GUIDE FOR HEAT TRANSACTION PIPES

■Features of WHP Heat Transaction Pipes

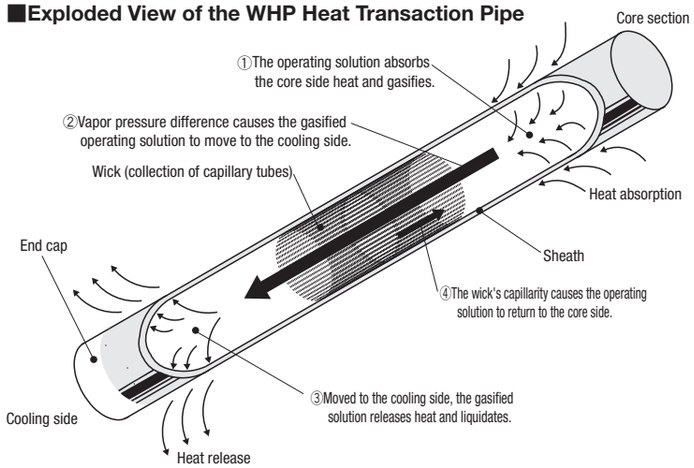
1.High level of cooling performance

The WHP Heat Transaction Pipe uses an operating solution as heat exchange medium instead of thermal conductive materials. This results in a high level of thermal conductivity (200 times higher than a copper rod) and response.

2.Stable cooling effects.

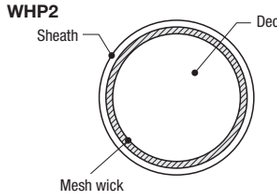
Unlike conventional methods using baffle boards or cooling pipes, the WHP Heat Transaction Pipe is less likely to cause cooling efficiency drop due to water flow reduction caused by rust and fur, and does not cause water boiling problems. These features contribute to reduction of maintenance work.

■Exploded View of the WHP Heat Transaction Pipe

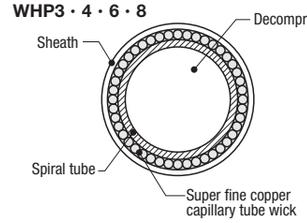


■Cross section ※Wick is a collection of capillary tubes.

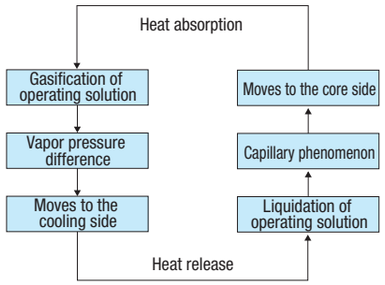
WHP2



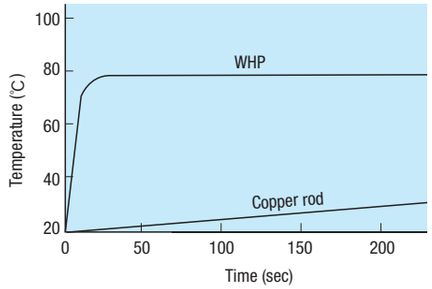
WHP3・4・6・8



■Operating Cycle of the WHP Heat Transaction Pipe



■Thermal Response Property



<Testing conditions>

- Heating medium: Hot water (80℃)
- Cooling medium: Air (room temperature)
- Heating/cooling section size: 1 vs. 1(equal)
- Measured location: Cooling section
- Pipe size: ϕ 4 L105

■Notes

①Use under a temperature of 200℃or lower. (Burst temperature 250℃) It is designed to withstand an internal pressure up to 20kgf/cm²(For example, the internal pressure rises to 16kgf/cm² at 200℃).

②If the cooling section area is insufficient, proper cooling effects may not be obtained. Provide a water cooling jacket referring to mounting method, and secure the cooling section area.

③Do not cut or disassemble.

④Bending or squashing the heat transaction pipe hampers its cooling function.

⑤Do not use oil for cooling.

■Thermal Conductivity

Unit kcal/h

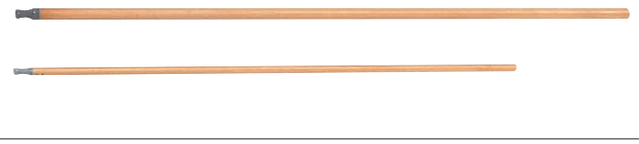
Part Number		L						
Type	D	35	40	45	50	55	60	65
WHP	2	16.5	15.5	14.5	13.5	12.5	11.6	11
	3	—	36.5	35.4	34.5	33.6	32.6	31.8
	4	—	—	—	110	101	93	86.2
	6	310	280	250	230	210	192	175
	8	420	380	340	310	280	260	240

Unit kcal/h

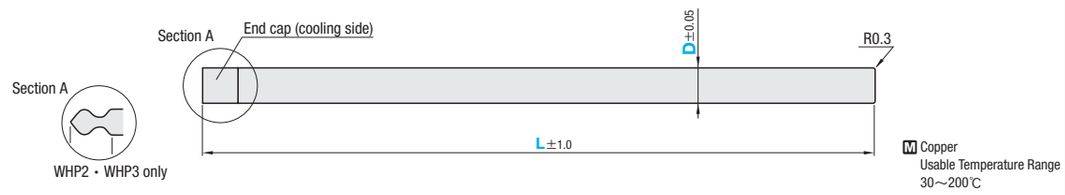
Part Number		L							
Type	D	75	85	105	125	145	165	205	225
WHP	2	9.5	8.2	6	5.6	5.2	—	—	—
	3	30	28	25.8	23.2	20.6	—	—	—
	4	80.8	74.7	68.8	61.9	53.3	41.7	37.8	37.0
	6	160	145	130	118	109	102	95	89
	8	221	203	180	—	—	—	—	—

HEAT TRANSACTION PIPES

RoHS



WHP (Heat transaction pipe)



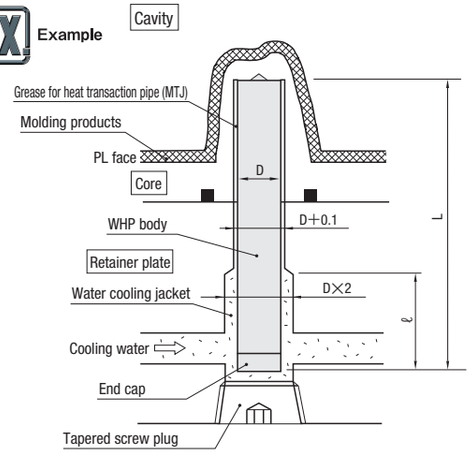
Part Number		L	U/Price
Type	D		1～9
WHP	2	35 40 45 50 55 60 65 75 85 105 125 145	Quotation
	3	40 45 50 55 60 65 75 85 105 125 145	
	4	50 55 60 65 75 85 105 125 145 165 205 225	
	6	35 40 45 50 55 60 65 75 85 105 125 145 165 205 225	
	8	35 40 45 50 55 60 65 75 85 105	

Order — Part Number: WHP 3 — L: 105

Price: Quotation

Days to Ship: Quotation

Example



■Mounting Method

①Make a mounting hole in D+0.1 diameter.

②Provide a water cooling jacket in light of the following:

Depth (ℓ) → L/3 or more

Hole diameter → D×2 or more

③We recommend that the MTJ grease be applied on the heat transaction pipe before inserting WHP into a mold.

④The heat transaction pipe(WHP) must be inserted so that its end cap is on the cooling side.