

# YuGuard Flow

PP-R PLUMBING SYSTEM



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To be the most valuable global enterprise in the construction materials industry

## About Oriental Yuhong

Founded in 1995, Oriental Yuhong, over the past 30 plus years, has been devoted to providing high-quality waterproofing system solutions for tens of thousands of major infrastructures and industrial, civil and commercial buildings, having grown into a leading service provider in the construction and building materials industry.

The company went public in 2008 and its operating revenue exceeded USD 3.87 billion in 2024.

The products of company are exported to more than 100 countries and regions such as Germany, Brazil, Australia, America, Canada, Japan, Singapore, South Korea, Central Africa and South Africa.



## About YuGuard Flow

YuGuard Flow, a product line under YuGuard, the sub-brand of Oriental Yuhong, delivers advanced flow technology solutions to municipal, residential, commercial, and industrial sectors for their pipeline and valve systems. Our product portfolio spans water supply, drainage, mining, power transmission, electrical conduit, air conditioning, and gas systems. Guided by the philosophy of "product-led, service-obsessed, and customer-focused," we uphold Oriental Yuhong's mission to create safe and enduring environments. Our vision is to become the most valuable enterprise in the global flow industry.



Research & Development



Applied Technology



Production Process and Equipment



Engineering Technology



30

years in the building materials



100+

subsidiaries worldwide



1916

valid patents



300+

real estate developers, corporate groups in stable strategic cooperation



100+

countries and regions where our products and services exported to



68


production facilities, R&D institutes and logistics centers worldwide


# YuGuard PP-R PLUMBING SYSTEM


YuGuard PP-R plumbing system stands out as a premium choice for potable water applications, combining exceptional durability and reliable performance. Crafted from high-grade PP-R material, it boasts superior resistance to wear, corrosion and scaling, ensuring a long service life of up to 50 years with consistent safety. Non-toxic, odorless and fully compliant with potable water standards, the system maintains the original taste and quality of water without any contamination risks. Its smooth inner wall minimizes flow resistance and prevents bacterial growth, while the leak-proof, heat-resistant design guarantees stable operation in diverse residential, commercial and industrial buildings. Trust in YuGuard PP-R plumbing system for a hygienic, long-lasting solution that prioritizes water safety and user experience.




## Advantages


- 


**Excellent Temperature Resistance**  
Performs reliably in both hot and cold water applications, withstanding continuous high temperatures.
- 

**Long Service Life**  
Premium durable material boasts excellent resistance to wear, corrosion and scaling, enabling a 50-year safe service life with reliable performance.
- 

**Hygienic & Safe**  
Non-toxic and odorless, the product meets potable water standards without compromising water taste or quality, ensuring safe use for drinking purposes.

- 

**Safe Homogeneous Connections**  
Hot-fusion welding creates seamless connections with low risk of leakage.
- 

**Energy Efficiency**  
Low thermal conductivity minimizes heat loss in hot water systems.
- 

**Versatile Connection Options**  
Meet diverse needs—hot-fusion, butt-fusion, and electro-fusion welding fit different scenarios.



