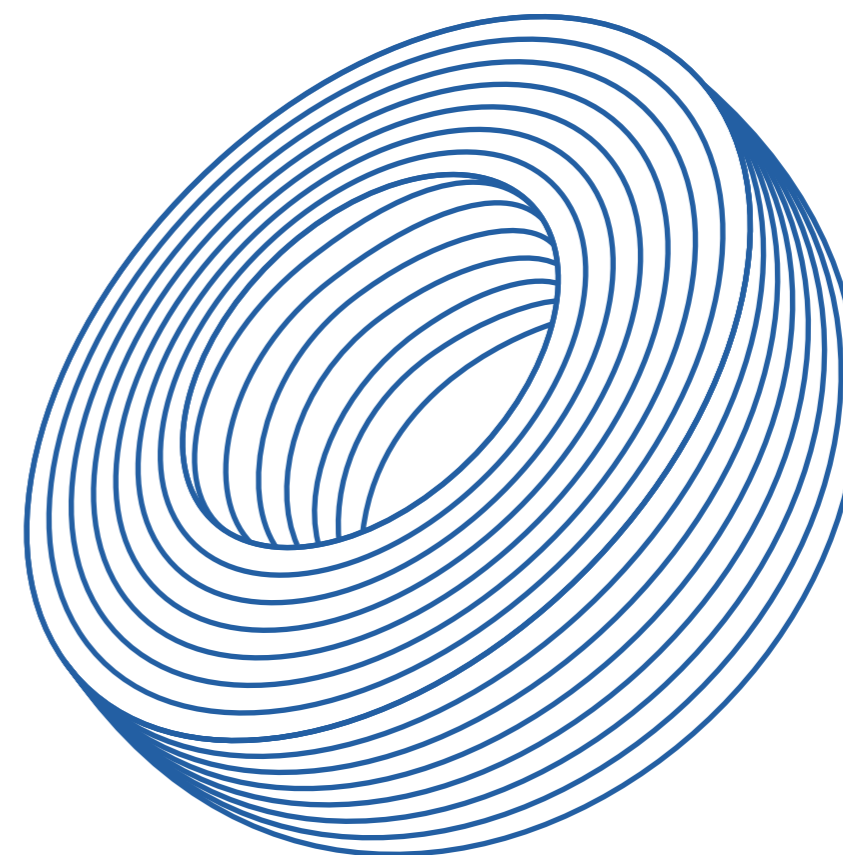


**Polygon**

**PAP/PE-Xb /PERT/PB**



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**PRODUCT  
MANUAL**

# Catalog

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Zhejiang

# Brand Introduction

POLYGON Pipe is a well-known plastic piping system solution provider, specializing in the R&D, production and sales of plastic products of piping system, with leading technology production equipment. The products cover water supply and drainage, ground-source heat pumps, co-layered drainage, siphon rainwater, municipal engineering, HVAC systems and other fields.

**1700000**  
Factory Scale

**3000**  
Group Employees

**500**  
Key Technical Personnel

**20000+**  
Marketing Network

**330+**  
City Coverage

**30+**  
Countries and Areas of Production and Sales



Baodi, Tianjin

▪ Baodi, Tianjin City [100, 002m<sup>2</sup>]



Huzhou, Zhejiang

▪ Huzhou, Zhejiang Province [193, 000m<sup>2</sup>]



Heyuan, Guangdong

▪ Heyuan, Guangdong Province [20, 000m<sup>2</sup>]



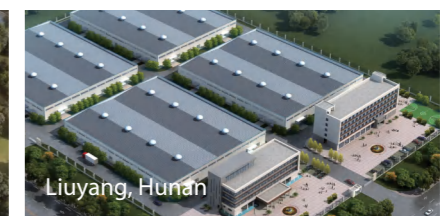
Xinxiang, Henan

▪ Xinxiang, Henan Province [99, 733m<sup>2</sup>]



Jiangjin, Chongqing

▪ Jiangjin, Chongqing City [80, 000m<sup>2</sup>]



Liuyang, Hunan

▪ Liuyang, Hunan Province [110, 000m<sup>2</sup>]

# Automated & Smart Production

- 6 Core Production Bases
- **Smart Management:** Zhisun Cloud System + 5S Management enables paperless operations, efficient process oversight, and proactive accident prevention.
- **Automated Lines:** Cut labor costs, boost efficiency, and enable precision manufacturing.



