



## PVC-U Plastics Pressure Fittings (Inch Sizes)

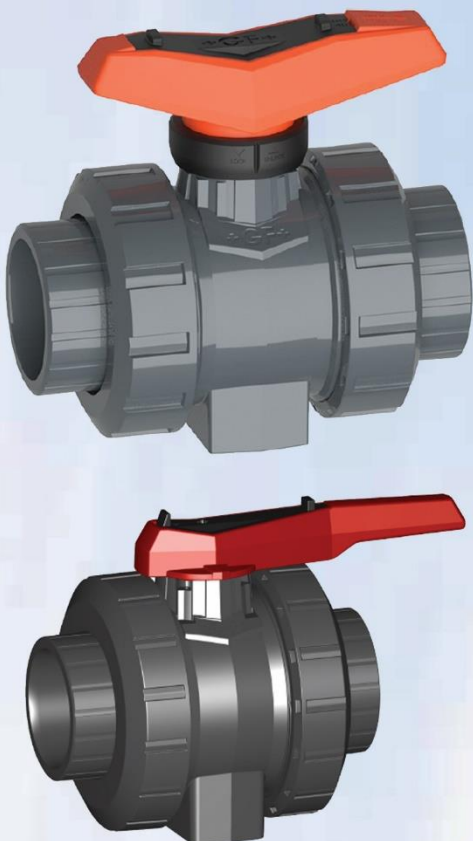
Fittings, Valves and Accessories

**Hepworth**



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## INTRODUCTION

Hepworth PME (Qatar) WLL was established in 2003 and is the leading manufacturer and supplier in Qatar of quality thermoplastic piping systems to the building & construction, civil engineering and industrial market sectors.

Hepworth PME (Qatar) WLL operates a management system based on ISO 9001, ISO 14001 and ISO 45001. In 2009 Hepworth PME (Qatar) WLL became the first plastic pipe manufacturer in Qatar to achieve "kitemark" third party certification on its soil & waste and drainage products, clearly demonstrating the company's commitment and dedication to supplying its customers with the highest quality piping systems.

Hepworth PME (Qatar) WLL products are manufactured to relevant British, European, ASTM and International Standards, quality, performance and reliability are the hallmarks synonymous with the Hepworth brand name and provide complete piping systems solutions incorporating pipes, fittings, manual and actuated valves, measurement and control systems and jointing equipment and accessories from a selected group of international manufacturers who further enhance the scope of supply to accommodate other aspects of water and gas flow management. Encompassing diverse fields such as irrigation to firefighting and district cooling to domestic water supply, complete systems and individual components can be sourced from one professional outlet.

Hepworth PME (Qatar) WLL has the following advantages:

- ✓ Quality of Products
- ✓ Excellent Training and Technical support
- ✓ Comprehensive range of pipes, fittings and accessories from a single source
- ✓ Stringent and Independent Quality Control Unit
- ✓ Substantial stock
- ✓ Trustable Customer Service
- ✓ Direct Delivery to your Site/Shop
- ✓ Competitiveness
- ✓ Specified by Consultant
- ✓ Knowledge and Competence of Staff



## PVC-U Pressure Pipe Systems

### Properties

Of all plastics, by far the most widely used in pipe installation is unplasticised polyvinyl chloride (PVC-U). It is highly suitable for both interior and exterior applications as well as for buried pipelines. It has excellent chemical resistance which, combined with smoothness of bore, eliminates build-up of scale and gives good flow characteristics which remain constant throughout its working life. Being odourless and tasteless, it is suitable for conveying drinking water and many food products. It has good abrasion resistance and weathering qualities and affords good thermal and electrical insulation. PVC-U is light and clean to handle and can be easily jointed.

### Material

Tin stabilised compound conforming to the EEC safety levels for vinyl chloride monomer (VCM) and the WRC requirements for use with potable water.

### WRc Approval

Water Bylaws Scheme - approved product for potable water.

### Chemical Resistance

The chemical resistance properties of PVC-U are excellent: it is resistant to most solutions of acids, alkalis and salts and to solvents that can be mixed with water. PVC-U is not resistant to aromatic and Chlorinated hydrocarbons. Detailed information on this subject is contained in Georg Fischer chemical resistance guide which gives a guide to the resistance of PVC-U (as well as PP, PE and PVDF) to over 400 chemical substances in various concentrations and temperature. It also gives the resistance of elastomeric materials used in seals and diaphragms, since it is important to know the chemical resistance of every component in a pipe system which is likely to come into contact with the line fluid. The information given is relevant primarily to the materials used in the manufacture of Georg Fischer plastics fittings and valves.

In the case of solenoid valves, however, not all recommendations should necessarily be regarded as equally applicable to the seals and diaphragms, particularly in reference to the more aggressive substances, and intending users are advised to seek further guidance from the Hepworth / Georg Fischer Technical Advisory service.

### Sizes

Most fittings and many of the valves in this catalogue are in imperial sizes. Some valves, however, are in metric sizes for which a range of millimeter/inch adaptor fittings is available. For those unfamiliar with metric sizes the following note may be helpful.

In imperial systems, the sizes of pipe fittings and other components such as valves are identified throughout by reference to the nominal size of the bore of the pipe expressed in millimetres.

The table below shows the metric sizes which are regarded for practical purposes as being generally equivalent to imperial sizes up to 8 inches. It should, however, be understood that metric sizes are not simply inch sizes which have been converted into millimetres and called metric, their actual dimensions are slightly different and they are not interchangeable.

IMPERIAL SIZES Nominal bore (Ins)	METRIC SIZES Pipe outside diameter (mm)
1/4	12
3/8	16
1/2	20
3/4	25
1	32
1 1/4	40
1 1/2	50
2	63
2 1/2	75
3	90
4	110
5	140
6	160
8	225

# PVC-U Plastic Pressure

## Temperature and Pressure

The permissible working temperature range for PVC-U pipe system is from 0°C to 60°C. The pressure ratings for the PVC-U fittings in this catalogue are listed table A. Pressure ratings of pipe and fittings are always quoted with and subject to a given temperature, usually 20°C. They can be used at higher temperatures but it is a fundamental principle in plastics pipework that if the temperature is increased then the pressure must be reduced. The table B shows the maximum permissible pressures at various temperatures up to maximum of 60°C. It will be seen that at temperatures above 20°C the recommended pressure are progressively reduced.

## Solvent Cements

A satisfactory solvent cement must be used for jointing PVC-U pipe and fittings. We recommend TANGIT (or other cements to BS 4346: Part 3) which is a gap-filling cement of characteristically thick consistency. Non gap-filling cements must never be used with +GF+ fittings and valves.

The cement creates a chemical bond between the pipe and the fitting: it is a simple and effective method of jointing and because it is also permanent it is important to follow the correct procedure.

Joints made with TANGIT remain unaffected by almost all fluids for which PVC-U pipe is suitable. However, prolonged exposure of the inside joint edge to any of the following acid concentrations may eventually cause some deterioration of the cement bonding.

Sulphuric acid over 70%

Hydrochloric acid over 25%

Nitric acid over 20%

Hydrofluoric acid in all concentrations.

In order, therefore, to ensure maximum service life from pipelines conveying these fluids, we recommend the use of DYTEX which offers a high degree of resistance.

## Pressure Ratings Table A

Unless otherwise indicated the pressure ratings are as follows

Product	Size	Pressure Rating
Fittings Solvent Cement	3/8-6"	15 bar (217lbf/in)
	8"	9 bar (130lbf/in)
Fittings Threaded	1/4-2"	10 bar (145lbf/in)
Valves Ball Type 346	3/8-2"	16 bar (232 lbf/in)
All other Valves	all	see individual valve
Actuated Valves	all	see individual valve
Solenoid Valves	all	see individual valve

All pressure ratings are at 20°C

## Temperature & Pressure Relationship Table B

Temp °C	Class C		Class D		Class E	
	bar	lbf/in <sup>2</sup>	bar	lbf/in <sup>2</sup>	bar	lbf/in <sup>2</sup>
0	9.0	130	12.0	173	15.0	217
20	9.0	130	12.0	173	15.0	217
30	8.1	117	10.8	155	13.5	195
35	7.2	104	9.6	138	12.0	173
40	6.3	91	8.4	121	10.5	152
45	5.4	78	7.2	104	9.0	130
50	4.0	58	5.4	78	6.7	97
55	2.7	39	3.6	52	4.5	65
60	1.3	19	1.8	26	2.2	32

## Standards

PVC-U fittings in imperial sizes for solvent cement jointing are manufactured in accordance with BS EN 1452 (Formally BS 4346 : Part1) under Kite Mark Licence No. 84221 and are suitable for jointing PVC-U pipe.

## Technical Advisory Service

Our Specialist Sale engineers will be pleased to help with the solution of technical problems and to give advisory assistance in the planning and installation of plastics pipeline systems.

## Abbreviations

The following is a list of abbreviations used in this catalogue.

ABS	Acrylonitrile-Butadiene-Styrene
ASA	American Standards Association
BSP	British Standard Pipe (Thread)
CSM	Chlorine Sulphonyl Polyethylene (e.g. Hypalon)
CR	Chloroprene Rubber (e.g. Neoprene*)
DIN	Deutsche Industrie Normen (German Industrial Standards)
EPDM	Ethylene Propylene Rubber
FPM	Fluorine Rubber (e.g. Viton*)
g	Weight in grammes
GP	Carton (Gross Pack)
GRP	Unsaturated Polyester resin glass-fibre reinforced
IIR	Butyl Rubber
ISO	International Standardisation Organisation
kg	Weight in kilogrammes
NBR	Nitrile Rubber
NP	Nominal Pressure
NR	Natural Rubber
PE	Polyethylene
POM	Polyoxymethylene(e.g. Kematal**)
PP	Polypropylene
PTFE	Polytetrafluoroethylene (e.g. Teflon*)
PVDF	Polyvinylidene Fluoride
PVC-C	Chlorinated Polyvinylchloride
PVC-U	Unplasticised Polyvinyl Chloride
SP	Standard Pack

*The technical data given in this catalogue is for preliminary information purposes only, and is published without guarantee. All line drawings are for illustrative purposes only and should not be regarded as wholly accurate in every detail.*

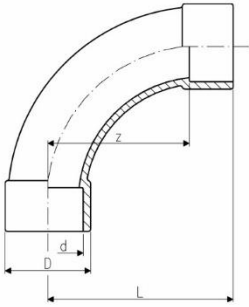
*We reserve the right to withdraw or to alter the specification of any product without notice.*

Where fittings such as some unions are shown as available with O-rings gaskets of two alternative materials, that listed first will be supplied unless the alternative is specially asked for

\*Dupont's registered trade name

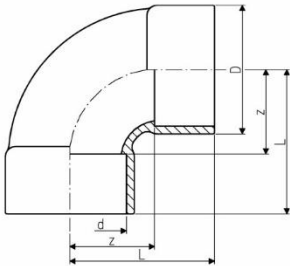
\*\*ICI's registered trade name

# PVC-U Plastic Pressure



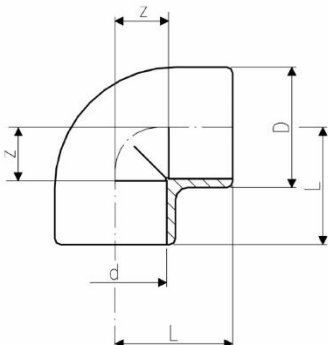
## Bend 90° PVC-U Inch BS

d (mm)	Size (inch)	PN (bar)	Code	SP Weight (kg)	z (mm)	D (mm)	L (mm)	
	½	15	721 001 106	10	0.026	40	29	58
	¾	15	721 001 107	10	0.047	50	35	71
	1	15	721 001 108	10	0.069	64	43	88
	1 ¼	15	721 001 109	5	0.206	80	54	109
	1 ½	15	721 001 110	5	0.312	100	64	131
	2	15	721 001 111	4	0.556	126	76	163
75	2 ½	16	721 000 112	5	0.798	150	90	194
	3	15	721 001 113	5	1.763	180	113	231
	4	15	721 001 115	2	2.667	220	137	284
140	5	16	721 000 116	2	5.204	280	168	356
	6	15	721 001 117	1	7.700	320	201	411



## Bend 90° short pattern PVC-U Inch BS

Size (inch)	PN (bar)	Code	SP Weight (kg)	z (mm)	D (mm)	L (mm)
8	9	721 011 120	1	8.297	168	287

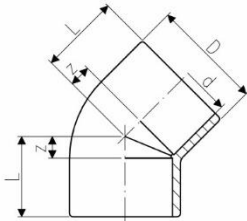


## Elbow 90° PVC-U Inch BS

Size (inch)	PN (bar)	Code	SP Weight (kg)	D (mm)	L (mm)	z (mm)	
¾	15	721 101 105	10	0.016	24	25	10
½	15	721 101 106	10	0.022	27	30	13
¾	15	721 101 107	10	0.025	33	34	14
1	15	721 101 108	10	0.038	40	39	17
1 ¼	15	721 101 109	10	0.079	51	49	22
1 ½	15	721 101 110	10	0.116	58	56	26
2	15	721 101 111	1	0.215	72	68	32
2 ½	16	721 100 112	5	0.336	87	83	40
3	15	721 101 113	5	0.606	107	97	46
4	15	721 101 115	6	1.343	137	122	59
5	16	721 100 116	4	1.945	162	146	70
6	15	721 101 117	1	4.121	201	176	86

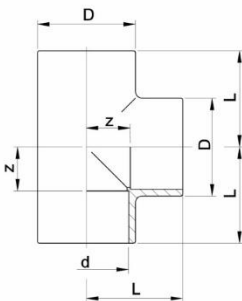


# PVC-U Plastic Pressure



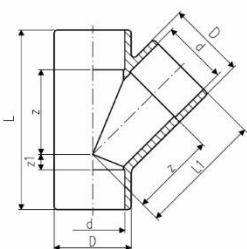
## Elbow 45° PVC-U Inch BS

Size (inch)	PN (bar)	Code	SP	Weight (kg)	D (mm)	L (mm)	z (mm)
3/8	15	721 151 105	10	0.008	22	19	4
1/2	15	721 151 106	10	0.012	27	21	5
3/4	15	721 151 107	10	0.020	33	25	6
1	15	721 151 108	10	0.037	41	30	8
1 1/4	15	721 151 109	10	0.060	51	37	10
1 1/2	15	721 151 110	5	0.089	58	41	11
2	15	721 151 111	5	0.137	72	50	14
2 1/2	16	721 150 112	5	0.253	87	61	17
3	15	721 151 113	5	0.534	107	70	20
4	15	721 151 115	10	0.957	134	89	25
5	16	721 150 116	1	1.570	162	108	32
6	15	721 151 117	2	2.900	198	129	38
8	9	721 151 120	1	5.214	250	168	52



## Tee 90° equal PVC-U Inch BS

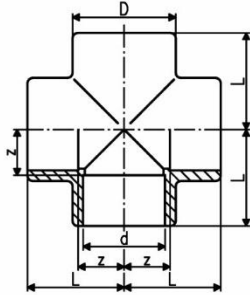
Size (inch)	PN (bar)	Code	SP	Weight (kg)	D (mm)	L (mm)	z (mm)
3/8	15	721 201 105	10	0.018	25	25	10
1/2	15	721 201 106	10	0.036	30	30	13
3/4	15	721 201 107	10	0.051	35	37	16
1	15	721 201 108	10	0.079	43	43	19
1 1/4	15	721 201 109	10	0.105	50	51	22
1 1/2	15	721 201 110	5	0.157	57	56	26
2	15	721 201 111	5	0.294	72	68	32
2 1/2	16	721 200 112	5	0.476	87	83	39
3	15	721 201 113	5	0.847	107	97	46
4	15	721 201 115	8	1.864	138	122	59
5	16	721 200 116	1	3.410	169	147	71
6	15	721 201 117	1	5.521	202	176	86
8	9	721 201 120	1	10.742	256	233	114



## Tee 45° PVC-U Inch BS

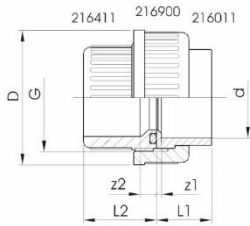
PN (bar)	Size (inch)	Code	SP	Weight (kg)	D (mm)	L (mm)	L1 (mm)	z (mm)	z1 (mm)
9	1/2	721 251 106	10	0.035	28	68	46	30	6
9	3/4	721 251 107	10	0.052	33	83	55	35	8
9	1	721 251 108	10	0.090	41	99	67	43	8
9	1 1/4	721 251 109	10	0.145	50	118	82	55	9
9	1 1/2	721 251 110	8	0.274	60	140	97	67	13
9	2	721 251 111	10	0.476	74	175	123	87	16
6		721 250 112	5	0.816	91	207	145	101	18
6	3	721 251 113	1	1.324	107	245	173	122	20
6	4	721 251 115	3	2.403	134	298	210	147	25
6		721 250 116	1	5.628	168	376	266	190	34

