2698	50	2,96522	$\phi =$	2,96522	$\times \Delta T$	1,2698
TUB3-040/11D50P	469	245	1,2698	50	3,26175	$\phi =$	3,26175	$\times \Delta T$	1,2698
TUB3-040/12D50P	511	267	1,2698	50	3,55827	$\phi =$	3,55827	$\times \Delta T$	1,2698
TUB3-040/13D50P	554	290	1,2698	50	3,85479	$\phi =$	3,85479	$\times \Delta T$	1,2698
TUB3-040/14D50P	596	312	1,2698	50	4,15131	$\phi =$	4,15131	$\times \Delta T$	1,2698
TUB3-040/15D50P	639	334	1,2698	50	4,44784	$\phi =$	4,44784	$\times \Delta T$	1,2698
TUB3-040/16D50P	682	356	1,2698	50	4,74436	$\phi =$	4,74436	$\times \Delta T$	1,2698
TUB3-040/17D50P	724	379	1,2698	50	5,04088	$\phi =$	5,04088	$\times \Delta T$	1,2698
TUB3-040/18D50P	767	401	1,2698	50	5,33740	$\phi =$	5,33740	$\times \Delta T$	1,2698
TUB3-040/19D50P	809	423	1,2698	50	5,63393	$\phi =$	5,63393	$\times \Delta T$	1,2698
TUB3-040/20D50P	852	445	1,2698	50	5,93045	$\phi =$	5,93045	$\times \Delta T$	1,2698
TUB3-040/21D50P	895	468	1,2698	50	6,22697	$\phi =$	6,22697	$\times \Delta T$	1,2698
TUB3-040/22D50P	937	490	1,2698	50	6,52349	$\phi =$	6,52349	$\times \Delta T$	1,2698
TUB3-040/23D50P	980	512	1,2698	50	6,82001	$\phi =$	6,82001	$\times \Delta T$	1,2698
TUB3-040/24D50P	1022	534	1,2698	50	7,11654	$\phi =$	7,11654	$\times \Delta T$	1,2698
TUB3-040/25D50P	1065	557	1,2698	50	7,41306	$\phi =$	7,41306	$\times \Delta T$	1,2698
TUB3-040/26D50P	1108	579	1,2698	50	7,70958	$\phi =$	7,70958	$\times \Delta T$	1,2698
TUB3-040/27D50P	1150	601	1,2698	50	8,00610	$\phi =$	8,00610	$\times \Delta T$	1,2698
TUB3-040/28D50P	1193	624	1,2698	50	8,30263	$\phi =$	8,30263	$\times \Delta T$	1,2698
TUB3-040/29D50P	1235	646	1,2698	50	8,59915	$\phi =$	8,59915	$\times \Delta T$	1,2698
TUB3-040/30D50P	1278	668	1,2698	50	8,89567	$\phi =$	8,89567	$\times \Delta T$	1,2698
TUB3-040/31D50P	1321	690	1,2698	50	9,19219	$\phi =$	9,19219	$\times \Delta T$	1,2698
TUB3-040/32D50P	1363	713	1,2698	50	9,48872	$\phi =$	9,48872	$\times \Delta T$	1,2698
TUB3-040/33D50P	1406	735	1,2698	50	9,78524	$\phi =$	9,78524	$\times \Delta T$	1,2698
TUB3-040/34D50P	1448	757	1,2698	50	10,08176	$\phi =$	10,08176	$\times \Delta T$	1,2698
TUB3-040/35D50P	1491	779	1,2698	50	10,37828	$\phi =$	10,37828	$\times \Delta T$	1,2698
TUB3-040/36D50P	1534	802	1,2698	50	10,67481	$\phi =$	10,67481	$\times \Delta T$	1,2698
TUB3-040/37D50P	1576	824	1,2698	50	10,97133	$\phi =$	10,97133	$\times \Delta T$	1,2698

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TUB3-040/38D50P	1619	846	1,2698	50	11,26785	$\phi =$	11,26785	$\times \Delta T$	1,2698
TUB3-040/39D50P	1661	869	1,2698	50	11,56437	$\phi =$	11,56437	$\times \Delta T$	1,2698
TUB3-040/40D50P	1704	891	1,2698	50	11,86090	$\phi =$	11,86090	$\times \Delta T$	1,2698
TUB3-040/41D50P	1747	913	1,2698	50	12,15742	$\phi =$	12,15742	$\times \Delta T$	1,2698
TUB3-040/42D50P	1789	935	1,2698	50	12,45394	$\phi =$	12,45394	$\times \Delta T$	1,2698
TUB3-040/43D50P	1832	958	1,2698	50	12,75046	$\phi =$	12,75046	$\times \Delta T$	1,2698
TUB3-040/44D50P	1874	980	1,2698	50	13,04699	$\phi =$	13,04699	$\times \Delta T$	1,2698
TUB3-040/45D50P	1917	1002	1,2698	50	13,34351	$\phi =$	13,34351	$\times \Delta T$	1,2698
TUB3-050/02D50P	105	55	1,2722	50	0,72679	$\phi =$	0,72679	$\times \Delta T$	1,2722
TUB3-050/03D50P	158	83	1,2722	50	1,09019	$\phi =$	1,09019	$\times \Delta T$	1,2722
TUB3-050/04D50P	211	110	1,2722	50	1,45359	$\phi =$	1,45359	$\times \Delta T$	1,2722
