

NANPU 上海南浦仪表厂

防爆级组： d II BT4、Ex d II CT5、Ex ia II CT5(本安)、DIP DT T11 (粉尘)。

Type and Classes of explosion-proof (EP) Explosion-proof Classes: d II BT4, Ex d II CT5, Ex ia II CT5 (Intrinsic safety). DIP DT T11 (Powder)

外壳防护等级： IP54、IP65(GB4208标准)。

Protection level of case: IP54 and IP65 (GB4208 Standard).

温度组别与最高表面温度和引燃温度的对应关系

Relationship between temperature class/maximum surface temperature and ignition temperature

温度级别 Class of Temperature	允许最高表面温度 (°C) Allowable Highest Surface Temperature(°C)	引燃温度t, (°C) Ignition temperature
T1	450	450<t
T2	300	300<t≤450
T3	200	200<t≤300
T4	135	135<t≤200
T5	100	100<t≤135
T6	85	85<t≤100

注：应在环境温度为-20~+40°C，空气相对湿度≤95%（在+25°C时）范围内运行。高于此环境条件下运行，则会降低其温度组别。

Note: When operating, the environment temperature shall be -20°C- +40°C, the temperature relative humidity shall ≤95% (at +25°C). The temperature class will be lowered if environmental condition beyond this range.

热电偶、热电阻类别、测量范围、等级与允差

Type, Measurng Range and Tolerance of Various TC and RTD

类型 Type	分度号 Graduation mark	代号 Code	测量范围 (°C) Measuring Range(°C)	精度等级 Accuracy Class	允许偏差 Δt(°C) Tolerance Δt(°C)
热电偶 Thermocouple	K	WRN	0~800	1	* ±1.5°C or ±0.004t
				2	* ±2.5°C or ±0.0075t
热电偶 Thermocouple	E	WRE	0~600	1	* ±1.5°C or ±0.004t
				2	* ±2.5°C or ±0.0075t
热电偶 Thermocouple	J	WRJ	0~500	1	* ±1.5°C or ±0.004t
				2	* ±2.5°C or ±0.0075t
热电偶 Thermocouple	T	WRT	-40~+350	1	* ±0.5°C or ±0.004t
				2	* ±1°C or ±0.0075t
铂热电阻 Platinum Thermocouple	Pt100	WZP	-200~+850	A	-200~+650 ±(0.15+0.002 t)
				B	-200~+850 ±(0.30+0.005 t)

注：(1) 式中“|t|”为感温元件的实测温度。
 (2) “*”表示允许偏差两者中取其大者。

Note: (1) “|t|” is the measured temperature of the temperature-sensing element.
 (2) “*” means to choose the bigger one between the two tolerances.

外壳防护等级IP与NEMA对应关系Coincidence relation of the degree of protection of case and NEMA

