

**COOLING**  
**SERIES**  
**冷却系列**



# 快速接头

## QUICK RELEASE CONNECTOR PLUGS

### Z80 / ...



Z802/...  
Z81/...  
Z811/...  
Z83/...  
Z830/...  
Z831/...  
Z90/...



Z85/...  
Z851/...  
Z852/...  
Z853/...  
Z854/...

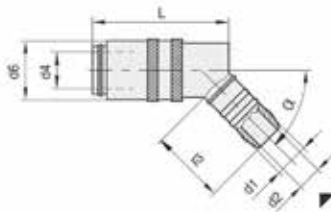
材料	max. °C
Air	200
Oil	120
Water	100

Type	p [bar]	L	l2	d6	d2	d1/d4
Z80/9	25	31	22	17	6	9
Z80/13		37	25	22	9	13
Z80/19		58	32	31	13	19

### Z80 /.../45°



Z802/...  
Z81/...  
Z811/...  
Z83/...  
Z830/...  
Z831/...  
Z90/...



Z85/...  
Z851/...  
Z852/...  
Z853/...  
Z854/...

材料	max. °C
Air	200
Oil	120
Water	100

Type	p [bar]	L	l2	d6	d2	d1/d4	α
Z80/9/45	25	41	28	17	6	9	90°
Z80/13/45		51		22	9	13	
Z80/19/45		78		31	13	19	

# 快速接头

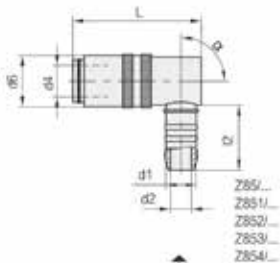
## QUICK RELEASE CONNECTOR PLUG

### Z80 /.../ 90°



介质	max. °C
Air	200
Oil	200
Water	160

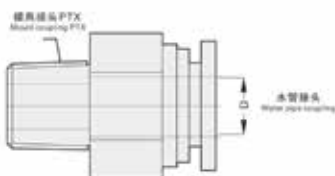
Z802...  
Z811...  
Z811V...  
Z831...  
Z830V...  
Z831V...  
Z901...



Z852...  
Z851V...  
Z852V...  
Z853V...  
Z854V...

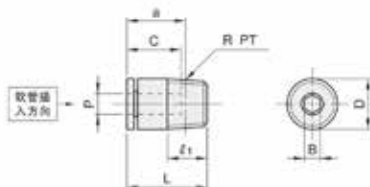
Type	p [bar]	L	l2	d6	d2	d1/d4	α
Z80/9/90	25	41	24	17	6	9	90°
Z80/13/90		51	28	22	9	13	
Z80/19/90		78	31	31	13	19	

### PTX



Type	PT	D(φ)
PTX-1	1/8	6, 8, 10, 12
PTX-2	1/4	
PTX-3	3/8	
PTX-4	1/2	8, 10, 12

### M-POC



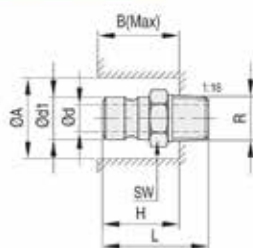
Type	PT	D(φ)
M-POC	1/8	4/6/8
	1/4	6/8/10
	3/8	8/10/12

Type	PT	D
M-POC	1/8	4

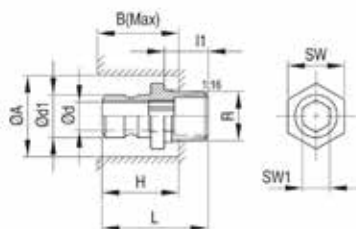
# 快速接头

## QUICK RELEASE CONNECTOR PLUGS

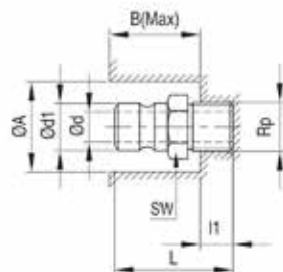
### FSVK



Type	R	d1	d	L	A	B	H	SW	Series	
N6-1/8"A	1/8"BSPT	9,4	6	24,0	22	18	17	13	N6	
N6-MA	M10x1			23,0						
N6-1/4"A	1/4"BSPT			29,0	26	20	19	16		
N6-3/8"A	3/8"BSPT			30,0	30	22	21	19		
N9-1/8"A	1/8"BSPT	13,5	9	34,0	26	26	25	14	N9	
N9-1/4"A	1/4"BSPT				30	28	26	19		
N9-3/8"A	3/8"BSPT			6	29,5	26	26	25		16
N9-MA	M10x1			9	39,0	37	28	26		24
N9-1/2"A	1/2"BSPT	19,9	16	44,0	32	38	37	22	N16	
N16-1/2"A	1/2"BSPT				38	40	38	29		
N16-3/4"A	3/4"BSPT			45,0	38	40	38	29		



Type	R	d	d1	L	l1	A	B	H	SW	SW1	Series
N6-1/8"AHN	1/8"BSPT	6	9,4	23	9	22	16	14	11	5	N6
N6-M10x1AHN	M10x1										
N6-1/4"AHN	1/4"BSPT			28							
N6-M14x1.5AHM	M14x1.5			34	14	26		16			
N9-1/4"AHM	1/4"BSPT	9,3	13,5	34	14	22	20	16	8	N9	
N9-M14x1.5AHM	M14x1.5										
N9-M16x1.5AHM	M16x1.5			30	23	21	19				
N9-3/8"AHM	3/8"BSPT			35	30	23	21	19			



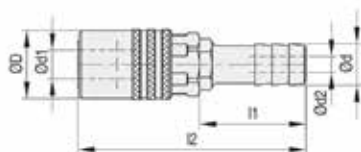
Type	Rp	A	B	d1	d	L	l1	SW	Series
FN 9-14 A	1/4"BSPT	30	23,5	13,5	9	34	11,5	16	N9
FN 9-38 A	3/8"BSPT							19	
FN 16-38 A	3/8"BSPT	32	29,5	19,9	15	40	22	53	N16
FN 16-38 AL	3/8"BSPT							24,5	
FN 16-12 A	1/2"BSPT							45	
FN 16-12 AL	1/2"BSPT					54	25,5		

材质

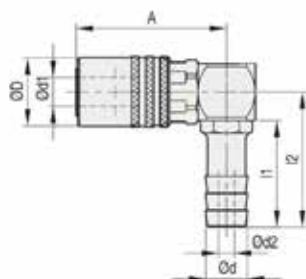
黄铜 Brass

# 快速接头 QUICK RELEASE CONNECTOR PLUG

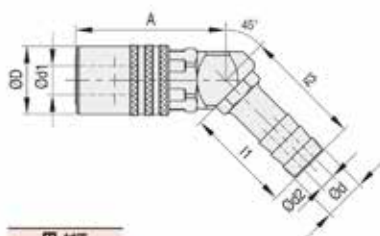
## SVK



Type	d1	d2	d	D	l1	l2	Series
SVK-106	9,5	5	7,3	17,0	27	57	N6
SVK-109		6	10,5				
SVK-111	13,6	9	12,2	22,6	46	103	N9
SVK-113			14,0				
SVK-119	20,0	16	20,0	30,0	46	103	N16