TUB3-050/05D50P	264	138	1,2722	50	1,81698	$\phi =$	1,81698	$\times \Delta T$	1,2722
TUB3-050/06D50P	316	165	1,2722	50	2,18038	$\phi =$	2,18038	$\times \Delta T$	1,2722
TUB3-050/07D50P	369	193	1,2722	50	2,54378	$\phi =$	2,54378	$\times \Delta T$	1,2722
TUB3-050/08D50P	422	220	1,2722	50	2,90717	$\phi =$	2,90717	$\times \Delta T$	1,2722
TUB3-050/09D50P	474	248	1,2722	50	3,27057	$\phi =$	3,27057	$\times \Delta T$	1,2722
TUB3-050/10D50P	527	275	1,2722	50	3,63397	$\phi =$	3,63397	$\times \Delta T$	1,2722
TUB3-050/11D50P	580	303	1,2722	50	3,99736	$\phi =$	3,99736	$\times \Delta T$	1,2722
TUB3-050/12D50P	632	330	1,2722	50	4,36076	$\phi =$	4,36076	$\times \Delta T$	1,2722
TUB3-050/13D50P	685	358	1,2722	50	4,72416	$\phi =$	4,72416	$\times \Delta T$	1,2722
TUB3-050/14D50P	738	385	1,2722	50	5,08755	$\phi =$	5,08755	$\times \Delta T$	1,2722
TUB3-050/15D50P	791	413	1,2722	50	5,45095	$\phi =$	5,45095	$\times \Delta T$	1,2722
TUB3-050/16D50P	843	440	1,2722	50	5,81435	$\phi =$	5,81435	$\times \Delta T$	1,2722
TUB3-050/17D50P	896	468	1,2722	50	6,17774	$\phi =$	6,17774	$\times \Delta T$	1,2722
TUB3-050/18D50P	949	495	1,2722	50	6,54114	$\phi =$	6,54114	$\times \Delta T$	1,2722
TUB3-050/19D50P	1001	523	1,2722	50	6,90454	$\phi =$	6,90454	$\times \Delta T$	1,2722
TUB3-050/20D50P	1054	550	1,2722	50	7,26793	$\phi =$	7,26793	$\times \Delta T$	1,2722
TUB3-050/21D50P	1107	578	1,2722	50	7,63133	$\phi =$	7,63133	$\times \Delta T$	1,2722
TUB3-050/22D50P	1159	605	1,2722	50	7,99473	$\phi =$	7,99473	$\times \Delta T$	1,2722
TUB3-050/23D50P	1212	633	1,2722	50	8,35812	$\phi =$	8,35812	$\times \Delta T$	1,2722
TUB3-050/24D50P	1265	660	1,2722	50	8,72152	$\phi =$	8,72152	$\times \Delta T$	1,2722
TUB3-050/25D50P	1318	688	1,2722	50	9,08492	$\phi =$	9,08492	$\times \Delta T$	1,2722
TUB3-050/26D50P	1370	715	1,2722	50	9,44831	$\phi =$	9,44831	$\times \Delta T$	1,2722
TUB3-050/27D50P	1423	743	1,2722	50	9,81171	$\phi =$	9,81171	$\times \Delta T$	1,2722
TUB3-050/28D50P	1476	770	1,2722	50	10,17511	$\phi =$	10,17511	$\times \Delta T$	1,2722
TUB3-050/29D50P	1528	798	1,2722	50	10,53850	$\phi =$	10,53850	$\times \Delta T$	1,2722
TUB3-050/30D50P	1581	825	1,2722	50	10,90190	$\phi =$	10,90190	$\times \Delta T$	1,2722
TUB3-050/31D50P	1634	853	1,2722	50	11,26530	$\phi =$	11,26530	$\times \Delta T$	1,2722
TUB3-050/32D50P	1686	880	1,2722	50	11,62869	$\phi =$	11,62869	$\times \Delta T$	1,2722
TUB3-050/33D50P	1739	908	1,2722	50	11,99209	$\phi =$	11,99209	$\times \Delta T$	1,2722
TUB3-050/34D50P	1792	936	1,2722	50	12,35549	$\phi =$	12,35549	$\times \Delta T$	1,2722
TUB3-050/35D50P	1845	963	1,2722	50	12,71888	$\phi =$	12,71888	$\times \Delta T$	1,2722
TUB3-050/36D50P	1897	991	1,2722	50	13,08228	$\phi =$	13,08228	$\times \Delta T$	1,2722
TUB3-050/37D50P	1950	1018	1,2722	50	13,44568	$\phi =$	13,44568	$\times \Delta T$	1,2722
TUB3-050/38D50P	2003	1046	1,2722	50	13,80907	$\phi =$	13,80907	$\times \Delta T$	1,2722
TUB3-050/39D50P	2055	1073	1,2722	50	14,17247	$\phi =$	14,17247	$\times \Delta T$	1,2722
TUB3-050/40D50P	2108	1101	1,2722	50	14,53587	$\phi =$	14,53587	$\times \Delta T$	1,2722
TUB3-050/41D50P	2161	1128	1,2722	50	14,89926	$\phi =$	14,89926	$\times \Delta T$	1,2722
TUB3-050/42D50P	2213	1156	1,2722	50	15,26266	$\phi =$	15,26266	$\times \Delta T$	1,2722
TUB3-050/43D50P	2266	1183	1,2722	50	15,62606	$\phi =$	15,62606	$\times \Delta T$	1,2722