# PVC-U Plastic Pressure



## Cross PVC-U Inch BS

Size (inch)	PN (bar)	Code	SP Weight (kg)	D (mm)	L (mm)	z (mm)	
¾	12	721 301 107	10	0.050	36	33	14
1	12	721 301 108	10	0.081	44	39	17
1 ¼	12	721 301 109	5	0.130	53	49	22
1 ½	12	721 301 110	5	0.299	64	60	30
2	12	721 301 111	5	0.556	80	74	37
2 ½	10	721 300 112	3	0.725	92	83	40



## Union for solvent cement jointing PVC-U Inch BS

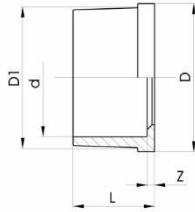
### Model:

- Union End: Solvent cement socket BS Inch
- Union Bush: Solvent cement socket BS Inch
- Gasket: O-Ring EPDM code no.748 410 005-014; FKM: 749 410 005-014

d (mm)	Size (inch)	PN (bar)	d (inch)	EPDM Code	SP Weight (kg)	FKM Code	SP Weight (kg)		
¾	15	¾	721 511 105	10	0.025	721 511 130	0	0.025	
½	15	½	721 511 106	10	0.040	721 511 131	10	0.040	
¾	15	¾	721 511 107	10	0.054	721 511 132	10	0.064	
1	15	1	721 511 108	10	0.080	721 511 133	10	0.088	
1 ¼	15	1 ¼	721 511 109	10	0.108	721 511 134	5	0.133	
1 ½	15	1 ½	721 511 110	5	0.220	721 511 135	5	0.204	
2	15	2	721 511 111	5	0.349	721 511 136	10	0.366	
75	2 ½	10	2 ½	721 510 112	2	0.614	721 510 137	2	0.621

z1 (mm)	z2 (mm)	D (mm)	L1 (mm)	L2 (mm)	G/Tr (inch)
3	8	35	19	24	¾
3	9	43	21	26	1
3	9	51	24	29	1 ¼
3	9	58	27	33	1 ½
3	10	72	32	39	2
3	10	83	33	46	2 ¼
3	10	100	40	58	2 ¾
3	18	135	47	62	Tr108x5

# PVC-U Plastic Pressure

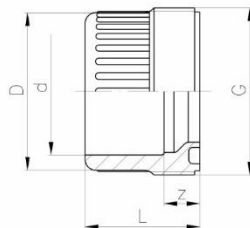


## Union end PVC-U Inch BS

### Model:

- Solvent cement socket BS inch

Size (inch)	PN (bar)	d (inch)	Code	SP	Weight (kg)	z (mm)	D (mm)	D1 (mm)	L (mm)
3/8	15	3/8	721 601 105	2000	0.003	3	24	22	19
1/2	15	1/2	721 601 106	2300	0.007	3	30	27	21
3/4	15	3/4	721 601 107	1400	0.013	3	38	36	24
1	15	1	721 601 108	1000	0.019	3	44	41	27
1 1/4	15	1 1/4	721 601 109	500	0.033	3	56	53	32
1 1/2	15	1 1/2	721 601 110	400	0.043	3	62	59	33
2	15	2	721 601 111	170	0.077	3	78	74	40
2 1/2	10	2 1/2	721 500 162	20	0.140	3	101	90	47
3	9	3	721 601 113	0	0.196	6	110	105	56



## Union bush PVC-U Inch BS

### Model:

- Solvent cement socket BS inch
- Jointing face: with O-ring groove
- Gasket: O-ring EPDM code no. 748 410 005-015; d3 748 410 248

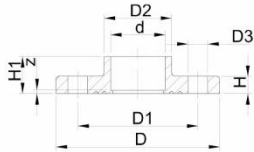
Size (inch)	PN (bar)	d (inch)	Code	SP	Weight (kg)	z (mm)	D (mm)	L (mm)	G (inch)
3/8	15	3/8	721 841 105	10	0.010	8	24	24	3/4"
1/2	15	1/2	721 841 106	10	0.012	9	29	26	1"
3/4	15	3/4	721 841 107	10	0.021	9	34	29	1 1/4"
1	15	1	721 841 108	10	0.031	9	42	33	1 1/2"
1 1/4	15	1 1/4	721 841 109	10	0.056	10	52	39	2"
1 1/2	15	1 1/2	721 841 110	10	0.075	10	62	46	2 1/4"
2	15	2	721 841 111	10	0.139	10	78	58	2 3/4"
3	9	3	721 641 123	36	0.371	19	110	69	Tr 128 x 5



## Union nut (5)

d (mm)	Size (inch)	DN (mm)	PVC-U Code
32	1	25	721 890 008
40	1 1/4	32	721 890 009
50	1 1/2	40	721 890 010
63	2	50	721 890 011
75	2 1/2	65	198 806 429

# PVC-U Plastic Pressure



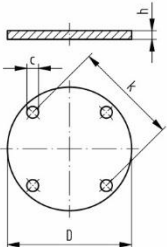
## Full face flange PVC-U Inch BS Drilled to universal standard

### Model:

- In accordance with BS 10, DIN EN 1092 and ASME B 16.5
- Jointing face serrated
- Solvent cement socket BS inch
- It is recommended to use backing flanges in conjunction with all Full Face Flanges
- For pressure ratings over 2bar backing flanges must be used
- All full face flanges are manufactured with outside diameter to BS EN 1092

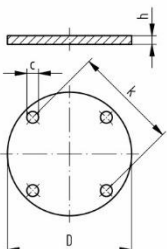
AL: number of holes

d (inch)	DN (mm)	PN (bar)	Code	SP	Weight (kg)	H (mm)	AL	D2 (mm)	D3 (mm)	H1 (mm)	D1 (mm)	z (mm)	D (mm)
½	15	15	721 733 106	100	0.083	10	4	27	15	21	67	3	95
¾	20	15	721 733 107	50	0.106	10	4	33	15	24	73	3	105
1	25	15	721 733 108	50	0.129	10	4	41	15	27	83	3	115
1 ¼	32	15	721 733 109	30	0.189	10	4	50	15	32	87	3	140
1 ½	40	15	721 733 110	30	0.236	10	4	61	15	33	98	3	150
2	50	15	721 733 111	18	0.309	10	4	77	18	40	114	3	165
3	80	15	721 733 113	8	0.540	12	4	108	18	56	146	5	200
4	100	15	721 733 114	4	0.889	17	8	136	18	69	178	5	220
6	150	15	721 733 117	2	2.022	22	8	198	22	96	235	5	285



## Blanking flange PVC-U Drilled to BS 10

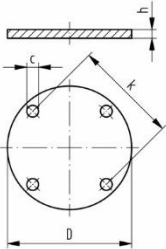
d (inch)	PN (bar)	Code	Weight (kg)	D (mm)	c (mm)	h (mm)	holes
½	15	721 701 206	0.080	95	15	10	4
¾	15	721 701 207	0.110	105	15	10	4
1	15	721 701 208	0.120	115	15	10	4
1 ¼	15	721 701 209	0.190	140	16	10	4
1 ½	15	721 701 210	0.240	150	16	10	4
2	15	721 701 211	0.370	165	18	10	4
3	15	721 701 213	0.520	200	18	12	4
4	15	721 701 214	0.730	220	18	17	8
*	5	721 701 215	0.730	220	18	17	4
6	15	721 701 217	1.700	285	22	22	8



## Blanking flange PVC-U Drilled to BS 4504 PN10/16

d (inch)	PN (bar)	Code	SP	Weight (kg)	D (mm)	c (mm)	h (mm)	holes
½	15	721 701 106	0	0.080	95	14	10	4
¾	15	721 701 107	0	0.110	105	14	10	4
1	15	721 701 108	0	0.139	115	14	10	4
1 ¼	15	721 701 109	0	0.190	140	18	10	4
1 ½	15	721 701 110	0	0.240	150	18	10	4
2	15	721 701 111	0	0.270	165	18	10	4
3	15	721 701 113	0	0.520	200	18	12	8
4	15	721 701 115	0	0.950	220	18	17	8
6	15	721 701 117	0	1.700	285	22	22	8

# PVC-U Plastic Pressure



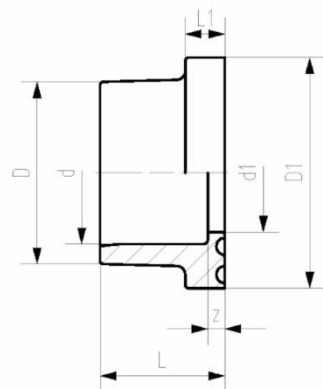
## Blanking flange PVC-U Drilled to ANSI 16.5 B class 150

d (inch)	PN (bar)	Code	Weight (kg)	D (mm)	c (mm)	h (mm)	holes
½	15	721 702 306	0.080	95	16	10	4
¾	15	721 702 307	0.080	105	16	10	4
1	15	721 702 308	0.120	115	16	10	4
1 ¼	15	721 702 309	0.120	140	16	10	4
1 ½	15	721 702 310	0.240	150	16	10	4
2	15	721 702 311	0.240	165	19	10	4
3	15	721 702 313	0.520	200	19	12	4
4	15	721 702 315	0.730	220	19	17	8
6	15	721 702 317	1.700	285	22	22	8



## Blanking flange PVC-U Undrilled

d (inch)	PN (bar)	Code	Weight (kg)	D (mm)	h (mm)
½	15	721 701 006	0.080	95	10
¾	15	721 701 007	0.110	105	10
1	15	721 701 008	0.120	115	10
1 ¼	15	721 701 009	0.202	140	10
1 ½	15	721 701 010	0.233	150	10
2	15	721 701 011	0.370	165	10
3	15	721 701 013	0.521	200	12
4	15	721 701 015	0.730	220	17
6	15	721 701 017	1.700	285	22



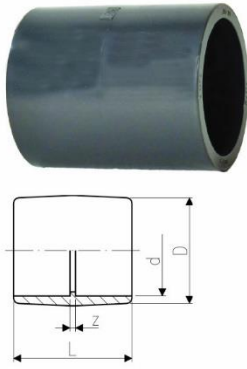
## Flange adaptor PVC-U Combined jointing face flat and serrated Inch BS

### Model:

- Counterpart: flange adaptor BS Inch code no. 721 791 106-123, flange adaptor metric code no. 721 800 106-125
- Gasket: flat gasket EPDM code no. 748 400 306-323

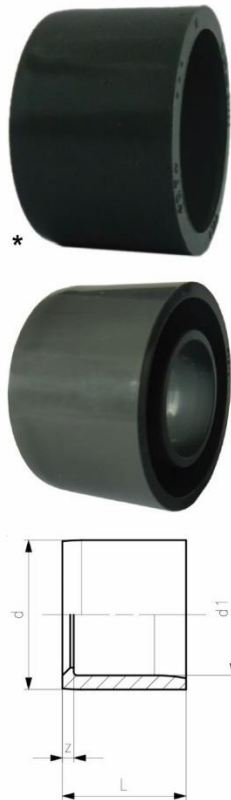
d (mm)	Size (inch)	DN (mm)	PN (bar)	Code	SP (kg)	D (mm)	D1 (mm)	d1 (mm)	L (mm)	L1 (mm)	z (mm)	
½	15	15	15	721 791 106	10	0.009	27	34	16.0	21	6	3
¾	20	15	15	721 791 107	10	0.014	33	41	21.0	24	7	3
1	25	15	15	721 791 108	10	0.023	41	50	28.0	27	7	3
1 ¼	32	15	15	721 791 109	10	0.035	50	61	36.0	32	8	3
1 ½	40	15	15	721 791 110	10	0.058	61	73	45.0	33	8	3
2	50	15	15	721 791 111	5	0.107	77	91	55.5	40	9	3
75	2 ½	65	16	721 790 112	10	0.159	91	106	69.0	47	10	3
3	80	15	15	721 791 113	20	0.269	108	125	82.0	56	11	5
4	100	15	15	721 791 115	20	0.422	136	155	108.0	69	12	5
140	5	125	16	721 790 116	6	0.725	165	188	132.0	81	14	5
6	150	15	15	721 791 117	2	1.172	198	217	160.0	96	16	5
8	200	9	9	721 791 120	2	2.028	248	274	210.0	122	20	6
10	250	9	9	721 791 122	1	3.677	307	329	260.0	151	23	9
12	300	6	6	721 791 123	1	3.418	346	379	302.0	172	27	4

# PVC-U Plastic Pressure



## Socket equal PVC-U Inch BS

d (mm)	PN (bar)	d (inch)	Size (inch)	Code	SP	Weight (kg)	D (mm)	L (mm)	z (mm)
15	15	3/8	3/8	721 911 105	10	0.007	23	32	3
15	15	1/2	1/2	721 911 106	10	0.011	27	36	3
15	15	3/4	3/4	721 911 107	10	0.018	33	45	3
15	15	1	1	721 911 108	10	0.029	41	51	3
15	15	1 1/4	1 1/4	721 911 109	10	0.048	51	57	3
15	15	1 1/2		721 911 110	10	0.070	58	63	3
15	15	2		721 911 111	5	0.128	72	77	3
75	16	2 1/2		721 910 112	10	0.188	87	92	4
15	15	3	3	721 911 113	10	0.350	104	107	7
15	15	4	4	721 911 115	15	0.606	134	135	8
140	16	5		721 910 116	2	1.118	162	159	7
15	15	6	6	721 911 117	2	1.800	197	192	11
9	9	8		721 911 120	1	4.140	253	248	10



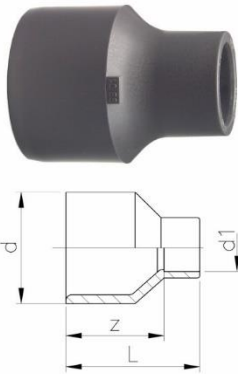
## Reducing bush short pattern PVC-U Inch BS

### Model:

- With solvent cement spigot and socket BS

d (inch)	d1 (inch)	PN (bar)	Size (inch)	Code	SP	Weight (kg)	z (mm)	L (mm)	
*	1/2	3/8	15	1/2	721 901 334	10	0.003	2	18
*	3/4	3/8	15	3/4	721 901 338	10	0.013	5	21
*	3/4	1/2	15	3/4	721 901 337	10	0.006	3	21
	1	3/8	15	1	721 901 343	10	0.013	8	24
	1	1/2	15	1	721 901 342	10	0.015	6	24
	1	3/4	15	1	721 901 341	10	0.010	3	24
	1 1/4	3/8	15	1 1/4	721 901 349	10	0.024	13	29
	1 1/4	1/2	15	1 1/4	721 901 348	10	0.023	11	29
	1 1/4	3/4	15	1 1/4	721 901 347	10	0.025	8	29
	1 1/4	1	15	1 1/4	721 901 346	10	0.018	5	29
	1 1/2	1/2	15	1 1/2	721 901 355	10	0.033	13	30
	1 1/2	3/4	15	1 1/2	721 901 354	10	0.034	10	30
*	1 1/2	1	15	1 1/2	721 901 353	10	0.038	6	30
*	1 1/2	1 1/4	15	1 1/2	721 901 352	10	0.018	2	30
	2	3/4	15		721 901 361	10	0.060	16	37
	2	1	15	2	721 901 360	10	0.063	13	37
	2	1 1/4	15	2	721 901 359	10	0.070	8	37
	2	1 1/2	15	2	721 901 358	10	0.051	6	37
	2 1/2	2	15	2 1/2	721 901 364	10	0.094	8	45
	3	1	15	3	721 901 374	10	0.178	3	50
	3	1 1/2	15	3	721 901 372	10	0.176	3	50
	3	2	15	3	721 901 371	10	0.178	3	50
	3	2 1/2	15	3	721 901 370	140	0.124	6	51
	4	3	15	4	721 901 381	20	0.340	13	64
	5	4	15	5	721 901 384	12	0.530	13	76
	6	5	15	6	721 901 388	5	0.830	15	91
	8	6	9		721 901 396	2	1.769	33	119

# PVC-U Plastic Pressure



## Reducing bush long pattern PVC-U Inch BS

### Model:

- With solvent cement spigot and socket metric

d (inch)	d1 (inch)	PN (bar)	Size (inch)	Code	SP Weight (kg)	z (mm)	L (mm)
5	3	15	5	<b>721 911 386</b>	10	0.730	111
6	4	15	6	<b>721 911 389</b>	6	1.312	133