Type	d1	d2	d	D	A	l1	l2	Series
SVK-206	9,5	5	7,3	17,0	38	27	34	N6
SVK-209		6	10,5					
SVK-211	13,6	9	12,2	22,6	52	46	69	N9
SVK-213			14,0					
SVK-219	20,0	16	20,0	30,0	74	46	69	N16



Type	d1	d2	d	D	A	l1	l2	Series
SVK-306	9,5	5	7,3	17,0	38	27	34	N6
SVK-309		6	10,5					
SVK-311	13,6	9	12,2	22,6	52	46	69	N9
SVK-313			14,0					
SVK-319	20,0	16	20,0	30,0	74	46	69	N16

材料

黄铜 Brass

开放式 Flow-thru type



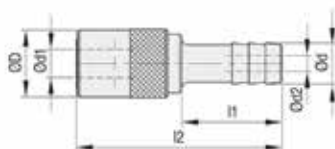
自动切断式 Automatic shut-off type



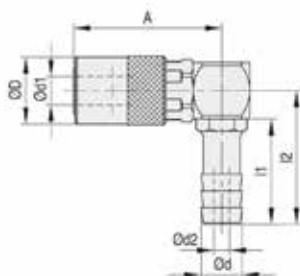
# 快速接头

## QUICK RELEASE CONNECTOR PLUGS

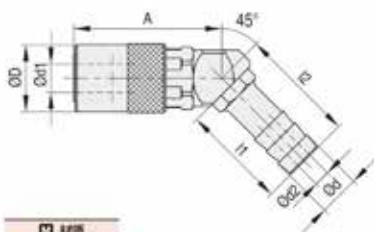
### SK



Type	d1	d2	d	D	I1	I2	Series
SK-106	9,5	5	7,3	17,0	25	52	N6
SK-109		6	10,5				
SK-111	13,6	9	12,2	22,6		62	N9
SK-113			14,0				
SK-119	20,0	16	20,0	30,0	32	77	N16



Type	d1	d2	d	D	A	I1	I2	Series
SK-206	9,5	5	7,3	17,0	38	27	34	N6
SK-209		6	10,5					
SK-211	13,6	9	12,2	22,6	52		37	N9
SK-213			14,0					
SK-219	20,0	16	20,0	30,0	68	46	69	N16



Type	d1	d2	d	D	A	I1	I2	Series
SK-306	9,5	5	7,3	17,0	38	27	37	N6
SK-309		6	10,5					
SK-311	13,6	9	12,2	22,6	52		69	N9
SK-313			14,0					
SK-319	20,0	16	20,0	30,0	67	46	69	N16

材料

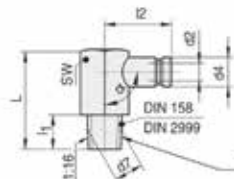
黄铜 Brass

# 水咀 NIPPLES

## Z81 /.../ 90°



材料	max. °C
Air	200
Oil	120
Water	100



Z80/... Z80HT/... Z80PL /...  
 Z801/... Z801HT/... Z801PL /...  
 Z802/... Z8021/...  
 Z805/...  
 Z8051/...  
 Z807/... Z807HT/...  
 Z808/... Z808HT/...  
 Z82/...

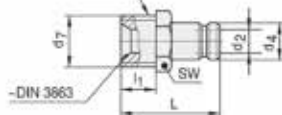
Type	L	l1	SW	l2	d2	d4	d7
Z81/9/8x0,75/90	27	9	11	23	4,5	9	M 8x0,75
Z81/9/9x1/90					5,5		M 9x1
Z81/9/10x1/90					6		M 10x1
Z81/9/R1/8/90							R 1/8A
Z81/13/11x1/90	34	11	15	25	8,5	13	M 11x1
Z81/13/14x1,5/90					9		M 14x1,5
Z81/13/R1/4/90					R 1/4A		
Z81/19/24x1,5/90	47	16	24	42	13	19	M 24x1,5
Z81/19/R1/2/90							G 1/2A

## Z811/...



材料	max. °C
Air	200
Oil	120
Water	100

Coated with sealing compound



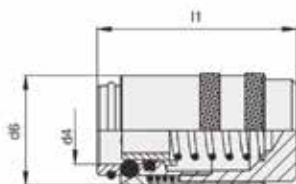
Z80/... Z80PL /...  
 Z802/...  
 Z807/...  
 Z80700/...  
 Z805/...  
 Z82/...

Type	L	l1	SW	d2	d4	d7
Z811/9/14x1,5	29	12	15	6	9	M 14x1,5
Z811/9/R1/4						G 1/4A
Z811/13/16x1,5	30	12	17	9	13	M 16x1,5
Z811/13/R3/8						G 3/8A
Z811/19/24x1,5	51	16	27	13	19	M 24x1,5
Z811/19/R3/4						G 3/4A

Z825 / ...



Z804/...  
Z811/...  
Z810/...  
Z831/...  
Z830/...  
Z831/...  
Z901/...  
Z900/...



材質	max.°C
Air	200
Oil	120
Water	100

Type	l1	d6	d4
Z825/9	34	17,25	9
Z825/13	40	22,1	13
Z825/19	58	31	19

Z83 / ...



Z801/... Z80PL /...  
Z8011/... Z801PL /...  
Z8071/...  
Z821/...



材質	max.°C
Air	200
Oil	120
Water	100



Type	l2	L	d2	Typ	d4	d1
Z83/9	22,5	43,5	6	1	9	9
Z83/13	25	42	9		13	13
Z83/19	32	61	13		19	19
Z83/9/5	13,5	29,5	3,5	2	9	5
Z83/13/9	22,5	39,5	6		13	9
Z83/19/13	25	54	9		19	13

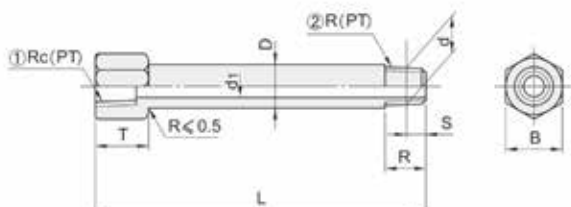


# 冷却水用接头

## COOLING WATER CONNECTOR

### JTW / JTWS 锥螺纹延长用

RoHS

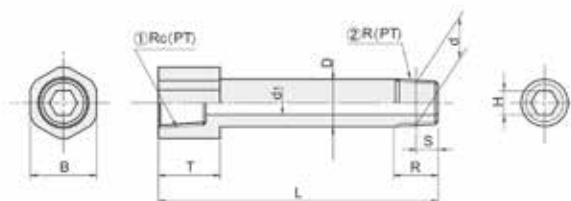


Code	材料
JTW	黄铜 C3604
JTWS	不锈钢 SUS304

Type	No.	L		B	T	D	d1	l	S	d	① Rc(PT)	② R(PT)
		指定单位5mm	指定单位10mm									
JTW JTWS	1	30~145	150~300	14	13	10.5	6	10	3.97	9.728	1/8	1/8
	2			17	16	13.8	8	6.01	13.157	1/4	1/4	
	3			21	17	17.3	10	6.35	16.662	3/8	3/8	

① 请在常压980kPa(10kgf/cm<sup>2</sup>)以下使用。 ② L尺寸250mm以上仅适用于JTW。

### HX-JTW



材料
黄铜(C3604)