TUB3-050/44D50P	2319	1211	1,2722	50	15,98945	$\phi =$	15,98945	$\times \Delta T$	1,2722
TUB3-050/45D50P	2372	1238	1,2722	50	16,35285	$\phi =$	16,35285	$\times \Delta T$	1,2722
TUB3-070/02D50P	145	76	1,2762	50	0,98569	$\phi =$	0,98569	$\times \Delta T$	1,2762
TUB3-070/03D50P	218	113	1,2762	50	1,47854	$\phi =$	1,47854	$\times \Delta T$	1,2762
TUB3-070/04D50P	290	151	1,2762	50	1,97138	$\phi =$	1,97138	$\times \Delta T$	1,2762
TUB3-070/05D50P	363	189	1,2762	50	2,46423	$\phi =$	2,46423	$\times \Delta T$	1,2762
TUB3-070/06D50P	436	227	1,2762	50	2,95708	$\phi =$	2,95708	$\times \Delta T$	1,2762
TUB3-070/07D50P	508	265	1,2762	50	3,44992	$\phi =$	3,44992	$\times \Delta T$	1,2762
TUB3-070/08D50P	581	303	1,2762	50	3,94277	$\phi =$	3,94277	$\times \Delta T$	1,2762
TUB3-070/09D50P	653	340	1,2762	50	4,43561	$\phi =$	4,43561	$\times \Delta T$	1,2762
TUB3-070/10D50P	726	378	1,2762	50	4,92846	$\phi =$	4,92846	$\times \Delta T$	1,2762
TUB3-070/11D50P	799	416	1,2762	50	5,42130	$\phi =$	5,42130	$\times \Delta T$	1,2762
TUB3-070/12D50P	871	454	1,2762	50	5,91415	$\phi =$	5,91415	$\times \Delta T$	1,2762
TUB3-070/13D50P	944	492	1,2762	50	6,40700	$\phi =$	6,40700	$\times \Delta T$	1,2762
TUB3-070/14D50P	1016	530	1,2762	50	6,89984	$\phi =$	6,89984	$\times \Delta T$	1,2762

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TUB3-070/15D50P	1089	567	1,2762	50	7,39269	$\phi =$	7,39269	$\times \Delta T$	1,2762
TUB3-070/16D50P	1162	605	1,2762	50	7,88553	$\phi =$	7,88553	$\times \Delta T$	1,2762
TUB3-070/17D50P	1234	643	1,2762	50	8,37838	$\phi =$	8,37838	$\times \Delta T$	1,2762
TUB3-070/18D50P	1307	681	1,2762	50	8,87123	$\phi =$	8,87123	$\times \Delta T$	1,2762
TUB3-070/19D50P	1379	719	1,2762	50	9,36407	$\phi =$	9,36407	$\times \Delta T$	1,2762
TUB3-070/20D50P	1452	757	1,2762	50	9,85692	$\phi =$	9,85692	$\times \Delta T$	1,2762
TUB3-070/21D50P	1525	794	1,2762	50	10,34976	$\phi =$	10,34976	$\times \Delta T$	1,2762
TUB3-070/22D50P	1597	832	1,2762	50	10,84261	$\phi =$	10,84261	$\times \Delta T$	1,2762
TUB3-070/23D50P	1670	870	1,2762	50	11,33545	$\phi =$	11,33545	$\times \Delta T$	1,2762
TUB3-070/24D50P	1742	908	1,2762	50	11,82830	$\phi =$	11,82830	$\times \Delta T$	1,2762
TUB3-070/25D50P	1815	946	1,2762	50	12,32115	$\phi =$	12,32115	$\times \Delta T$	1,2762
TUB3-070/26D50P	1888	984	1,2762	50	12,81399	$\phi =$	12,81399	$\times \Delta T$	1,2762
TUB3-070/27D50P	1960	1021	1,2762	50	13,30684	$\phi =$	13,30684	$\times \Delta T$	1,2762
TUB3-070/28D50P	2033	1059	1,2762	50	13,79968	$\phi =$	13,79968	$\times \Delta T$	1,2762
TUB3-070/29D50P	2105	1097	1,2762	50	14,29253	$\phi =$	14,29253	$\times \Delta T$	1,2762
TUB3-070/30D50P	2178	1135	1,2762	50	14,78538	$\phi =$	14,78538	$\times \Delta T$	1,2762
TUB3-070/31D50P	2251	1173	1,2762	50	15,27822	$\phi =$	15,27822	$\times \Delta T$	1,2762
TUB3-070/32D50P	2323	1210	1,2762	50	15,77107	$\phi =$	15,77107	$\times \Delta T$	1,2762
TUB3-070/33D50P	2396	1248	1,2762	50	16,26391	$\phi =$	16,26391	$\times \Delta T$	1,2762
TUB3-070/34D50P	2468	1286	1,2762	50	16,75676	$\phi =$	16,75676	$\times \Delta T$	1,2762
TUB3-070/35D50P	2541	1324	1,2762	50	17,24960	$\phi =$	17,24960	$\times \Delta T$	1,2762
TUB3-070/36D50P	2614	1362	1,2762	50	17,74245	$\phi =$	17,74245	$\times \Delta T$	1,2762
TUB3-070/37D50P	2686	1400	1,2762	50	18,23530	$\phi =$	18,23530	$\times \Delta T$	1,2762