## Standards

DIN 8077/8078, ISO 15874, GB/T 18742

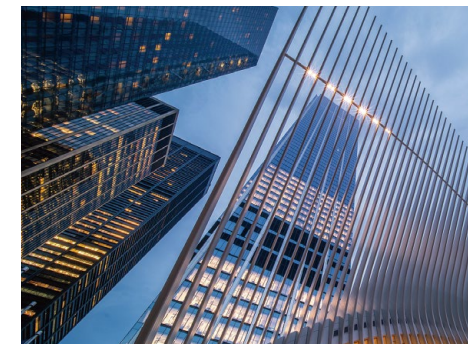
## Certificates



## Applications

01

Domestic cold and hot water  
piping system in buildings



02

Indoor heating and cooling systems



03

Industrial fluid conveying system



## Technical Data

Working temperature: 3-95°C

Working pressure: 20°C, 50years

S5-12.9Bars, S4-16.2Bars

S3.2-20.2Bars, S2.5-25.9Bars

Lifetime: 50 years







# Specification-Pipe



S2.5 MONOLAYER PIPE (SDR 6)	
Spec (mm)	
PPR-S2.5-20x3.4	PPR-S2.5-63x10.5
PPR-S2.5-25x4.2	PPR-S2.5-75x12.5
PPR-S2.5-32x5.4	PPR-S2.5-90x15
PPR-S2.5-40x6.7	PPR-S2.5-110x18.3
PPR-S2.5-50x8.3	PPR-S2.5-160X26.6



S3.2 MONOLAYER PIPE (SDR 7.4)	
Spec (mm)	
PPR-S3.2-20x2.8	PPR-S3.2-63x8.6
PPR-S3.2-25x3.5	PPR-S3.2-75x10.3
PPR-S3.2-32x4.4	PPR-S3.2-90x12.3
PPR-S3.2-40x5.5	PPR-S3.2-110x15.1
PPR-S3.2-50x6.9	PPR-S3.2-160x21.9



S4 MONOLAYER PIPE (SDR 9)	
Spec (mm)	
PPR-S4-20x2.3	PPR-S4-63x7.1
PPR-S4-25x2.8	PPR-S4-75x8.4
PPR-S4-32x3.6	PPR-S4-90x10.1
PPR-S4-40x4.5	PPR-S4-110x12.3
PPR-S4-50x5.6	PPR-S4-160x17.9



S5 MONOLAYER PIPE (SDR 11)		
Spec (mm)		
PPR-S5-20x2.0	PPR-S5-50x4.6	PPR-S5-110x10
PPR-S5-25x2.3	PPR-S5-63x5.8	PPR-S5-160x14.6
PPR-S5-32x2.9	PPR-S5-75x6.8	PPR-S5-200X18.2
PPR-S5-40x3.7	PPR-S5-90x8.2	PPR-S5-250X22.7





# PP-R Fittings

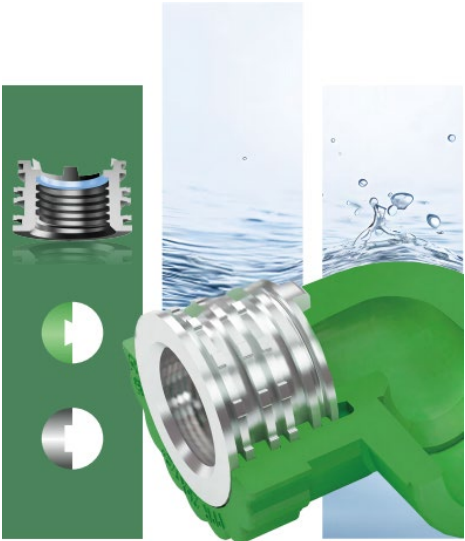
## PP-R Fittings

2 dovetail joints, 3 water-stop grooves, 36 anti-slip teeth

Resistant to thermal expansion and contraction, enabling seamless integration between plastic and metal inserts to prevent leakage.

The thread base features an over-tightening prevention washer design, avoiding internal thread cracking caused by excessive tightening.

Insert end face widened by 15%. The fitting boasts a high-end and aesthetic design, with an overall enlarged and thickened structure for strong pressure resistance and effective crack prevention.