HX-JTW (外六角内C内六角孔型)

Type	No.	L	B	T	D	d1	内六角孔 CH	l	S	d	① Rc(PT)	② R(PT)
HX-JTW	1	50~150 (指定单位10mm)	14	13	10	6	○6	9	3.97	9.728	1/8	1/8
	2		17	16	13	8	○8	11	6.01	13.157	1/4	1/4
	3		21	17	17	10	○10	13	6.35	16.662	3/8	3/8

① 请在常压980kPa(10kgf/cm<sup>2</sup>)以下使用。 ② 锥螺纹部分②设有内六角孔。



Type No. L

JTW - 1 - 50

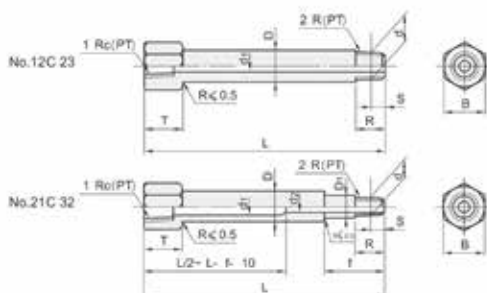
# 冷却水用接头 COOLING WATER CONNECTOR

## JTWF 锥螺纹转换型



材质

黄铜 C3604



Type	No.	L 指定单位10mm	B	T	D	D <sub>1</sub>	d <sub>1</sub>	d <sub>2</sub>	f	e	S	d	① Rc(PT)	② R(PT)
JTWF	1	50~200	17	16	13.8	-	6	-	-	10	6.01	13.157	1/8	1/4
	2		21	17	17.3	-	8	-	-	12	6.35	16.662	1/4	3/8
	3		17	16	13.8	11	-	6	15	10	3.97	9.728	1/4	1/8
	4		21	17	17.3	14	10	8	-	10	6.01	13.157	3/8	1/4

 ① 请在常压980kPa(10kgf/cm<sup>2</sup>)以下使用。

 Type No. L  
 JTWF - 1 - 50

## WCP / WCSP 锥螺纹延长用



① WCP / WCSP的螺紋为雄牙

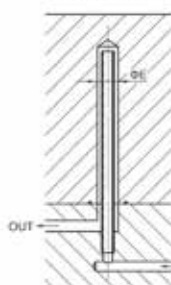
Code	材质
WCP	黄铜 C3604
WCSP	不锈钢 SUS304

Type	D	MXPitch (细牙螺紋)	d	L
WCP (黄铜)	3	M3X0.35	1.0	50 100
				150 200
				250 300
WCP (黄铜)	4	M4X0.5	2.0	50 100
				150 200
				250 300
WCP (黄铜)	5	M5X0.5	3.0	50 100
				150 200
				250 300
WCSP (不锈钢)	6	M6X0.75	4.0	50 100
				150 200
				250 300
WCSP (不锈钢)	8	M8X0.75	5.0	50 100
				150 200
				250 300
WCSP (不锈钢)	10	M10X1.0	7.0	50 100
				150 200
				250 300

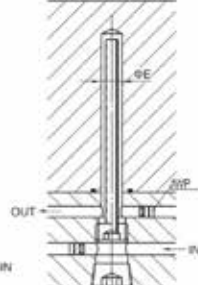

 Type D L  
 WCP - 3 - 50

## 功能示意图 Functional chart

• WCP/WCSP



• WCP/MCWPPT

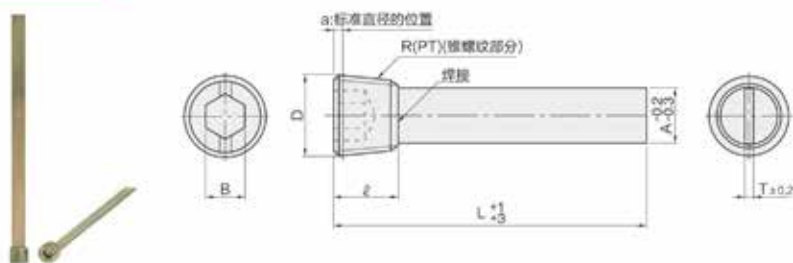


① OE的推荐值请参照右页使用范例

# 隔水片

## STRAIGHT BRASS PLUG BAFFLES

### CPF 销螺纹安装型



表面处理	硬度		材质	
	螺纹部分	平板	螺纹部分	
镀锌	HRC32~42	黄铜 C3604	S45C	

Type	A	L		T	R(PT)	D	a	螺纹牙数	Pitch	$\ell$	B
		$\phi 10$									
CPF	6	50~200	1.5	1/8	9.728	0.45	28	0.91	7	5	
	8										
	9										
	10	50~250	2.0	1/4	13.157	0.7	19	1.34	8.9	6	
	12										
14	50~300		3/8	16.862					10	8	

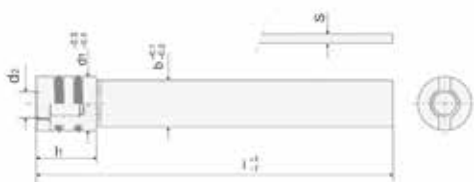


Type    A    L  
CPF    -    6    -    50

### W5039 封圈隔水片



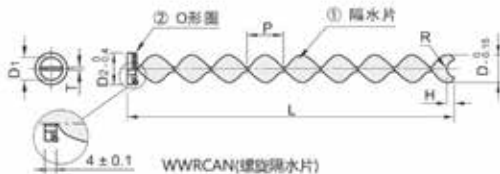
材质	
平板	橡胶圈
黄铜 C3604	氟橡胶 Viton



Type	S	b	l	l <sub>1</sub>	d <sub>1</sub>	d <sub>2</sub>
W5039/10/180	2	10	180	13	12	M6
W5039/15/250		15	250	16	16	M8
W5039/20/300		20	300	20	22	M12
W5039/25/390		25	390	22	26	M16

**WWRC**
**塑胶螺旋隔水片**


Code	构成零件	材料	数量
①	隔水片	PA6+30%GF (含30%玻璃纤维的尼龙)	1
②	O形圈	氟橡胶	1


**WWRCTN(WRCAN 用分流板)**

Code	构成零件	材料	数量
①	分流板	PA6+30%GF (含30%玻璃纤维的尼龙)	1
②	O形圈	氟橡胶	2



▲请与WWRCAN配套使用


**材料**  
PA6+30%GF(含30%玻璃纤维的尼龙)

**材料**  
PA6+30%GF(含30%玻璃纤维的尼龙)

Type	D	D1	D2	T	R	H	P	A
WWRCAN (隔水片) (分装型)	8	8	15	1.5	2	2	20	4.2
	10	10	18	1.8	2.5	2.5		
	12	11	22	2	3	3		
	16	15	25	3	4	4		
	20	18	30	5	5	5	25	

Type	D	D2	D3	T	R	B
WWRCTN (分流板) (分装型)	8	15	6	1.2	4.1	4.5
	10	18	8	1.5		
	12	22	10	1.6		
	16	25	13	2		
	20	30	17			

Type	D	R	H	P
WWRCBN (全装型)	8	2	2	20
	10	2.5	2.5	
	12	3	3	
	16	4	4	
	20	5	5	

Type	D	T	R	H	P
WWRCAN (全装型)	8	1.5	2	2	20
	10	1.8	2.5	2.5	
	12	2	3	3	
	16	3	4	4	
	20		5	5	
	25	3.5	6	6	