TUB3-070/38D50P	2759	1437	1,2762	50	18,72814	$\phi =$	18,72814	$\times \Delta T$	1,2762
TUB3-070/39D50P	2831	1475	1,2762	50	19,22099	$\phi =$	19,22099	$\times \Delta T$	1,2762
TUB3-070/40D50P	2904	1513	1,2762	50	19,71383	$\phi =$	19,71383	$\times \Delta T$	1,2762
TUB3-070/41D50P	2977	1551	1,2762	50	20,20668	$\phi =$	20,20668	$\times \Delta T$	1,2762
TUB3-070/42D50P	3049	1589	1,2762	50	20,69953	$\phi =$	20,69953	$\times \Delta T$	1,2762
TUB3-080/02D50P	165	86	1,2779	50	1,11403	$\phi =$	1,11403	$\times \Delta T$	1,2779
TUB3-080/03D50P	248	129	1,2779	50	1,67104	$\phi =$	1,67104	$\times \Delta T$	1,2779
TUB3-080/04D50P	330	172	1,2779	50	2,22806	$\phi =$	2,22806	$\times \Delta T$	1,2779
TUB3-080/05D50P	413	215	1,2779	50	2,78507	$\phi =$	2,78507	$\times \Delta T$	1,2779
TUB3-080/06D50P	496	258	1,2779	50	3,34209	$\phi =$	3,34209	$\times \Delta T$	1,2779
TUB3-080/07D50P	578	301	1,2779	50	3,89910	$\phi =$	3,89910	$\times \Delta T$	1,2779
TUB3-080/08D50P	661	344	1,2779	50	4,45611	$\phi =$	4,45611	$\times \Delta T$	1,2779
TUB3-080/09D50P	743	387	1,2779	50	5,01313	$\phi =$	5,01313	$\times \Delta T$	1,2779
TUB3-080/10D50P	826	430	1,2779	50	5,57014	$\phi =$	5,57014	$\times \Delta T$	1,2779
TUB3-080/11D50P	909	473	1,2779	50	6,12716	$\phi =$	6,12716	$\times \Delta T$	1,2779
TUB3-080/12D50P	991	516	1,2779	50	6,68417	$\phi =$	6,68417	$\times \Delta T$	1,2779
TUB3-080/13D50P	1074	559	1,2779	50	7,24118	$\phi =$	7,24118	$\times \Delta T$	1,2779
TUB3-080/14D50P	1156	602	1,2779	50	7,79820	$\phi =$	7,79820	$\times \Delta T$	1,2779
TUB3-080/15D50P	1239	645	1,2779	50	8,35521	$\phi =$	8,35521	$\times \Delta T$	1,2779
TUB3-080/16D50P	1322	688	1,2779	50	8,91223	$\phi =$	8,91223	$\times \Delta T$	1,2779
TUB3-080/17D50P	1404	731	1,2779	50	9,46924	$\phi =$	9,46924	$\times \Delta T$	1,2779
TUB3-080/18D50P	1487	774	1,2779	50	10,02626	$\phi =$	10,02626	$\times \Delta T$	1,2779
TUB3-080/19D50P	1569	817	1,2779	50	10,58327	$\phi =$	10,58327	$\times \Delta T$	1,2779
TUB3-080/20D50P	1652	860	1,2779	50	11,14028	$\phi =$	11,14028	$\times \Delta T$	1,2779
TUB3-080/21D50P	1735	903	1,2779	50	11,69730	$\phi =$	11,69730	$\times \Delta T$	1,2779
TUB3-080/22D50P	1817	946	1,2779	50	12,25431	$\phi =$	12,25431	$\times \Delta T$	1,2779
TUB3-080/23D50P	1900	989	1,2779	50	12,81133	$\phi =$	12,81133	$\times \Delta T$	1,2779
TUB3-080/24D50P	1982	1032	1,2779	50	13,36834	$\phi =$	13,36834	$\times \Delta T$	1,2779
TUB3-080/25D50P	2065	1075	1,2779	50	13,92536	$\phi =$	13,92536	$\times \Delta T$	1,2779
TUB3-080/26D50P	2148	1118	1,2779	50	14,48237	$\phi =$	14,48237	$\times \Delta T$	1,2779
TUB3-080/27D50P	2230	1161	1,2779	50	15,03938	$\phi =$	15,03938	$\times \Delta T$	1,2779
TUB3-080/28D50P	2313	1204	1,2779	50	15,59640	$\phi =$	15,59640	$\times \Delta T$	1,2779
TUB3-080/29D50P	2395	1247	1,2779	50	16,15341	$\phi =$	16,15341	$\times \Delta T$	1,2779
TUB3-080/30D50P	2478	1290	1,2779	50	16,71043	$\phi =$	16,71043	$\times \Delta T$	1,2779
TUB3-080/31D50P	2561	1333	1,2779	50	17,26744	$\phi =$	17,26744	$\times \Delta T$	1,2779
TUB3-080/32D50P	2643	1376	1,2779	50	17,82445	$\phi =$	17,82445	$\times \Delta T$	1,2779
TUB3-080/33D50P	2726	1419	1,2779	50	18,38147	$\phi =$	18,38147	$\times \Delta T$	1,2779
TUB3-080/34D50P	2808	1462	1,2779	50	18,93848	$\phi =$	18,93848	$\times \Delta T$	1,2779
TUB3-080/35D50P	2891	1505	1,2779	50	19,49550	$\phi =$	19,49550	$\times \Delta T$	1,2779
