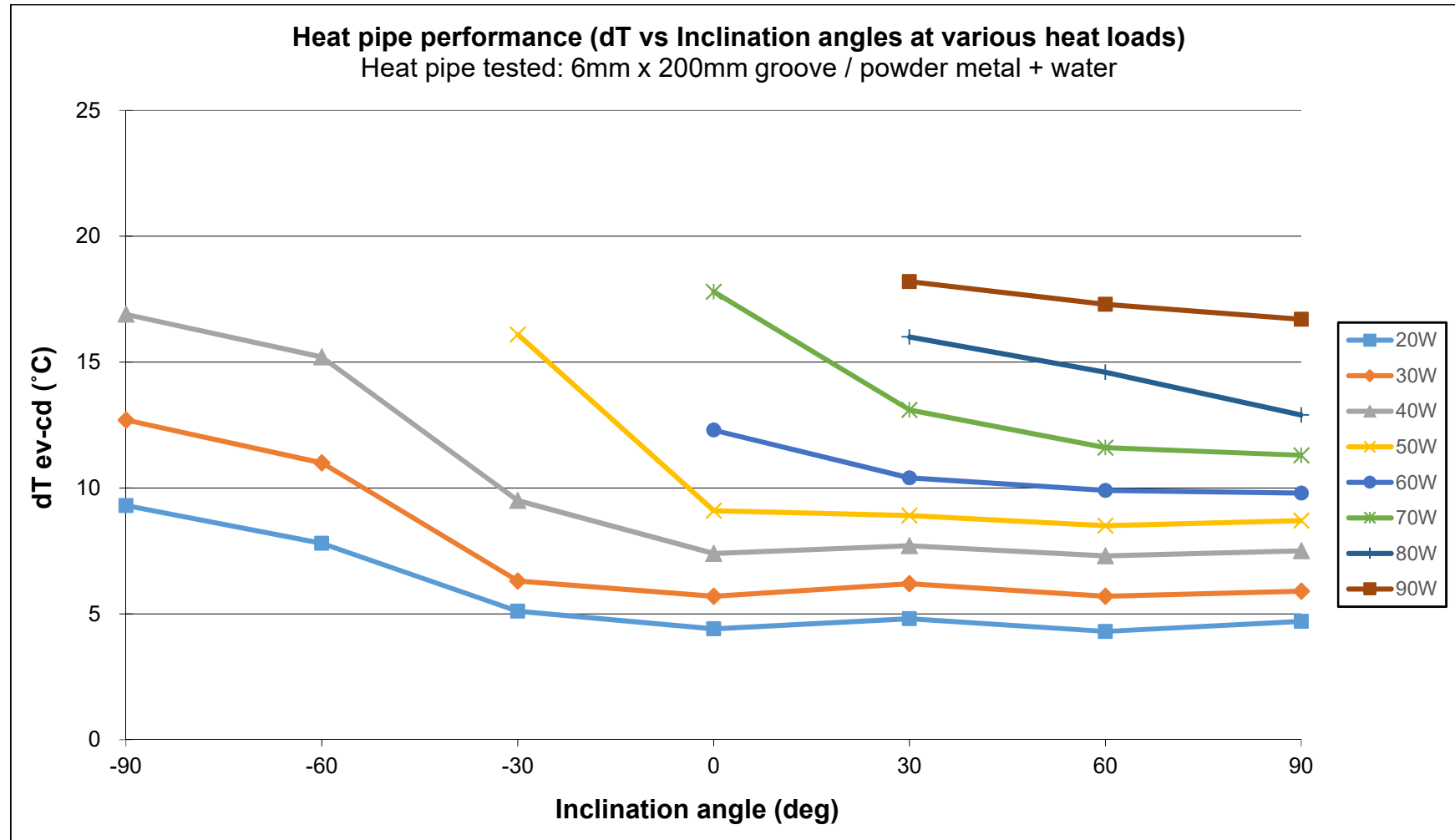


Heat Pipe Test Report

Manufacturer		Enertron			Test conditions			Test date	2018/10/5					
Wick structure/ Working fluid		Sintered Powder Metal/ Water			Effective area (m ²)		2.83E-05	Note: ev- Evaporator of heat pipe cd- Condenser of heat pipe eb- Evaporator Block cb- Condenser Block						
Pipe specification		C110 Copper 0.3mm wall thickness			Coolant temp (°C)		35							
Diameter	±0.05 mm	6			Contact length of ev/cd (mm)		50							
Length	±0.10 mm	200			At 90° the evaporator is directly below the condenser; 0° is horizontal.									
Flatten thickness	±0.05 mm	n/a												
Bend angle	±1 deg	n/a												
Inclination Angle (°)	Heat Load (W)	dT ev-cd (°C)	Thermal resistance ev-cd (°C/W)	Thermal conductivity ev-cd (W/mK)	dT eb-cb (°C)	Thermal resistance eb-cb (°C/W)	Thermal Conductivity eb-cb (W/mK)	Measured Temperature T (°C)						
								ev	cd	eb1	eb2	cb1	cb2	
90	20	4.65	0.23	22818	5.45	0.27	19468	41.30	36.65	41.60	41.60	36.40	35.90	
	30	5.90	0.20	26975	6.85	0.23	23234	43.50	37.60	44.10	43.90	37.10	37.20	
	40	7.50	0.19	28294	8.70	0.22	24392	46.05	38.55	46.80	46.60	37.70	38.30	
	50	8.70	0.17	30489	10.10	0.20	26263	48.20	39.50	49.20	49.00	38.60	39.40	
	60	9.80	0.16	32481	11.55	0.19	27559	50.40	40.60	51.60	51.50	39.30	40.70	
	70	11.25	0.16	33010	13.35	0.19	27817	52.85	41.60	54.20	54.20	40.00	41.70	
	80	12.90	0.16	32900	15.30	0.19	27739	55.50	42.60	57.00	57.10	40.90	42.60	
	90	16.65	0.19	28677	19.30	0.21	24739	60.35	43.70	61.90	62.30	41.90	43.70	
	60	20	4.30	0.22	24675	5.25	0.26	20210	40.90	36.60	41.20	41.20	36.00	35.90
30		5.70	0.19	27922	6.75	0.23	23579	43.25	37.55	43.70	43.70	36.80	37.10	
40		7.30	0.18	29069	8.60	0.22	24675	45.85	38.55	46.50	46.50	37.50	38.30	
50		8.50	0.17	31207	9.60	0.19	27631	48.00	39.50	48.90	48.00	38.20	39.50	
60		9.85	0.16	32316	11.75	0.20	27090	50.45	40.60	51.50	51.50	39.00	40.50	
70		11.55	0.17	32153	13.75	0.20	27008	53.15	41.60	54.30	54.50	39.90	41.40	
80		14.60	0.18	29069	17.00	0.21	24965	57.20	42.60	58.50	58.80	40.90	42.40	
90		17.25	0.19	27679	20.05	0.22	23814	60.95	43.70	62.50	62.90	41.50	43.80	
30	20	4.80	0.24	22105	5.80	0.29	18294	41.50	36.70	41.90	41.80	36.40	35.70	
	30	6.20	0.21	25670	7.20	0.24	22105	43.80	37.60	44.40	44.20	37.10	37.10	
	40	7.65	0.19	27739	8.90	0.22	23843	46.25	38.60	47.10	46.90	37.90	38.30	
	50	8.85	0.18	29973	10.30	0.21	25753	48.35	39.50	49.40	49.30	38.70	39.40	
	60	10.35	0.17	30755	12.10	0.20	26307	50.90	40.55	52.10	52.00	39.50	40.40	
	70	13.10	0.19	28348	15.00	0.21	24757	54.65	41.55	55.90	56.00	40.40	41.50	
	80	16.00	0.20	26526	18.35	0.23	23129	58.65	42.65	60.00	60.30	41.00	42.60	
	90	18.20	0.20	26234	21.30	0.24	22416	61.80	43.60	63.30	63.80	41.00	43.50	
0	20	4.45	0.22	23843	5.25	0.26	20210	41.10	36.65	41.30	41.40	36.40	35.80	
	30	5.70	0.19	27922	6.80	0.23	23405	43.30	37.60	43.70	43.90	37.20	36.80	
	40	7.40	0.19	28677	8.55	0.21	24819	46.00	38.60	46.70	46.80	38.10	38.30	
	50	9.10	0.18	29149	10.40	0.21	25506	48.65	39.55	49.50	49.50	39.10	39.10	