## Cap PVC-U Inch BS

d (mm)	Size (inch)	PN (bar)	d (inch)	Code	SP Weight (kg)	D (mm)	L (mm)
	3/8	15	3/8	<b>721 961 105</b>	10	0.007	26
	1/2	15	1/2	<b>721 961 106</b>	10	0.009	30
	3/4	15	3/4	<b>721 961 107</b>	10	0.016	37
	1	15	1	<b>721 961 108</b>	10	0.025	44
	1 1/4	15	1 1/4	<b>721 961 109</b>	10	0.038	51
	1 1/2	15	1 1/2	<b>721 961 110</b>	10	0.071	62
	2	15	2	<b>721 961 111</b>	10	0.133	78
75		16	2 1/2	<b>721 960 112</b>	5	0.152	87
	3	15	3	<b>721 961 113</b>	10	0.323	112
	4	15	4	<b>721 962 115</b>	5	0.762	141
140		10	5	<b>721 960 116</b>	10	1.036	164



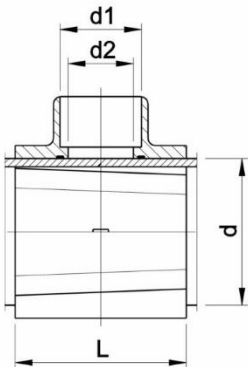
## Hose connector PVC-U Inch BS

### Model:

- With solvent cement spigot and parallel hose connection

d (inch)	PN (bar)	Code	SP Weight (kg)	D (mm)	L (mm)
1/4	15	<b>721 961 404</b>	10	0.005	12

# PVC-U Plastic Pressure

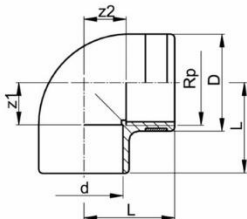


## Branch saddle PVC-U Solvent cement socket outlet

### Model:

- Outlet with solvent cement socket, BS Inch
- Top saddle with NBR rubber gasket

d1 (inch)	d (inch)	SDR	PN (bar)	Size (inch)	Code	Weight (kg)	L (mm)
2	3		1	3	161 117 057	0.767	106
2	4		1	4	161 117 067	0.930	106
2	6		1		161 117 097	1.364	120

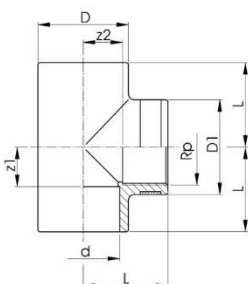


## Elbow 90° PVC-U Inch BS Rp

### Model:

- With solvent cement socket BS Inch and parallel female thread Rp
- Reinforcing ring stainless (A2)
- Connection to plastic or metal threads
- Install with low mechanical stress and avoid large cyclic temperature changes
- Do not use thread sealing pastes that are harmful to PVC-U

d (inch)	Thread Type	Size (inch)	PN (bar)	Code	SP	Weight (kg)	z1 (mm)	z2 (mm)	D (mm)	L (mm)
½	Rp	½	15	721 101 206	10	0.022	10	15	30	27
¾	Rp	¾	15	721 101 207	10	0.033	13	19	35	33
1	Rp	1	15	721 101 208	10	0.052	16	24	45	39



## Tee 90° PVC-U Inch BS Rp

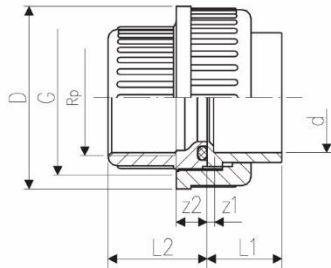
### Model:

- With solvent cement socket BS Inch and parallel female thread Rp
- Reinforcing ring stainless (A2)
- Connection to plastic or metal threads
- Install with low mechanical stress and avoid large cyclic temperature changes
- Do not use thread sealing pastes that are harmful to PVC-U

Thread Type	Size (inch)	PN (bar)	d (inch)	Code	SP	Weight (kg)	z1 (mm)	z2 (mm)	D (mm)	D1 (mm)	L (mm)
Rp	¾	16	¾	721 201 205	10	0.028	10	14	25	25	26
Rp	½	16	½	721 201 206	10	0.028	10	13	30	26	29
Rp	¾	16	¾	721 201 207	10	0.039	13	15	35	32	33
Rp	1	16	1	721 201 208	10	0.111	17	19	45	40	39



# PVC-U Plastic Pressure

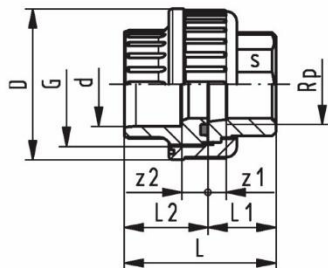


## Adaptor union PVC-U Inch BS Rp

### Model:

- Union End: Solvent cement socket BS Inch
- Union Bush: Parallel female thread Rp
- Connection to plastic thread only
- Do not use thread sealing pastes that are harmful to PVC-U
- Gasket: O-ring EPDM code no. 748 410 005-011

Thread Type	Size	PN	d	Code	SP Weight	z1	z2	D	L1	L2	G	
	(inch)	(bar)	(inch)		(kg)	(mm)	(mm)	(mm)	(mm)	(mm)	(inch)	
Rp	3/8	10	3/8	721 511 205	10	0.025	3	13	35	17	24	3/4
Rp	1/2	10	1/2	721 511 206	10	0.042	3	13	43	19	26	1
Rp	3/4	10	3/4	721 511 207	10	0.068	3	14	51	22	29	1 1/4
Rp	1	10	1	721 511 208	10	0.094	3	15	58	25	32	1 1/2
Rp	1 1/4	10	1 1/4	721 511 209	10	0.168	3	19	72	29	38	2
Rp	1 1/2	10	1 1/2	721 511 210	2	0.223	3	26	83	34	45	2 1/4
Rp	2	10	2	721 511 211	2	0.405	3	33	100	41	56	2 3/4



## Adaptor union PVC-U/malleable iron galvanised Inch BS Rp

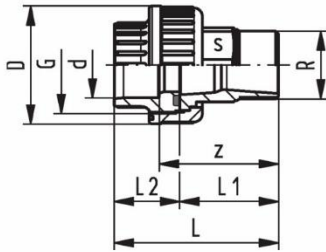
### Model:

- Union Nut: PVC-U
- Union Bush: Solvent cement socket BS Inch
- Union End: malleable iron with parallel female thread Rp
- Gasket: O-ring EPDM Code No. 748 410 006-014; d3 748 410 248

d	Thread Type	Size	PN	d	Code	SP Weight	
(mm)		(inch)	(bar)	(inch)		(kg)	
	Rp	1/2	15	1/2	721 531 306	10	0.120
	Rp	3/4	15	3/4	721 531 307	5	0.190
	Rp	1	15	1	721 531 308	5	0.250
	Rp	1 1/4	15	1 1/4	721 531 309	2	0.400
	Rp	1 1/2	15	1 1/2	721 531 310	2	0.510
	Rp	2	15	2	721 531 311	5	0.780
75	Rp	2 1/2	10	2 1/2	721 530 312	2	1.008
	Rp	3	9	3	721 531 313	2	1.740

G	L2	s	z1	z2	L1	D	L
(inch)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
1	26	25	9	10	22	43	48
1 1/4	29	31	7	10	22	51	51
1 1/2	33	38	9	10	26	58	58
2	39	48	12	12	31	72	69
2 1/4	46	54	14	14	33	83	78
2 3/4	58	67	11	18	35	100	91
Tr 108x5	62	85	12	18	39	127	101
Tr 128x5	69	96	15	19	45	150	114

# PVC-U Plastic Pressure



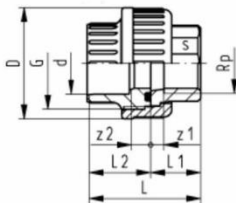
## Adaptor union PVC-U/malleable iron galvanised Inch BS R

### Model:

- Union Nut: PVC-U
- Union Bush: Solvent cement socket BS Inch
- Union End: Malleable iron with taper male thread R
- Gasket: O-ring EPDM Code No. 748 410 006-014; d3 748 410 248

d (mm)	Thread Type	Size (inch)	PN (bar)	d (inch)	Code	SP	Weight (kg)
	R	½	15	½	721 531 806	10	0.156
	R	¾	15	¾	721 531 807	5	0.230
	R	1	15	1	721 531 808	5	0.330
	R	1 ¼	15	1 ¼	721 531 809	2	0.480
	R	1 ½	15	1 ½	721 531 810	2	0.683
	R	2	15	2	721 531 811	8	1.082
75	R	2 ½	10	2 ½	721 530 812	2	1.441
	R	3	9	3	721 531 813	1	1.891

D (mm)	L1 (mm)	L2 (mm)	L (mm)	s (mm)	z (mm)	G (inch)
43	40	26	66	25	50	1
51	43	29	72	31	53	1 1/4
58	48	33	80	38	58	1 1/2
72	57	39	95	48	69	2
83	59	46	104	54	73	2 1/4
100	62	58	118	67	80	2 3/4
127	75	62	137	85	93	Tr 108x5
150	80	69	149	96	99	Tr 128x5



## Adaptor union PVC-U/brass Inch BS Rp

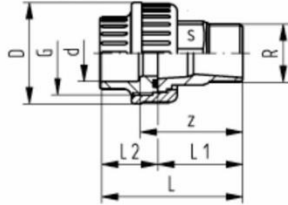
### Model:

- Union Nut: PVC-U
- Union Bush: Solvent cement socket BS Inch
- Union End: Brass with parallel female thread Rp
- Gasket: O-ring EPDM Code No. 748 410 006-014; d3 748 410 248

Thread Type	Size (inch)	d (inch)	PN* (bar)	Code	SP	Weight (kg)
Rp	½	½	15	721 551 506	10	0.093
Rp	¾	¾	15	721 551 507	5	0.145
Rp	1	1	15	721 551 508	5	0.193
Rp	1 ¼	1 ¼	15	721 551 509	2	0.344
Rp	1 ½	1 ½	15	721 551 510	2	0.509
Rp	2	2	15	721 551 511	2	0.776
Rp	2 ½	2 ½	10	721 550 512	2	1.360
Rp	3	3	9	721 551 513	2	2.120

L1 (mm)	D (mm)	L (mm)	G (inch)	L2 (mm)	s (mm)	z1 (mm)	z2 (mm)
22	43	48	1	26	25	7	9
25	51	54	1 1/4	29	30	9	8
27	58	60	1 1/2	33	36	8	9
31	72	70	2	39	46	10	11
35	83	75	2 1/4	41	55	13	11
40	100	88	2 3/4	48	65	14	12
47	127	109	Tr 108x5	62	85	16	18
52	150	121	Tr 128x5	69	95	18	19

# PVC-U Plastic Pressure



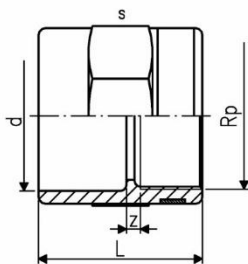
## Adaptor union PVC-U/brass Inch BS R

### Model:

- Union Nut: PVC-U
- Union Bush: Solvent cement socket BS inch
- Union End: Brass with taper male thread R
- Gasket: O-ring EPDM Code No. 748 410 006-014; d3 748 410 248

Thread Type	Size (inch)	d (inch)	PN* (bar)	Code	SP	Weight (kg)
R	½	½	15	721 551 906	10	0.132
R	¾	¾	15	721 551 907	5	0.196
R	1	1	15	721 551 908	5	0.282
R	1 ¼	1 ¼	15	721 551 909	2	0.519
R	1 ½	1 ½	15	721 551 910	2	0.723
R	2	2	15	721 551 911	2	1.091
R	2 ½	2 ½	10	721 550 912	2	1.706
R	3	3	9	721 551 913	1	2.788

L (mm)	L2 (mm)	L1 (mm)	D (mm)	G (inch)	s (mm)	z (mm)
63	26	37	43	1	25	46
71	29	42	51	1 1/4	30	50
79	33	46	58	1 1/2	36	55
91	39	52	72	2	46	63
97	41	56	83	2 1/4	55	67
115	48	67	100	2 3/4	65	78
139	62	77	127	Tr 108x5	85	95
155	69	86	150	Tr 128x5	95	104



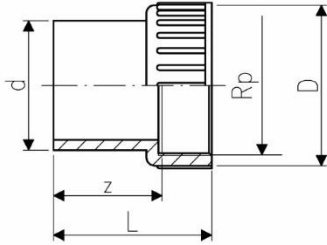
## Adaptor socket PVC-U Inch BS Rp

### Model:

- With solvent cement socket BS Inch and parallel female thread Rp
- Do not use thread sealing pastes that are harmful to PVC-U
- Install with low mechanical stress and avoid large cyclic temperature changes
- Reinforcing ring stainless (A2)
- Connection to plastic or metal threads

Thread Type	Size (inch)	PN (bar)	d (inch)	Code	SP	Weight (kg)	z (mm)	L (mm)	s (mm)
Rp		15	⅜	721 911 005	10	0.016	4	31	27
Rp		15	½	721 911 006	10	0.024	4	35	32
Rp	¾	15	¾	721 911 007	10	0.030	3	40	36
Rp	1	15	1	721 911 008	10	0.055	3	45	46
Rp	1 ¼	15	1 ¼	721 911 009	10	0.083	3	51	55
Rp	1 ½	15	1 ½	721 911 010	10	0.127	8	59	65
Rp	2	15	2	721 911 011	5	0.215	8	69	80

# PVC-U Plastic Pressure

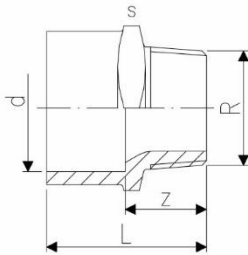


## Adaptor PVC-U Inch BS Rp

### Model:

- With solvent cement spigot BS Inch and parallel female thread Rp
- Do not use thread sealing pastes that are harmful to PVC-U
- Install with low mechanical stress and avoid large cyclic temperature changes
- Connection to plastic thread only

Thread Type	Size (inch)	PN (bar)	d (inch)	Code	SP	Weight (kg)	z (mm)	D (mm)	L (mm)
Rp	½	9	½	721 901 406	10	0.012	21	28	37
Rp	¾	9	¾	721 901 407	10	0.016	23	34	41
Rp	1	9	1	721 901 408	10	0.036	27	42	48
Rp	1 ¼	9	1 ¼	721 901 409	10	0.065	33	52	56
Rp	1 ½	9	1 ½	721 901 410	10	0.092	38	62	61
Rp	2	9	2	721 901 411	5	0.160	47	77	74

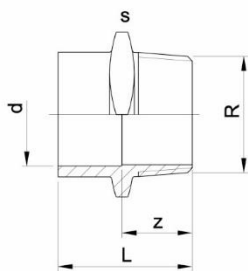


## Adaptor bush equal PVC-U Inch BS R

### Model:

- With solvent cement socket BS Inch and taper male thread R
- Do not use thread sealing pastes that are harmful to PVC-U
- Install with low mechanical stress and avoid large cyclic temperature changes

Thread Type	Size (inch)	PN (bar)	d (inch)	Code	SP	Weight (kg)	z (mm)	L (mm)	s (mm)
R	¾	15	¾	721 911 705	10	0.013	20	34	27
R	½	15	½	721 911 706	10	0.017	24	40	32
R	¾	15	¾	721 911 707	10	0.022	25	44	36
R	1	15	1	721 911 708	10	0.037	28	50	46
R	1 ¼	15	1 ¼	721 911 709	10	0.055	31	57	55
R	1 ½	15	1 ½	721 911 710	10	0.097	32	63	65
R	2	15	2	721 911 711	5	0.176	38	76	80
R	2 ½	10	2 ½	721 910 712	6	0.227	42	86	90



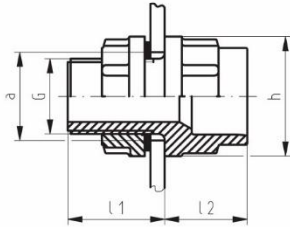
## Adaptor bush reducing PVC-U Inch BS R

### Model:

- With solvent cement socket BS Inch and taper male thread R
- Do not use thread sealing pastes that are harmful to PVC-U
- Install with low mechanical stress and avoid large cyclic temperature changes

Thread Type	Size (inch)	PN (bar)	d (inch)	Code	SP	Weight (kg)	z (mm)	L (mm)	s (mm)
R	½	15	½	721 911 737	120	0.050	22	40	36
R	¾	15	¾	721 911 741	70	0.034	27	48	46
R	1	15	1	721 911 746	70	0.052	29	53	55
R	1 ¼	15	1 ¼	721 911 752	60	0.060	29	58	65
R	1 ½	15	1 ½	721 911 758	5	0.071	34	64	80