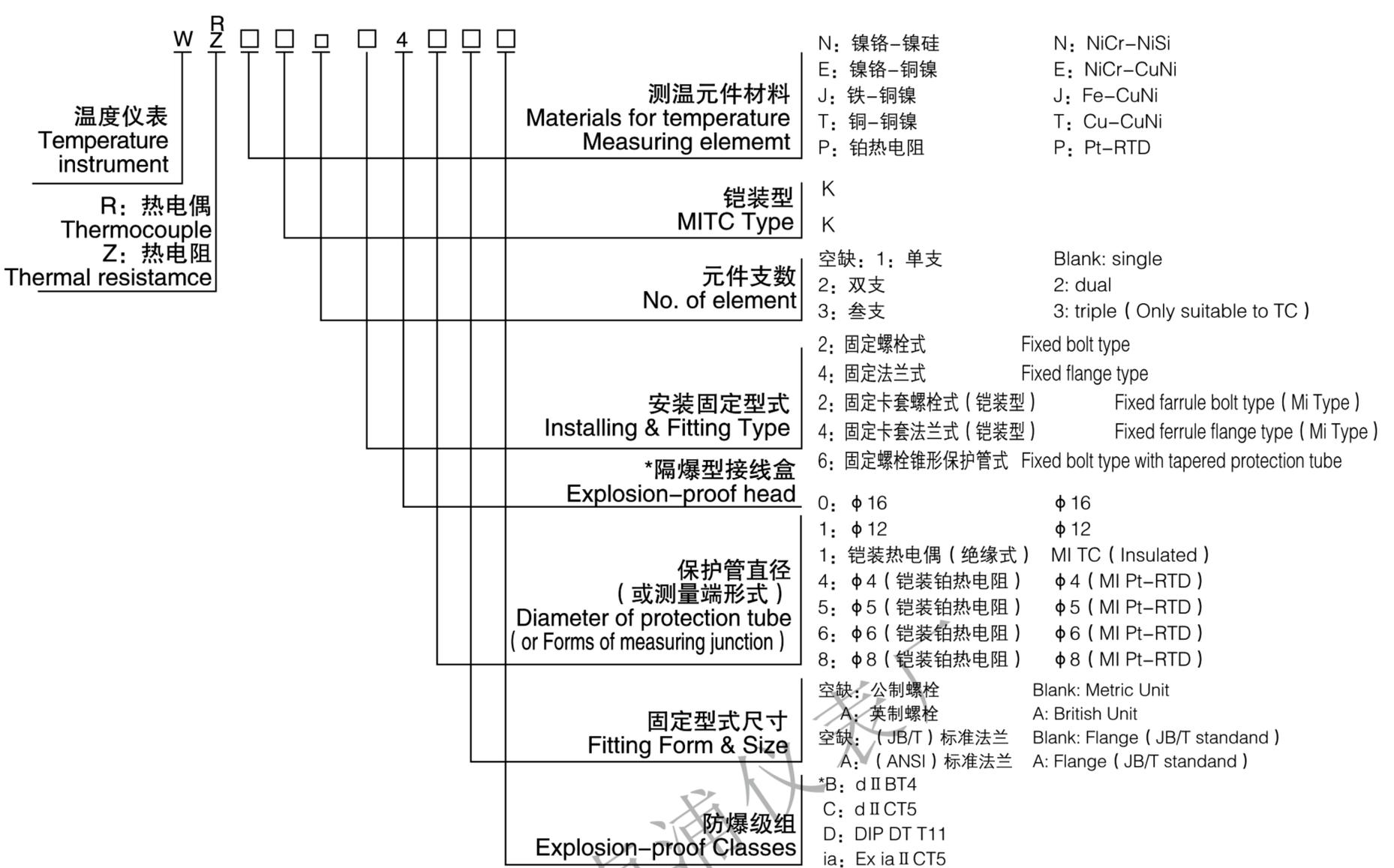
IP代码	IP30	IP32	IP64	IP32	IP64	IP66	IP66	IP67	IP65	IP65
NEMA代码	1	2	3	3R	3S	4	4X	6	12	13

注：由于NEMA将额外的环境因素考虑在内，所以外壳防护类型不相同于IEC外壳归类。不能简单由IP代码直接转换成NEMA形式。

Note: Since NEMA is concerned with additional environmental conditions, the protective type of case is different from the IEC classification.
 So the NEMA form coming from the direct conversion of simple IP code is not available.

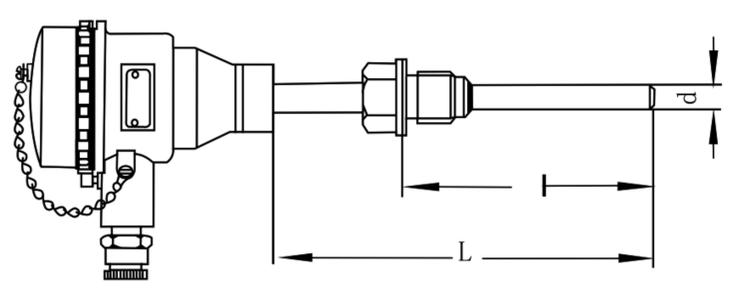
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型号命名 Type designation