Type    D    L

WWRCAN - 8 - --

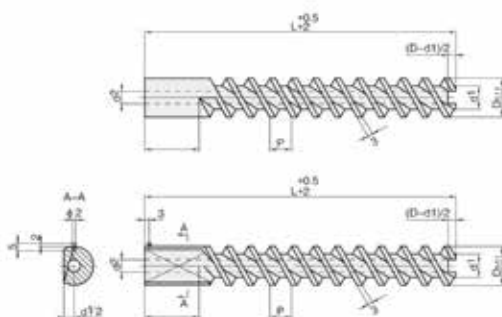
# 螺旋铝质运水芯

## ALUMINUM SINGLE HELIX WATER

### ALC 单螺旋铝质运水芯



Code	类型	材料
ALC-A	A型	铝6061
ALC-B	B型	

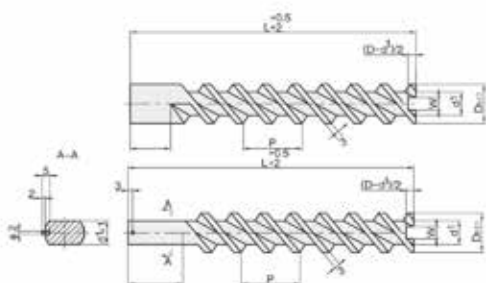


Type	D	d <sub>1</sub>	d <sub>2</sub>	ℓ	P	L							
ALC-A ALC-B	12	8	5	35	14	L125	L150	L175	L200	L250	L300	L350	L400
	16	11	6										
	20	13	8										
	25	15	10										
	32	22	12										
	40	26	14										
	50	32	16	18									

### ALD 双螺旋铝质运水芯



Code	类型	材料
ALD-A	A型	铝6061
ALD-B	B型	

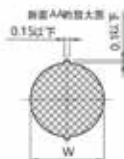
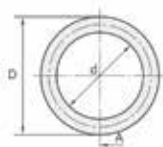


Type	D	L	d <sub>1</sub>	W	ℓ	P	L							
ALD-A ALD-B	12	125	8	5	35	28	L125	L150	L175	L200	L250	L300	L350	L400
	16	150	11	6										
	20	175	13	8										
	25	200	15	10										
	32	250	22	12										
	40	300	26	14										
	50	400	32	16	36									



Type    D    P    L  
ALC-A - 12 - 14 - 125

## SOR



适用温度范围

-15~150°C

材质

氟橡胶 FKM-70

其他尺寸和规格, 可以按照要求定制

Other sizes and specifications can be customized according to requirements.

Type	No.	O型圈安装槽加工尺寸(参考值)			W(粗细)	do(内径)			
		*d	*D, D1(通用)						
SOR	P 3	3	6	+0.05 0	1.9±0.07	2.8	±0.24		
	P 4	4	7						
	P 5	5	8						
	P 6	6	9						
	P 7	7	10						
	P 8	8	11						
	P 9	9	12						
	P 10	10	13						
	P 11	11	15			+0.06 0		2.4±0.07	10.8
	P 12	12	16						
	P 14	14	18						
	P 15	15	19						
	P 16	16	20						
	P 18	18	22						
	P 20	20	24						
	P 21	21	25						
	P 22	22	26						
	P 24	24	30	+0.08 0	3.5±0.1		23.7		±0.3
	P 25	25	31						
	P 26	26	32						
	P 28	28	34						
	P 30	30	36						
	P 31	31	37						
	P 32	32	38						
	P 34	34	40						
	P 35	35	41						
	P 36	36	42						
	P 38	38	44						
	P 39	39	45						
	P 40	40	46						
	P 42	42	48			+0.08 0	3.5±0.1	39.7	
	P 44	44	50						
	P 46	46	52						
	P 48	48	54						



Type

No.

SOR

P3

# 冷却水分流器

## COOLING WATER DIVERTER

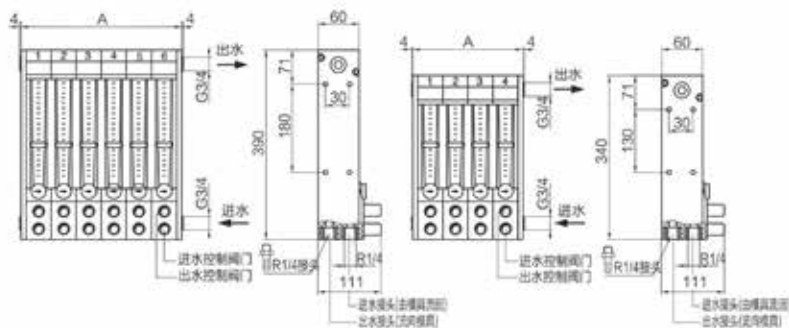
CWD



CORD 10



CORD 8



### 产品特点 Precautions

- 温度控制：通过对塑料成型机、金属压铸机、吹塑机及其它相关设备的冷却水流量控制，达到控制模具温度的作用，从而提高产品成型质量。
- 回路监测：当冷却水回路有堵塞时，能马上显示，避免产生不良品。
- 分组监控：每组都设有温度表及流量调节阀，通过流量调节阀分区控制水流量，以保证产品的统一收缩性。
- 清洗方便：由于分流器会因进入杂质而堵塞，或使用时间过长内壁挂有水垢，只需将分流器上端的螺盖卸下，用管刷清洗干净即可。
- Temperature Control: Control the mold temperature by controlling the cooling water flow of mechanical equipment to improve the quality of production and moulding.
- Water Flow Detector: When the cooling water is blocked, it can be displayed immediately to avoid bad products.
- Group monitoring: Each group has a temperature meter and a flow controller, which can control the flow of water through the flow controller. So as to ensure the consistency of shrinkage rate of products.
- Easy to clean: When the shunt is blocked or rusty, just remove the bolt at the top and clean the pipe.

材料	附件
阀体、透气管：聚酰胺 阀芯：黄铜 密封圈：氟橡胶	R1/4接头 2件组 M12内六角扳手1件 管刷1件

Type	No.	管数 Pipe number	A
CWD8 CWD10	T2	2	124
	T4	4	229
	T6	6	334
	T8	8	439
	T10	10	543
	T12	12	647

### CWD8参数

1. 工作介质：水
2. 流量：0~8L/min.
3. 压力与温度：

最大压力 (bar)	最高温度 (°C)
8	80
6	100
4	120

### CWD10参数

1. 工作介质：水
2. 流量：0~10L/min.
3. 压力与温度：

最大压力 (bar)	最高温度 (°C)
10	60
8	80
6	100
4	120



Type No. L  
CWD8 - T2 - 50

# 冷却水用流量计

## FLOW METERS FOR MOLD

### FLAF / FLAM



外螺纹安装用

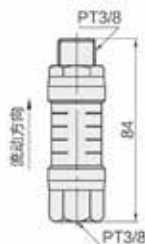


内螺纹安装用

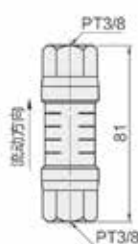
#### 简易型

材料	使用温度范围
透视镜, 聚酰胺 阀芯, 黄铜	10℃~120℃

FLAF



FLAM



### FLBF / FLBM



外螺纹安装用



内螺纹安装用

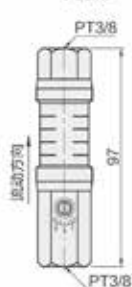
#### 流量调节型

材料	使用温度范围
透视镜, 聚酰胺 阀芯, 黄铜	10℃~120℃

FLBF



FLBM



#### 产品特点 Precautions

- 冷却水流量可通过刻度确认, 可防止冷却条件的不稳定。
- 内置流量调节装置, 可设定模具冷却条件。
- The cooling water flow rate can be confirmed by the scale, which can prevent the instability of cooling conditions.
- Built-in flow adjustment device, mold cooling conditions can be set.