# PVC-U Plastic Pressure

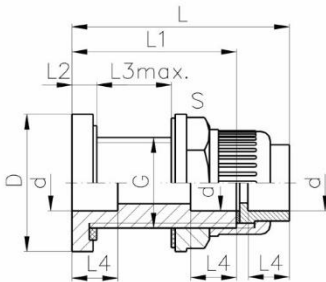


## Tank adaptor for adjustable stop

### Model:

- With solvent cement socket BS Inch and parallel female thread G
- Gasket: flat gasket EPDM
- Gasket: O-ring FKM code no. 749 410 006-007 (to be ordered separately)

Size (inch)	d (inch)	PN (bar)	Code	SP	Weight (kg)	h (mm)	a (mm)	L2 (mm)	L1 (mm)	G (inch)
½	½	15	161 108 706	10	0.050	37	23	24	34	½
¾	¾	15	161 108 707	10	0.048	42	28	29	34	¾



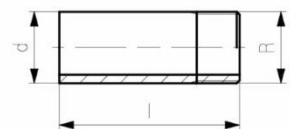
## Tank adaptor for fix position stop

### Model:

- End connection: union with solvent cement socket BS Inch
- Gasket: flat gasket EPDM
- Gasket: O-ring FKM code no. 749 410 006-011 (to be ordered separately)

Size (inch)	d (inch)	Code	SP	Weight (kg)
½	½	161 050 226	1	0.122
¾	¾	161 050 227	1	0.100
1	1	161 050 228	1	0.231
1 ¼	1 ¼	161 050 229	1	0.240
1 ½	1 ½	161 050 230	1	0.463
2	2	161 050 231	1	0.692

D (mm)	L (mm)	L1 (mm)	L2 (mm)	L3 max (mm)	L4 (mm)	G (inch)	s (mm)	Diameter of bore in tank side (mm)
56	89	67	11	30	16	1"	46	35
65	97	72	12	32	19	1 1/4"	50	43
70	103	75	12	33	22	1 1/2"	60	49
95	111	78	12	32	26	2"	80	61
95	119	82	13	32	31	2 1/4"	80	67
115	131	87	13	33	38	2 3/4"	95	83



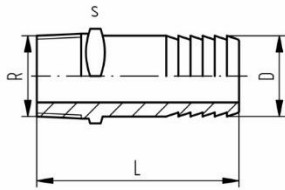
## Adaptor nipple PVC-U Inch BS R

### Model:

- With solvent cement spigot BS Inch and taper male thread R
- Install with low mechanical stress and avoid large cyclic temperature changes
- Do not use thread sealing pastes that are harmful to PVC-U

Thread Type	Size (inch)	PN (bar)	Code	SP	Weight (kg)	L (mm)
R	¾	15	721 913 905	0	0.007	43
R	½	15	721 913 906	0	0.013	50
R	¾	15	721 913 907	0	0.022	56
R	1	15	721 913 908	0	0.034	63
R	1 ¼	15	721 913 909	0	0.060	75
R	1 ½	15	721 913 910	0	0.082	88
R	2	15	721 913 911	0	0.111	88
R	3	15	721 913 913	0	0.253	128
R		15	721 913 915	0	0.486	153

# PVC-U Plastic Pressure

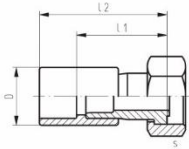


## Hose connector PVC-U R

### Model:

- With taper male thread R
- With parallel hose connector
- Do not use thread sealing pastes that are harmful to PVC-U

Thread Type	Size (inch)	PN (bar)	Code	SP	Weight (kg)	D (mm)	L (mm)	s (mm)
R	¼	10	721 960 704	10	0.003	12	59	14
R	⅜	10	721 960 705	10	0.006	16	67	19
R	½	10	721 960 706	10	0.019	20	86	22
R	¾	10	721 960 707	10	0.026	25	92	27
R	1	10	721 960 708	5	0.048	30	103	36
R	1 ¼	10	721 960 709	5	0.079	40	115	46

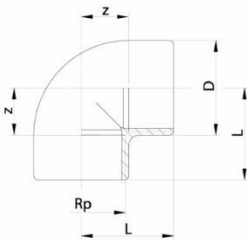


## Tap connector PVC-U Inch BS Rp

### Model:

- With solvent cement socket BS Inch and brass parallel female thread Rp

d (inch)	Thread Type	Size (inch)	Code	SP	Weight (kg)	s (mm)	D (mm)	l1 (mm)	l2 (mm)
¾	Rp	½	721 551 405	10	0.040	24	23	39	55
½	Rp	¾	721 551 406	10	0.042	31	27	43	60



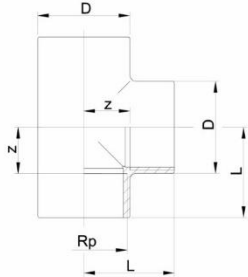
## Elbow 90° PVC-U Rp

### Model:

- With parallel female thread Rp
- Connection to plastic thread only
- Install with low mechanical stress and avoid large cyclic temperature changes
- Do not use thread sealing pastes that are harmful to PVC-U

Thread Type	Size (inch)	PN (bar)	Code	SP	Weight (kg)	z (mm)	D (mm)	L (mm)
Rp	¾	10	721 101 605	10	0.013	9	23	23
Rp	½	10	721 101 606	10	0.017	12	27	27
Rp	¾	10	721 101 607	10	0.029	15	33	33
Rp	1	10	721 101 608	10	0.042	19	39	39
Rp	1 ¼	10	721 101 609	10	0.070	27	48	49
Rp	1 ½	10	721 101 610	5	0.178	35	61	59
Rp	2	10	721 101 611	5	0.322	44	75	72

# PVC-U Plastic Pressure

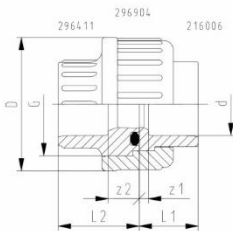


## Tee 90° equal PVC-U Rp

### Model:

- With parallel female thread Rp
- Connection to plastic thread only
- Install with low mechanical stress and avoid large cyclic temperature changes
- Do not use thread sealing pastes that are harmful to PVC-U

Thread Type	Size (inch)	PN (bar)	Code	SP	Weight (kg)	z (mm)	D (mm)	L (mm)
Rp	3/8	10	721 201 605	10	0.016	9	23	23
Rp	1/2	10	721 201 606	10	0.027	12	28	27
Rp	3/4	10	721 201 607	10	0.039	15	33	33
Rp	1	10	721 201 608	5	0.072	19	41	39
Rp	1 1/4	10	721 201 609	100	0.146	27	50	49
Rp	1 1/2	10	721 201 610	10	0.267	36	62	60
Rp	2	10	721 201 611	10	0.485	44	77	72

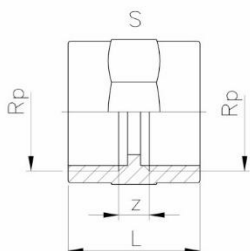


## Thread union PVC-U Rp Rp

### Model:

- Union Nut: PVC-U
- Union Bush: Parallel female thread Rp
- Union End: Parallel female thread Rp
- Connection to plastic thread only
- Do not use thread sealing pastes that are harmful to PVC-U
- Gasket: O-ring EPDM code no. 748 410 004-011
- Gasket: O-ring FKM code no. 749 410 004-011 (to be ordered separately)

Thread Type	Size (inch)	PN (bar)	Code	SP	Weight (kg)	G (inch)	z1 (mm)	z2 (mm)	D (mm)	L1 (mm)	L2 (mm)
Rp	3/8	10	721 510 604	10	0.019	3/8	3	12	31	22	15
Rp	1/2	10	721 510 605	10	0.027	1/2	3	13	35	24	17
Rp	3/4	10	721 510 606	10	0.042	1	3	13	43	26	19
Rp	1	10	721 510 607	10	0.065	1 1/4	3	14	51	29	22
Rp	1 1/4	10	721 510 609	10	0.160	2	3	19	72	38	29
Rp	1 1/2	10	721 510 610	2	0.220	2 1/4	3	26	83	45	34
Rp	1	10	721 510 608	10	0.093	1 1/2	3	15	58	32	25
Rp	2	10	721 510 611	5	0.415	2 3/4	3	33	100	56	41



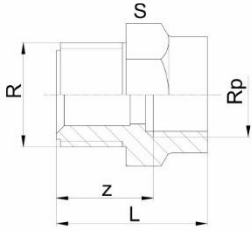
## Socket PVC-U Rp

### Model:

- With parallel female thread Rp
- Connection to plastic thread only
- Do not use thread sealing pastes that are harmful to PVC-U
- Install with low mechanical stress and avoid large cyclic temperature changes

Thread Type	Size (inch)	PN (bar)	Code	SP	Weight (kg)	z (mm)	L (mm)	s (mm)
Rp	3/8	10	721 910 604	10	0.010	7	27	22
Rp	1/2	10	721 910 605	10	0.015	7	29	27
Rp	3/4	10	721 910 606	10	0.024	9	35	32
Rp	1	10	721 910 607	10	0.029	9	39	36
Rp	1 1/4	10	721 910 608	10	0.053	11	45	46
Rp	1 1/2	10	721 910 609	10	0.076	11	49	55
Rp	1 1/2	10	721 910 610	10	0.106	11	49	65
Rp	2	10	721 910 611	5	0.180	11	57	80

# PVC-U Plastic Pressure

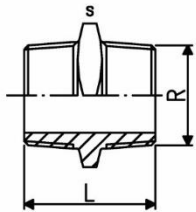


## Reducing bush PVC-U R Rp

### Model:

- With taper male thread R and parallel female thread Rp
- Install with low mechanical stress and avoid large cyclic temperature changes
- Do not use thread sealing pastes that are harmful to PVC-U

Thread Type	Size (inch)	Thread Type 2	Size 2 (inch)	PN (bar)	Code	SP	Weight (kg)	z (mm)	L (mm)	s (mm)
R	½	Rp	¾	10	721 910 834	10	0.014	25	36	27
R	¾	Rp	1	10	721 910 837	10	0.021	25	39	32
R	1	Rp	1 ½	10	721 910 842	10	0.029	31	45	32
R	1	Rp	¾	10	721 910 841	10	0.031	29	45	36
R	1 ¼	Rp	1	10	721 910 846	10	0.050	32	50	46
R	1 ½	Rp	1 ¼	10	721 910 852	10	0.065	35	55	55
R	2	Rp	1 ½	10	721 910 858	5	0.127	45	65	65

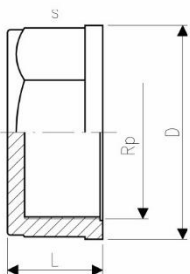


## Threaded nipple R PVC-U

### Model:

- With taper male thread R
- Install with low mechanical stress and avoid large cyclic temperature changes
- Do not use thread sealing pastes that are harmful to PVC-U

Thread Type	Size (inch)	PN Type (bar)	Code	SP	Weight (kg)	L (mm)	s (mm)
R	¾	10 A	721 911 905	10	0.007	37	19
R	½	10 A	721 911 906	10	0.012	45	22
R	¾	10 A	721 911 907	10	0.019	49	27
R	1	10 A	721 911 908	10	0.034	57	36
R	1 ¼	10 A	721 911 909	10	0.052	62	46
R	1 ½	10 A	721 911 910	10	0.070	67	50
R	2	10 A	721 911 911	10	0.126	76	65



## Cap PVC-U Rp

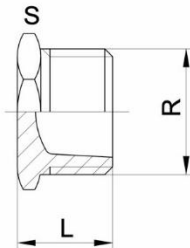
### Model:

- With parallel female thread Rp
- Connection to plastic thread only
- Install with low mechanical stress and avoid large cyclic temperature changes
- Do not use thread sealing pastes that are harmful to PVC-U

Thread Type	Size (inch)	PN (bar)	Code	SP	Weight (kg)	D (mm)	L (mm)	s (mm)
Rp	¾	10	721 960 605	10	0.012	31	19	27
Rp	½	10	721 960 606	10	0.018	37	21	32
Rp	¾	10	721 960 607	10	0.024	42	24	36
Rp	1	10	721 960 608	10	0.040	50	26	46
Rp	1 ¼	10	721 960 609	10	0.060	60	29	55
Rp	1 ½	10	721 960 610	10	0.072	65	31	60
Rp	2	10	721 960 611	5	0.127	81	36	75



# PVC-U Plastic Pressure

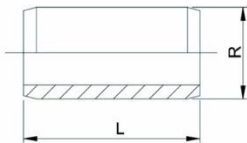


## Plug PVC-U R

### Model:

- With taper male thread R
- Install with low mechanical stress and avoid large cyclic temperature changes
- Do not use thread sealing pastes that are harmful to PVC-U

Thread Type	Size (inch)	PN (bar)	Code	SP	Weight (kg)	L (mm)	s (mm)
R	3/8	10	721 961 905	10	0.006	21	22
R	1/2	10	721 961 906	10	0.011	25	27
R	3/4	10	721 961 907	10	0.020	29	36
R	1	10	721 961 908	10	0.030	32	41
R	1 1/4	10	721 961 909	10	0.048	36	50
R	1 1/2	10	721 961 910	10	0.071	37	60
R	2	10	721 961 911	5	0.119	42	75

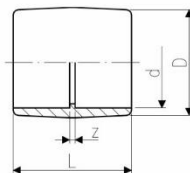


## Barrel nipple PVC-U metric

### Model:

- With solvent cement spigots on both sides
- For the shortest possible distance between fittings
- Overall length L = 2 x socket length

d (inch)	d (mm)	Size (inch)	PN (bar)	Code	SP	Weight (kg)	L (mm)
3/8			16	721 901 905	0	0.002	29
1/2			16	721 901 906	0	0.004	33
3/4			16	721 901 907	0	0.008	39
1			16	721 901 908	0	0.015	45
1 1/4			16	721 901 909	0	0.027	54
1 1/2			16	721 901 910	0	0.050	60
2			16	721 901 911	0	0.098	72
2 1/2	75	2 1/2	16	721 900 912	30	0.156	88
3			16	721 901 913	0	0.226	101
4			16	721 901 914	0	0.476	126
5	140	5	16	721 900 916	4	0.932	152



## Adaptor socket PVC-U metric Inch/BS

### Model:

- With solvent cement sockets metric and BS inch

d (mm)	PN (bar)	Size (inch)	d (inch)	Code	SP	Weight (kg)	z (mm)	D (mm)	L (mm)
16	16	3/8	3/8	721 913 105	10	0.010	5	23	35
20	16	1/2	1/2	721 913 106	10	0.012	5	27	38
25	16	3/4	3/4	721 913 107	10	0.020	5	33	45
32	16	1	1	721 913 108	10	0.031	5	41	51
40	16	1 1/4	1 1/4	721 913 109	10	0.054	5	51	60
50	16	1 1/2	1 1/2	721 913 110	10	0.074	4	59	65
63	16	2	2	721 913 111	5	0.155	5	75	79
90	16	3	3	721 913 113	10	0.340	6	104	108
110	16	4	4	721 913 115	5	0.488	4	128	128

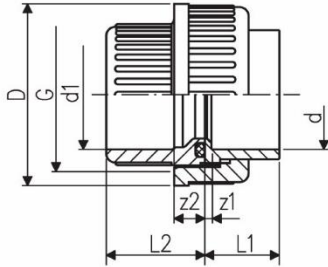
# PVC-U Plastic Pressure



## Adaptor union PVC-U metric Inch BS

### Model:

- Union End: Solvent cement socket metric
- Union Bush: Solvent cement socket BS inch
- Gasket: O-ring EPDM code no. 748 410 005-011
- Gasket: O-ring FKM code no. 749 410 005-011 (to be ordered separately)



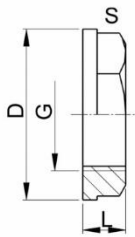
d	d1	Size	PN	Code	SP	Weight	G	z1	z2	D	L1	L2
(mm)	(inch)	(inch)	(bar)			(kg)	(inch)	(mm)	(mm)	(mm)	(mm)	(mm)
16	¾	¾	15	<b>721 513 105</b>	10	0.025	¾	3	8	35	17	24
20	½	½	15	<b>721 513 106</b>	10	0.040	1	3	9	43	19	26
25	¾	¾	15	<b>721 513 107</b>	10	0.065	1 ¼	3	9	51	22	29
32	1	1	15	<b>721 513 108</b>	10	0.090	1 ½	3	9	58	25	33
40	1 ¼	1 ¼	15	<b>721 513 109</b>	10	0.155	2	3	10	72	29	39
50	1 ½	1 ½	15	<b>721 513 110</b>	5	0.200	2 ¼	3	10	83	34	46
63	2	2	15	<b>721 513 111</b>	5	0.341	2 ¾	3	10	100	41	58