## Specification-Fitting



EQUAL UNION	
Spec (mm)	
S20x20	
S25x25	
S32x32	
S40x40	
S50x50	
S63x63	
S75x75	
S90x90	
S110x110	
S125x125	
S160x160	



REDUCER		
Spec (mm)		
S25x20	S63x25	S90x50
S32x20	S63x32	S90x63
S32x25	S63x40	S90x75
S40x20	S63x50	S110x50
S40x25	S75x32	S110x63
S40x32	S75x40	S110x75
S50x20	S75x50	S110x90
S50x25	S75x63	S125x110
S50x32	S90x32	S160x110
S50x40	S90x40	S160x125
S63x20		



BRASS EQUAL UNION	
Spec (mm)	
S20x20 (H)	S50x50 (H)
S25x25 (H)	S63x63 (H)
S32x32 (H)	S75x75 (H)
S40x40 (H)	



EQUAL TEE	
Spec (mm)	
T20x20x20	T75x75x75
T25x25x25	T90x90x90
T32x32x32	T110x110x110
T40x40x40	T125x125x125
T50x50x50	T160x160x160
T63x63x63	



EQUAL ELBOW(45°)	
Spec (mm)	
L20x20	L63x63
L25x25	L75x75
L32x32	L90x90
L40x40	L110x110
L50x50	L160x160



CROSS	
Spec (mm)	
X20x20x20x20	
X25x25x25x25	
X32x32x32x32	



EQUAL ELBOW (90°)	
Spec (mm)	
L20x20	L63x63
L25x25	L75x75
L32x32	L90x90
L40x40	L110x110
L50x50	L160x160



END CAP	
Spec (mm)	
20	63
25	75
32	90
40	110
50	





FEMALE ELBOW WITH SEAT	
Spec (mm)	
L20x1/2F(Z)	
L25x1/2F(Z)	



FLEXIBLE FEMALE UNION	
Spec (mm)	
S20x1/2F (H)	S32x3/4F (H)
S20x3/4F (H)	S40x1 1/4F (H)
S25x1/2F (H)	S50x1 1/2F (H)
S32x1F (H)	S63x2F (H)



FEMALE TEE	
Spec (mm)	
T20x1/2Fx20	T32x1Fx32
T25x1/2Fx25	T32x3/4Fx32
T25x1Fx25	T40x1 1/4Fx40
T25x3/4Fx25	T50x1 1/2Fx50
T32x1/2Fx32	T63x2Fx63



FEMALE ELBOW	
Spec (mm)	
L20x1/2F	L32x1F
L20x3/4F	L32x3/4F
L25x1/2F	L40x1 1/4F
L25x1F	L50x1 1/2F
L25x3/4F	L63x2F
L32x1/2F	



FEMALE UNION	
Spec (mm)	
S20x1/2F	S32x1F
S20x3/4F	S32x3/4F
S25x1/2F	S40x1 1/4F
S25x1F	S50x1 1/2F
S25x3/4F	S63x2F



FLEXIBLE MALE UNION	
Spec (mm)	
S20x1/2M (H)	S32x1M (H)
S20x3/4M (H)	S32x3/4M (H)
S25x1/2M (H)	S40x1 1/4M (H)
S25x1M (H)	S50x1 1/2M (H)
S25x3/4M (H)	S63x2M (H)



MALE TEE	
Spec (mm)	
T20x1/2Mx20	
T25x1/2Mx25	
T25x3/4Mx25	
T32x1/2Mx32	
T32x1Mx32	
T32x3/4Mx32	
T40x1/2Mx40	



MALE ELBOW	
Spec (mm)	
L20x1/2M	L32x1M
L20x3/4M	L32x3/4M
L25x1/2M	L40x1 1/4M
L25x1M	L50x1 1/2M
L25x3/4M	L63x2M
L32x1/2M	



MALE UNION	
Spec (mm)	
S20x1/2M	S32x3/4M
S20x3/4M	S40x1 1/4M
S25x1/2M	S50x1 1/2M
S25x1M	S63x2M
S25x3/4M	S75x2 1/2M
S32x1/2M	S90x3M
S32x1M	S110x4M



REDUCING ELBOW	
Spec (mm)	
L25x20	
L32x20	
L32x25	
L40x20	
L40x25	
L40x32	
L50x32	