## Cutting-edge Technology

- Imported MAILLEFER equipment enhances our pipes' heat, pressure, and creep resistance.
- Our proprietary mold design, featuring an internal support frame in the spiral structure, ensures consistently smooth pipe walls.



## 3 CNAS Laboratories

The group integrated R&D, testing & inspection facilities with imported IPT hydrostatic equipment and TA DSC, ensuring full-process quality control.

## Premium Raw Materials

We select world-class chemical companies from the Fortune Global 500 as our raw material suppliers.





## Strict Quality Control

- Temperature, speed and pressure are rigorously controlled and regularly documented throughout the production process.
- **Rigorous Testing:** Products undergo rigorous testing, including 100% pressure testing of coils at 20 kg and melt filtration through three 80-mesh filters.
- **Three-Inspection System:** Combining self-inspection, mutual inspection, and specialized inspection.
- **Triple Quality Control:** Products undergo three levels of quality inspection: raw materials, in-process, and final products.



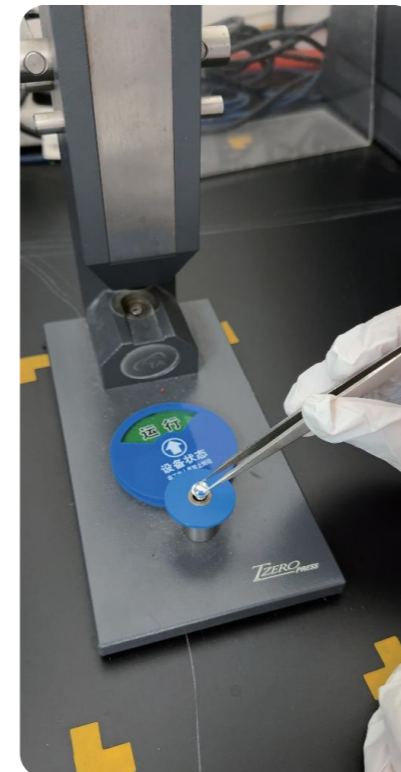
Crosslinking Degree Test



High-Temperature Hydrostatic Pressure Test



Peel Force Test



DSC Melting Point Determination



Oxidation Induction Time (OIT) Test



Ash Content Determination

# Butt-welded Multilayer Pipe

Product Name	Dimension(mm)	Pack(M)
PEXb/AL/PEXb	dn16×2.0	100/200
	dn20×2.0	100/200
	dn25×2.5	50/100
	dn32×3.0	50/100
PEXb/AL/PEXb	dn16×2.2	100/200
	dn20×2.8	100/200
	dn25×3.5	50/100



Product Name	Dimension(mm)	Pack(M)
PERT-AL-PERT	dn16×2.0	100/200
	dn20×2.0	100/200
	dn25×2.5	50/100
	dn32×3.0	50/100
PERT-AL-PERT	dn16×2.2	100/200
	dn20×2.8	100/200
	dn25×3.5	50/100



PEX-AL-PE	dn16×2.0	100/200
	dn20×2.0	100/200
	dn25×2.5	50/100
	dn32×3.0	50/100
PEX-AL-PE	dn16×2.2	100/200
	dn20×2.8	100/200
	dn25×3.5	50/100



# Sliding Fittings for Butt-welded Multilayer Pipe

## Applicable Pipes

Pipes	Outer Diameter (mm)	Wall Thickness (mm)
PEX/AL/PE(X)	16	2.2
	20	2.8
	25	3.5

## Sliding Fittings

Product Name	Model No.	Dimension(mm)
Coupling	108320201-003	dn16
	108320301-003	dn20
	108320401-001	dn25
90° Elbow	108320202-002	dn16
	108320302-001	dn20
	108320402-001	dn25
Reducer	108320301-004	dn20×16
	108320401-002	dn25×16
	108320401-003	dn25×20
Equal Tee	108320203-001	dn16
	108320303-001	dn20
	108320403-001	dn25



Product Name	Model No.	Dimension(mm)
Internal Right S Elbow	108320207-002	dn16
	108320307-003	dn20
Internal Left S Elbow	108320207-003	dn16
	108320307-004	dn20
External Right S Elbow	108320208-002	dn16
	108320308-003	dn20
External Left S Elbow	108320208-003	dn16
	108320308-004	dn20
Female Tee	108320309-001	dn20×1/2"×20
Equal Manifold Fitting (6-Way)	108320309-001	dn20×1/2"×20
Female Threaded Elbow	108320208-001	dn16×1/2"
	108320308-001	dn20×1/2"
	108320308-002	dn20×3/4"
	108320408-001	dn25×3/4"