## Backing nut PVC-U tank adaptor

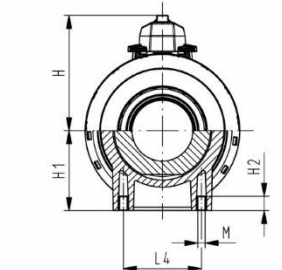
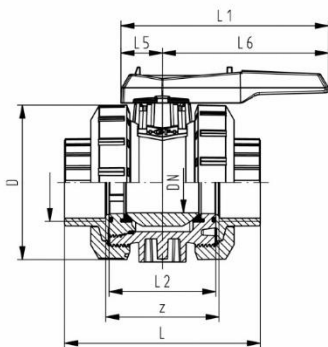
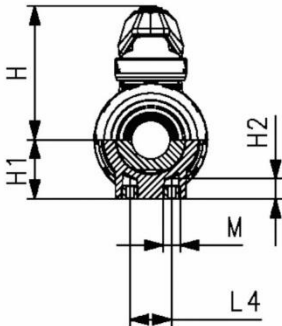
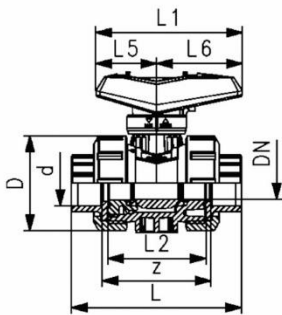
### Model:

- With G thread ISO 228/1
- Spare part for tank adaptor type 050



Thread Type	Size	M	Code	SP	Weight	D	L	s
	(inch)				(kg)	(mm)	(mm)	(mm)
G	¾		<b>161 490 630</b>	400	0.007	39	13	32
G	1		<b>161 490 632</b>	200	0.012	48	15	40
G	1 ¼		<b>161 490 634</b>	100	0.019	58	17	50
G	1 ½		<b>161 490 635</b>	100	0.027	65	18	56
G	1 ¾		<b>161 490 636</b>	75	0.036	72	19	64
G	2		<b>161 490 637</b>	50	0.043	79	21	69
G	2 ¼		<b>161 490 638</b>	50	0.053	86	21	76
G	2 ½		<b>161 490 639</b>	25	0.063	94	23	85
G	2 ¾		<b>161 490 640</b>	25	0.092	106	25	95
G	3		<b>161 490 641</b>	20	0.101	112	26	100
G	4		<b>161 490 644</b>	10	0.164	139	32	126

# PVC-U Plastic Pressure



## Ball valve type 546 Pro PVC-U With solvent cement sockets inch BS

### Model:

- Lockable lever as standard (DN10-DN50)
- For easy installation and removal
- Ball seals PTFE
- Integrated stainless steel mounting inserts
- Z-dimension, valve end and union nut **are compatible** with type 546 (1<sup>st</sup> Generation)

### Option:

- Interface-module with position feedback sensor, incl. LED feedback (DN10-50)
- Manual spring return lever ("Dead man") (DN10-25)
- Pneumatic or electric actuators from GF
- Individual configuration of the valve possible
- Multifunctional module with integrated limit switches (DN65-100)

d (mm)	DN (mm)	Size (inch)	PN (bar)	kv-value ( $\Delta p=1$ bar) (l/min)	EPDM Code	SP Weight (kg)	FKM Code	SP Weight (kg)
16	10	3/8	16	71	161 546 241	1	0.150	161 546 251
20	15	1/2	16	185	161 546 242	1	0.150	161 546 252
25	20	3/4	16	350	161 546 243	1	0.230	161 546 253
32	25	1	16	700	161 546 244	1	0.335	161 546 254
40	32	1 1/4	16	1000	161 546 245	1	0.585	161 546 255
50	40	1 1/2	16	1600	161 546 246	1	0.850	161 546 256
63	50	2	16	3100	161 546 247	1	1.567	161 546 257
90	80	3	16	7000	161 546 249	1	5.607	161 546 259
110	100	4	16	11000	161 546 250	1	8.531	161 546 260

D (mm)	H (mm)	H1 (mm)	H2 (mm)	L (mm)	L1 (mm)	L2 (mm)	L4 (mm)	L5 (mm)	L6 (mm)	M	z (mm)
50	61	27	12	92	82	56	25	35	47	M6	64
50	61	27	12	95	82	56	25	35	47	M6	64
58	74	30	12	110	106	65	25	44	62	M6	72
68	80	36	12	123	106	71	25	44	62	6	79
84	95	44	15	146	131	85	45	57	74	M8	93
97	102	51	15	157	131	89	45	57	74	M8	100
124	117	64	15	183	152	101	45	66	86	M8	113
200	161	105	15	255	270	141	70	64	206	M8	157
238	178	123	22	301	320	164	120	64	256	M12	178

# PVC-U Plastic Pressure



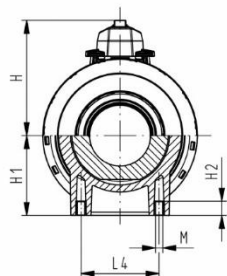
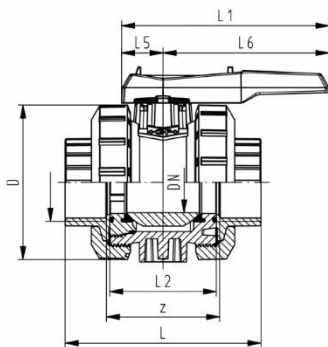
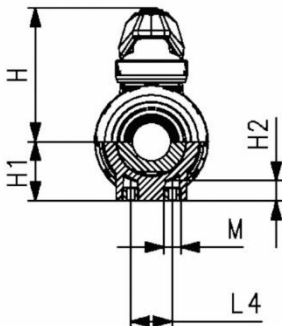
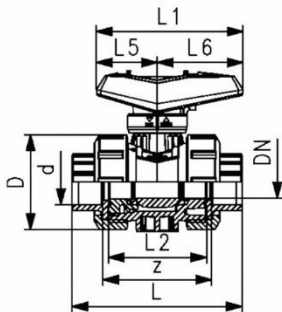
## Ball valve type 546 Pro PVC-U With solvent cement sockets JIS

### Model:

- Lockable lever as standard (DN10-DN50)
- For easy installation and removal
- Ball seals PTFE
- Integrated stainless steel mounting inserts
- Z-dimension, valve end and union nut **are compatible** with type 546 (1<sup>st</sup> Generation)

### Option:

- Interface-module with position feedback sensor, incl. LED feedback (DN10-50)
- Manual spring return lever ("Dead man") (DN10-25)
- Pneumatic or electric actuators from GF
- Individual configuration of the valve possible
- Multifunctional module with integrated limit switches (DN65-100)



d (mm)	DN (mm)	Size (inch)	PN (bar)	kv-value ( $\Delta p=1$ bar) (l/min)	EPDM Code	SP Weight (kg)	FKM Code	SP Weight (kg)
20	15	½	16	185	161 546 882	1	0.157	161 546 892
25	20	¾	16	350	161 546 883	1	0.236	161 546 893
32	25	1	16	700	161 546 884	1	0.346	161 546 894
40	32	1 ¼	16	1000	161 546 885	1	0.617	161 546 895
50	40	1 ½	16	1600	161 546 886	1	0.851	161 546 896
63	50	2	16	3100	161 546 887	1	1.568	161 546 897
75	65	2 ½	16	5000	161 546 888	1	4.298	161 546 898
90	80	3	16	7000	161 546 889	1	7.400	161 546 899
110	100	4	16	11000	161 546 890	1	8.539	161 546 900

D (mm)	H (mm)	H1 (mm)	H2 (mm)	L (mm)	L1 (mm)	L2 (mm)	L4 (mm)	L5 (mm)	L6 (mm)	M	z (mm)
50	61	27	12	95	82	56	25	35	47	M6	67
58	74	30	12	110	106	65	25	44	62	M6	76
68	80	36	12	123	106	71	25	44	62	M6	83
84	95	44	15	146	131	85	45	57	74	M8	98
97	102	51	15	157	131	89	45	57	74	M8	98
124	117	64	15	183	152	101	45	66	86	M8	111
166	150	85	15	234	270	136	70	64	206	M8	149
200	161	105	15	255	270	141	70	64	206	M8	156
238	178	123	22	301	320	164	120	64	256	M12	178

# PVC-U Plastic Pressure

## Ball valve type 546 Pro PVC-U

With solvent cement sockets Inch ASTM/Inclusive 2 threaded valve ends NPT



### Model:

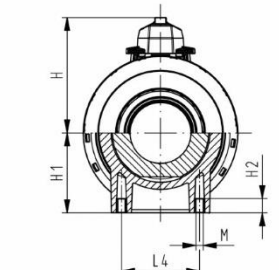
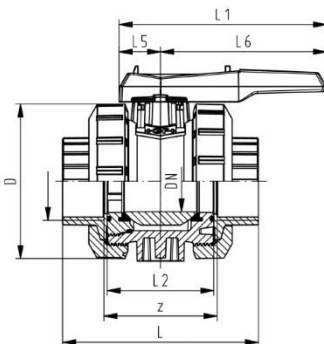
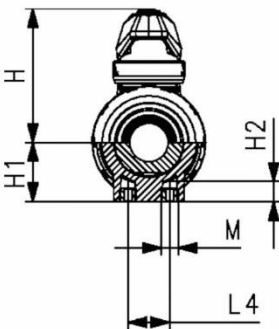
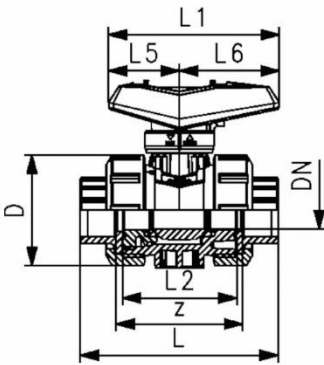
- Lockable lever as standard (DN10-DN50)
- For easy installation and removal
- Ball seals PTFE
- Integrated stainless steel mounting inserts
- Threaded valve ends are only enclosed and reduce Pressure Rating to PN10 for DN10/15-50
- Threaded valve ends are only enclosed for DN10/15-50
- Z-dimension, valve end and union nut **are compatible** with type 546 (1<sup>st</sup> Generation)

### Option:

- Interface-module with position feedback sensor, incl. LED feedback (DN10-50)
- Manual spring return lever ("Dead man") (DN10-25)
- Pneumatic or electric actuators from GF
- Individual configuration of the valve possible
- Multifunctional module with integrated limit switches (DN65-100)

d	DN	Size	PN	kv-value	EPDM	SP	Weight	FKM	SP	Weight
(mm)	(mm)	(inch)	(bar)	( $\Delta p=1$ bar)	Code		(kg)	Code		(kg)
				(l/min)						
16	10	3/8	16	71	161 546 341	1	0.157	161 546 351	1	0.184
20	15	1/2	16	185	161 546 342	1	0.233	161 546 352	1	0.200
25	20	3/4	16	350	161 546 343	1	0.245	161 546 353	1	0.342
32	25	1	16	700	161 546 344	1	0.483	161 546 354	1	0.486
40	32	1 1/4	16	1000	161 546 345	1	0.796	161 546 355	1	0.740
50	40	1 1/2	16	1600	161 546 346	1	1.089	161 546 356	1	0.850
63	50	2	16	3100	161 546 347	1	1.922	161 546 357	1	1.934
75	65	2 1/2	16	5000	161 546 348	1	4.363	161 546 358	1	4.900
90	80	3	16	7000	161 546 349	1	5.376	161 546 359	1	7.400
110	100	4	16	11000	161 546 350	1	9.633	161 546 360	1	9.707

D	H	H1	H2	L	L1	L2	L4	L5	L6	M	z
(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)
50	61	27	12	105	82	56	25	35	47	6	68
50	61	27	12	105	82	56	25	35	47	M6	67
58	74	30	12	122	106	65	25	44	62	6	76
68	80	36	12	134	106	71	25	44	62	M6	82
84	95	44	15	155	131	85	45	57	74	M8	98
97	102	51	15	164	131	89	45	57	74	M8	99
124	117	64	15	184	152	101	45	66	86	M8	111
166	150	85	15	234	270	136	70	64	206	M8	148
200	161	105	15	255	270	141	70	64	206	M8	163
238	178	123	22	301	320	164	120	64	256	12	178



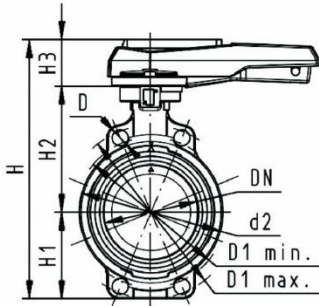
# PVC-U Plastic Pressure



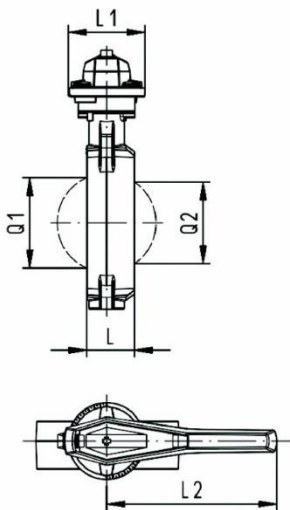
## Wafer-style butterfly valve type 567 PVC-U Hand lever with ratchet settings

### Model:

- Up to DN 300: Overall length according to EN558 (DN 50-200: line 25, DN250, 300 line 16), ISO 5752
- Connecting dimension: ISO 7005 PN 10, EN 1092 PN 10, DIN 2501 PN 10, ANSI/ASME B 16.5 Class 150, BS 1560: 1989, BS 4504, JIS B 2220
- We recommend for the dimensions DN250 and DN300 only 6 bar maximum system pressure for the hand lever version



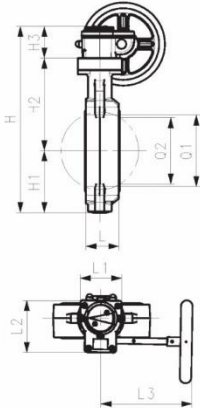
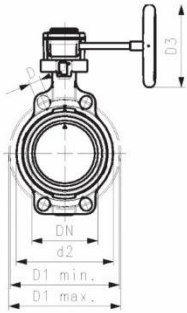
d (mm)	Size (inch)	DN (mm)	PN (bar)	kv-value ( $\Delta p=1$ bar) (l/min)	EPDM Code	FKM Code	Weight (kg)
63	2	50	10	740	161 567 002	161 567 022	1.259
75	2 ½	65	10	1500	161 567 003	161 567 023	1.799
90	3	80	10	2400	161 567 004	161 567 024	1.534
110	4	100	10	3800	161 567 005	161 567 025	2.235
140	5	125	10	8600	161 567 006	161 567 026	2.799
160	6	150	10	11400	161 567 007	161 567 027	3.791
225	8	200	10	19900	161 567 008	161 567 028	6.570
280	10	250	10	34000	161 567 009	161 567 029	12.998
315	12	300	10	50000	161 567 010	161 567 030	19.139



d (mm)	D (mm)	D1 min. (mm)	D1 max. (mm)	d2 (mm)	H (mm)	H1 (mm)	H2 (mm)	H3 (mm)	L (mm)	L1 (mm)	L2 (mm)	Q1 (mm)	Q2 (mm)
63	19	120.0	125.0	104	265	77	134	54	45	106	205	40	35
75	19	139.7	145.0	115	268	83	140	45	46	106	205	54	
90	19	150.0	160.0	131	289	89	146	54	49	106	205	67	50
110	19	175.0	190.5	161	326	104	167	55	56	106	255	88	74
140	23	210.0	215.9	187	353	117	181	55	64	106	255	113	97
160	24	241.3	241.3	215	374	130	189	55	72	106	255	139	123
225	23	290.0	295.0	267	435	158	210	67	73	140	408	178	169
280	25	353.0	362.0	329	554	205	264	85	113	149	408	210	207
315	25	400.0	432.0	379	598	228	285	85	113	149	408	256	253

# PVC-U Plastic Pressure

## Wafer-style, intermediate installation butterfly valve type 567 PVC-U With gear box Flange standard metric/ANSI/BS/JIS