UNEQUAL TEE		
Spec (mm)		
T25x20x20	T63x25x63	T90x40x90
T25x20x25	T63x32x63	T90x50x90
T32x20x32	T63x40x63	T90x63x90
T32x25x32	T63x50x63	T90x75x90
T40x20x40	T75x25x75	T110x25x110
T40x25x40	T75x32x75	T110x40x110
T40x32x40	T75x40x75	T110x50x110
T50x20x50	T75x50x75	T110x63x110
T50x25x50	T75x63x75	T110x75x110
T50x32x50	T90x25x90	T125x110x125
T50x40x50	T90x32x90	T160x110x160
T63x20x63		



BRIDGE FITTING	
Spec (mm)	
20x20	
25x25	
32x32	



PIPE CLAMP	
Spec (mm)	
20	
25	
32	
40	
50	





LARGE ARC ELBOW
Spec (mm)
L20x20
L25x25
L32x32



ASSEMBLY DOUBLE FEMALE TEE
Spec (mm)



PP-R INNER BRIDGE CROSSING
Spec (mm)
20x20x20x20
25x25x25x25
25x25x20x20



ASSEMBLY FEMALE ELBOW+U ELBOW
Spec (mm)
20x1/2F
25x1/2F



ASSEMBLY DOUBLE FEMALE ELBOW
Spec (mm)
20x1/2F
20x1/2F
20x1/2F
25x1/2F
25x1/2F
25x1/2F



L TYPE ELBOW
Spec (mm)
20x20
25x25



SWEEP JUNCTION
Spec (mm)
20x20x20x20
25x25x25x25



S-STRAIGHT COUPLING
Spec (mm)
S20x20
S25x25



Y TYPE TEE
Spec (mm)
Y20x20x20
Y25x25x25



PPR BALL VALVE
Spec (mm)
20x20
25x25
32x32
40x40
50x50
63x63
75x75
90x90
110x110



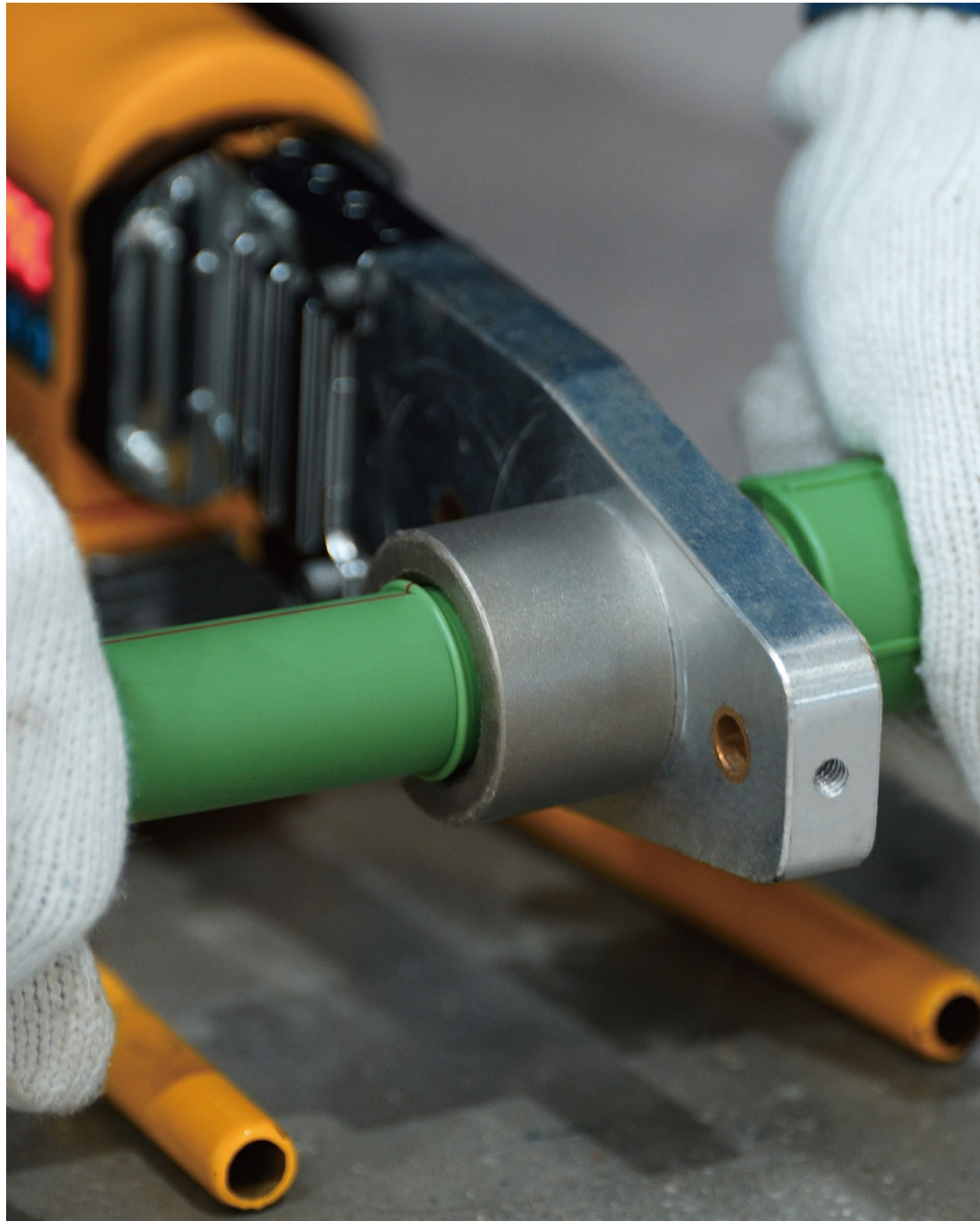
STOP VALVE
Spec (mm)
20x20
25x25
32x32
40x40
50x50
63x63
75x75