Product Name	Model No.	Dimension(mm)
Male Threaded Elbow	108320208-001	dn16×1/2"
	108320308-001	dn20×1/2"
	108320308-002	dn20×3/4"
	108320408-001	dn25×3/4"



Reducing Manifold Fitting (6-Way)	108320337-002	dn20×16×16
	108320337-003	dn20×16×20
	108320337-004	dn20×20×16



Male Threaded Coupling	108320206-001	dn16×1/2"
	108320206-002	dn16×3/4"
	108320306-001	dn20×1/2"
	108320306-002	dn20×3/4"
	108320406-001	dn25×1"
	108320406-002	dn25×3/4"



Female Threaded Coupling	108320205-001	dn16×1/2"
	108320205-002	dn16×3/4"
	108320305-001	dn20×1/2"
	108320305-002	dn20×3/4"
	108320405-001	dn25×1"
	108320405-002	dn25×3/4"



Product Name	Model No.	Dimension(mm)
Reducing Tee	108320203-002	dn16×20×16
	108320303-002	dn20×16×16
	108320303-003	dn20×16×20
	108320303-004	dn20×20×16
	108320403-002	dn25×16×16
	108320403-003	dn25×16×20
	108320403-004	dn25×16×25
Union Coupling	108320341-002	dn20×3/4"
	108320441-002	dn25×3/4"
	108320403-005	dn25×20×20
Union Elbow	108320341-001	dn20×3/4"
	108320441-001	dn25×3/4"
Expansion Tool	111020000-030	dn16-25



Union Coupling	108320341-002	dn20×3/4"
	108320441-002	dn25×3/4"



Large-Radius Elbow	108320202-001	dn16
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Union Elbow	108320341-001	dn20×3/4"
	108320441-001	dn25×3/4"



Expansion Tool	111020000-030	dn16-25
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## Applicable Pipes

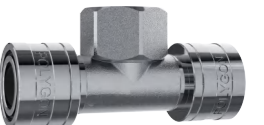
Pipes	Outer Diameter (mm)	Wall Thickness (mm)
PEX/AL/PE(X)	16	2.2
	20	2.8
	25	3.5

## Brass Sliding Fittings

Product Name	Model No.	Dimension(mm)
Coupling	108330201-012	dn16
	108330301-026	dn20
	108330401-004	dn25
90° Elbow	108330202-017	dn16
	108330302-018	dn20
	108330402-005	dn25
Reducer	108330301-027	dn20×16
	108330401-005	dn25×16
	108330401-006	dn25×20
Equal Tee	108330203-016	dn16
	108330303-027	dn20
	108330403-036	dn25



Product Name	Model No.	Dimension(mm)
Internal Right S Elbow	108330202-018	dn16
	108330302-019	dn20
Internal Left S Elbow	108330202-019	dn16
	108330302-020	dn20
External Right S Elbow	108330202-021	dn16
	108330302-021	dn20
External Left S Elbow	108330202-022	dn16
	108330302-022	dn20
Female Tee	108330309-010	dn20×1/2"×20
Equal Manifold Fitting (6-Way)	108330337-021	dn20
Union Elbow	108330341-022	dn20×3/4"
	108330402-008	dn25×3/4"



Product Name	Model No.	Dimension(mm)
Reducing Manifold Fitting (6-Way)	108330337-022	dn20×16×16
	108330337-023	dn20×16×20
	108330337-024	dn20×20×16



Female Threaded Elbow	108330207-019	dn16×1/2"
	108330307-021	dn20×1/2"
	108330307-022	dn20×3/4"
	108330402-006	dn25×3/4"



Male Threaded Elbow	108330208-006	dn16×1/2"
	108330308-016	dn20×1/2"
	108330308-017	dn20×3/4"
	108330402-007	dn25×3/4"



Male Threaded Coupling	108330206-007	dn16×1/2"
	108330206-008	dn16×3/4"
	108330306-013	dn20×1/2"
	108330306-014	dn20×3/4"
	108330401-008	dn25×3/4"
	108330401-009	dn25×1"



Union Coupling	108330341-023	dn20×3/4"
	108330401-010	dn25×3/4"