### Model:

- Up to DN 300: Overall length according to EN558 (DN 50-200: line 25, DN250, 300 line 16), ISO 5752
- Connecting dimension: ISO 7005 PN 10, EN 1092 PN 10, DIN 2501 PN 10, ANSI/ASME B 16.5 Class 150, BS 1560: 1989, BS 4504, JIS B 2220

d	Size	DN	PN	kv-value	EPDM	SP	Weight	FKM	SP	Weight
(mm)	(inch)	(mm)	(bar)	( $\Delta p=1$ bar)	Code		(kg)	Code		(kg)
				(l/min)						
63	2	50	10	740	161 567 042	1	3.078	161 567 062	1	3.082
75	2 ½	65	10	1500	161 567 043	1	3.181	161 567 063	1	3.186
90	3	80	10	2400	161 567 044	1	3.346	161 567 064	1	3.353
110	4	100	10	3800	161 567 045	1	4.022	161 567 065	1	3.973
140	5	125	10	8600	161 567 046	1	4.185	161 567 066	1	4.544
160	6	150	10	11400	161 567 047	1	5.174	161 567 067	1	5.181
225	8	200	10	19900	161 567 048	1	7.072	161 567 068	1	8.339
280	10	250	10	34000	161 567 049	1	14.741	161 567 069	1	15.115
315	12	300	10	50000	161 567 050	1	19.254	161 567 070	1	35.000

d	d2	D	D1	D1	D3	H	H1	H2	H3	L	L1	L2	L3	Q1
(mm)	(mm)	(mm)	min.	max.	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
			(mm)	(mm)										
63	104	19	120	125	160	273	77	134	62	45	78	112	179	40
75	115	19	140	145	160	285	83	140	62	46	78	112	179	54
90	131	19	150	160	160	297	89	146	62	49	78	112	179	67
110	160	19	175	191	160	333	104	167	62	56	78	112	179	88
140	187	23	210	216	160	360	117	181	62	64	78	112	179	113
160	215	24	241	241	160	381	130	189	62	72	78	112	179	139
225	267	23	290	295	160	430	158	210	62	73	78	112	179	178
280	329	25	353	362	200	538	205	264	69	113	97	130	198	210
315	379	25	400	432	200	582	228	285	69	113	97	130	198	256

d	Q2
(mm)	(mm)
63	
75	35
90	50
110	74
140	97
160	123
225	169
280	207
315	253

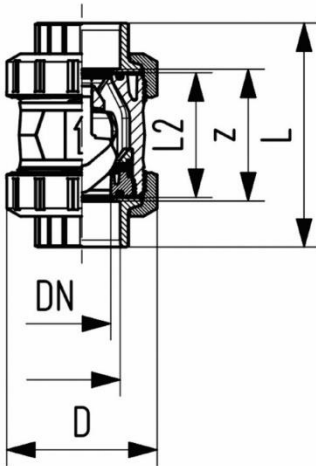
# PVC-U Plastic Pressure



## Check valve type 561 PVC-U With solvent cement sockets Inch BS

### Model:

- Sealing at a minimum water column of 2 m
- Designed for easy installation and removal
- Vibration free even at high flow velocity
- Flow-optimized return cone, double guided
- For vertical installation
- Compact installation length, same as ball valve type 546
- Z-length, end connectors and union nuts **not** compatible with type 360
- New DN65-DN100



d (mm)	DN (mm)	Size (inch)	PN (bar)	kv-value ( $\Delta p=1$ bar) (l/min)	EPDM Code	SP	Weight (kg)	FKM Code	SP	Weight (kg)
16	10	3/8	16	190	161 561 061	1	0.120	161 561 071	1	0.120
20	15	1/2	16	180	161 561 062	1	0.120	161 561 072	1	0.120
25	20	3/4	16	380	161 561 063	1	0.250	161 561 073	1	0.270
32	25	1	16	460	161 561 064	1	0.276	161 561 074	1	0.280
40	32	1 1/4	16	850	161 561 065	1	0.490	161 561 075	1	0.490
50	40	1 1/2	16	1080	161 561 066	1	0.760	161 561 076	1	0.770
63	50	2	16	1670	161 561 067	1	1.374	161 561 077	1	1.370
75	65	2 1/2	16	2950	161 561 008	1	3.160	161 561 018	1	3.170
90	80	3	16	3600	161 561 069	1	5.070	161 561 079	1	5.090
110	100	4	16	4150	161 561 070	1	8.010	161 561 080	1	8.050

D (mm)	L (mm)	L2 (mm)	z (mm)	closest inch (inch)
50	92	56	60	
50	95	56	60	
58	110	65	69	
68	123	71	75	
84	146	85	89	
97	157	89	97	
124	183	101	110	
166	233	136	144	2 1/2
200	254	141	151	
238	301	164	174	



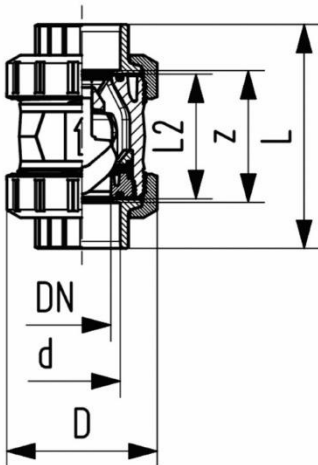
# PVC-U Plastic Pressure



**Check valve type 562 PVC-U**  
With solvent cement sockets metric

**Model:**

- For horizontal or vertical installation
- Sealing at a minimum water column of 1 m
- Spring loaded, spring made of stainless steel (1.4310)
- Spring available in other materials, see spare parts
- Designed for easy installation and removal
- Vibration free even at high flow velocity
- Flow-optimized return cone, double guided
- Compact installation length, same as ball valve type 546
- Z-length, end connectors and union nuts **not** compatible with type 360

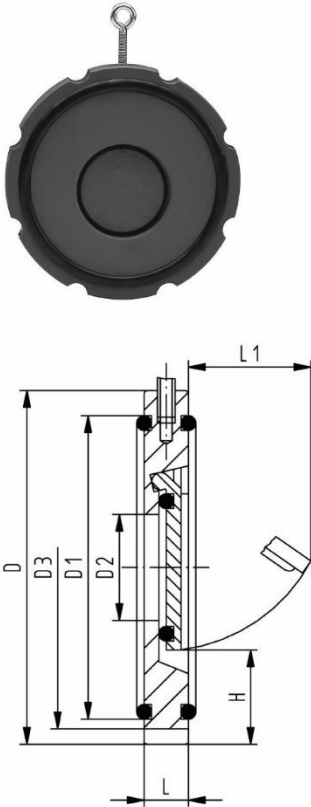


d (mm)	DN (mm)	PN (bar)	kv-value ( $\Delta p=1$ bar) (l/min)	EPDM Code	SP Weight (kg)	FKM Code	SP Weight (kg)
16	10	16	190	161 562 001	1	0.120	161 562 011
20	15	16	180	161 562 002	1	0.130	161 562 012
25	20	16	380	161 562 003	1	0.250	161 562 013
32	25	16	460	161 562 004	1	0.290	161 562 014
40	32	16	850	161 562 005	1	0.510	161 562 015
50	40	16	1080	161 562 006	1	0.750	161 562 016
63	50	16	1670	161 562 007	1	1.330	161 562 017
75	65	16	2950	161 562 008	1	3.160	161 562 018
90	80	16	3600	161 562 009	1	5.040	161 562 019
110	100	16	4150	161 562 010	1	8.130	161 562 020

d (mm)	D (mm)	L (mm)	L2 (mm)	z (mm)	closest inch (inch)
16	50	92	56	64	3/4
20	50	95	56	64	1/2
25	58	110	65	72	3/4
32	68	123	71	79	1
40	84	146	85	94	1 1/4
50	97	157	89	95	1 1/2
63	124	183	101	107	2
75	166	233	136	144	2 1/2
90	200	254	141	151	3
110	238	301	164	174	4

# PVC-U Plastic Pressure

## Wafer check valve type 369 PVC-U Without spring



### Model:

- Supporting eyelets for simple fitting
- Suitable for vertical and horizontal mounting

### Installation instruction:

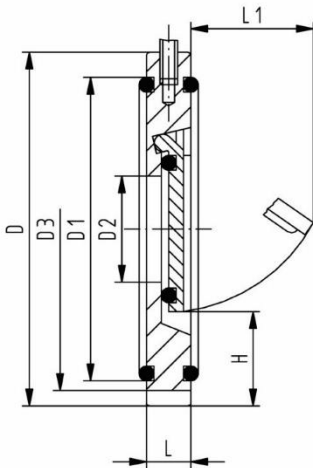
- Installation between ISO/DIN (all dimensions) and ANSI/BS flange adaptors (all except DN32 and DN125)
- Installation with ANSI/BS flange adaptor: for wafer check valves DN40 to DN80 you have to use ANSI/BS flange adaptors with the next bigger dimension (example DN40 wafer check valve between DN50 ANSI/BS flange adaptor)
- Centering by body diameter (ISO/DIN by D3, ANSI/BS by D)
- Sealing with special flange gasket (except DN32, o-ring)
- A stabilizing zone of at least 5 times nominal diameter (DN) should be provided before and after the wafer check valve (10 times DN is recommended)
- No direct installation on pump flange or following bend allowed
- The using of PVC-U pipe PN16 is only possible up to d63
- Wafer check valves without reset spring are not recommended for pulsating flows (production of noise)

d (mm)	DN (mm)	Size (inch)	PN (bar)	EPDM Code	SP Weight (kg)	FKM Code	SP Weight (kg)
40	32	1 ½	10	161 369 002	1 0.110	161 369 022	1 0.108
50	40	1 ½	10	161 369 003	1 0.174	161 369 023	1 0.202
63	50	2	10	161 369 004	1 0.273	161 369 024	1 0.277
75	65	2 ½	10	161 369 005	1 0.352	161 369 025	1 0.386
90	80	3	10	161 369 006	1 0.560	161 369 026	1 0.591
110	100	4	10	161 369 007	1 0.651	161 369 027	1 0.667
140	125	5	10	161 369 009	1 0.791	161 369 029	1 0.856
160	150	6	6	161 369 010	1 1.153	161 369 030	1 1.207
225	200	8	6	161 369 011	1 2.215	161 369 031	1 2.306
280	250	10	6	161 369 012	1 3.850	161 369 032	1 3.915
315	300	12	6	161 369 013	1 7.059	161 369 033	1 5.300

d (mm)	D (mm)	D1 (mm)	D2 (mm)	D3 (mm)	H (mm)	L (mm)	L1 (mm)	Opening pressure vertical (mbar)	Opening pres- sure horizontal (mbar)	Minimum water col- umn for seal- ing (m)
40	85	59	18	85	25	15	22	10	1	2
50	105	74	22	95	27	16	27	10	1	2
63	124	90	32	109	29	18	40	10	1	2
75	137	110	40	129	31	20	55	10	1	2
90	175	130	54	144	32	20	67	10	1	2
110	175	150	70	164	31	23	67	10	1	2
140	195	178	92	195	35	23	94	10	1	2
160	222	192	105	220	41	26	100	10	1	2
225	279	256	154	275	38	35	152	18	1	2
280	340	306	192	330	41	40	180	18	1	2
315	410	342	227	380	41	45	215	18	1	2

# PVC-U Plastic Pressure

## Wafer check valve type 369 PVC-U With V4A spring (stainless steel 316)



### Model:

- Supporting eyelets for simple fitting
- Suitable for vertical and horizontal mounting

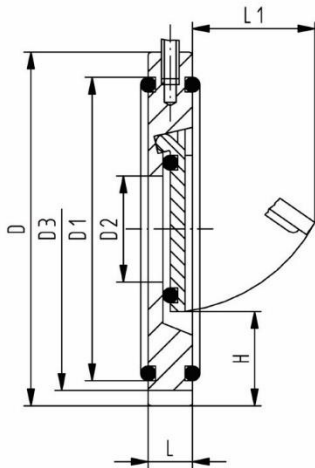
### Installation instruction:

- Installation between ISO/DIN (all dimensions) and ANSI/BS flange adaptors (all except DN32 and DN125)
- Installation with ANSI/BS flange adaptor: for wafer check valves DN40 to DN80 you have to use ANSI/BS flange adaptors with the next bigger dimension (example DN40 wafer check valve between DN50 ANSI/BS flange adaptor)
- Centering by body diameter (ISO/DIN by D3, ANSI/BS by D)
- Sealing with special flange gasket (except DN32, o-ring)
- A stabilizing zone of at least 5 times nominal diameter (DN) should be provided before and after the wafer check valve (10 times DN is recommended)
- No direct installation on pump flange or following bend allowed
- The using of PVC-U pipe PN16 is only possible up to d63

d (mm)	DN (mm)	Size (inch)	PN (bar)	EPDM Code	SP Weight (kg)	FKM Code	SP Weight (kg)
40	32	1 ¼	10	161 369 042	1 0.130	161 369 062	1 0.107
50	40	1 ½	10	161 369 043	1 0.160	161 369 063	1 0.206
63	50	2	10	161 369 044	1 0.273	161 369 064	1 0.250
75	65	2 ½	10	161 369 045	1 0.357	161 369 065	1 0.320
90	80	3	10	161 369 046	1 0.561	161 369 066	1 0.390
110	100	4	10	161 369 047	1 0.651	161 369 067	1 0.684
140	125	5	10	161 369 049	1 0.791	161 369 069	1 0.750
160	150	6	6	161 369 050	1 1.171	161 369 070	1 1.100
225	200	8	6	161 369 051	1 2.252	161 369 071	1 2.100
280	250	10	6	161 369 052	1 3.790	161 369 072	1 3.500
315	300	12	6	161 369 053	1 6.274	161 369 073	1 5.300

d (mm)	D (mm)	D1 (mm)	D2 (mm)	D3 (mm)	H (mm)	L (mm)	L1 (mm)	Opening pressure vertical (mbar)	Opening pres- sure horizontal (mbar)	Minimum water col- umn for seal- ing (m)
40	85	59	18	85	25	15	22	30	20	2
50	105	74	22	95	27	16	27	30	20	2
63	124	90	32	109	29	18	40	30	20	2
75	137	110	40	129	31	20	55	30	20	2
90	175	125	54	144	32	20	67	30	20	2
110	175	150	70	164	31	23	67	30	20	2
140	195	178	92	195	35	23	94	30	20	2
160	222	192	105	220	41	26	100	30	20	2
225	279	256	154	275	38	35	152	38	20	2
280	340	306	192	330	41	40	180	38	20	2
315	410	342	227	380	41	45	215	38	20	2

# PVC-U Plastic Pressure



## Wafer check valve type 369 PVC-U With Hastelloy C spring

### Model:

- Supporting eyelets for simple fitting
- Suitable for vertical and horizontal mounting

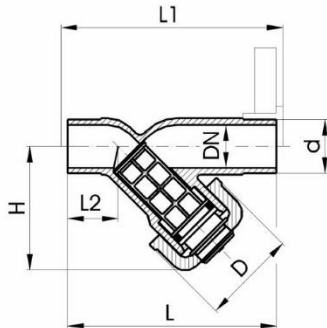
### Installation instruction:

- Installation between ISO/DIN (all dimensions) and ANSI/BS flange adaptors (all except DN32 and DN125)
- Installation with ANSI/BS flange adaptor: for wafer check valves DN40 to DN80 you have to use ANSI/BS flange adaptors with the next bigger dimension (example DN40 wafer check valve between DN50 ANSI/BS flange adaptor)
- Centering by body diameter (ISO/DIN by D3, ANSI/BS by D)
- Sealing with special flange gasket (except DN32, o-ring)
- A stabilizing zone of at least 5 times nominal diameter (DN) should be provided before and after the wafer check valve (10 times DN is recommended)
- No direct installation on pump flange or following bend allowed
- The using of PVC-U pipe PN16 is only possible up to d63

d (mm)	DN (mm)	Size (inch)	PN (bar)	EPDM Code	SP Weight (kg)	FKM Code	SP Weight (kg)
40	32	1 ¼	10	161 369 082	1 0.130	161 369 102	1 0.130
50	40	1 ½	10	161 369 083	1 0.174	161 369 103	1 0.160
63	50	2	10	161 369 084	1 0.250	161 369 104	1 0.277
75	65	2 ½	10	161 369 085	1 0.320	161 369 105	1 0.320
90	80	3	10	161 369 086	1 0.390	161 369 106	1 0.390
110	100	4	10	161 369 087	1 0.654	161 369 107	1 0.550
140	125	5	10	161 369 089	1 0.750	161 369 109	1 0.750
160	150	6	6	161 369 090	1 1.164	161 369 110	1 1.100
225	200	8	6	161 369 091	1 2.100	161 369 111	1 2.100
280	250	10	6	161 369 092	1 3.500	161 369 112	1 3.500
315	300	12	6	161 369 093	1 5.300	161 369 113	1 5.300

d (mm)	D (mm)	D1 (mm)	D2 (mm)	D3 (mm)	H (mm)	L (mm)	L1 (mm)	Opening pressure vertical (mbar)	Opening pres- sure horizontal (mbar)	Minimum water col- umn for seal- ing (m)
40	85	59	18	85	25	15	22	30	20	2
50	105	74	22	95	27	16	27	30	20	2
63	124	90	32	109	29	18	40	30	20	2
75	137	110	40	129	31	20	55	30	20	2
90	175	125	54	144	32	20	67	30	20	2
110	175	150	70	164	31	23	67	30	20	2
140	195	178	92	195	35	23	94	30	20	2
160	222	192	105	220	41	26	100	30	20	2
225	279	256	154	275	38	35	152	38	20	2
280	340	306	192	330	41	40	180	38	20	2
315	410	342	227	380	41	45	215	38	20	2

