

# Submittal Package Viega ProPress® Valves



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professionals who are familiar with Viega products and their installation. Installation by non-professionals may void Viega LLC's warranty.



### 1 Tech Data Sheet ProPress Zero Lead Ball Valve Model 2971.1ZL



### Description

The two-piece, zero lead bronze ball valve is equipped with a full port, zero lead bronze body. The ball valve features EPDM sealing elements, EPDM stem seals, and Viega's Smart Connect®

technology for easy identification of unpressed connections during pressure testing. Applications for this valve include commercial and residential potable water.

### Features

- 316 stainless steel ball
- Eco Brass<sup>®</sup> blowout-proof stem
- Reinforced PTFE seats
- Smart Connect technology
- Non-locking metal handle

### Ratings

- 300 CWP
- Temperature range: 0°F–250°F
- Max. operating pressure: 300 psi

### Labeled List of Materials

Label No.	Component	Material
1	Body	Zero lead bronze CC246E
2	Press ends	Zero lead bronze CC246E
3	Ball	ASIS 316 stainless steel
4	Seat	Reinforced PTFE
5	Stem	Eco Brass CW724R
6/6.1	Sealing element	EPDM
7	Stem seals	EPDM
8	Handle	Zinc-plated steel 1.0980
9	Handle cover	Polyvinyl
10	Nut	Zinc-plated steel 1.0980

### **Approvals**

- Conforms to MSS SP-110
- IAPMO/ANSI Z1157
- NSF<sub>®</sub>-61
- NSF<sub>®</sub>-372
- NSF<sub>®</sub>-U.P. Code
- Listed by NSF to Commercial Hot

#### Accessories

- Ball valve lockable metal handle model 2971.8
- Ball valve stem extension kit model 2971.96
- Bronze lockable stem extension model 2971.66
- 304 stainless steel lockable stem extension model 4070.96
- Replacement handle model 4070.8
- Thermal insulated handle model 2971.46
- Wing-style handle model 2971.26





Part	Size (in)	Α	A1	L	L1	L2	н	Cv (US
No.	1	(in)	(in)	(in)	(in)	(in)	(in)	gal/min)
79920	1⁄2	0.75	0.75	1.57	1.57	4.57	1.97	14.3
79925	3⁄4	0.85	0.87	1.75	1.77	4.57	2.09	31.9
79930	1	1.02	1.06	1.93	1.96	5.75	2.46	54.3
79935	1¼	1.14	1.12	2.17	2.15	5.75	2.67	91.4
79940	1½	1.46	1.25	2.87	2.67	6.12	3.02	130.5
79950	2	1.73	1.47	3.31	3.05	6.12	3.32	234

### ProPress Zero Lead Ball Valve Model 2971.1ZL



### ProPress Ball Valve 2971.1ZL Insulation Thickness

Size (in)	Insulation max with no ext (in)	Insulation max with ext (in)	Extension Part No.
1⁄2	0.50	2.15	23443
3⁄4	0.55	2.20	23443
1	0.60	2.30	23445
1¼	0.69	2.39	23445
1½	1.25	3.35	23447
2	1.31	3.41	23447



### Tech Data Sheet ProPress Zero Lead Ball Valve Model 2971.3ZL



**Description** The two-piece Zero Lead Bronze ball valve is equipped with a full-port, Zero Lead Bronze body. The ball valve features EPDM sealing elements, EPDM stem seals and

Viega's Smart Connect technology for easy identification of unpressed connections during pressure testing.

### **Features**

- 316 stainless steel ball
- 316 stainless steel blowout-proof stem
- Lockable metal handle
- Reinforced PTFE seats
- Smart Connect technology

### Ratings

- 300 CWP
- Temperature range: 0°F–250°F
- Max. operating pressure: 300 psi

Approvals

- IAPMO/ANSI Z1157
- NSF<sub>®</sub>-61
- NSF<sub>®</sub>-372
- NSF<sub>®</sub>-U.P. Code
- Listed by NSF to Commercial Hot

Component	Material
Body	Zero Lead bronze C87700
Ball	316 stainless steel
Seat	Reinforced PTFE
Stem	316 stainless steel
Stem seals	EPDM
Nut	Zinc-plated steel
Handle	Zinc-plated steel
Handle cover	Polyvinyl
Sealing element	EPDM