固定螺栓式隔爆热电偶、铂热电阻 Fixed-bolt explosion-proof TC and Platinum RTD

型号 Type	分度号 Graduation mark	测量范围 Measuring range (°C)	热响应时间 Thermal response time $\tau \leq 0.5$ (s)	保护管材料 Protection tube material	规格 Specification (mm)	
					d	L x I
WRN-240 (K) WRN ₂ -240(K)	K	0~800	≤45	*1Cr18Ni9Ti	φ16	250×100
WRE-240(K) WRE ₂ -240(K)	E	0~600				300×150
						350×200
WRJ-240(K) WRJ ₂ -240(K)	J	0~500				400×250
						450×300
WRT-240(K) WRT ₂ -240(K)	T	-40~+350				550×400
			650×500			
WZP-240(K) WZP ₂ -240(K)	Pt100	-200~+500	900×750			
			1150×1000			
WZP-241(K) WZP ₂ -241(K)			1650×1500			
			2150×2000			



注: (1) 公称压力: 10MPa。(2) K内芯采用铠装元件。(3) 选用英制G3/4 螺栓, 型号后面加A。例: WRN-240A。(4) 直形保护管固定螺栓常规M27*2 G3/4等可按用户要求制作。“*”常规供货为1Cr18Ni9Ti, 如需其它材质另行注明。

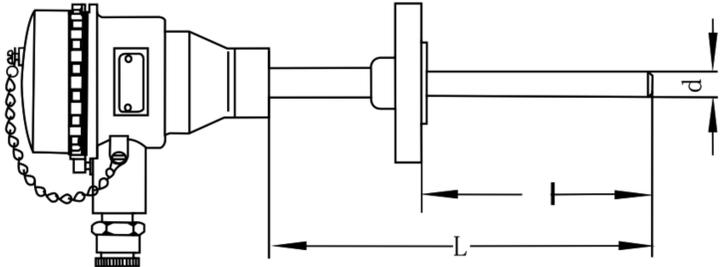
Note: (1) Nominal pressure is 10Mpa. (2) K inner core is sheathed element. (3) If British system G3/4 bolt is selected, attach A to the

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type, for example, WRN-24A. (4) Refer for the specification of straight protection tube fixed bolt. The normal delivery of goods is 1Cr18Ni9Ti, if other material is necessary, please note it separately.

固定法兰式隔爆热电偶、铂热电阻 Fixed-flange explosion-proof TC and Platinum RTD

型号Type	分度号 Graduation mark	测量范围 Measuring range (°C)	热响应时间 Thermal response time τ 0.5(s)	保护管材料 Protection tube material	规格 Specification (mm)	
					d	L x l
WRN-440(K) WRN ₂ -440(K)	K	0~800	≤45	*1Cr18Ni9Ti	φ16	250 x 100
WRE-440(K) WRE ₂ -440(K)	E	0~600				300 x 150
						350 x 200
						400 x 250
WRJ-440(K) WRJ ₂ -440(K)	J	0~500				450 x 300
WRT-440(K) WRT ₂ -440(K)	T	-40~+350	550 x 400			
WZP-440(K) WZP ₂ -440(K)	Pt100	-200~+500	≤30	φ12	650 x 500	
					900 x 750	
WZP-441(K) WZP ₂ -441(K)	Pt100	-200~+500	≤30	φ12	1150 x 1000	
					1650 x 1500	
					2150 x 2000	

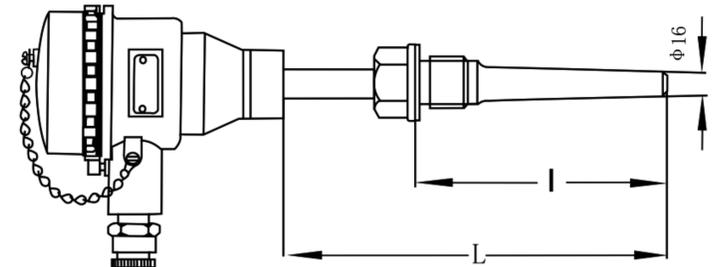


注：(1) 公称压力：2.5MPa。(2) K内芯采用铠装元件。(3) 型号后面加“A”为ANSI标准法兰。例：WRN-440N。选用JB-T标准法兰。“*” 常规供货为1Cr18Ni9Ti，如需其它材质另行注明。

Note: (1) Nominal pressure is 2.5 Mpa. (2) K inner core is sheathed element. (3) Those that have “A” attached is ANSI standard flange, for example, WRN-440N. Refer for the JB-T standard a flange. The normal delivery of goods is 1Cr18Ni9Ti, if other material is necessary, please note it separately.