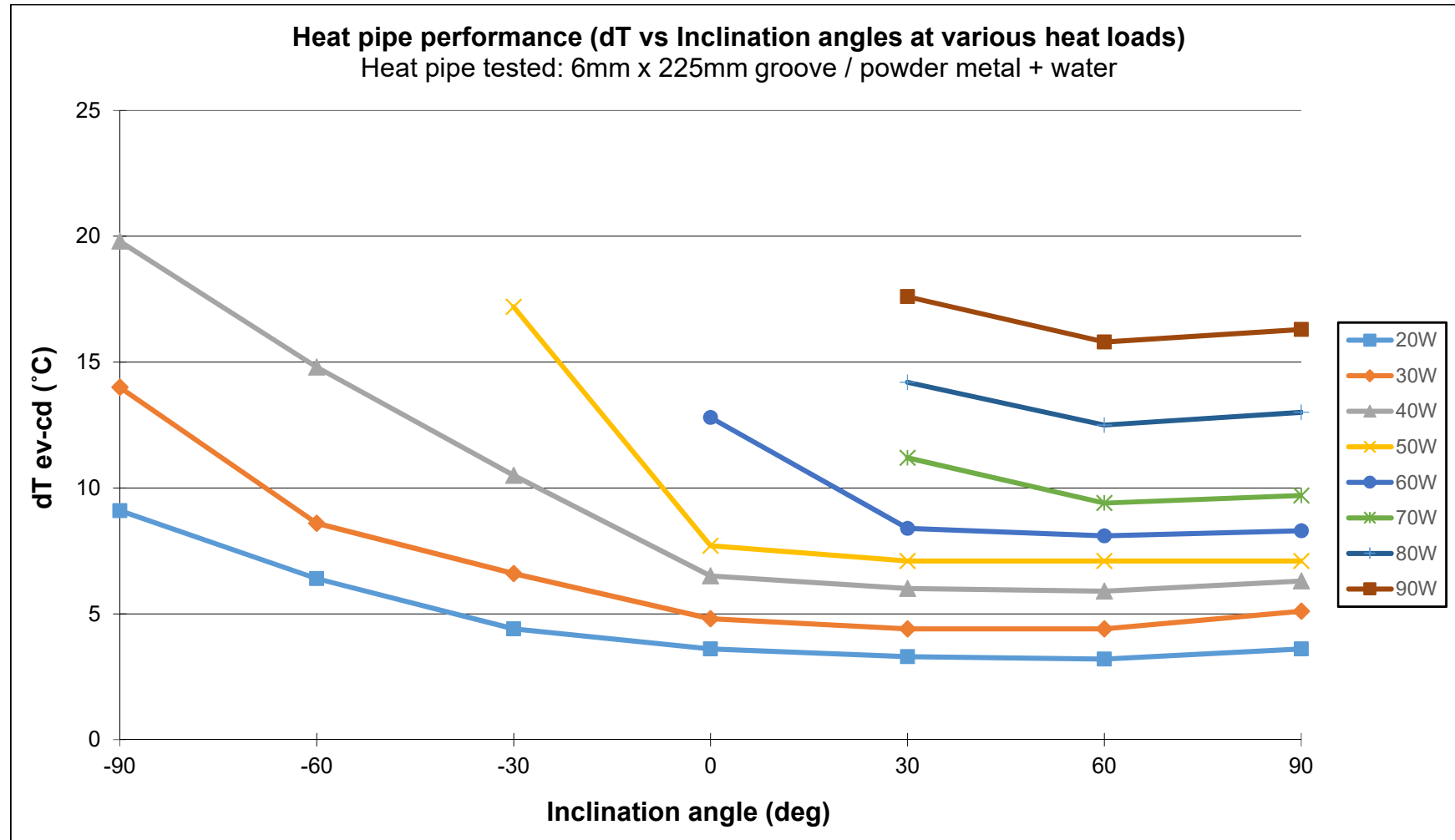
Inclination Angle (°)	Heat Load (W)	dT ev-cd (°C)	Thermal resistance ev-cd (°C/W)	Thermal conductivity ev-cd (W/mK)	dT eb-cb (°C)	Thermal resistance eb-cb (°C/W)	Thermal Conductivity eb-cb (W/mK)	Measured Temperature T (°C)					
								ev	cd	eb1	eb2	cb1	cb2
0	60	12.30	0.21	25879	13.75	0.23	23150	52.75	40.45	53.80	54.00	40.30	40.00
	70	17.80	0.25	20863	19.50	0.28	19044	59.25	41.45	60.70	60.00	41.50	40.20
-30	20	5.05	0.25	21011	5.80	0.29	18294	41.75	36.70	41.90	42.10	36.80	35.60
	30	6.25	0.21	25465	7.35	0.25	21654	44.00	37.75	44.40	44.50	37.60	36.60
	40	9.45	0.24	22456	10.90	0.27	19468	48.20	38.75	49.00	48.90	38.90	37.20
	50	16.10	0.32	16476	17.30	0.35	15333	55.80	39.70	57.20	54.90	40.20	37.30
-60	20	7.80	0.39	13603	8.50	0.43	12483	44.75	36.95	45.20	44.40	37.20	35.40
	30	11.00	0.37	14469	11.90	0.40	13374	48.90	37.90	49.70	48.30	38.20	36.00
	40	15.20	0.38	13961	16.45	0.41	12900	54.25	39.05	55.70	53.20	39.40	36.60
-90	20	9.30	0.47	11409	10.05	0.50	10558	46.45	37.15	47.20	45.80	37.50	35.40
	30	12.70	0.42	12532	13.75	0.46	11575	50.85	38.15	52.20	50.00	38.60	36.10
	40	16.85	0.42	12594	18.25	0.46	11628	56.10	39.25	58.00	54.80	39.60	36.70