### ProPress Ball Valve Zero Lead Bronze P x P Model 2971.3ZL



Part No.	Size (in) 1	A (in)	A1 (in)	L (in)	L1 (in)	L2 (in)	H (in)
79923	1⁄2	0.75	0.75	1.57	1.57	4.57	1.97
79928	3⁄4	0.85	0.87	1.75	1.77	4.57	2.09
79933	1	1.02	1.06	1.93	1.96	5.75	2.46
79938	1¼	1.14	1.12	2.17	2.15	5.75	2.67
79943	1½	1.46	1.25	2.87	2.67	6.12	3.02
79948	2	1.73	1.47	3.31	3.05	6.12	3.32



### Tech Data Sheet ProPress Zero Lead Ball Valve Model 2971.4ZL



**Description** The two-piece Zero Lead Bronze ball valve is equipped with a full-port, Zero Lead Bronze body. The ball valve features EPDM sealing elements, EPDM stem seals and

Viega's Smart Connect technology for easy identification of unpressed connections during pressure testing.

### **Features**

- 316 stainless steel ball
- Eco Brass<sup>®</sup> blowout-proof stem
- Lockable metal handle
- Reinforced PTFE seats
- Smart Connect technology
- Press x FPT connections

#### Ratings

- 300 CWP
- Temperature range: 0°F–250°F
- Max. operating pressure: 300 psi

Approvals

- IAPMO/ANSI Z1157
- NSF<sub>®</sub>-61
- NSF<sub>®</sub>-372
- NSF<sub>®</sub>-U.P. Code
- Listed by NSF to Commercial Hot

Component	Material
Body	Zero Lead bronze C87700
Ball	316 stainless steel
Seat	Reinforced PTFE
Stem	Eco Brass C69300
Stem seals	EPDM
Nut	Zinc-plated steel
Handle	Zinc-plated steel
Handle cover	Polyvinyl
Sealing element	EPDM

### ProPress Ball Valve Zero Lead Bronze P x FPT Model 2971.4ZL



Part No.	Size (in) 1 x FPT	A (in)	A1 (in)	L (in)	L1 (in)	L2 (in)	H (in)
79970	1⁄2 x 1⁄2	0.73	0.66	1.57	1.20	4.57	1.97
79975	3⁄4 X 3⁄4	0.85	0.79	1.75	1.35	4.57	2.09
79980	1 x 1	1.02	0.98	1.93	1.63	5.75	2.46



### Tech Data Sheet ProPress Zero Lead Ball Valve Model 2971.6ZL



**Description** The two-piece Zero Lead Bronze ball valve is equipped with a full-port, Zero Lead Bronze body. The ball valve features EPDM sealing elements, EPDM stem seals and

Viega's Smart Connect technology for easy identification of unpressed connections during pressure testing.

### **Features**

- 316 stainless steel sall
- Eco Brass blowout-proof stem
- Lockable metal handle
- Reinforced PTFE seats
- Smart Connect technology
- Press x garden hose connections
- Hose cap is full pressure rated
- Sizes: 1/2" x 3/4" and 3/4" x 3/4"

### **Ratings**

- 300 CWP
- Temperature range: 0°F–250°F
- Max. operating pressure: 300 psi

Approvals

- IAPMO/ANSI Z1157
- NSF<sub>®</sub>-61
- NSF<sub>®</sub>-372
- NSF<sub>®</sub>-U.P. Code
- Listed by NSF to Commercial Hot

Component	Material
Body	Zero Lead Bronze C87700
Ball	316 stainless steel
Seat	Reinforced PTFE
Stem	Eco Brass C69300
Stem seals	EPDM
Nut	Zinc-plated steel
Handle	Zinc-plated steel
Handle cover	Polyvinyl
Sealing element	EPDM

DroDross 70	n Load B	all Valva	Bronzo E	V Hose	Model	2071 671
Propress Zei	o Leau D	all valve	bronze r	x nose	woder	2971.0ZL



Part No.	Size (in) 1 x Hose	A (in)	A1 (in)	L (in)	L1 (in)	L2 (in)	H (in)
79875	1⁄2 x 3⁄4	0.75	0.79	1.57	1.56	4.57	1.99
79876	<sup>3</sup> ⁄4 x <sup>3</sup> ⁄4	0.85	0.79	1.75	1.56	4.57	2.10



### Tech Data Sheet ProPress Zero Lead Ball Valve Model 2971.1XL



**Description** The two-piece Zero Lead Brass ball valve is equipped with a full-port, plated ball. The ball valve features EPDM sealing elements, EPDM stem

seals, and Viega's Smart Connect technology for easy identification of unpressed connections during testing.