固定螺栓锥形保护管式隔爆热电偶、铂热电阻 Fixed-bolt taper protection tube explosion-proof TC and Platinum RTD

型号Type	分度号 Graduation mark	测量范围 Measuring range (°C)	热响应时间 Thermal response time τ 0.5(s)	保护管材料 Protection tube material	规格 Specification (mm)	
					d	L X l
WRN-640(K) WRN ₂ -640(K)	K	0~600	≤60	*1Cr18Ni9Ti	φ16	250 x 100
WRE-640(K) WRE ₂ -640(K)	E					300 x 150
						350 x 200
WZP-640(K) WZP ₂ -640(K)	pt100	-200~500	400 x 250			
			450 x 300			
			500 x 350			



注：(1) 公称压力：30Mpa。流速≤80m/s。
 (2) K内芯采用铠装元件。
 (3) 选用英制G1”螺栓，型号后加A。例：WRN-640(A)。
 (4) 锥形保护管固定螺栓规格M33*2 G1”。“*” 常规供货为1Cr18Ni9Ti，如需其它材质另行注明。

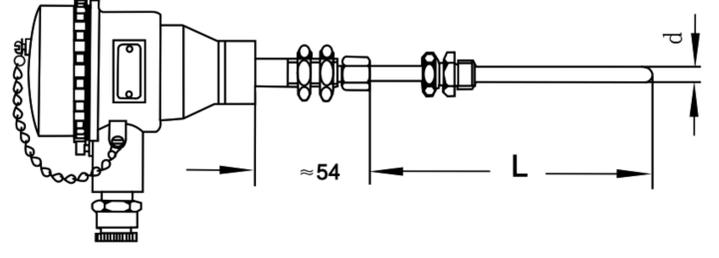
Note: (1) Normal pressure: 30Mpa. Flow rate ≤80m/s.
 (2) K inner core is sheathed element.
 (3) British system G1” that is selected shall mark A behind the type, for example, WRN-640(A).
 (4) Refer for specification of taper protection fixed bolt. The normal delivery of goods is 1Cr18Ni9Ti, if other material is necessary, please note it separately.

防爆热电偶产品选型样本，工业用隔爆热电偶、热电偶中心温度测量和补偿用传感器与显示仪表配套，以直接测量和控制生产过程中炉气、液体和蒸汽的温度。
 用于生产的化工用隔爆热电偶，热电偶产品的性能能完全符合国家、地方和行业标准的有关规定，经设计制造、热电特性存在误差，并在国家仪器质量监督检验中心合格。
 隔爆热电偶、热电偶的结构、原理与装配方式基本相同，主要区别是隔爆产品外壳(外壳)在设计上采用高强度合金压铸而成，并具有足够的内部空间、强度和机械强度，经密封处理稳定性符合国家的标准，所以与接插式内部的操作温度在气体发生爆炸时，其内不会发生爆炸，由此产生的热能不能向外扩散。隔爆热电偶、热电偶由上海南浦仪表厂产品选型手册，22年的上海南浦仪表厂，专业生产热电偶、铂热电阻、铂铑热电偶、热电偶、铂铑热电偶、热电偶、铂铑热电偶。

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固定卡套螺栓式隔爆铠装热电偶、铂热电阻 Fixed-ferrule bolt explosion-proof sheathed TC and Platinum RTD