TUB3-080/36D50P	2974	1548	1,2779	50	20,05251	$\phi =$	20,05251	$\times \Delta T$	1,2779
TUB3-080/37D50P	3056	1591	1,2779	50	20,60953	$\phi =$	20,60953	$\times \Delta T$	1,2779
TUB3-090/02D50P	185	96	1,2795	50	1,23977	$\phi =$	1,23977	$\times \Delta T$	1,2795

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TUB3-090/03D50P	278	144	1,2795	50	1,85965	$\phi =$	1,85965	$\times \Delta T$	1,2795
TUB3-090/04D50P	370	192	1,2795	50	2,47953	$\phi =$	2,47953	$\times \Delta T$	1,2795
TUB3-090/05D50P	463	241	1,2795	50	3,09941	$\phi =$	3,09941	$\times \Delta T$	1,2795
TUB3-090/06D50P	555	289	1,2795	50	3,71930	$\phi =$	3,71930	$\times \Delta T$	1,2795
TUB3-090/07D50P	648	337	1,2795	50	4,33918	$\phi =$	4,33918	$\times \Delta T$	1,2795
TUB3-090/08D50P	740	385	1,2795	50	4,95906	$\phi =$	4,95906	$\times \Delta T$	1,2795
TUB3-090/09D50P	833	433	1,2795	50	5,57895	$\phi =$	5,57895	$\times \Delta T$	1,2795
TUB3-090/10D50P	925	481	1,2795	50	6,19883	$\phi =$	6,19883	$\times \Delta T$	1,2795
TUB3-090/11D50P	1018	529	1,2795	50	6,81871	$\phi =$	6,81871	$\times \Delta T$	1,2795
TUB3-090/12D50P	1110	577	1,2795	50	7,43859	$\phi =$	7,43859	$\times \Delta T$	1,2795
TUB3-090/13D50P	1203	626	1,2795	50	8,05848	$\phi =$	8,05848	$\times \Delta T$	1,2795
TUB3-090/14D50P	1295	674	1,2795	50	8,67836	$\phi =$	8,67836	$\times \Delta T$	1,2795
TUB3-090/15D50P	1388	722	1,2795	50	9,29824	$\phi =$	9,29824	$\times \Delta T$	1,2795
TUB3-090/16D50P	1480	770	1,2795	50	9,91813	$\phi =$	9,91813	$\times \Delta T$	1,2795
TUB3-090/17D50P	1573	818	1,2795	50	10,53801	$\phi =$	10,53801	$\times \Delta T$	1,2795
TUB3-090/18D50P	1665	866	1,2795	50	11,15789	$\phi =$	11,15789	$\times \Delta T$	1,2795
TUB3-090/19D50P	1758	914	1,2795	50	11,77777	$\phi =$	11,77777	$\times \Delta T$	1,2795
TUB3-090/20D50P	1850	962	1,2795	50	12,39766	$\phi =$	12,39766	$\times \Delta T$	1,2795
TUB3-090/21D50P	1943	1010	1,2795	50	13,01754	$\phi =$	13,01754	$\times \Delta T$	1,2795
TUB3-090/22D50P	2035	1059	1,2795	50	13,63742	$\phi =$	13,63742	$\times \Delta T$	1,2795
TUB3-090/23D50P	2128	1107	1,2795	50	14,25731	$\phi =$	14,25731	$\times \Delta T$	1,2795
TUB3-090/24D50P	2220	1155	1,2795	50	14,87719	$\phi =$	14,87719	$\times \Delta T$	1,2795
TUB3-090/25D50P	2313	1203	1,2795	50	15,49707	$\phi =$	15,49707	$\times \Delta T$	1,2795
TUB3-090/26D50P	2405	1251	1,2795	50	16,11695	$\phi =$	16,11695	$\times \Delta T$	1,2795
TUB3-090/27D50P	2498	1299	1,2795	50	16,73684	$\phi =$	16,73684	$\times \Delta T$	1,2795
TUB3-090/28D50P	2590	1347	1,2795	50	17,35672	$\phi =$	17,35672	$\times \Delta T$	1,2795
TUB3-090/29D50P	2683	1395	1,2795	50	17,97660	$\phi =$	17,97660	$\times \Delta T$	1,2795
TUB3-090/30D50P	2775	1443	1,2795	50	18,59649	$\phi =$	18,59649	$\times \Delta T$	1,2795
TUB3-090/31D50P	2868	1492	1,2795	50	19,21637	$\phi =$	19,21637	$\times \Delta T$	1,2795
TUB3-090/32D50P	2960	1540	1,2795	50	19,83625	$\phi =$	19,83625	$\times \Delta T$	1,2795
TUB3-090/33D50P	3053	1588	1,2795	50	20,45613	$\phi =$	20,45613	$\times \Delta T$	1,2795
TUB3-090/34D50P	3145	1636	1,2795	50	21,07602	$\phi =$	21,07602	$\times \Delta T$	1,2795
TUB3-100/02D50P	205	107	1,2811	50	1,36522	$\phi =$	1,36522	$\times \Delta T$	1,2811
TUB3-100/03D50P	308	160	1,2811	50	2,04783	$\phi =$	2,04783	$\times \Delta T$	1,2811
TUB3-100/04D50P	410	213	1,2811	50	2,73044	$\phi =$	2,73044	$\times \Delta T$	1,2811