#### 注意事项 Attention

- 不可用于模具冷却以外用途。
- 请按右表使用。
- Cannot be used for purposes other than mold cooling.
- Please use the recommended data in the table.

最大使用压力	MPa	0.5
最大耐压力	MPa	0.8
最大流量	l/min	18
最大安装扭矩	N·m	12



# 冷却水接头 COOLING WATER COUPLING

## JWRF/JWRL



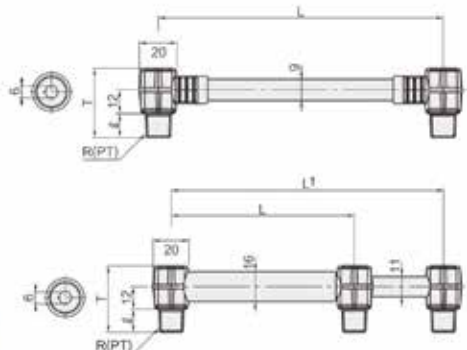
JWRF(软管型)



JWRL(伸缩型)

螺纹部: JIS B 0203  
管用标准螺纹(R/PT)

Code		材料
伸缩型	软管型	
JWRF	JWRL	本体: 聚脂酮树脂 软管: 聚氨酯 螺纹部: 黄铜



### 软管型

Type	No.	L	R(PT)	T	ℓ
JWRF	1	140	1/8	31	9
	2		1/4	35	12.7

### 伸缩型

Type	No.	L	L <sub>1</sub>	R(PT)	T	ℓ
JWRL	1	50	65	1/8	31	9
		65	100			
		100	160			
	2	50	65	1/4	35	12.7
65		100				
100		160				



Type No. L  
JWRF - 1 - 140

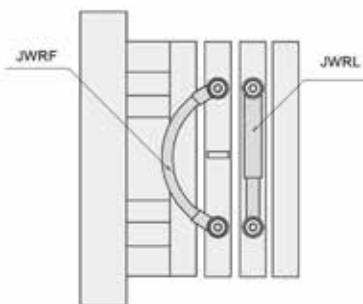
### 产品特点 Precautions

- JWRF (软管型) 用于模具冷却系统间的相互连接, 可避开中间的障碍物进行安装, 同时减少模具体积, 安装简便, 使用内六角扳手即可拆装, (推荐应用于100mm以上孔距)。
- JWRL (伸缩型) 可在 L<sub>1</sub> 的范围内自由调整长度, 配合模具水冷却系统相互连接, 降低管路复杂度, 同时减少模具体积。
- JWRF is used for the interconnection of mold cooling systems, which can avoid the obstacles in the middle, reduce the volume of the mold, and is easy to install.
- JWRL can adjust the length within the range of L<sub>1</sub>, reduce pipeline complexity and reduce mold volume.

### 注意事项 Attention

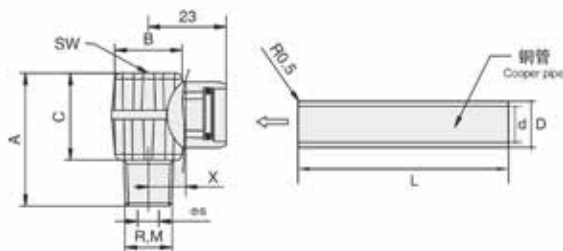
- JWRF (伸缩型) 安装前请使内六角扳手空转5次, 不空转而紧拉时, 可能会导致漏水。
- Before installing the JWRF, use the hex wrench to run idling for 5-6 times, otherwise it may cause water leakage.

### 功能示意图 Functional chart



# 冷却水接头

## COOLING WATER COUPLING

**JWRC**
**调整型**


构架主体	铜管	螺纹部分	螺纹部分
聚碳酸酯树脂	黄铜 C3604	黄铜 C3604	管用锥螺纹R(PT)

Type	No.	A	B	C	X	R(PT)	M	S	T	SW	D	d	L
JWRC	1	35	21	26	8.7	1/8"	10	5	8	6	8	6	50-300
	2					6							
	3	39	25	30	11.2	1/4"	12	9	12	8	12	10	50-300
	4					3/8"							

示例：安装时，冷却水孔中心距为300mm，实际铜管长度为(300-2X) mm

For example: when installing, center distance of cooling water hole is 300 mm. Actual length of copper pipe is (300-2X) mm.

### 规格 Specification

尺寸 Dimension		1/8	1/4	3/8
最大紧固扭矩 (N · cm) (kgf · cm <sup>2</sup> )	Maximum tighten torque	490 (50)	880 (90)	1175 (120)
常用压力 (kPa) (kgf · cm <sup>2</sup> )	Common pressure	980 (10)		
最高压力 (kPa) (kgf · cm <sup>2</sup> )	Maximum pressure	1470 (15)		
适用温度范围	Applicable temperature range	80℃以下 Lower than 80 degree		
耐真空性	Vacuum resistance	不适用 Not applicable		

### 产品特点 Precautions

调整型冷却水管用接头，  
用于冷却水孔之间的连接，配合铜管，可任意调整距离（最长距离500mm），  
装配简单，使用内六角扳手即可拆装。

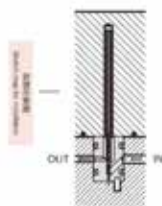
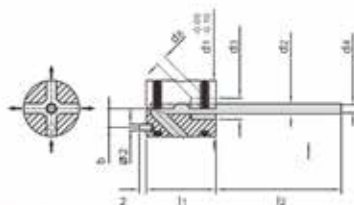
Cooling water coupling with regulating type  
It applies to connection between cooling water holes, cooperate with copper pipe,  
and be able to adjust distance randomly (maximum distance of 500 mm). The  
assembly is simple, and it could be disassembled and assembled through  
hexagonal wrench.