型号Type	分度号 Graduation mark	测量范围 Measuring range (°C)	热响应时间 Thermal response time $\tau \pm 0.5(s)$	保护管材料 Protection tube material	规格Specification (mm)	
					d	L
WRNK-241 WRN K ₂ -241	K	0~800	≤ 1.2 ≤ 2.5 ≤ 4 ≤ 6 ≤ 8	*1Cr18Ni9Ti	$\phi 3$	100
WREK-241 WREK ₂ -241	E	0~600			$\phi 4$	150
WRJK-241 WRJK ₂ -241	J	0~500			$\phi 5$	200
WRTK-241 WRTK ₂ -241	T	-40~+350			$\phi 6$	250
					$\phi 8$	300
					350	
WZPK-244 WZPK ₂ -244	Pt100	-200~+500	≤ 5		$\phi 4$	400
WZPK-245 WZPK ₂ -245			≤ 8		$\phi 5$	450
			≤ 12		$\phi 6$	500
WZPK-246 WZPK ₂ -246			≤ 18		$\phi 8$	550
WZPK-248 WZPK ₂ -248						
					750	
					1000	
					1500	
					2000	
				2500		
				3000		

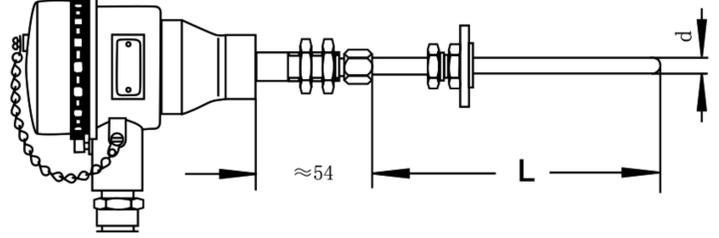


注：公称压力：2.5Mpa。(2)卡套螺栓规格M27*2 G3/4。“*”常规供货为1Cr18Ni9Ti，如需其它材质另行注明。
 Note: (1) Nominal pressure: 2.5Mpa. (2) Refer for specification of ferrule bolt. The normal delivery of goods is 1Cr18Ni9Ti, if other material is necessary, please note it separately.

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固定卡套法兰式隔爆铠装热电偶、铂热电阻 Fixed ferrule flange explosion-proof sheathed TC and Platinum RTD

型号Type	分度号 Graduation mark	测量范围 Measuring range (°C)	热响应时间 Thermal response time $\tau \leq 0.5(s)$	保护管材料 Protection tube material	规格 Specification (mm)	
					d	L
WRNK-441 WRND ₂ -441	K	0~800	≤ 1.2 ≤ 2.5 ≤ 4 ≤ 6 ≤ 8	*1Cr18Ni9Ti	$\phi 3$ $\phi 4$ $\phi 5$ $\phi 6$ $\phi 8$	100 150 200 250 300 350 400 450 500
WREK-441 WREK ₂ -441	E	0~600				
WRJK-441 WRJK ₂ -441	J	0~500				
WRTK-441 WRTK ₂ -441	T	-40~+350				
WZPK-444 WZPK ₂ -444	Pt100	-200~+500				
WZPK-445 WZPK ₂ -445			≤ 8		$\phi 5$	1000 1500 2000
WZPK-446 WZPK ₂ -446			≤ 12		$\phi 6$	2500 3000
WZPK-448 WZPK ₂ -448			≤ 18		$\phi 8$	



注：(1) 公称压力：2.5Mpa。
 (2) 卡套法兰规格。“*” 常规供货为1Cr18Ni9Ti，如需其它材质另行注明。
 Note: (1) Normal pressure: 2.5Mpa.
 (2) Refer for the specification of ferrule flange. The normal delivery of goods is 1Cr18Ni9Ti, if other material is necessary, please note it separately.

订货举例 Examples for order

订货时请写明：名称、型号、分度号、装配型式及总长和置入深度，即(L×I)，铠装型应注明铠装体外径及总长L和数量。

- 例1：隔爆双支热电偶：WRN₂-240 K 400×250 4支
- 例2：隔爆单支铠装热电阻：WZP K-245 Pt100 I=2 M 9支

Please write the name, type, graduation mark, assemble form, overall length and placed depth, namely (L×I) when placing the order. For the sheathed type, please note the outer diameter and quantity.

For example, explosion-proof double TC: WRN₂-240 K 400×250 4;
 Explosion-proof single sheathed RTD: WZP K-245 Pt100 =2 M 9