Heat Pipe Test Report

Manufacturer		Enertron				Test conditions				Test date	2018/10/17				
Wick structure/ Working fluid		Sintered Powder Metal/ Water				Effective area (m ²)		2.83E-05		Note: ev- Evaporator of heat pipe cd- Condenser of heat pipe eb- Evaporator Block cb- Condenser Block					
Pipe specification		C110 Copper 0.3mm wall thickness				Coolant temp (°C)		35							
Diameter ±0.05 mm		6				Contact length of ev/cd (mm)		50							
Length ±0.10 mm		225				At 90° the evaporator is directly below the condenser; 0° is horizontal.									
Flatten thickness ±0.05 mm		n/a													
Bend angle ±1 deg		n/a													
Inclination Angle (°)	Heat Load (W)	dT ev-cd (°C)	Thermal resistance ev-cd (°C/W)	Thermal conductivity ev-cd (W/mK)	dT eb-cb (°C)	Thermal resistance eb-cb (°C/W)	Thermal Conductivity eb-cb (W/mK)	Measured Temperature T (°C)							
								ev	cd	eb1	eb2	cb1	cb2		
90	20	3.60	0.18	34385	4.75	0.24	26060	40.70	37.10	41.10	40.90	36.30	36.20		
	30	5.05	0.17	36768	6.75	0.23	27508	43.30	38.25	43.90	43.70	37.00	37.10		
	40	6.30	0.16	39298	8.30	0.21	29828	45.70	39.40	46.50	46.20	37.70	38.40		
	50	7.05	0.14	43896	9.55	0.19	32405	47.70	40.65	48.80	48.50	38.70	39.50		
	60	8.30	0.14	44742	11.25	0.19	33010	50.25	41.95	51.40	51.10	39.40	40.60		
	70	9.70	0.14	44665	13.30	0.19	32576	52.90	43.20	54.50	54.00	40.20	41.70		
	80	13.00	0.16	38088	17.50	0.22	28294	57.90	44.90	59.80	59.20	41.20	42.80		
	90	16.25	0.18	34280	21.30	0.24	26152	62.25	46.00	64.40	63.70	41.50	44.00		
60	20	3.15	0.16	39298	4.20	0.21	29473	40.25	37.10	40.60	40.50	36.40	36.30		
	30	4.40	0.15	42200	5.85	0.20	31740	42.65	38.25	43.20	42.90	37.10	37.30		
	40	5.90	0.15	41962	7.85	0.20	31538	45.45	39.55	46.20	45.90	38.00	38.40		
	50	7.10	0.14	43587	9.55	0.19	32405	47.80	40.70	48.80	48.40	38.70	39.40		
	60	8.10	0.14	45847	11.15	0.19	33306	50.10	42.00	51.40	51.00	39.60	40.50		
	70	9.35	0.13	46337	12.90	0.18	33586	52.70	43.35	54.20	53.80	40.40	41.80		
	80	12.50	0.16	39612	16.10	0.20	30755	57.20	44.70	58.20	57.70	41.30	42.40		
	90	15.80	0.18	35256	19.95	0.22	27922	61.90	46.10	63.10	62.60	42.10	43.70		
	100	17.40	0.17	35571	22.80	0.23	27146	64.75	47.35	67.10	66.40	42.70	45.20		
	110	19.10	0.17	35646	25.05	0.23	27179	67.65	48.55	70.20	69.40	43.30	46.20		
30	20	3.25	0.16	38088	4.45	0.22	27817	40.30	37.05	40.70	40.50	36.20	36.10		
	30	4.40	0.15	42200	6.05	0.20	30691	42.75	38.35	43.40	43.20	37.20	37.30		
	40	5.95	0.15	41609	8.15	0.20	30377	45.50	39.55	46.40	46.10	37.90	38.30		
	50	7.05	0.14	43896	9.70	0.19	31904	47.70	40.65	48.80	48.40	38.60	39.20		
	60	8.40	0.14	44210	11.60	0.19	32014	50.30	41.90	51.60	51.20	39.30	40.30		
	70	11.20	0.16	38683	15.05	0.22	28788	54.45	43.25	56.10	55.50	40.20	41.30		
	80	14.20	0.18	34870	18.70	0.23	26479	58.70	44.50	60.60	60.00	40.60	42.60		
	90	17.60	0.20	31650	22.70	0.25	24539	63.40	45.80	65.70	64.80	41.20	43.90		
0	20	3.60	0.18	34385	4.85	0.24	25523	40.55	36.95	40.90	40.80	36.10	35.90		
	30	4.75	0.16	39091	6.40	0.21	29013	42.90	38.15	43.50	43.30	36.90	37.10		

Inclination Angle (°)	Heat Load (W)	dT ev-cd (°C)	Thermal resistance ev-cd (°C/W)	Thermal conductivity ev-cd (W/mK)	dT eb-cb (°C)	Thermal resistance eb-cb (°C/W)	Thermal Conductivity eb-cb (W/mK)	Measured Temperature T (°C)					
								ev	cd	eb1	eb2	cb1	cb2
0	40	6.45	0.16	38384	8.65	0.22	28621	45.85	39.40	46.70	46.50	37.70	38.20
	50	7.70	0.15	40191	10.40	0.21	29757	48.25	40.55	49.50	49.10	38.60	39.20
	60	12.75	0.21	29126	16.40	0.27	22644	54.75	42.00	56.80	55.70	39.60	40.10
-30	20	4.40	0.22	28133	5.60	0.28	22105	41.45	37.05	42.10	41.60	36.50	36.00
	30	6.60	0.22	28133	8.35	0.28	22237	44.85	38.25	45.80	44.90	37.20	36.80
	40	10.45	0.26	23691	12.40	0.31	19966	49.90	39.45	51.20	49.10	38.10	37.40
	50	17.15	0.34	18045	20.05	0.40	15435	57.90	40.75	60.70	56.20	39.10	37.70
-60	20	6.40	0.32	19342	9.50	0.48	13030	43.70	37.30	46.80	44.60	36.60	35.80
	30	8.60	0.29	21591	9.50	0.32	19545	46.90	38.30	47.20	45.80	37.30	36.70
	40	14.80	0.37	16728	17.25	0.43	14352	54.35	39.55	56.90	52.90	38.30	37.00
-90	20	9.05	0.45	13678	10.60	0.53	11678	46.45	37.40	48.10	45.60	36.80	35.70
	30	14.00	0.47	13263	16.40	0.55	11322	52.60	38.60	55.20	51.30	37.50	36.20
	40	19.75	0.49	12535	23.15	0.58	10694	59.55	39.80	63.60	57.90	38.50	36.70