Type	No.	L
JWRC	1	50

# 冷却水针 COOLING WATER NEEDLE

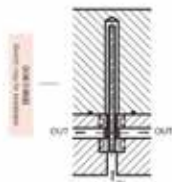
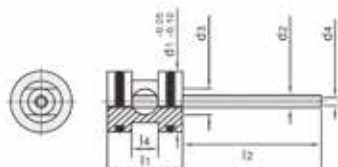
## E2110



材料		耐温
主体 SUS 304	O型圈 Viton	150℃

Type	b	d3	d4	d8	l1	l2	d1	d2
E2110/10/1.3	3	4	0.8	2	15	150	10	1.3
E2110/10/1.6			1.2					1.6
E2110/10/2.4			1.8					2.4
E2110/16/1.6	5.5	6	1.2	3	20	200	16	1.6
E2110/16/2.4			1.8					2.4
E2110/16/3.3			2.5					3.3
E2110/25/4	9	12	3.2	12	30	25	25	4
E2110/25/5			4					5
E2110/25/6			5					6
E2110/25/8			7					8

## E2112



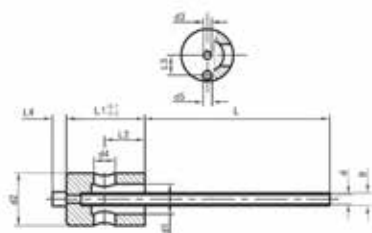
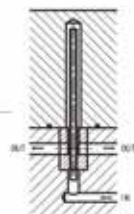
材料		耐温
主体 SUS 304	O型圈 Viton	150℃

Type	d3	d4	l1	l2	l4	d1	d2
E 2112/10/1.3	4	0.8	15	150	4	10	1.3
E 2112/10/1.6		1.2					1.6
E 2112/10/2.4		1.8					2.4
E 2112/16/1.6	7	1.2	20	200	7	16	1.6
E 2112/16/2.4		1.8					2.4
E 2112/16/3.3		2.5					3.3
E 2112/16/4	12	3.2	30	12	12	25	4
E 2112/16/5		4					5
E 2112/16/6		5					6
E 2112/25/4		3.2					4
E 2112/25/5	12	4	30	12	12	25	5
E 2112/25/6		5					6
E 2112/25/8		7					8

# 冷却水针

## COOLING WATER NEEDLE

### Z962


 冷却水针  
Cooling Water Needle


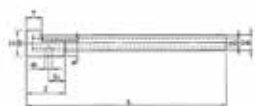
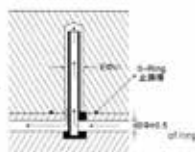
材质

SUS 304

Type	D	d2	d3	L	L1
Z9622	2.6	10	2	100/200	16
Z9623	3		2.4		
Z9624	4		3		
Z9625	5	12	4	160/315	18
Z9626	6	16	5		
Z9628	8	18	6		
Z96210	10	20	8		
Z96212	12	25	10		

### CPC

### 运水针


 冷却水针  
Cooling Water Needle


材质

黄铜 Brass

Type	$\phi$ Hh8		T	$l_1$	$l$	d1	a	d	D	L
CPC	10	$-0.022$	4	10	18	3	8.5	0.9	1.5	150
								1.5	2.5	
			2(2.2)					3(3.2)		
	12	$-0.027$	5.1	11	20	3.5	7.2	3	4	200
			5.4			9.5	5	6		
	15	$-0.027$	5.6	11	22	6.5	12	6	8	300
	18					8.5	11	8	10	
	22	$-0.033$				10.5	14	10	12	350



Type

D

L

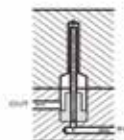
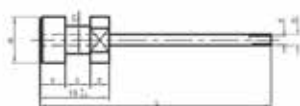
Z9622 - 3 - 100

# 冷却水针

## COOLING WATER NEEDLE

WCPK

压入型



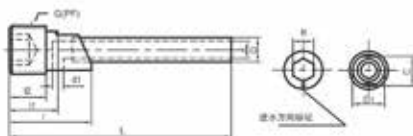
材质

SUS 304

Type	H	D1	C	d	D	L
WCPK	8	6	6	1.6	2	100
						200
				2.5	3	100
	10	8	8	3.6	4	200
						300
						200
300						

WCPF

英制直螺纹型



材质

SUS 304

Type	G (PF)	B	I	I1	I2	C	D1	d1	d	D	L
WCPF	1/8	4	20	13	10	6.7	8	1.6	1.6	2	100
										200	
								2.5	2.5	3	100
	1/4	5	23	15	12	8.5	10	3.6	3.6	4	200
											300
											200
300											



Type

D

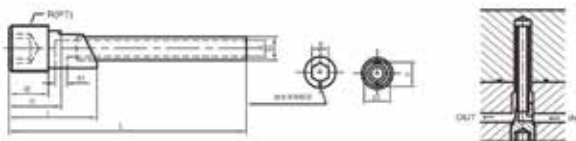
L

WCPK - 2 - 100

# 冷却水针

## COOLING WATER NEEDLE

### WCPFT 锥螺纹型

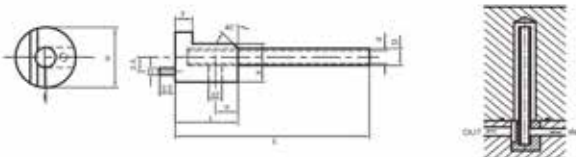


材质

SUS 304

Type	R (PT)	B	l	l1	l2	C	D1	d1	d	D	L
WCPFT	1/8	4	20	13	10	6.7	8	1.6	1.6	2	100
											200
											100
	1/4	5	23	15	12	8.5	10	2.5	2.5	3	200
											300
											200
							3.6	3.6	4	300	

### WCPS 台肩定位型



材质

SUS 304

Type	HhB		T	l1	l	d1	a	d	D	L
WCPS	10	$\begin{matrix} 0 \\ -0.002 \end{matrix}$	5.1	10	18	3.5	7.2	3	4	200
	12					5.4	9.5	5	6	300
	15	$\begin{matrix} 0 \\ -0.007 \end{matrix}$	5.6	11	22	20	12	6	8	300
	18					8.5	11	8	10	350
	22	$\begin{matrix} 0 \\ -0.003 \end{matrix}$				10.5	14	10	12	350



Type

D

L

WCPFT - 2 - 100

# 冷却水针

## COOLING WATER NEEDLE

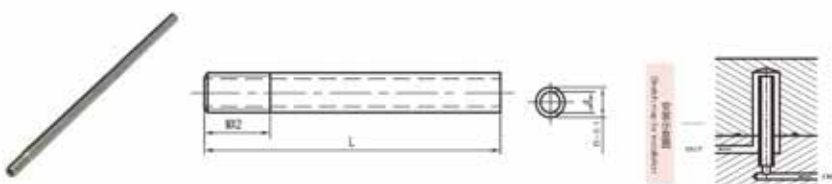
### WCPN 销子定位型



材料  
SUS 304

Type	H <sub>h8</sub>	T	l <sub>1</sub>	l	d <sub>1</sub>	a	d	D	L	
WCPN	10	0 -0.022	4	10	18	3	-	0.9	1.5	150
								1.5	2.5	
								2.2	3.2	

### WCSP



材料  
SUS 304

Type	M x P	d	D	L
WCSP	M3 x 0.35	1.0	3	50 100
				150 200
	M4 x 0.5	2.0	4	50 100
				150 200
	M5 x 0.5	3.0	5	50 100
				150 200
	M6 x 0.75	4.0	6	250 300
				50 100
	M8 x 0.75	5.0	8	150 200
				250 300
	M10 x 1.0	7.0	10	50 100
				150 200
			250 300	



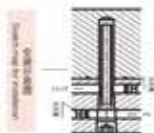
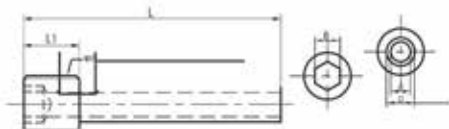
Type D L  
WCPN - 1.5 - 150

