

# Technical specifications - Fittings

## Product Description

### DESCRIPTION -

Precision moulded pressure pipe fittings and flanges made from PVC-U250 suitable for PVC pipe systems up to 16 bar. Our comprehensive range of items and sizes can be joined either by cold solvent cementing or through threading. Sizes and dimensions conform to international standard. All fittings are suitable for potable water, beverages, and food contact, as well as corrosive\* fluid transports.

\* For specific chemicals, please consult your sales rep.

### STANDARDS -

Products conform to the requirements of ISO 264, 727, 2536, 3460, KIWA Criteria Std. Nr. 54 and DIN 8063, 19532, UNI EN 1452-3, AFNOR 54-029 and 54-028.

### MATERIALS -

PVC-U250 unplasticized poly (vinyl chloride) meeting the above mentioned Standards.

Injection-moulded components: PVC-U250.

Metal reinforced rings: on the female threads INOX AISI 430.

Gaskets and O-Rings: EPDM.

### MARKINGS -

The fittings and valves incorporate the following information moulded in relief:

- PLASSON Trade Mark (registered in most countries)
- Diameter of connection
- Nominal pressure
- Type of Material

### COLOUR -

All fittings and valves are grey, in accordance with PVC-U pressure pipeline standards.

### ITEMS -

Sockets, 45o and 90o Elbows, 90o Tees, Bushes, Unions, Reducers, Adaptors, Hose Nozzles, Caps, Plugs, Nipples, Flanges, Flange Adaptors, Ball Valves, Foot Valves, Check Valves, and Air Release Valves.

### SANITARY LAWS -

The PLASSON fittings and valves conform to the sanitary laws and regulations in force in the various European Countries and in the U.S. relating to transportation of potable water, wine, beverages and food.

### APPLICATION FIELDS -

Potable water systems, irrigation systems (including fertilization), installation for wine, beer, beverages and other fluids, industrial plants, conveyence of acids, bases, salts, fresh or swimming water, ship installlations. (for special installations, please contact your Plasson supplier).

### JOINTING TYPES -

The fittings and the valves are available with three types of connections:  
Plain ends for solvent cement jointing to pressure pipes of metric dimensions.

Fourth digit in the catalogue no. is "0" (XXX0). Threaded ends to be screwed onto BSP threaded pipes/fittings.

Fourth digit in the catalogue no. is "1" (XXX1).

A combination of ends ("adaptor fittings") suitable for joining a PVC pipeline of the metric dimensions to a BSP threaded pipe, fitting, valve or accessory (PVC or other materials).

Fourth digit in the catalogue no. is "2" (XXX2).

### SIZES -

For standard pipes of the ISO metrical range: 12, 16, 20, 25, 32, 40, 50, 63, 75, 90, 110, 125, 140, 160, 200, 225mm. And for pipes of the BSP threaded range: 1/4", 3/8", 1/2", 3/4", 1", 1 1/4", 1 1/2", 2", 2 1/4", 3", 4", 5".

### THREADS -

PLASSON fittings are female threaded (cylindrical) and male threaded (conical) in accordance with ISO, BS 21, and UNI 339 standards.

### FLANGES -

PLASSON backing flanges are to be used in connection with the flange adaptors (catalogue no. 5500, 5510, and 5520). The number, sizes and distance between the centre of the holes conform to UNI 2223, EN 1452-3, ISO 2536 and DIN 8063 for pressure classes of 10-16 Bar.

### ACCESSORIES -

The fitting range is completed by some accessories such as solvent cement, primer, PTFE tape, etc.

### WORKING TEMPERATURES -

CELSIUS	0°-25°	25°-30°	30°-35°	35°-40°	40°-45°
PFA* (PN) Bar	16	14,4	12,8	11,2	10
PFA* (PN) Bar	10	9	8	7	6,25

\* in accordance with EN 805

### PRESSURES -

The fittings and valves, in accordance with EN 805 standard, have three working pressures: PTA (PA), PMA and PEA.