TUB3-100/05D50P	513	266	1,2811	50	3,41306	$\phi =$	3,41306	$\times \Delta T$	1,2811
TUB3-100/06D50P	615	320	1,2811	50	4,09567	$\phi =$	4,09567	$\times \Delta T$	1,2811
TUB3-100/07D50P	718	373	1,2811	50	4,77828	$\phi =$	4,77828	$\times \Delta T$	1,2811
TUB3-100/08D50P	820	426	1,2811	50	5,46089	$\phi =$	5,46089	$\times \Delta T$	1,2811
TUB3-100/09D50P	923	479	1,2811	50	6,14350	$\phi =$	6,14350	$\times \Delta T$	1,2811
TUB3-100/10D50P	1025	533	1,2811	50	6,82611	$\phi =$	6,82611	$\times \Delta T$	1,2811
TUB3-100/11D50P	1128	586	1,2811	50	7,50872	$\phi =$	7,50872	$\times \Delta T$	1,2811
TUB3-100/12D50P	1230	639	1,2811	50	8,19133	$\phi =$	8,19133	$\times \Delta T$	1,2811
TUB3-100/13D50P	1333	693	1,2811	50	8,87395	$\phi =$	8,87395	$\times \Delta T$	1,2811
TUB3-100/14D50P	1435	746	1,2811	50	9,55656	$\phi =$	9,55656	$\times \Delta T$	1,2811
TUB3-100/15D50P	1538	799	1,2811	50	10,23917	$\phi =$	10,23917	$\times \Delta T$	1,2811
TUB3-100/16D50P	1640	852	1,2811	50	10,92178	$\phi =$	10,92178	$\times \Delta T$	1,2811
TUB3-100/17D50P	1743	906	1,2811	50	11,60439	$\phi =$	11,60439	$\times \Delta T$	1,2811
TUB3-100/18D50P	1845	959	1,2811	50	12,28700	$\phi =$	12,28700	$\times \Delta T$	1,2811
TUB3-100/19D50P	1948	1012	1,2811	50	12,96961	$\phi =$	12,96961	$\times \Delta T$	1,2811
TUB3-100/20D50P	2050	1065	1,2811	50	13,65222	$\phi =$	13,65222	$\times \Delta T$	1,2811
TUB3-100/21D50P	2153	1119	1,2811	50	14,33483	$\phi =$	14,33483	$\times \Delta T$	1,2811
TUB3-100/22D50P	2255	1172	1,2811	50	15,01745	$\phi =$	15,01745	$\times \Delta T$	1,2811
TUB3-100/23D50P	2358	1225	1,2811	50	15,70006	$\phi =$	15,70006	$\times \Delta T$	1,2811
TUB3-100/24D50P	2460	1279	1,2811	50	16,38267	$\phi =$	16,38267	$\times \Delta T$	1,2811
TUB3-100/25D50P	2563	1332	1,2811	50	17,06528	$\phi =$	17,06528	$\times \Delta T$	1,2811
TUB3-100/26D50P	2665	1385	1,2811	50	17,74789	$\phi =$	17,74789	$\times \Delta T$	1,2811
TUB3-100/27D50P	2768	1438	1,2811	50	18,43050	$\phi =$	18,43050	$\times \Delta T$	1,2811
TUB3-100/28D50P	2870	1492	1,2811	50	19,11311	$\phi =$	19,11311	$\times \Delta T$	1,2811
TUB3-100/29D50P	2973	1545	1,2811	50	19,79572	$\phi =$	19,79572	$\times \Delta T$	1,2811
TUB3-100/30D50P	3075	1598	1,2811	50	20,47834	$\phi =$	20,47834	$\times \Delta T$	1,2811
TUB3-100/31D50P	3178	1651	1,2811	50	21,16095	$\phi =$	21,16095	$\times \Delta T$	1,2811
TUB3-120/02D50P	245	127	1,2828	50	1,61947	$\phi =$	1,61947	$\times \Delta T$	1,2828
TUB3-120/03D50P	367	191	1,2828	50	2,42920	$\phi =$	2,42920	$\times \Delta T$	1,2828
TUB3-120/04D50P	490	254	1,2828	50	3,23894	$\phi =$	3,23894	$\times \Delta T$	1,2828

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TUB3-120/05D50P	612	318	1,2828	50	4,04867	$\phi =$	4,04867	$\times \Delta T$	1,2828
TUB3-120/06D50P	734	381	1,2828	50	4,85841	$\phi =$	4,85841	$\times \Delta T$	1,2828
TUB3-120/07D50P	857	445	1,2828	50	5,66814	$\phi =$	5,66814	$\times \Delta T$	1,2828
TUB3-120/08D50P	979	508	1,2828	50	6,47788	$\phi =$	6,47788	$\times \Delta T$	1,2828
TUB3-120/09D50P	1102	572	1,2828	50	7,28761	$\phi =$	7,28761	$\times \Delta T$	1,2828
TUB3-120/10D50P	1224	636	1,2828	50	8,09735	$\phi =$	8,09735	$\times \Delta T$	1,2828
TUB3-120/11D50P	1346	699	1,2828	50	8,90708	$\phi =$	8,90708	$\times \Delta T$	1,2828
TUB3-120/12D50P	1469	763	1,2828	50	9,71682	$\phi =$	9,71682	$\times \Delta T$	1,2828