# 冷却水针

## COOLING WATER NEEDLE

### WCPM

#### 普通直螺纹



材质

SUS 304

Type	MXP	B	d	D	L1	L
WCPM	M6 x 1.0	3	1.6	2	6	150
			2.5	3		200
			3.6	4		200
	M8 x 1.25	4	2.5	3	8	200
			3.6	4		250
						300

### WCPPT

#### 锥螺纹



材质

SUS 304

Type	R (PT)	B	d	D	L1	L
WCPPT	1/8	5	1.6	2	7	150
			2.5	3		200
			3.6	4		200
						250
						200
						300



Type

D

L

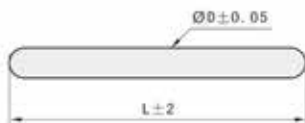
WCPM - 2 - 150



# 冷却棒

## HEAT PIPES

### HTK



Type	D	L
HTK	2	30-300
	2.5	
	3	
	4	
	5	
	6	
	8	
10		
12		

#### 产品特点 Precautions

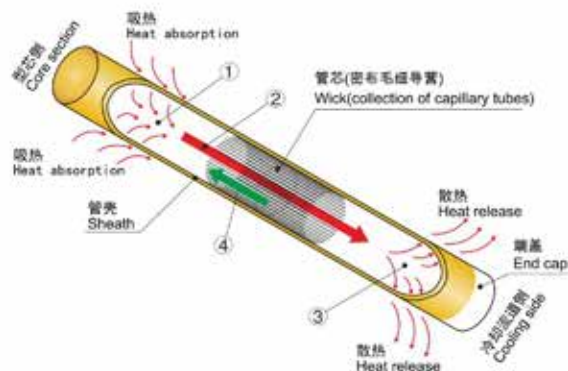
1. 冷却效果快。HTK冷却棒不是仅通过金属导热，而是将制冷剂作为热交换媒介来使用。热传导性是铜棒的200倍，并且具有优良的热响应性。
2. 稳定的冷却效果。与以往的方法(使用隔水片和冷却管)不同，HTK很少会因生锈、水垢等原因使水流减小而导致冷却效率下降，也不用担心制冷剂会沸腾，减少了大量的维修保养工作；
3. 能减少冷却水路的需求，降低水路的复杂度，减小模具体积；
4. 无需螺丝固定，安装更为方便。

1. Good cooling effective, HTK heat pipes not used in metal heat conductivity, but by mean of refrigerant sheat transfer media to use it. Heat conductivity is 200 times than brass pipes, also with better thermal response.
2. Stable cooling effective, It is different from previous method, HTK few time get rusty, incrustant ect, thereby decrease water flow make heat pipes reduce effective.
3. Reduce the cooling water circuits, simplification of the cooling water circuit, and reduce the volume of mold.
4. Fastng installation, no screw for fixing.



Type	D	L
HTK	2	30

#### 功能示意图 Functional chart



#### 截面图: Cross section:



图1 HTK-2

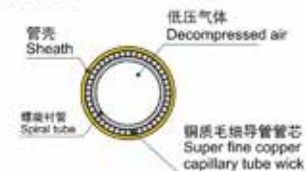


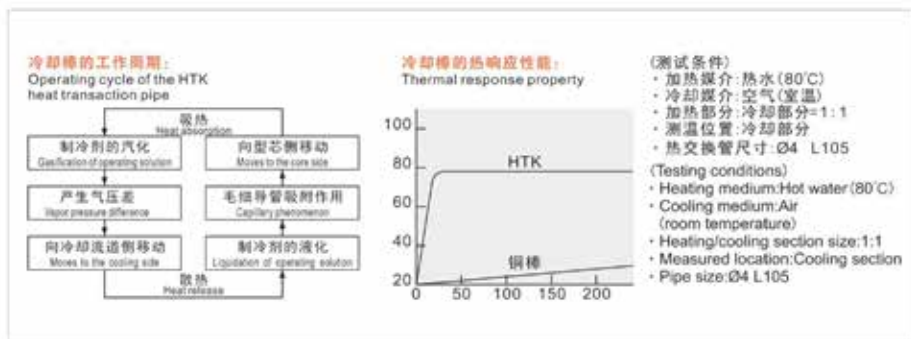
图2 HTK-3、4、5、6、8

### HTK冷却棒的工作原理:

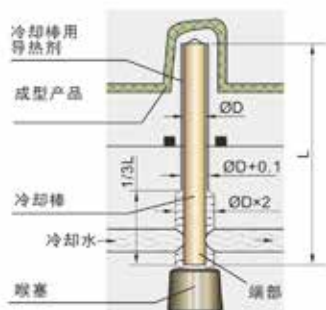
- ①制冷剂吸收型芯侧的热量而挥发;
- ②挥发的制冷剂因气压差而向冷却侧移动;
- ③移至冷却侧的制冷剂释放热量并液化;
- ④液态制冷剂因管芯毛细管的吸力作用而返回型芯侧。

### Exploded View of the HTK Heat Transaction Pipe:

- ①The operating solution absorbs the core side heat and gasifies;
- ②Vapor pressure difference causes the gasified operating solution to move to the cooling side;
- ③Moved to the cooling side, the gasified solution releases heat and liquidates;
- ④The wick's capillarity causes the operating solution to return to the core side.



### ■ 安装方法 Installation diagram



- 冷却棒安装孔要比冷却棒大0.1mm;
- 冷却棒装入时, 请用冷却棒专用导热剂将多的空间填满;
- 插入冷却棒时请注意端部应在冷却侧;
- 使用温度: 30-200°C;
- 请参考安装示意图加工安装孔。

- Installed holes shall be bigger 0.1mm than heat pipe .
- Please use special heat transfer agent fill to the full space when install heat pipe.
- Insert heat pipe , end position shall be on side of heat pipe.
- Usage temperature :30°C-200°C
- Please refer to installation instructions to processing installed holes.

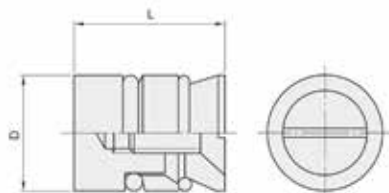
### ■ 注意事项 Attention

1. 请在200°C以下使用, (破坏温度为250°C) HTK的耐久性设计为内部压力20kgf/cm<sup>2</sup>以下;  
(例在200°C时内部压力上升至16kgf/cm<sup>2</sup>)
  2. 若冷却面积小, 有时不能获得设计的冷却效果, 安装加工的建议方法设置冷却穴, 确保冷却面积;
  3. 请不要擅自拆卸和切断;
  4. 如果热交换管被弯曲或压扁其冷却效果将下降;
  5. 不适用于油冷却。
1. Installed holes shall be bigger 0.1mm than heat pipe. Use under a temperature of 200°C or lower. (Burst temperature 250°C. It is designed to withstand an internal pressure up to 20kgf/cm<sup>2</sup>. For example, the internal pressure rises to 16kgf/cm<sup>2</sup> at 200°C.)
  2. If 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.
  3. Do not cut or disassemble.
  4. Bending or squashing the heat transaction pipe hampers its cooling function.
  5. Do not use oil for cooling

# 止水栓

## COOLING CIRCUIT PLUGS

### JWP



零件名称	1 主体	2 O形圈	3 垫圈	4 合金螺母	5 锥形垫圈	6 一字槽螺钉
材料	黄铜 (C3604)	氟橡胶	黄铜 (C3604)	—	黄铜 (C3604)	黄铜 (C3604)

Type	D	L
JWP	6	10
	8	
	8.5	
	10	
	11.5	
	12	
	14	12

#### 产品特点 Precautions

本产品是为了自由设定冷却水的循环回路而开发的产品。可以在冷却流道的任意位置进行安装。

This product is to be set freely circulating cooling water circuit and the development of products. Can be installed in the cooling channels anywhere.