To every PFA values are connected the following PMA and PEA:

	PFA -PA	PMA	PEA
PRESSURES IN BAR	16	20	24
	10	12,5	15
	6	7,5	9

# Technical specifications - Fittings

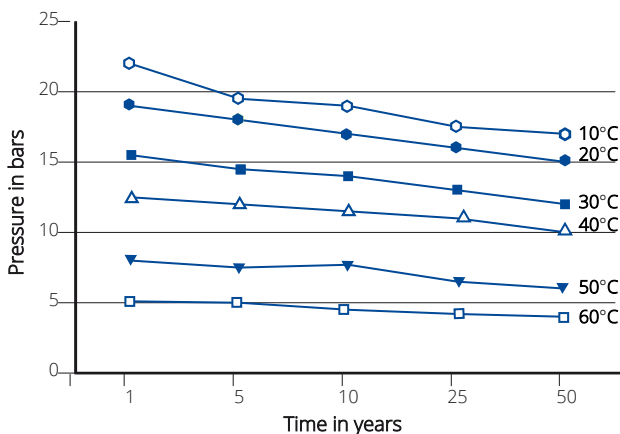
## Product Description

### PVC PROPERTIES -

The following are the required properties for injection moulded PVC-U250 fittings and valves in accordance with ISO-EN-UNI Standards:

CHARACTERISTICS	UNITS	VALUES	STANDARDS
Density at 23°C	Kg/dm <sup>3</sup>	1.39	ISO 1183
Vicat 5 Kg.	°C	77	ISO 306
Tensile impact strength	KJ/m <sup>2</sup>	≤513	ISO 527
Tensile strength at break	MPa	≤49	ISO 527
Elongation at break	%	≤120	ISO 527
Yield stress	MPa	46	ISO 527
Flexural modulus	MPa	≤3000	ISO 527
Heat conductivity at 23 °C	W/mK	0,13-0,19	ASTM C 177
Specific heat at 23 °C	J/Kg K	900-1000	-
Fire resistance (0,85 mm.)		V 0	UL 94

### Permissible working pressures in accordance with DIN8062



### ABBREVIATIONS USED IN THIS CATALOGUE -

d, d <sub>1</sub>	Nominal inside diameter
G, G <sub>1</sub>	Nominal size of thread in inches
DN	Nominal bore
D, D <sub>1</sub>	Outside diameter
E, E <sub>1</sub>	Maximum overall external diameter
l, l <sub>1</sub>	Internal length of cementing
L, L <sub>1</sub> , L <sub>2</sub>	External length for cementing
Lt, Lt <sub>1</sub>	Length of thread
Z	Length from pipe stop to centre/other pipe stop
C	External size of octagon
B	Length of rim
Dp	Pitch circle diameter of bolt holes in flanges
S	Diameter of bolt holes in flanges
N	Number of bolt holes in flange
e	Cross section diameter of O-Ring
H	Total length
w	Weight in grams

### SYMBOLS & DEFINITIONS FITTINGS -

**PN - Nominal Pressure in Bar** - Allowable operating pressure conveying water at 200C during 50 years.

**PFA - Allowable Operating Pressure** - Maximum hydrostatic pressure that a component is capable of withstanding continuously in service (EN 805:1999); for water at temperatures up to 250C: PFA=PN.

**PMA - Allowable Maximum Operating Pressure** - Maximum pressure occurring from time to time, including surge, that a component is capable of withstanding in service (EN 805:1999).

**PEA - Allowable Site Test Pressure** - Maximum hydrostatic pressure that a newly installed component is capable of withstanding for a relatively short duration, in order to ensure the integrity and tightness of the pipeline (EN 805:1999).

**MRS: Minimum Required Strength**

**PVC-U: Unplasticized Poly (vinyl chloride)**

**PVC-U250: Unplasticized Poly (vinyl chloride) material** for injectionmoulded components, such as PLASSON fittings and valves, with a proved MRS-value of at least 25Mpa.

**EPDM: Ethylene Propylene Rubber**

**FPM: Fluoride Rubber (VITON)**

**PTFE: Polytetrafluoroethylene**

# Technical specifications - Valves

## Product Description

### DESCRIPTION -

Precision moulded valves made from uPVC suitable for line pipe systems up to 16 bar. Our comprehensive range of items and sizes can be connected either by cold solvent cementing or through threading. Sizes and dimensions conform to international standards. All valves are suitable for potable water, beverages, food as well as corrosive fluid transport.

### MATERIALS -

PVC-U250 (unplasticized polyvinyl chloride) meeting the standards of DIN-BS-UNI-AFNOR, KIWA, etc

### O-Rings -

- 1) EPDM (ethylene-propylene copolymer). Hardness: 70 shore, unless otherwise specified
- 2) FPM (Fluorised-Rubber) Hardness: 70 shore, unless otherwise specified

### Springs -

- 1) PTFE coated stainless steel 316 core
- 2) Coated Springs: Teflon coated on stainless steel 316 core

### Gaskets (on ball) -

- 1) PTFE (Polytetra Fluorised-Ethylene)
- 2) PE

### MARKINGS -

The valves incorporate the following information moulded in relief:

- Plasson Trade Mark (registered in most countries)
- Diameter of connection
- Nominal pressure
- Type of Material

### COLOUR -

All valves are grey, in accordance with PVC-U pressure pipeline standards.  
Handles are blue or red.