Product Name	Model No.	Dimension(mm)
Reducing Tee	108330203-017	dn16×20×16
	108330303-028	dn20×16×16
	108330303-029	dn20×16×20
	108330303-030	dn20×20×16
	108330403-030	dn25×16×16
	108330403-031	dn25×16×20
	108330403-032	dn25×16×25
	108330403-033	dn25×20×20
	108330403-034	dn25×20×25
108330403-035	dn25×25×20	



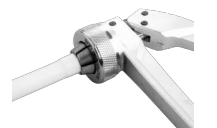
Female Threaded Coupling	108330205-013	dn16×1/2"
	108330205-014	dn16×3/4"
	108330305-012	dn20×1/2"
	108330305-013	dn20×3/4"
	108330401-007	dn25×1"
108330401-011	dn25×3/4"	



90° Threaded Elbow	108330202-020	dn16×3/4"
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Expansion Tool	111020000-038	dn16-20
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# Press Fittings For Butt-welded Multilayer Pipe

## Applicable Pipes

Pipes	Outer Diameter (mm)	Wall Thickness (mm)
PEX/AL/PE(X)	16	2.0
	20	2.0
	25	2.5

## Press Fittings

Product Name	Model No.	Dimension(mm)
Coupling	108330201-009	dn16
	108330301-012	dn20
Reducer	108330301-013	dn20×16
Union Coupling	108330341-008	dn20×3/4"
	108330441-005	dn25×3/4"
Male Threaded Coupling	108330306-007	dn20×3/4"
Female Threaded Coupling	108330205-006	dn16×1/2"
	108330305-005	dn20×3/4"
Male Threaded Elbow	108330308-007	dn20×3/4"



Product Name	Model No.	Dimension(mm)
90° Elbow	108330202-004	dn16
	108330302-003	dn20
	108330402-003	dn25



Product Name	Model No.	Dimension(mm)
Female Threaded Elbow	108330207-012	dn16×1/2"
	108330307-012	dn20×3/4"
	108330407-006	dn25×3/4"



Product Name	Model No.	Dimension(mm)
Equal Tee	108330203-009	dn16
	108330303-011	dn20
	108330403-019	dn25



Product Name	Model No.	Dimension(mm)
Female Threaded Tee	108330309-005	dn20×1/2"×20



Product Name	Model No.	Dimension(mm)
Manifold Fitting (6-Way)	108330337-007	dn20
	108330337-005	dn20×16×16
	108330337-008	dn20×16×20



Product Name	Model No.	Dimension(mm)
90° Union Elbow	108330207-013	dn16×3/4"



Product Name	Model No.	Dimension(mm)
Internal Right S Elbow	108330302-005	dn20



Product Name	Model No.	Dimension(mm)
Reducing Tee	108330303-014	dn20×20×16
	108330303-012	dn20×16×16
	108330403-021	dn25×20×20
	108330403-022	dn25×25×20
	108330203-008	dn16×20×16
	108330303-013	Φ20×16×20
	108330403-020	Φ25×16×25
Internal Left S Elbow	108330302-004	dn20
Rechargeable Handheld Electric Hydraulic Crimping Tool	111050000-008	PZ-1930



## PERT, PEXb, PB Pipes

Category	One Layer Pipe	Two-layer Pipe	Five-layer EVOH Pipe	Anti-scaling Pipe	Capillary Pipe
PERT I Pipe	✓	✓	✓	✓	✓
PERT II Pipe	✓	✓	✓	✓	✓
PEXb Pipe	✓	✓			
PB Pipe	✓		✓		

*Length, color and coding can be customized*

Dimension(mm)	Roll(M)
dn16×1.8	100/200/300
dn20×1.9	100/200/300
dn25×2.3	50/100
dn32×2.9	50/100



dn16×2.0	100/200/300
dn20×2.0	100/200/300
dn25×2.5	50/100
dn32×3.0	50/100



dn16×2.2	100/200/300
dn20×2.8	100/200/300
dn25×3.5	50/100
dn32×4.4	50/100



# Sliding Fittings for PEXb

## Applicable Pipes





Pipes	Outer Diameter (mm)	Wall Thickness (mm)
PEXb Pipe	16	1.8
	20	1.9
	25	2.3
	32	2.9