#### 安装方法 Installation diagram

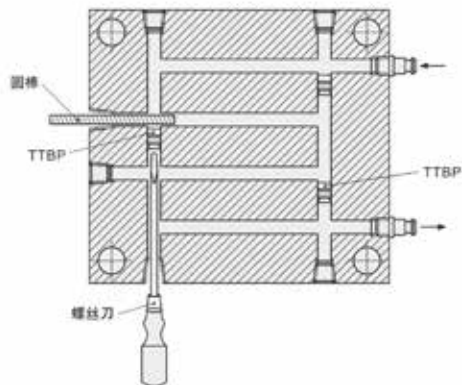
如下图所示，插入一根圆棒，使JWP不能再往前移动，用螺丝刀拧紧，螺钉拧紧时，O形圈膨胀变形，将冷却孔堵住。

As shown below, insert a rod, so that JWP can no longer move forward, with a screwdriver, tighten the screw, O-ring expansion and deformation, the cooling holes plugged.

#### 规格 Specification

尺寸	D6	D8	D8.5	D10	D11.5	D12	D14
O形圈外径尺寸(参考值)	6	8.2	8.7	10.2	11.7	12.2	14.2
O形圈外径公差(参考值)	±0.25						
冷却水孔径	6	8	8.5	10	11.5	12	14
孔径公差	+0.3 0						
常用压力(kPa) [kgf/cm <sup>2</sup> ]	588   61						
流体	仅限于水						
适用温度范围	80℃以下(推荐)						

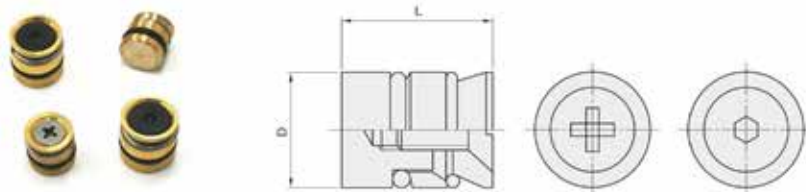
※氟橡胶O形圈的使用温度范围为-15℃~150℃，因为是将O形圈压变形之后使用的，建议在80℃以下使用。  
Viton O-ring temperature range of -15℃ - 150℃, because the O-ring is deformed after use, it is recommended to use below 80℃



# 止水栓

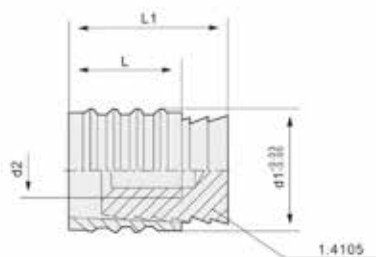
## COOLING CIRCUIT PLUGS

### CCP



Type	特点	D外径	ø6	ø8	ø10	ø12	ø16	ø20	ø25	ø30
		L	10	10	10	12	14	19	19	19
CCP-A	黑色橡胶圈水温耐温80-110°									
CCP-B	红色硅橡胶圈水温耐温120-160°									
CCP-C	绿色氟胶圈水温耐温160-220°									

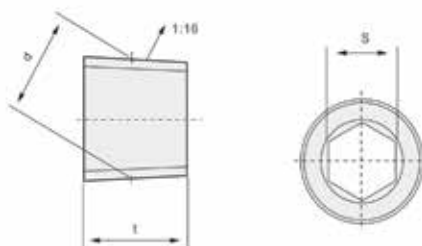
### Z942



Type	尺寸			
	d1	d2	L	L1
Z942/6	6	M3	8	11.5
Z942/8	8	M4		
Z942/10	10	M6	10	14
Z942/12	12			
Z942/16	16	M8	12	16

# 止付螺丝 SHOULDER BOLT

## Z94

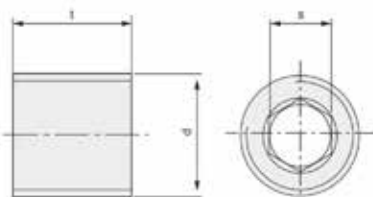


材料

黄铜Brass(表面电镀)

Type	规格(d)	高度(t)	内孔径(s)
Z94/ 5x0.5	M 5x0.5	5	3
Z94/ 8x0.75	M 8x0.75	8	4
Z94/ 10x1	M 10x1		5
Z94/ 12x1.5	M 12x1.5		6
Z94/ 14x1.5	M 14x1.5	10	7
Z94/ R1/8	R 1/8A	8	5
Z94/ R1/4	R 1/4A	10	7
Z94/ R3/8	R 3/8A		8
Z94/ R1/2	R 1/2A		10

## Z940



材料

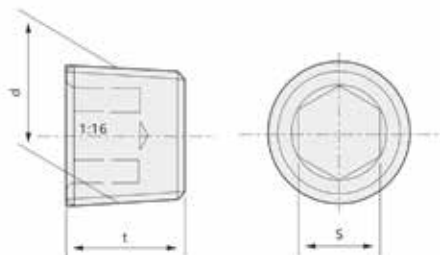
黄铜Brass(表面电镀)

Type	规格(d)	高度(t)	内孔径(s)
Z940/ 8x0.75	M 8x0.75	8	4
Z940/ 10x1	M 10x1		5
Z940/ 12x1.5	M 12x1.5		6
Z940/ 14x1.5	M 14x1.5	10	7
Z940/ R1/8	G1/8A	8	5
Z940/ R1/4	R1/4A	10	7
Z940/ R3/8	R3/8		8
Z940/ R1/2	G1/2A		10

# 止付螺丝

## SHOULDER BOLT

BP



材料

黄铜 Brass

### 美制NPT牙

Type	规格(d)	高度(t)	内孔径(s)	内孔径(s)
BP-10	1/8NPT	0.25	0.187	27
BP-20	1/4NPT	0.406	0.25	18
BP-40	3/8NPT		0.312	
BP-60	1/2NPT	0.531	0.375	14
BP-100	3/4NPT		0.562	
BP-140	1"NPT	0.656	0.625	11.5

### 英制PT牙

Type	规格(d)	高度(t)	内孔径(s)	内孔径(s)
PT-01	1/8PT	7	5	28
PT-02	1/4PT	8.9	6	19
PT-03	3/8PT	10	8	
PT-04	1/2PT	12	10	14
PT-06	3/4PT	14	14	
PT-08	1"PT	17	17	11

### 公制牙

Type	R	L	SW
AN-8	1/8"BSPT	8	5
AN-4	1/4"BSPT	10	7
AN-3	3/8"BSPT		8
AN-2	1/2"BSPT	10	10
AN-M8	M 8x0.75	8	4
AN-M10	M 10x1	8	5
AN-M12	M 12x1.5	8	6
AN-M14	M 14x1.5	8	7