TUB3-120/13D50P	1591	826	1,2828	50	10,52655	$\phi =$	10,52655	$\times \Delta T$	1,2828
TUB3-120/14D50P	1714	890	1,2828	50	11,33628	$\phi =$	11,33628	$\times \Delta T$	1,2828
TUB3-120/15D50P	1836	953	1,2828	50	12,14602	$\phi =$	12,14602	$\times \Delta T$	1,2828
TUB3-120/16D50P	1958	1017	1,2828	50	12,95575	$\phi =$	12,95575	$\times \Delta T$	1,2828
TUB3-120/17D50P	2081	1081	1,2828	50	13,76549	$\phi =$	13,76549	$\times \Delta T$	1,2828
TUB3-120/18D50P	2203	1144	1,2828	50	14,57522	$\phi =$	14,57522	$\times \Delta T$	1,2828
TUB3-120/19D50P	2326	1208	1,2828	50	15,38496	$\phi =$	15,38496	$\times \Delta T$	1,2828
TUB3-120/20D50P	2448	1271	1,2828	50	16,19469	$\phi =$	16,19469	$\times \Delta T$	1,2828
TUB3-120/21D50P	2570	1335	1,2828	50	17,00443	$\phi =$	17,00443	$\times \Delta T$	1,2828
TUB3-120/22D50P	2693	1398	1,2828	50	17,81416	$\phi =$	17,81416	$\times \Delta T$	1,2828
TUB3-120/23D50P	2815	1462	1,2828	50	18,62390	$\phi =$	18,62390	$\times \Delta T$	1,2828
TUB3-120/24D50P	2938	1525	1,2828	50	19,43363	$\phi =$	19,43363	$\times \Delta T$	1,2828
TUB3-120/25D50P	3060	1589	1,2828	50	20,24336	$\phi =$	20,24336	$\times \Delta T$	1,2828
TUB3-120/26D50P	3182	1653	1,2828	50	21,05310	$\phi =$	21,05310	$\times \Delta T$	1,2828
TUB3-150/02D50P	305	158	1,2854	50	1,99730	$\phi =$	1,99730	$\times \Delta T$	1,2854
TUB3-150/03D50P	457	237	1,2854	50	2,99399	$\phi =$	2,99399	$\times \Delta T$	1,2854
TUB3-150/04D50P	610	316	1,2854	50	3,99199	$\phi =$	3,99199	$\times \Delta T$	1,2854
TUB3-150/05D50P	762	395	1,2854	50	4,98998	$\phi =$	4,98998	$\times \Delta T$	1,2854
TUB3-150/06D50P	914	474	1,2854	50	5,98798	$\phi =$	5,98798	$\times \Delta T$	1,2854
TUB3-150/07D50P	1067	553	1,2854	50	6,98597	$\phi =$	6,98597	$\times \Delta T$	1,2854
TUB3-150/08D50P	1219	632	1,2854	50	7,98397	$\phi =$	7,98397	$\times \Delta T$	1,2854
TUB3-150/09D50P	1372	711	1,2854	50	8,98197	$\phi =$	8,98197	$\times \Delta T$	1,2854
TUB3-150/10D50P	1524	790	1,2854	50	9,97996	$\phi =$	9,97996	$\times \Delta T$	1,2854
TUB3-150/11D50P	1676	869	1,2854	50	10,97796	$\phi =$	10,97796	$\times \Delta T$	1,2854
TUB3-150/12D50P	1829	948	1,2854	50	11,97596	$\phi =$	11,97596	$\times \Delta T$	1,2854
TUB3-150/13D50P	1981	1027	1,2854	50	12,97395	$\phi =$	12,97395	$\times \Delta T$	1,2854
TUB3-150/14D50P	2134	1106	1,2854	50	13,97195	$\phi =$	13,97195	$\times \Delta T$	1,2854
TUB3-150/15D50P	2286	1186	1,2854	50	14,96994	$\phi =$	14,96994	$\times \Delta T$	1,2854
TUB3-150/16D50P	2438	1265	1,2854	50	15,96794	$\phi =$	15,96794	$\times \Delta T$	1,2854
TUB3-150/17D50P	2591	1344	1,2854	50	16,96594	$\phi =$	16,96594	$\times \Delta T$	1,2854
TUB3-150/18D50P	2743	1423	1,2854	50	17,96393	$\phi =$	17,96393	$\times \Delta T$	1,2854
TUB3-150/19D50P	2896	1502	1,2854	50	18,96193	$\phi =$	18,96193	$\times \Delta T$	1,2854
TUB3-150/20D50P	3048	1581	1,2854	50	19,95993	$\phi =$	19,95993	$\times \Delta T$	1,2854
TUB3-150/21D50P	3200	1660	1,2854	50	20,95792	$\phi =$	20,95792	$\times \Delta T$	1,2854
TUB3-150/22D50P	3353	1739	1,2854	50	21,95592	$\phi =$	21,95592	$\times \Delta T$	1,2854
TUB3-180/02D50P	365	189	1,2876	50	2,37233	$\phi =$	2,37233	$\times \Delta T$	1,2876
TUB3-180/03D50P	548	284	1,2876	50	3,55849	$\phi =$	3,55849	$\times \Delta T$	1,2876
TUB3-180/04D50P	731	379	1,2876	50	4,74466	$\phi =$	4,74466	$\times \Delta T$	1,2876
TUB3-180/05D50P	914	473	1,2876	50	5,93082	$\phi =$	5,93082	$\times \Delta T$	1,2876