LARGE FLOW STOP VALVE
Spec (mm)
20x20
25x25
32x32



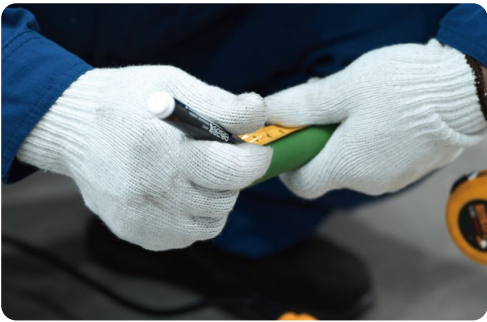
# Installation



## Socket Fusion



**Step 1. Cut the Pipe**  
Make a vertical, precision cut on the pipe using a pipe cutter to ensure a flat, burr-free mating surface.



**Step 2. Marking Fusion Depth**  
Use a pencil or marker to mark the corresponding fusion depth on the surface of the pipe ends.



**Step 3:Temperature Setting for Welding Machine**  
Power on the hot-melt welding machine and allow it to reach the operating temperature (typically  $210 \pm 10^{\circ}\text{C}$ ). Once the temperature is reached, the indicator light will turn green, indicating that the machine is ready for operation.



**Step 4: Insert for Heating**  
Simultaneously push and insert the pipe and fitting into the fusion heads of the device. Push the fitting in as far as possible, and push the pipe to the marked position.



**Step 5: Join After Heating**  
Once the heating time is complete, quickly pull the pipe and fitting out of the fusion machine, then join them together coaxially.



# Applications & Our References

## Applications

- Municipal
- Industrial
- Residential
- Commercial

YuGuard™

## Applications& Our References



China National Stadium, China



China National Pavilion, China



Shanghai Tower, China



Huawei Data Center, China



Hongkong-Zhuhai-Macau Bridge, China



Beijing Daxing Airport, China



Jakarta-Bandung High-Speed Railway, Indonesia



Karachi Nuclear Power Plant



Mass Rapid Transport