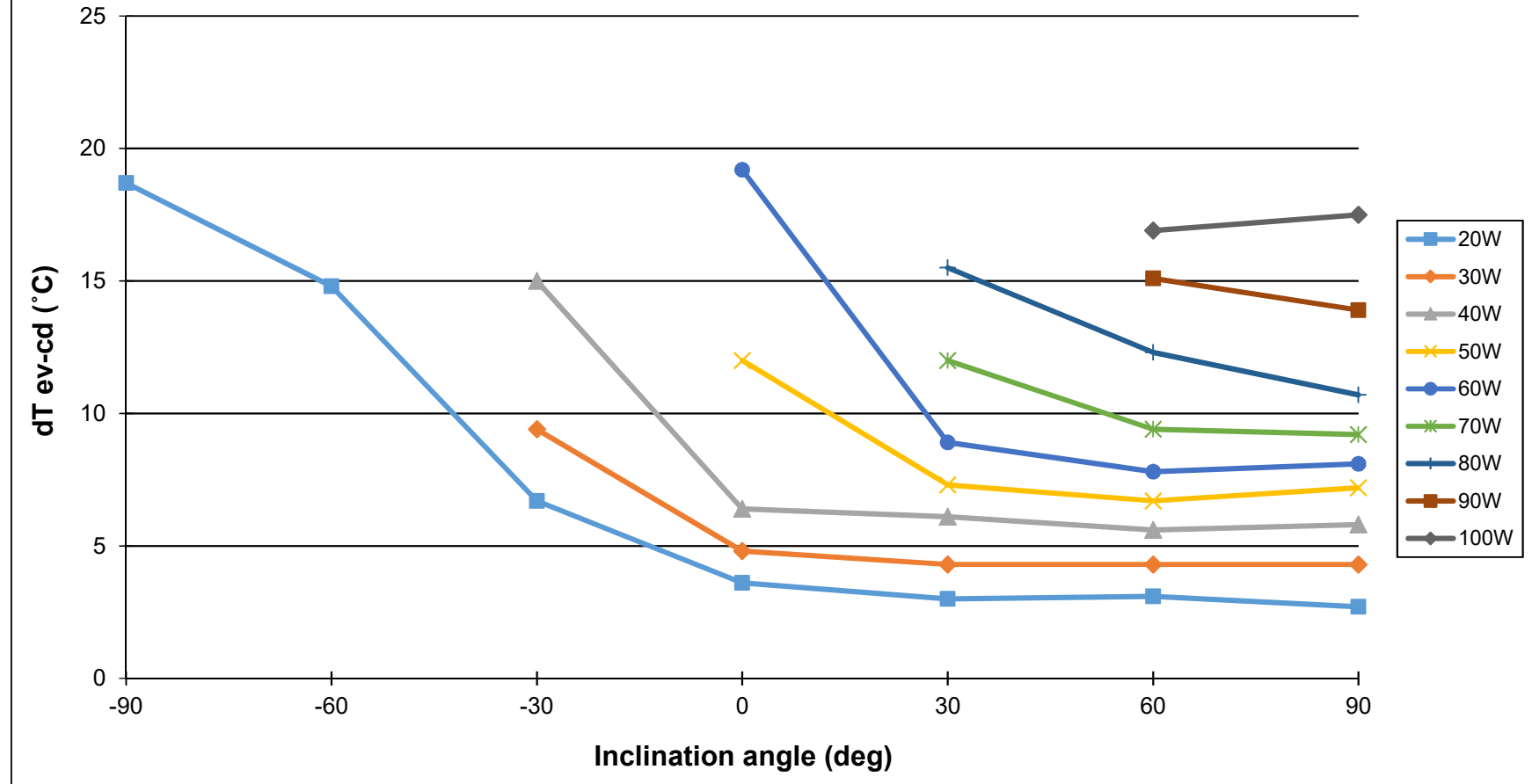
Heat Pipe Test Report

Manufacturer		Enertron			Test conditions			Test date	2018/10/19					
Wick structure/ Working fluid		Sintered Powder Metal/ Water			Effective area (m2)		2.83E-05	Note: ev- Evaporator of heat pipe cd- Condenser of heat pipe eb- Evaporator Block cb- Condenser Block						
Pipe specification		C110 Copper 0.3mm wall thickness			Coolant temp (°C)		35							
Diameter	±0.05 mm	6			Contact length of ev/cd (mm)		50							
Length	±0.10 mm	250			At 90° the evaporator is directly below the condenser; 0° is horizontal.									
Flatten thickness	±0.05 mm	n/a												
Bend angle	±1 deg	n/a												
Inclination Angle (°)	Heat Load (W)	dT ev-cd (°C)	Thermal resistance ev-cd (°C/W)	Thermal conductivity ev-cd (W/mK)	dT eb-cb (°C)	Thermal resistance eb-cb (°C/W)	Thermal Conductivity eb-cb (W/mK)	Measured Temperature T (°C)						
								ev	cd	eb1	eb2	cb1	cb2	
90	20	2.65	0.13	53385	3.55	0.18	39851	39.85	37.20	40.10	39.80	36.20	36.60	
	30	4.30	0.14	49350	5.40	0.18	39298	42.75	38.45	43.20	42.70	37.30	37.80	
	40	5.80	0.15	48783	7.15	0.18	39572	45.55	39.75	46.10	45.50	38.30	39.00	
	50	7.15	0.14	49465	8.80	0.18	40191	48.15	41.00	48.80	48.20	39.30	40.10	
	60	8.10	0.14	52397	10.10	0.17	42021	50.40	42.30	51.20	50.60	40.30	41.30	
	70	9.20	0.13	53821	11.75	0.17	42140	52.75	43.55	53.70	53.00	41.00	42.20	
	80	10.70	0.13	52886	13.75	0.17	41155	55.60	44.90	56.70	56.10	42.10	43.20	
	90	13.90	0.15	45800	17.85	0.20	35665	60.35	46.45	61.60	61.00	43.10	43.80	