# PVC-U Plastic Pressure



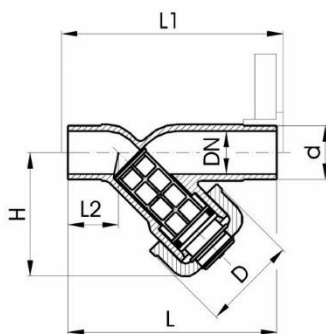
## Line strainer type 305 PVC-U With solvent cement spigots metric

### Model:

- Protects valves, pumps, etc. from becoming soiled
- Easy dismantling for cleaning the screens
- **Screen perforation need be ordered separately**
- Overall length according to EN 558

d (mm)	DN (mm)	Size (inch)	PN (bar)	EPDM Code	SP Weight (kg)	FKM Code	SP Weight (kg)
20	15	½	10	161 305 300	1 0.101	161 305 349	1 0.134
25	20	¾	10	161 305 350	1 0.141	161 305 399	1 0.215
32	25	1	10	161 305 400	1 0.226	161 305 449	1 0.257
40	32	1 ¼	10	161 305 450	1 0.348	161 305 499	1 0.386
50	40	1 ½	10	161 305 500	1 0.600	161 305 549	1 0.632
63	50	2	10	161 305 550	1 0.985	161 305 599	1 1.045
75	65	2 ½	10	161 305 600	1 1.868	161 305 649	1 1.871
90	80	3	10	161 305 650	1 2.590	161 305 699	1 2.585

d (mm)	D (mm)	H (mm)	L (mm)	L1 (mm)	L2 (mm)	closest inch (inch)
20	43	65	124	130	28	½
25	47	76	144	150	37	¾
32	56	90	154	160	37	1
40	64	104	174	180	44	1 ¼
50	82	124	194	200	48	1 ½
63	95	148	224	230	60	2
75	106	188	284	290	74	2 ½
90	120	205	300	310	85	3



## Line strainer type 305 PVC-U Transparent body with solvent cement spigots metric

### Model:

- Protects valves, pumps, etc. from becoming soiled
- Easy dismantling for cleaning the screens
- **Screen perforation need be ordered separately**
- Overall length according to EN 558

d (mm)	DN (mm)	PN (bar)	EPDM Code	SP Weight (kg)	FKM Code	SP Weight (kg)
20	15	10	192 305 300	1 0.098	192 305 349	1 0.100
25	20	10	192 305 350	1 0.143	192 305 399	1 0.170
32	25	10	192 305 400	1 0.227	192 305 449	1 0.227
40	32	10	192 305 450	1 0.342	192 305 499	1 0.346
50	40	10	192 305 500	1 0.589	192 305 549	1 0.594
63	50	10	192 305 550	1 0.968	192 305 599	1 0.972
75	65	10	192 305 600	1 1.826	192 305 649	1 1.838
90	80	10	192 305 650	1 2.548	192 305 699	1 2.565

d (mm)	D (mm)	H (mm)	L (mm)	L1 (mm)	L2 (mm)	closest inch (inch)
20	43	65	124	130	28	½
25	47	76	144	150	37	¾
32	56	90	154	160	37	1
40	64	104	174	180	44	1 ¼
50	82	124	194	200	48	1 ½
63	95	148	224	230	60	2
75	106	188	284	290	74	2 ½
90	120	205	300	310	85	3

# PVC-U Plastic Pressure



## Cylindrical screen type 305 PVC-U Screen perforations 0.5 mm

- For line strainers Type 305

d (mm)	DN (mm)	Size (inch)	kv-value ( $\Delta p=1$ bar) (l/min)	Code	SP	Weight (kg)	D (mm)	L (mm)
20	15	½	35	161 305 339	10	0.005	14	39
25	20	¾	65	161 305 389	10	0.007	18	48
32	25	1	90	161 305 439	5	0.003	24	60
40	32	1 ¼	155	161 305 489	2	0.004	30	71
50	40	1 ½	225	161 305 539	1	0.007	38	87
63	50	2	370	161 305 589	2	0.009	48	106
75	65	2 ½	575	161 305 639	5	0.012	61	100
90	80	3	955	161 305 689	2	0.016	73	118



## Cylindrical screen type 305 PVC-U Screen perforations 0.8 mm

- For line strainers Type 305

d (mm)	DN (mm)	Size (inch)	kv-value ( $\Delta p=1$ bar) (l/min)	Code	SP	Weight (kg)	D (mm)	L (mm)	closest inch (inch)
20	15	½	35	161 305 338	10	0.005	14	39	½
25	20	¾	65	161 305 388	10	0.007	18	48	¾
32	25	1	90	161 305 438	5	0.003	24	60	1
40	32	1 ¼	155	161 305 488	1	0.004	30	71	1 ¼
50	40	1 ½	225	161 305 538	1	0.006	38	87	1 ½
63	50	2	370	161 305 588	2	0.003	48	106	2
75	65	2 ½	575	161 305 638	5	0.012	61	100	2 ½
90	80	3	955	161 305 688	2	0.015	73	118	3



## Cylindrical screen type 305 PVC-U Screen perforations 1.4 mm

- For line strainers Type 305

d (mm)	DN (mm)	Size (inch)	kv-value ( $\Delta p=1$ bar) (l/min)	Code	SP	Weight (kg)	D (mm)	L (mm)	closest inch (inch)
20	15	½	35	161 305 337	10	0.003	14	39	½
25	20	¾	65	161 305 387	10	0.003	18	48	¾
32	25	1	90	161 305 437	5	0.003	24	60	1
40	32	1 ¼	155	161 305 487	2	0.004	30	71	1 ¼
50	40	1 ½	225	161 305 537	1	0.005	38	87	1 ½
63	50	2	370	161 305 587	2	0.008	48	106	2
75	65	2 ½	575	161 305 637	5	0.011	61	100	2 ½
90	80	3	955	161 305 687	2	0.013	73	118	3

# PVC-U Plastic Pressure



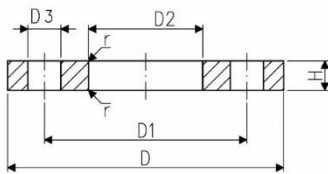
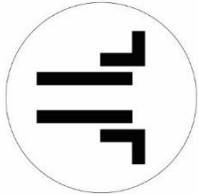
## Cylindrical screen type 305 PVC-U Screen perforations 2.2 mm

- For line strainers Type 305

d (mm)	DN (mm)	Size (inch)	kv-value ( $\Delta p=1$ bar) (l/min)	Code	SP	Weight (kg)	D (mm)	L (mm)	closest inch (inch)
20	15	½	35	<b>161 305 336</b>	10	0.005	14	39	½
25	20	¾	65	<b>161 305 386</b>	10	0.003	18	48	¾
32	25	1	90	<b>161 305 436</b>	5	0.003	24	60	1
40	32	1 ¼	155	<b>161 305 486</b>	2	0.003	30	71	1 ¼
50	40	1 ½	225	<b>161 305 536</b>	1	0.005	38	87	1 ½
63	50	2	370	<b>161 305 586</b>	2	0.008	48	106	2
75	65	2 ½	575	<b>161 305 636</b>	5	0.010	61	100	2 ½
90	80	3	955	<b>161 305 686</b>	2	0.013	73	118	3

# PVC-U Plastic Pressure

## Backing flange PVC-U metric



### Model:

- For socket systems metric and BS
- Connecting dimension: ISO 7005, EN 1092, BS 4504, DIN 2501
- **Bolt circle PN 10**
- Maximum medium- or ambient temperature 45 °C

<sup>1)</sup> Suitable for socket -and butt fusion systems

<sup>2)</sup> Connecting dimension: ISO 2536. bolt circle acc. DN125. suitable for flange adaptor d125/ DN100

<sup>3)</sup> Connecting dimension: ISO 2536. bolt circle acc. DN225. suitable for flange adaptor d250/ DN250

<sup>4)</sup> Not for BS

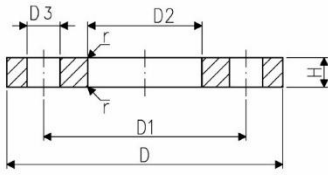
AL: number of holes

	d (mm)	Size (inch)	DN (mm)	PN (bar)	Code	SP	Weight (kg)
	16	3/8	10	10	721 700 005	100	0.053
1	20	1/2	15	10	721 700 006	90	0.067
1	25	3/4	20	10	721 700 007	50	0.092
1	32	1	25	10	721 700 008	40	0.133
1	40	1 1/4	32	10	721 700 009	25	0.198
1	50	1 1/2	40	10	721 700 010	20	0.247
1	63	2	50	10	721 700 011	30	0.312
1	75	2 1/2	65	10	721 700 012	25	0.376
	90	3	80	10	721 700 013	20	0.464
4	110	4	100	10	721 700 014	30	0.543
2	125	4 1/2	125	10	721 700 015	12	0.904
	140	5	125	10	721 700 016	12	0.758
4	160	6	150	10	721 700 017	5	1.009
	200	7	200	10	721 700 019	8	1.669
	225	8	200	10	721 700 020	8	1.377
	250	9	250	6	721 700 021	1	2.376
3	250	9	225	6	721 700 136	1	1.800
	280	10	250	6	721 700 137	1	1.746
	315	12	300	6	721 700 138	1	2.349
	355	14	350	6	721 700 139	1	3.485
	400	16	400	6	721 700 140	1	4.526

	d (mm)	D (mm)	D1 (mm)	D2 (mm)	D3 (mm)	H (mm)	r (mm)	AL	SC
	16	90	60	23	14	10	1	4	M12
1	20	95	65	28	14	11	1	4	M12
1	25	105	75	34	14	12	2	4	M12
1	32	115	85	42	14	14	2	4	M12
1	40	140	100	51	18	15	2	4	M16
1	50	150	110	62	18	16	2	4	M16
1	63	165	125	78	18	18	3	4	M16
1	75	185	145	92	18	19	3	4	M16
	90	200	160	110	18	20	3	8	M16
4	110	220	180	133	18	22	3	8	M16
2	125	250	210	150	18	26	5	8	M16
	140	250	210	167	18	26	4	8	M16
4	160	285	240	190	22	28	4	8	M20
	200	340	295	226	22	32	4	8	M20
	225	340	295	250	22	32	4	8	M20
	250	395	350	277	22	36	4	12	M20
3	250	370	325	277	22	36	4	8	M20



# PVC-U Plastic Pressure



	d	D	D1	D2	D3	H	r	AL	SC
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		
	280	395	350	310	22	36	4	12	M20
	315	445	400	348	22	36	4	12	M20
	355	505	460	388	22	38	5	16	M20
	400	565	515	442	26	42	5	16	M24



## Backing flange PP-V metric For socket systems metric and BS

### Model:

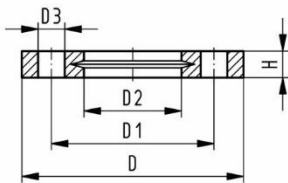
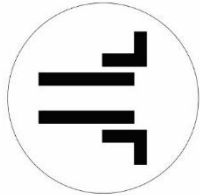
- Connecting dimension: ISO 7005, EN 1092, BS 4504, DIN 2501
- **Bolt circle PN 10**
- Full-plastic flange PP-GF (30 % glass-fibre reinforced)

<sup>1)</sup> Suitable for socket- and butt fusion systems

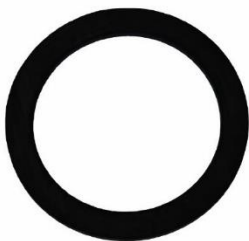
<sup>2)</sup> Not for BS

<sup>3)</sup> Combined version, metric - ANSI

AL: number of holes



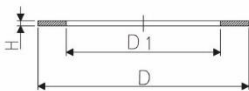
	d	DN	PN	Code	Weight	D	D1	D2	D3	H max.	AL	SC
	(mm)	(mm)	(bar)		(kg)	(mm)	(mm)	(mm)	(mm)	(mm)		
1	20	15	16	<b>727 700 406</b>	0.093	95	65	28	14	16	4	M12
1	25	20	16	<b>727 700 407</b>	0.120	105	75	34	14	17	4	M12
1	32	25	16	<b>727 700 408</b>	0.151	115	85	42	14	18	4	M12
1	40	32	16	<b>727 700 409</b>	0.244	140	100	51	18	20	4	M16
1	50	40	16	<b>727 700 410</b>	0.297	150	110	62	18	22	4	M16
1	63	50	16	<b>727 700 411</b>	0.362	165	125	78	18	24	4	M16
1	75	65	16	<b>727 700 412</b>	0.487	185	145	92	18	26	4	M16
	90	80	16	<b>727 700 413</b>	0.550	200	160	110	18	27	8	M16
2	110	100	16	<b>727 700 414</b>	0.640	220	180	133	18	28	8	M16
	140	125	16	<b>727 700 416</b>	0.781	250	210	167	18	30	8	M16
2/3	160	150	16	<b>727 700 417</b>	1.050	285	240	190	22	32	8	M20
3	200	200	16	<b>727 700 419</b>	1.629	340	295	226	22	34	8	M20
3	225	200	16	<b>727 700 420</b>	1.400	340	295	250	22	34	8	M20
	250	250	10	<b>727 700 421</b>	2.229	395	350	277	22	38	12	M20
	280	250	10	<b>727 700 422</b>	1.651	395	350	310	22	38	12	M20
	325	300	10	<b>727 700 423</b>	2.461	445	400	348	22	42	12	M20
	355	350	10	<b>727 700 424</b>	3.000	515	460	388	22	46	16	M20
	400	400	10	<b>727 700 425</b>	5.135	574	515	442	26	50	16	M24



## Flat Gasket inside the tank For tank adaptors

### Model:

- Hardness approx. 65° Shore
- Dimension size "inch" correspond with the thread dimension "G" of the tank adaptor



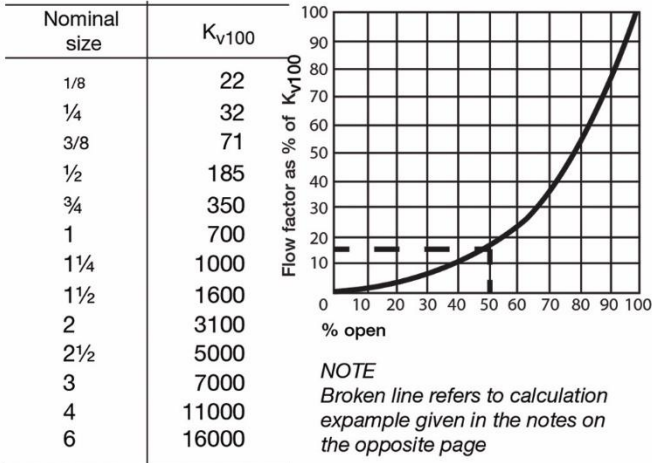
Size	EPDM Code	Weight (kg)	FKM Code	Weight (kg)	D	D1	H
(inch)					(mm)	(mm)	(mm)
¾	<b>748 400 005</b>	0.002	<b>749 400 005</b>	0.020	24	17	2
1	<b>748 400 006</b>	0.002	<b>749 400 006</b>	0.003	30	21	3
1 ¼	<b>748 400 007</b>	0.003	<b>749 400 007</b>	0.004	38	27	3
1 ½	<b>748 400 008</b>	0.002	<b>749 400 008</b>	0.002	44	32	3
2	<b>748 400 009</b>	0.007	<b>749 400 009</b>	0.003	55	42	3
2 ¼	<b>748 400 010</b>	0.004	<b>749 400 010</b>	0.007	62	46	3
2 ¾	<b>748 400 011</b>	0.005	<b>749 400 011</b>	0.006	78	60	3

## FLOW VALUES AND CHARACTERISTICS

### BALL VALVES 353, 354, 355, 346

Manual Types 370

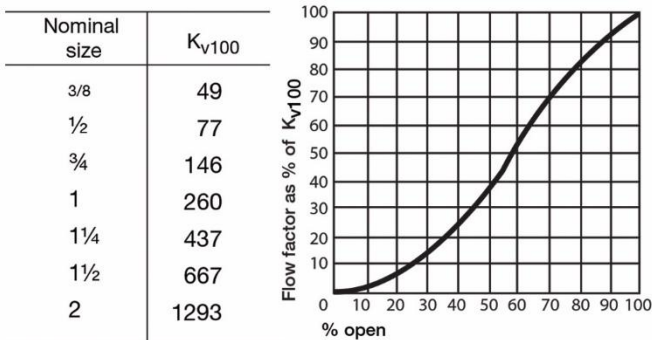
Actuated Types 106, 107, 108, 111, 130, 208, 220, 230