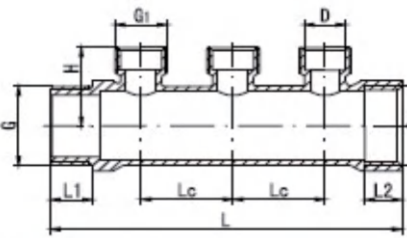
## Sliding Fittings

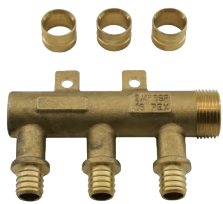
Name	Dimension (mm)	Name	Dimension (mm)
 Straight Fitting Male	16x1/2"	 Straight Fitting Female	16x1/2"
	16x3/4"		16x3/4"
	20x1/2"		20x1/2"
	20x3/4"		20x3/4"
	25x1/2"		25x1/2"
	25x3/4"		25x3/4"
	25x1"		25x1"
32x1"	32x1"		
 Straight Fitting Double	16x16	 Elbow Male	16x1/2"
	20x20		16x3/4"
	25x25		20x1/2"
	32x32		20x3/4"
			25x3/4"
	32x1"		
 Elbow Female	16x1/2"	 Elbow Double	16x16
	16x3/4"		20x20
	20x1/2"		25x25
	20x3/4"		32x32
	25x3/4"		
32x1"			
 Tee Male	16x1/2"x16	 Tee Female	16x1/2"x16
	20x1/2"x20		20x1/2"x20
	20x3/4"x20		20x3/4"x20
	25x3/4"x25		25x3/4"x25
	32x1"x32		32x1"x32

Name	Dimension (mm)	Name	Dimension (mm)
 Tee	16x16	 Wall Plate Elbow	16x1/2"
	20x20		16x3/4"
	25x25		20x1/2"
	32x32		20x3/4"
			25x1/2"
	25x3/4"		
 Reducing Tee	16x20x16	 Irregular Reducing Tee	20X16X16
	16x25x16		20X20X16
	20x16x20		32X25X25
	20X25X20		32X25X32
	25X20X25		25X20X20
			25X25X20
 Reducing Union	20X16	 High Elbow Female End With Fixing Base	16x1/2"
	25X16		20x1/2"
	25X20		
	32X25		
 Swivel Union Female	16x1/2"	 Swivel Elbow Female	16x1/2"
	16x3/4"		20x3/4"
	20x1/2"		
	20x3/4"		
	25x1"		
	25x3/4"		
	32x1"		
 Cap Male	1/2"	 Cap Female	1/2"
	3/4"		3/4"
	1"		1"
	1 1/4"		1 1/4"
 Ring	16	 Brass Bushing Fitting	32x1
	20		
	25		
	32		

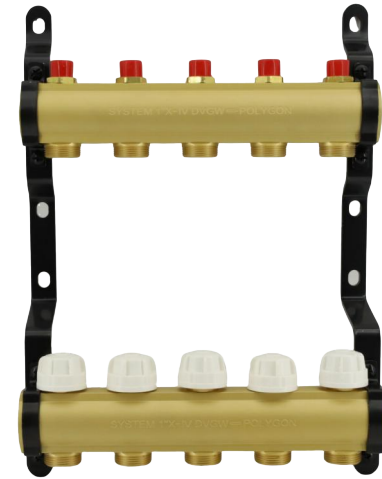
## Specifications

Name	Dimension (mm)	Name	Dimension (mm)
Assembly Tool 	ST16-32	Expander 	SK16-32
Assembly Expansion Tool 	12-25	Plastic box for elbow fitting 	

Manifold 	18010				
	3/4"M x 3/4"F x 1/2"M 1"M x 1"F x 1/2"M				
	1.Brass body,the thread in accordance with the ISO228-1standard.				
	Manifolds	2 ways	3 ways	4 ways	5 ways
	Lc	36	36	36	36
	G1	G1/2"	G1/2"	G1/2"	G1/2"
	D	16.1	16.1	16.1	16.1
	L(G3/4"/G1")	92/97	128/133	164/169	200/205
H(G3/4"/G1")	30.5/33.5	30.5/33.5	30.5/33.5	30.5/33.5	

Name	Dimension (mm)
Manifold with Ends 	3/4×16 2S
	3/4×16 3S
	3/4×20 2S
	3/4×20 3S
	1×16 2S
	1×16 3S
	1×20 2S
	1×20 3S

# Manifold



Connection Port	Branch Pipe Spacing	Branch Pipe Connection	Working Pressure
G1"	48	G3/4" for 20×2.0mm 20×2.3mm 16×2.0mm pipes	PN16