	100	17.45	0.17	40536	21.65	0.22	32672	64.95	47.50	66.40	65.80	43.50	45.40	
60	20	3.05	0.15	46384	4.00	0.20	35368	40.25	37.20	40.40	40.30	36.30	36.40	
	30	4.30	0.14	49350	5.35	0.18	39665	42.75	38.45	43.00	42.80	37.30	37.80	
	40	5.65	0.14	50078	7.00	0.18	40420	45.30	39.65	45.70	45.40	38.20	38.90	
	50	6.70	0.13	52788	8.35	0.17	42357	47.55	40.85	48.10	47.70	39.10	40.00	
	60	7.85	0.13	54065	10.05	0.17	42230	50.00	42.15	50.80	50.30	40.00	41.00	
	70	9.35	0.13	52957	12.15	0.17	40753	52.90	43.55	53.90	53.30	40.90	42.00	
	80	12.30	0.15	46007	15.60	0.20	36275	57.20	44.90	58.30	57.70	41.90	42.90	
	90	15.05	0.17	42300	18.85	0.21	33773	61.20	46.15	62.50	61.90	42.30	44.40	
	100	16.90	0.17	41855	21.25	0.21	33287	64.30	47.40	65.80	65.10	43.00	45.40	
30	20	3.00	0.15	47157	3.75	0.19	37726	40.10	37.10	40.20	40.10	36.40	36.40	
	30	4.30	0.14	49350	5.25	0.18	40420	42.60	38.30	42.90	42.70	37.40	37.70	
	40	6.10	0.15	46384	7.50	0.19	37726	45.60	39.50	46.10	45.70	38.10	38.70	
30	50	7.25	0.15	48783	9.00	0.18	39298	47.95	40.70	48.60	48.10	38.90	39.80	
	60	8.85	0.15	47956	11.05	0.18	38408	50.90	42.05	51.70	51.10	39.90	40.80	
	70	11.95	0.17	41435	14.70	0.21	33684	55.20	43.25	56.10	55.60	40.50	41.80	
	80	15.50	0.19	36509	18.80	0.24	30100	59.95	44.45	61.30	60.50	40.90	43.30	
0	20	3.60	0.18	39298	4.55	0.23	31093	40.65	37.05	40.80	40.70	36.30	36.10	
	30	4.75	0.16	44675	5.90	0.20	35967	42.95	38.20	43.20	43.10	37.00	37.50	
	40	6.40	0.16	44210	7.95	0.20	35590	45.80	39.40	46.30	45.90	37.80	38.50	
	50	12.00	0.24	29473	14.25	0.29	24819	52.65	40.65	54.90	51.10	38.80	38.70	