### L - PORT VALVES

Manual Types 370

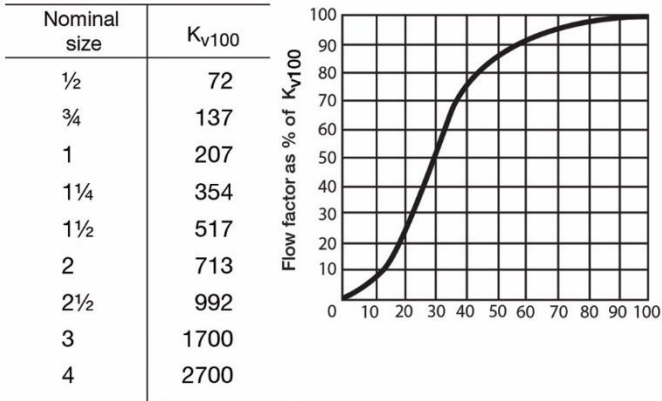
Manual type 343, Actuated Type 106, 115



### DIAPHRAGM VALVES

Manual types 314, 315, 317

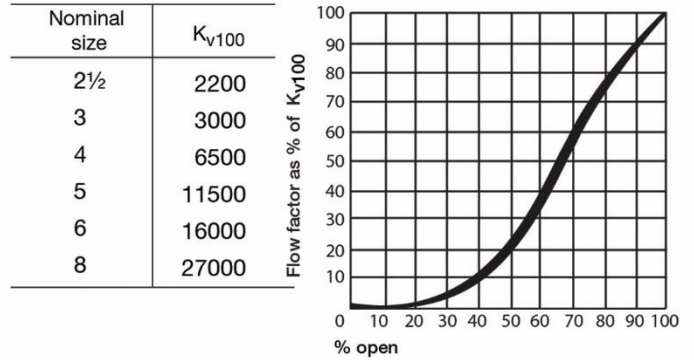
Actuated Types 018, 025, 028



### BUTTERFLY VALVES

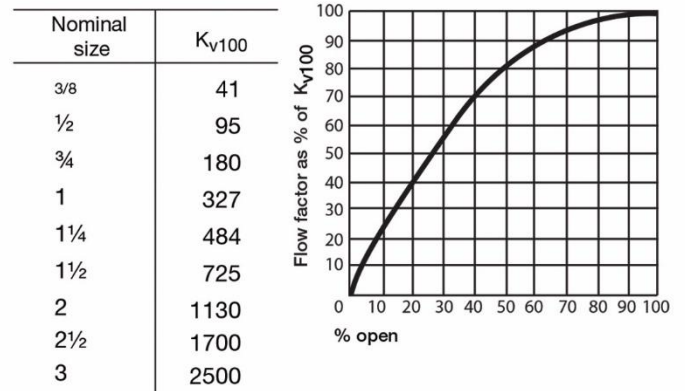
Manual Types 367, 567

Actuated Types 140, 240



### ANGLE SEAT VALVES

Type 300



### NON-RETURN BALL (check) VALVE Type 360

Nominal size	$K_{V100}$
3/8	68
1/2	118
3/4	220
1	250
1 1/4	422
1 1/2	680
2	880
3	1200

### NON-RETURN BALL ANGLE SEAT (check) VALVE Type 303

Nominal size	$K_{V100}$
3/8	41
1/2	95
3/4	180
1	327
1 1/4	484
1 1/2	725
2	1130
2 1/2	1700
3	-

Flow values for solenoid valves, pneumatically actuated angle seat valves, metering ball valve Type 323 and the line strainer. Type 305 may be found on the data pages for those components.

# PVC-U Plastic Pressure

The flow value or  $k_v$  factor is a convenient means of calculating flow rates in hydraulics. It allows for all internal resistances and for practical purposes is regarded as reliable. The  $k_v$  factor is defined as the flow rate of water (specific gravity = 1) in litres per minute with a pressure drop of 1 kg/cm<sup>2</sup> across the valve.

The relationship between  $k_v$  factor, flow rate (Q) and pressure drop ( $\Delta p$ ) is given in the following formula.

$$k_v = \frac{Q \sqrt{\gamma}}{\sqrt{\Delta p}} \text{ or } Q = k_v \sqrt{\frac{\Delta p}{\gamma}}$$

Where Q = flow rate in litres per minute  
 = specific gravity of liquid in kg/dm<sup>3</sup>

$\Delta p$  = pressure drop in kg/cm<sup>2</sup>

Where there are several flow factors in series, the resultant  $k_v$  factor is

$$\frac{1}{k_{v_x}^2} = \frac{1}{k_{v_1}^2} + \frac{1}{k_{v_2}^2} + \frac{1}{k_{v_3}^2} \dots \dots \frac{1}{k_{v_n}^2}$$

Where the flow factors are in parallel, the resultant  $k_v$  factor is

$$k_{v_x} = k_{v_1} + k_{v_2} + k_{v_3} \dots \dots k_{v_n}$$

The  $k_v$  factor for +GF+ plastics valves are given in the tables on the opposite page. The designation  $k_{v100}$  denotes the factor for a valve in the fully (i.e. 100%) open position. The  $k_v$  factor for valves in any other position can be determined from the adjacent graphs.

### Example

The table for ball valves show that the  $k_{v100}$  factor for a 1½ valve is 1000. The graph shows that the factor for the same valve when only half (i.e. 50%) open is 15% of the factor when it is in the fully open position.

$$\text{Thus } k_{v50} = 15\% \text{ of } 1000 = 150$$

In these notes all references are in metric ( $k_v$ ) units. For imperial (f) or American ( $C_v$ ) units the following conversion may be used.

FLOW VALUE CONVERSION TABLE			
	$K_v$	$C_v$	f
$K_v$	1	14.28	17.09
$C_v$	0.07	1	1.1966
f	0.0585	0.8357	1

$K_v$  = metric units in litres/min, kg/cm<sup>2</sup>

f = imperial units in galls/min, lb/in<sup>2</sup>

$C_v$  = American units in US galls/min, lb/in<sup>2</sup>

## Examples of typical calculations

### EXAMPLE 1

What size angle seat valve is required to handle 250 litres per minute of water assuming that the maximum acceptable pressure drop is given as 0.3 kg/cm<sup>2</sup>

Given flow rate Q = 250 litres/min  
 Specific gravity  $\gamma$  = 1 kg/dm<sup>3</sup>  
 Pressure drop  $\Delta p$  = 0.3 kg/cm<sup>2</sup>  
 Flow value  $k_{v100}$  = ?

$$K_{v100} = \frac{Q \sqrt{\gamma}}{\sqrt{\Delta p}}$$

$$= \frac{250 \sqrt{1}}{\sqrt{0.3}}$$

$$K_{v100} \quad \mathbf{456}$$

(or, from the nomograph overleaf, 450)

The  $k_v$  table for angle seat valves gives a  $k_{v100}$  factor of 327 for size 1". 484 for size 1¼" and 725 for size 1½"

In this example the correct size to use is 1¼"

### EXAMPLE 2

#### Part 1

What is the  $k_v$  factor for a 1¼" water pipeline with a flow of 300 litres/min, an inlet pressure of 0.5 bar and an outlet pressure of 0 bar?

#### Part 2

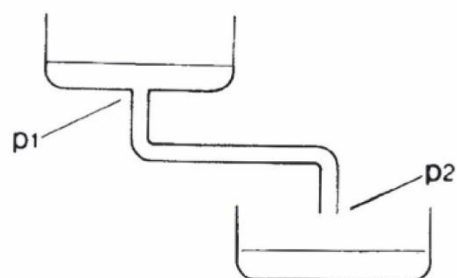
If a valve has to be fitted and the minimum acceptable flow rate in the pipeline is 250 litres/min, which type of valve should be used?

#### Part 3

Having established which type of valve should be used, what will be the true flow rate of the system?

#### Solution to Part 1

Calculate the  $k_v$  for the pipeline ( $k_{vp}$ ).



*continued overleaf*

# PVC-U Plastic Pressure

Given  $Q = 300$  litres/min  
 $\gamma = 1$  kg/dm<sup>3</sup>  
 $\Delta p = p_1 - p_2 = 0.5 - 0 = 0.5$  kg/cm<sup>2</sup>  
 $k_{vp} = ?$

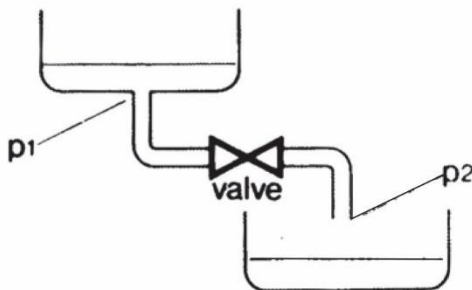
$$k_{vp} = Q \sqrt{\frac{\gamma}{\Delta p}}$$

$$= 300 \sqrt{\frac{1}{0.5}}$$

$$k_{vp} = \underline{424}$$

Solution to Part 2

First it is necessary to calculate the  $k_v$  factor for the total system ( $k_{vt}$ )



Given  $Q = 250$  litres/min  
 $\gamma = 1$  kg/dm<sup>3</sup>  
 $\Delta p = p_1 - p_2 = 0.5 - 0 = 0.5$  kg/cm<sup>2</sup>  
 $k_{vt} = ?$

$$k_{vt} = Q \sqrt{\frac{1}{\Delta p}}$$

$$= 250 \sqrt{\frac{1}{0.5}}$$

$$k_{vt} = \underline{354}$$

The  $k_v$  factor for the valve ( $k_{vv}$ ) can now be established by subtracting the  $k_v$  factor for the pipeline ( $k_{vp}$ ) from the  $k_v$  factor for the total system ( $k_{vt}$ ). For this purpose, the formula for calculating flow factors in series should be used, which is

$$\frac{1}{k_{vt}^2} = \frac{1}{k_{v1}^2} + \frac{1}{k_{v2}^2} + \dots + \frac{1}{k_{vn}^2}$$

thus  $\frac{1}{k_{vt}^2} = \frac{1}{k_{vv}^2} + \frac{1}{k_{vp}^2}$

$\therefore \frac{1}{k_{vv}^2} = \frac{1}{k_{vt}^2} - \frac{1}{k_{vp}^2}$

$$k_{vv}^2 = \frac{1}{354^2} - \frac{1}{424^2}$$

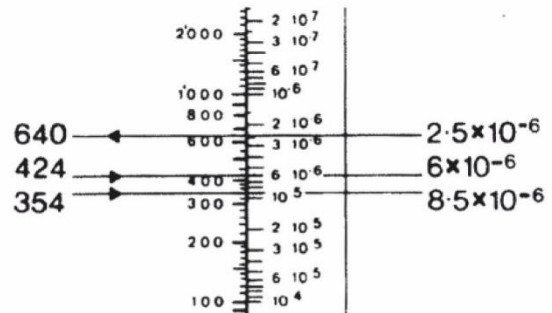
$$= 7.98 \times 10^{-6} - 5.56 \times 10^{-6}$$

$$= 2.42 \times 10^{-6}$$

$$\therefore k_{vv} = \sqrt{\frac{1}{2.42 \times 10^{-6}}}$$

$$= \underline{643}$$

In this example, the  $k_v$  factor for the valve has been determined by calculation. It may also be found by the simpler method of reading off the nomograph on the opposite page.



$$\frac{1}{k_{vv}^2} = \frac{1}{354^2} - \frac{1}{424^2}$$

$$= 8.5 \times 10^{-6} - 6 \times 10^{-6}$$

$$= 2.5 \times 10^{-6}$$

$$\therefore k_{vv} = \underline{640}$$

The calculation shows that the valve used must be one with a minimum  $k_{v100}$  factor of 640.

From the  $k_v$  tables it can be seen that a 1 1/4" ball valve has a  $k_{v100}$  factor of 1000, a 1 1/4" angle seat valve has a  $k_{v100}$  factor of 484 and a 1 1/4" diaphragm valve a  $k_{v100}$  factor of 332.

Therefore only 1 1/4" ball valve can be used

Solution to Part 3

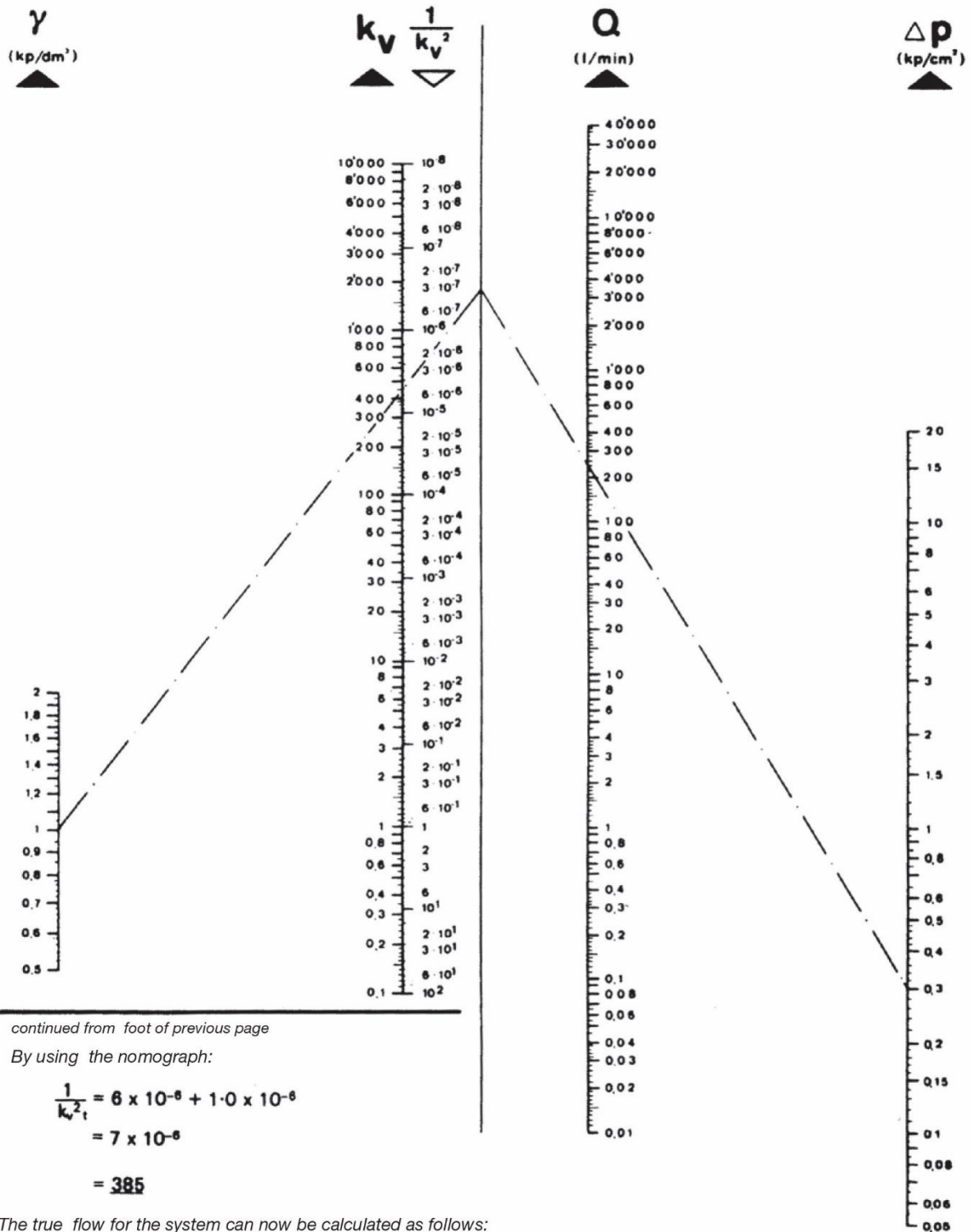
First, calculate the  $k_v$  factor for the pipeline with the 1 1/4" ball valve installed.

$$\frac{1}{k_{vt}^2} = \frac{1}{k_{vp}^2} + \frac{1}{k_{v}^2 \text{ (ball valve)}} = \frac{1}{424^2} + \frac{1}{1000^2}$$

continued at foot of next page

# PVC-U Plastic Pressure

## NOMOGRAPH



# PVC-U Plastic Pressure

## NOTES

A series of horizontal dashed lines for taking notes.

# PVC-U Plastic Pressure

NOTES

Lined area for notes, consisting of 20 horizontal dashed lines.



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