TUB3-180/06D50P	1096	568	1,2876	50	7,11698	$\phi =$	7,11698	$\times \Delta T$	1,2876
TUB3-180/07D50P	1279	662	1,2876	50	8,30315	$\phi =$	8,30315	$\times \Delta T$	1,2876
TUB3-180/08D50P	1462	757	1,2876	50	9,48931	$\phi =$	9,48931	$\times \Delta T$	1,2876
TUB3-180/09D50P	1644	852	1,2876	50	10,67548	$\phi =$	10,67548	$\times \Delta T$	1,2876
TUB3-180/10D50P	1827	946	1,2876	50	11,86164	$\phi =$	11,86164	$\times \Delta T$	1,2876
TUB3-180/11D50P	2010	1041	1,2876	50	13,04780	$\phi =$	13,04780	$\times \Delta T$	1,2876
TUB3-180/12D50P	2192	1136	1,2876	50	14,23397	$\phi =$	14,23397	$\times \Delta T$	1,2876
TUB3-180/13D50P	2375	1230	1,2876	50	15,42013	$\phi =$	15,42013	$\times \Delta T$	1,2876
TUB3-180/14D50P	2558	1325	1,2876	50	16,60630	$\phi =$	16,60630	$\times \Delta T$	1,2876
TUB3-180/15D50P	2741	1420	1,2876	50	17,79246	$\phi =$	17,79246	$\times \Delta T$	1,2876
TUB3-180/16D50P	2923	1514	1,2876	50	18,97863	$\phi =$	18,97863	$\times \Delta T$	1,2876
TUB3-180/17D50P	3106	1609	1,2876	50	20,16479	$\phi =$	20,16479	$\times \Delta T$	1,2876
TUB3-180/18D50P	3289	1704	1,2876	50	21,35095	$\phi =$	21,35095	$\times \Delta T$	1,2876
TUB3-180/19D50P	3471	1798	1,2876	50	22,53712	$\phi =$	22,53712	$\times \Delta T$	1,2876
TUB3-180/20D50P	3654	1893	1,2876	50	23,72328	$\phi =$	23,72328	$\times \Delta T$	1,2876
TUB3-180/21D50P	3837	1987	1,2876	50	24,90945	$\phi =$	24,90945	$\times \Delta T$	1,2876
TUB3-180/22D50P	4019	2082	1,2876	50	26,09561	$\phi =$	26,09561	$\times \Delta T$	1,2876
TUB3-180/23D50P	4202	2177	1,2876	50	27,28177	$\phi =$	27,28177	$\times \Delta T$	1,2876

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TUB3-200/02D50P	406	210	1,2889	50	2,62255	$\phi =$	2,62255	x ΔT	1,2889
TUB3-200/03D50P	609	315	1,2889	50	3,93382	$\phi =$	3,93382	x ΔT	1,2889
TUB3-200/04D50P	812	420	1,2889	50	5,24510	$\phi =$	5,24510	x ΔT	1,2889
TUB3-200/05D50P	1015	525	1,2889	50	6,55637	$\phi =$	6,55637	x ΔT	1,2889
TUB3-200/06D50P	1218	631	1,2889	50	7,86765	$\phi =$	7,86765	x ΔT	1,2889
TUB3-200/07D50P	1421	736	1,2889	50	9,17892	$\phi =$	9,17892	x ΔT	1,2889
TUB3-200/08D50P	1624	841	1,2889	50	10,49020	$\phi =$	10,49020	x ΔT	1,2889
TUB3-200/09D50P	1827	946	1,2889	50	11,80147	$\phi =$	11,80147	x ΔT	1,2889
TUB3-200/10D50P	2030	1051	1,2889	50	13,11274	$\phi =$	13,11274	x ΔT	1,2889
TUB3-200/11D50P	2233	1156	1,2889	50	14,42402	$\phi =$	14,42402	x ΔT	1,2889
TUB3-200/12D50P	2436	1261	1,2889	50	15,73529	$\phi =$	15,73529	x ΔT	1,2889
TUB3-200/13D50P	2639	1366	1,2889	50	17,04657	$\phi =$	17,04657	x ΔT	1,2889
TUB3-200/14D50P	2842	1471	1,2889	50	18,35784	$\phi =$	18,35784	x ΔT	1,2889
TUB3-200/15D50P	3045	1576	1,2889	50	19,66912	$\phi =$	19,66912	x ΔT	1,2889
TUB3-200/16D50P	3248	1681	1,2889	50	20,98039	$\phi =$	20,98039	x ΔT	1,2889
TUB3-200/17D50P	3451	1787	1,2889	50	22,29167	$\phi =$	22,29167	x ΔT	1,2889
TUB3-200/18D50P	3654	1892	1,2889	50	23,60294	$\phi =$	23,60294	x ΔT	1,2889
TUB3-200/19D50P	3857	1997	1,2889	50	24,91421	$\phi =$	24,91421	x ΔT	1,2889
TUB3-200/20D50P	4060	2102	1,2889	50	26,22549	$\phi =$	26,22549	x ΔT	1,2889
TUB3-200/21D50P	4263	2207	1,2889	50	27,53676	$\phi =$	27,53676	x ΔT	1,2889

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

Bartosz Ścierzyński
Bartu Ścierzyński
 Członek Zarządu

INSTAL PROJEKT sp. z o.o.

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