Inclination Angle (°)	Heat Load (W)	dT ev-cd (°C)	Thermal resistance ev-cd (°C/W)	Thermal conductivity ev-cd (W/mK)	dT eb-cb (°C)	Thermal resistance eb-cb (°C/W)	Thermal Conductivity eb-cb (W/mK)	Measured Temperature T (°C)					
								ev	cd	eb1	eb2	cb1	cb2
0	60	19.20	0.32	22105	22.45	0.37	18905	61.10	41.90	65.40	58.50	40.10	38.90
-30	20	6.70	0.34	21115	7.75	0.39	18254	43.80	37.10	44.90	42.90	36.40	35.90
	30	9.40	0.31	22575	10.90	0.36	19468	47.50	38.10	49.40	46.20	37.20	36.60
	40	15.00	0.38	18863	17.40	0.44	16261	54.25	39.25	57.80	52.30	38.20	37.10
-60	20	14.75	0.74	9591	16.60	0.83	8522	52.00	37.25	54.50	51.40	36.90	35.80
-90	20	18.65	0.93	7586	20.30	1.02	6969	55.95	37.30	58.10	55.00	36.90	35.60

Heat pipe performance (dT vs Inclination angles at various heat loads)

Heat pipe tested: 6mm x 250mm groove / powder metal + water

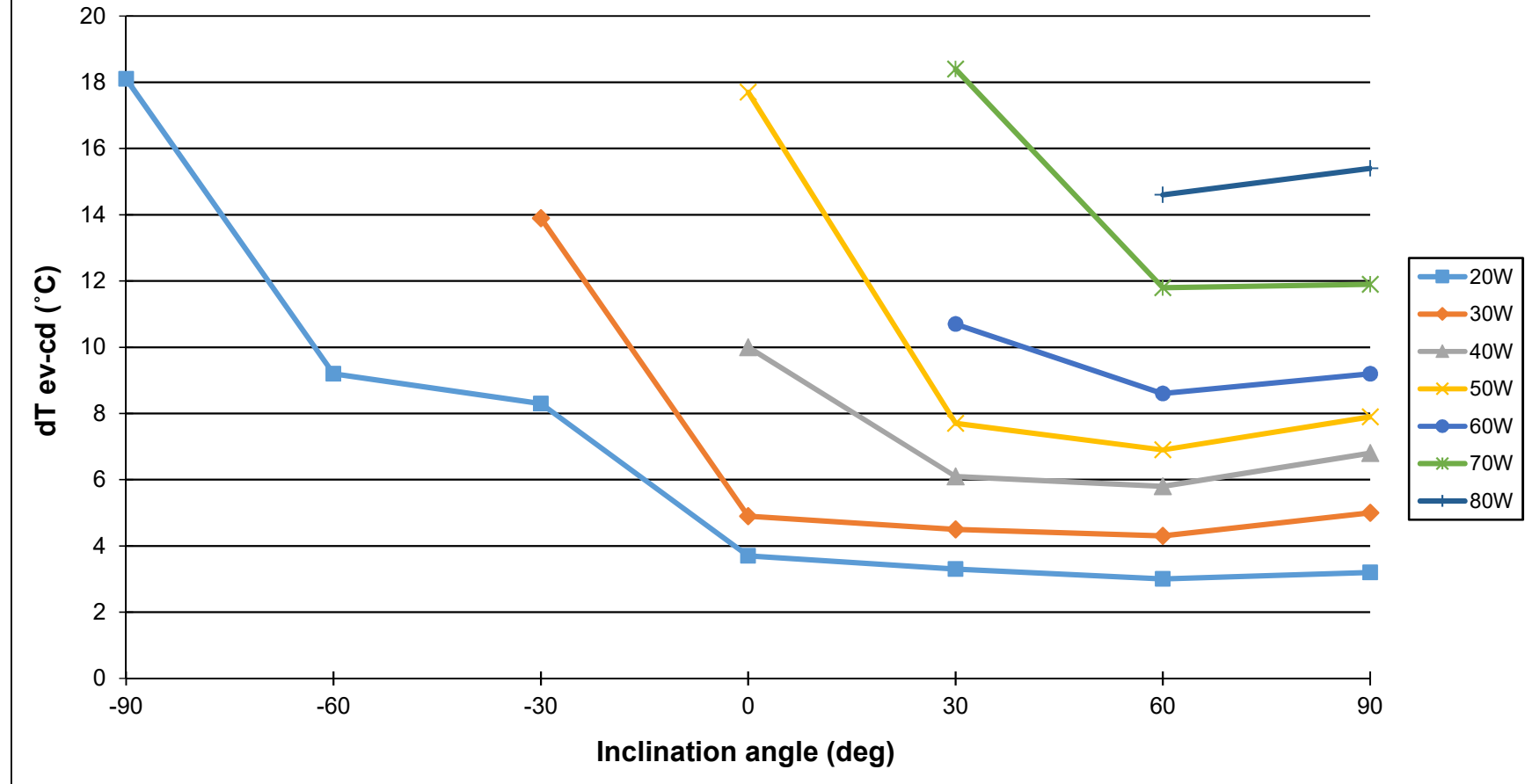


Heat Pipe Test Report

Manufacturer		Enertron			Test conditions			Test date	2018/10/30					
Wick structure/ Working fluid		Sintered Powder Metal/ Water			Effective area (m2)		2.83E-05	Note: ev- Evaporator of heat pipe cd- Condenser of heat pipe eb- Evaporator Block cb- Condenser Block						
Pipe specification		C110 Copper 0.3mm wall thickness			Coolant temp (°C)		35							
Diameter	±0.05 mm	6			Contact length of ev/cd (mm)		50							
Length	±0.10 mm	275			At 90° the evaporator is directly below the condenser; 0° is horizontal.									
Flatten thickness	±0.05 mm	n/a												
Bend angle	±1 deg	n/a												
Inclination Angle (°)	Heat Load (W)	dT ev-cd (°C)	Thermal resistance ev-cd (°C/W)	Thermal conductivity ev-cd (W/mK)	dT eb-cb (°C)	Thermal resistance eb-cb (°C/W)	Thermal Conductivity eb-cb (W/mK)	Measured Temperature T (°C)						
								ev	cd	eb1	eb2	cb1	cb2	
90	20	3.20	0.16	49736	3.85	0.19	41339	40.35	37.15	40.40	40.70	36.70	36.70	
	30	4.95	0.17	48229	6.05	0.20	39460	43.25	38.30	43.40	43.90	37.60	37.60	
	40	6.75	0.17	47157	8.10	0.20	39298	46.25	39.50	46.40	47.10	38.80	38.50	