Bracket Material	Medium Temperature	Main Pipe Wall Thickness	Material	Number of Circuits
Q235	5-95°C	≥1.9mm	HPb59-1	2-10

Brass Type IV-A Manifold - Main Body	Model No.	Specification	Pack(qty)
	108320648-003	1"-2 Circuits	6
	108320648-004	1"-3 Circuits	6
	108320648-005	1"-4 Circuits	6
	108320648-006	1"-5 Circuits	4
	108320648-007	1"-6 Circuits	4
	108320648-008	1"-7 Circuits	4
	108320648-009	1"-8 Circuits	3
	108320648-010	1"-9 Circuits	3
	108320648-011	1"-10 Circuits	3



Specification	Working Pressure	Material	Medium Temperature	Main Pipe Diameter
dn16x2.0	PN16	HPb59-1	5-95°C	36.8x36.8mm
dn20x2.0	PN16	HPb59-1	5-95°C	36.8x36.8mm

Branch Inner Diameter (mm)	Branch Pipe Spacing	Main Pipe Wall Thickness	Surface Treatment	Connection Port
8	50mm	≥1.6mm	Brushed & Clear Lacquered	G1"
12.5	50mm	≥1.6mm	Brushed & Clear Lacquered	G1"

Stainless Steel HG Series Manifold - Main Body	Model No.	Specification	Pack(qty)
	108000548-116	1"-4 Circuits	5
	108000548-117	1"-5 Circuits	5
	108000548-118	1"-6 Circuits	5
	108000548-119	1"-7 Circuits	4
	108000548-120	1"-8 Circuits	4

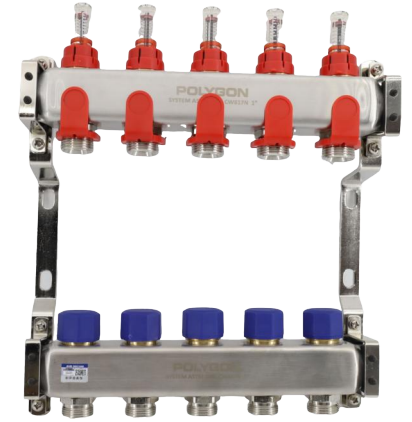
Connection Port	Branch Pipe Spacing	Branch Pipe Connection	Working Pressure
G1"	50mm	G3/4" for 20×2.0mm 16×2.0mm pipes	PN16



Bracket Material	Medium Temperature	Main Pipe Wall Thickness	Material	Number of Circuits
Q235	5-95°C	≥1.5mm	ASTM 304 Stainless Steel	2-12 Circuits

Stainless Steel Smart ASTM Series Manifold - Main Body-Simple Type	Model No.	Specification	Pack(qty)
	108000548-095	1"-2 Circuits	5
	108000548-096	1"-3 Circuits	5
	108000548-097	1"-4 Circuits	5
	108000548-098	1"-5 Circuits	5
	108000548-099	1"-6 Circuits	5
	108000548-100	1"-7 Circuits	5
	108000548-101	1"-8 Circuits	5
	108000548-102	1"-9 Circuits	5
	108000548-092	1"-10 Circuits	5
	108000548-093	1"-11 Circuits	5
	108000548-094	1"-12 Circuits	5

Connection Port	Branch Pipe Spacing	Branch Pipe Connection	Working Pressure
G1"	50mm	G3/4" for 20×2.0mm 16×2.0mm pipes	PN16



Flow Range	Bracket Material	Medium Temperature	Main Pipe Wall Thickness	Material	Number of Circuits
0-5L/min	Q235	5-95°C	≥1.5mm	ASTM 304 Stainless Steel	2-12 Circuits

Stainless Steel HG Series Manifold - Main Body	Model No.	Specification	Pack(qty)
	108000548-084	1"-2 Circuits	5
	108000548-085	1"-3 Circuits	5
	108000548-086	1"-4 Circuits	5
	108000548-087	1"-5 Circuits	5
	108000548-088	1"-6 Circuits	5
	108000548-089	1"-7 Circuits	5
	108000548-090	1"-8 Circuits	5
	108000548-091	1"-9 Circuits	5
	108000548-081	1"-10 Circuits	5
	108000548-082	1"-11 Circuits	5
	108000548-083	1"-12 Circuits	5