### ITEMS -

Ball Valves, Check Valves, Foot Valves, Air Release Valves

### SANITARY LAWS -

The PLASSON valves conform to the sanitary laws and regulations in force in the various European Countries and in the U.S. relating to transportation of potable water, wine, beverages and food.

### APPLICATION FIELDS -

Potable water systems, irrigation systems (including fertilization), installation for wine, beer, beverages and other fluids, industrial plants, conveyence of acids, bases, salts, fresh or swimming water pool, ship installations. (for special installations, please contact your Plasson supplier).

### JOINTING TYPES -

The valves are available with three types of connections: Plain ends for solvent cement jointing to pressure pipes of metric dimensions. *Fourth digit in the catalogue no. is "0" (XXX0).*  
Threaded ends to be screwed onto BSP threaded pipes/ fittings. *Fourth digit in the catalogue no. is "1" (XXX1).*

### SIZES -

For standard pipes of the ISO metrical range of mm: 16, 20, 25, 32, 40, 50, 63, 75, 90, 110

And for pipes of the BSP threaded range: 3/8", 1/2", 3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2", 3"

### THREADS -

PLASSON valves are female threaded (cylindrical) and male threaded (conical) according with ISO 7, UNI 339, DIN 2999 and BS 21 standards.

### MECHANICAL PROPERTIES -

Maximum working pressure in bars:

Δ16-63: PN16

Δ75-110: PN10

Minimun pressure TEE Clapet: 0,2bar

Minimun opening pressure Check Valves: 0,5bar

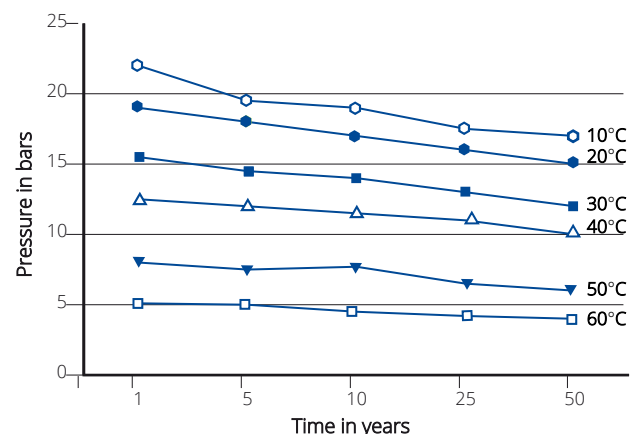
### PVC PROPERTIES -

The following are the required properties for an injection moulded PVC fittings withstanding pressures PN16 in accordance with UNI standards:

CHARACTERISTICS	UNITS	VALUES	STANDARDS
Density	Kg/m <sup>3</sup>	1.4	ISO 1183
Vicat (50N)	°C	76	ISO 306-B
Yield stress	MPa	45	ISO 527
Tensile Strength at break (23 <sup>0</sup> )	MPa	40	ISO 527
Elongation at break	%	120	ISO 527
Tensile Modulus	MPa	3000	ISO 527

			Unnotched j/m	Notched j/m
IZOD Impact Strength	ASTM 23°C		NB	270
	D256 0°C		NB	150
	ISO180 0°C		>1500	70

### Permissible working pressures in accordance with DIN8062



# Technical specifications - Valves

## Product Description

### ABBREVIATIONS USED IN THIS CATALOGUE -

d	Nominal inside diameter
F	Distance from centre of valve to top of handle or valve
G	Nominal size of thread in inches
J	Length of handle
K	Outside diameter or nut
DN	Nominal bore corresponding approx to the inside diameter of the pipe
D	Outside diameter
I	Internal length for cementing
L	External length for cementing
Lp	Internal length to PE pipe
Lt	Length of thread
Z	Length from pipe stop to centre/other pipe stop
H	Total length
W	Weight in grams

### SYMBOLS & DEFINITIONS FITTINGS -

**PN - Nominal Pressure in Bar** - Allowable operating pressure conveying water at 20OC during 50 years.

**PFA - Allowable Operating Pressure** - Maximum hydrostatic pressure that a component is capable of withstanding continuously in service (EN 805:1999); for water at temperatures up to 25OC: PFA=PN.

**PMA - Allowable Maximum Operating Pressure** - Maximum pressure occurring from time to time, including surge, that a component is capable of withstanding in service (EN 805:1999).

**PEA - Allowable Site Test Pressure** - Maximum hydrostatic pressure that a newly installed component is capable of withstanding for a relatively short duration, in order to ensure the integrity and tightness of the pipeline (EN 805:1999).

**MRS: Minimum Required Strength**

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