	50	7.90	0.16	50365	9.55	0.19	41664	48.60	40.70	49.00	49.80	40.00	39.70	
	60	9.20	0.15	51898	11.25	0.19	42441	51.15	41.95	51.60	52.70	40.90	40.90	
	70	11.85	0.17	47008	14.25	0.20	39091	55.25	43.40	55.70	57.00	42.20	42.00	
	80	15.40	0.19	41339	18.10	0.23	35172	60.05	44.65	60.50	62.00	42.90	43.40	
60	20	2.95	0.15	53951	3.95	0.20	40292	40.40	37.45	40.50	40.80	36.80	36.60	
	30	4.30	0.14	55519	5.75	0.19	41519	43.05	38.75	43.20	43.70	37.80	37.60	
	40	5.75	0.14	55358	7.60	0.19	41883	45.95	40.20	46.20	46.80	39.10	38.70	
	50	6.90	0.14	57665	9.10	0.18	43724	48.40	41.50	48.70	49.50	40.20	39.80	
	60	8.60	0.14	55519	11.35	0.19	42067	51.60	43.00	52.00	53.00	41.30	41.00	
	70	11.80	0.17	47207	15.10	0.22	36890	56.40	44.60	56.80	58.00	42.20	42.40	
	80	13.40	0.17	47509	17.15	0.21	37121	59.35	45.95	59.80	61.20	43.10	43.60	
	90	17.05	0.19	42006	21.40	0.24	33467	64.65	47.60	65.10	66.60	44.00	44.90	
30	20	3.30	0.17	48229	4.35	0.22	36587	40.75	37.45	40.80	41.20	36.90	36.40	
	30	4.50	0.15	53052	6.05	0.20	39460	43.40	38.90	43.50	44.00	38.00	37.40	
	40	6.05	0.15	52613	8.00	0.20	39789	46.30	40.25	46.50	47.20	39.20	38.50	
	50	7.65	0.15	52011	9.95	0.20	39989	49.30	41.65	49.50	50.50	40.30	39.80	
30	60	10.70	0.18	44623	13.70	0.23	34851	54.00	43.30	54.30	55.40	41.00	41.30	
	70	18.40	0.26	30274	21.50	0.31	25909	63.30	44.90	64.50	63.00	42.30	42.20	
0	20	3.65	0.18	43604	4.70	0.24	33863	41.00	37.35	41.00	41.40	36.80	36.20	
	30	4.90	0.16	48721	6.45	0.22	37013	43.65	38.75	43.80	44.30	37.90	37.30	
	40	9.95	0.25	31991	11.80	0.30	26975	50.10	40.15	50.90	49.90	39.50	37.70	
	50	17.65	0.35	22543	20.50	0.41	19409	59.55	41.90	61.80	58.60	40.80	38.60	
-30	20	8.25	0.41	19292	9.55	0.48	16665	45.55	37.30	46.90	45.10	37.20	35.70	
	30	13.85	0.46	17237	16.20	0.54	14737	52.85	39.00	55.30	52.30	38.80	36.40	
-60	20	9.20	0.46	17299	7.90	0.40	20146	46.45	37.25	45.00	43.90	37.30	35.80	
-90	20	18.05	0.90	8817	19.95	1.00	7978	55.30	37.25	57.80	55.40	37.70	35.60	

Heat pipe performance (dT vs Inclination angles at various heat loads)

Heat pipe tested: 6mm x 275mm groove / powder metal + water



Heat Pipe Test Report

Manufacturer		Enertron			Test conditions			Test date	2018/11/9					
Wick structure/ Working fluid		Sintered Powder Metal/ Water			Effective area (m ²)		2.83E-05	Note: ev- Evaporator of heat pipe cd- Condenser of heat pipe eb- Evaporator Block cb- Condenser Block						
Pipe specification		C110 Copper 0.3mm wall thickness			Coolant temp (°C)		35							
Diameter	±0.05 mm	6			Contact length of ev/cd (mm)		50							
Length	±0.10 mm	300			At 90° the evaporator is directly below the condenser; 0° is horizontal.									
Flatten thickness	±0.05 mm	n/a												
Bend angle	±1 deg	n/a												
Inclination Angle (°)	Heat Load (W)	dT ev-cd (°C)	Thermal resistance ev-cd (°C/W)	Thermal conductivity ev-cd (W/mK)	dT eb-cb (°C)	Thermal resistance eb-cb (°C/W)	Thermal Conductivity eb-cb (W/mK)	Measured Temperature T (°C)						
								ev	cd	eb1	eb2	cb1	cb2	
90	20	3.25	0.16	54412	3.80	0.19	46537	40.65	37.40	40.50	40.70	36.80	36.80	
	30	4.60	0.15	57665	5.75	0.19	46132	43.60	39.00	43.60	43.90	38.00	38.00	
	40	6.25	0.16	56588	7.75	0.19	45636	46.80	40.55	46.80	47.10	39.40	39.00	
	50	7.05	0.14	62709	9.05	0.18	48851	49.15	42.10	49.20	49.60	40.40	40.30	
	60	8.55	0.14	62049	11.25	0.19	47157	52.30	43.75	52.40	52.90	41.50	41.30	
	70	11.50	0.16	53821	14.90	0.21	41539	57.45	45.95	57.60	58.10	43.00	42.90	
	80	14.55	0.18	48615	17.75	0.22	39851	61.30	46.75	61.60	62.20	43.80	44.50	
	90	17.25	0.19	46132	21.15	0.24	37625	65.70	48.45	66.10	67.00	44.90	45.90	
	100	19.70	0.20	44883	23.75	0.24	37229	69.55	49.85	69.80	71.00	46.20	47.10	
60	20	3.55	0.18	49814	4.10	0.21	43131	41.10	37.55	40.90	41.20	37.20	36.70	
	30	4.70	0.16	56438	5.85	0.20	45343	43.85	39.15	43.80	44.10	38.20	38.00	
	40	6.00	0.15	58946	7.55	0.19	46845	46.85	40.85	46.70	47.20	39.60	39.20	
	50	7.00	0.14	63157	8.80	0.18	50238	49.30	42.30	49.10	49.70	40.70	40.50	
	60	8.80	0.15	60286	11.20	0.19	47368	52.85	44.05	52.70	53.50	42.20	41.60	
	70	11.75	0.17	52675	14.75	0.21	41962	57.35	45.60	57.30	58.10	42.80	43.10	
	80	14.60	0.18	48449	17.15	0.21	41245	61.90	47.30	60.90	62.00	44.30	44.30	
	90	19.05	0.21	41773	23.30	0.26	34153	68.30	49.25	68.30	69.60	45.70	45.60	
30	20	3.50	0.18	50525	4.00	0.20	44210	40.85	37.35	40.60	41.00	36.90	36.70	
	30	4.80	0.16	55262	5.50	0.18	48229	43.55	38.75	43.20	43.90	38.10	38.00	
	40	6.45	0.16	54834	7.55	0.19	46845	46.70	40.25	46.40	47.20	39.40	39.10	
	50	9.20	0.18	48054	10.65	0.21	41511	51.00	41.80	50.80	51.50	40.50	40.50	
	60	13.80	0.23	38443	15.85	0.26	33471	57.05	43.25	57.30	57.80	41.60	41.80	
0	20	3.50	0.18	50525	3.75	0.19	47157	40.70	37.20	40.40	40.70	36.80	36.80	
	30	5.25	0.18	50525	5.95	0.20	44581	43.75	38.50	43.90	44.10	38.20	37.90	
	40	12.95	0.32	27311	13.95	0.35	25353	52.65	39.70	54.20	51.70	40.10	37.90	
-30	20	11.45	0.57	15444	12.75	0.64	13870	48.80	37.35	50.90	48.10	37.50	36.00	
	30	18.45	0.62	14377	20.45	0.68	12971	57.15	38.70	60.40	56.10	39.00	36.60	

Heat pipe performance (dT vs Inclination angles at various heat loads)

Heat pipe tested: 6mm x 300mm groove / powder metal + water