### **Features**

- Chromium-plated ball
- Lockable metal handle
- PTFE seats
- Smart Connect technology

### Ratings

- 300 CWP
- Temperature range: 0°F–250°F
- Max. operating pressure: 300 psi

Approvals

- IAPMO/ANSI Z1157
- NSF<sub>®</sub>-61
- NSF<sub>®</sub>-372
- NSF<sub>®</sub>-U.P. Code
- Listed by NSF to Commercial Hot

Component	Material
Body	Brass C27453
Ball	Low lead brass chromium lated
Seat	PTFE
Stem	Brass C27450
Stem seals	EPDM
Nut	Zinc-plated Steel
Handle	Geomet-plated Steel
Handle cover	Polyvinyl
Sealing element	EPDM

### ProPress Ball Valve Zero Lead Brass P x P Model 2971.1XL



Part No.	Size (in)	A (in)	B (in)	H (in)	L (in)	Weight (lbs)
78300	21⁄2	7.47	3.91	4.02	11.22	7.0
78305	3	8.15	4.17	4.37	11.22	9.7
78310	4	9.72	4.99	5.12	11.22	17.5



### Tech Data Sheet ProPress Zero Lead Ball Valve Model 2975.3ZL



**Description** Viega ProPress Zero Lead ball valve is a full port ball valve with a drain intended for potable applications. The ball valve features EPDM sealing elements, EPDM

stem seals, zero lead brass body, and Viega's Smart Connect<sup>®</sup> Technology for easy identification of unpressed connections during pressure testing.

### Features

- 316 stainless steel ball
- Reinforced PTFE seat
- Brass stem
- Drain option
- Smart Connect technology

### Accessories

- Handle model 2971.8
- T-handle model 2971.26
- Insulated handle model 2971.46
- Stem extension model 2971.66

### **Approvals**

- NSF<sub>®</sub>-61
- NSF<sub>®</sub>-372
- NSF<sub>®</sub>-U.P. Code
- IAPMO/ANSI Z1157
- ASME A112.4.14/CSA B 125.14
- Listed by NSF to Commercial Hot

### ProPress Zero Lead Ball Valve Model 2975.3ZL



#### Part No. Size (in) H1 (in) H2 (in) L1 (in) L2 L3 (in) A1 (in) A2 (in) Cv (US gal/min) 1 87845 1/2 2.05 0.63 2.01 1.97 4.61 1.18 1.14 13.5 87850 3⁄4 2.20 0.75 2.28 2.24 4.61 1.38 1.34 29.9

### Ratings

Temperature range: 0°F–250°F

Max. operating pressure: 250 psi

Component	Material
Body	Zero lead brass CW511L
Ball	316 stainless steel
Seat	Reinforced PTFE
Stem	Brass
Stem seals	EPDM
Nut	Zinc-plated steel
Sealing element	EPDM



### Tech Data Sheet ProPress Ball Valve Model 2973



**Description** Viega ProPress model 2973 is a two-piece, fullport ball valve intended for hydronic and nonpotable applications. The ball valve features EPDM

sealing elements, EPDM stem seals and Viega's Smart Connect technology for easy identification of unpressed connections during pressure testing.

### **Features**

- Chrome-plated brass ball
- Blowout-proof stem
- Reinforced PTFE seats
- Smart Connect technology
- ProPress connections

### Ratings

- 300 CWP
- Temperature range: 0°F–250°F
- Max. operating pressure: 300 psi

## Approvals

- Conforms to MSS SP-110
   NSF<sub>@</sub>-U.P. Code
- IAPMO/ANSI Z1157

Component	Material
Body	Brass C37700
Ball	Chrome-plated Brass
Seat	Reinforced PTFE
Stem	Brass C37700
Stem seals	EPDM
Nut	Zinc-plated steel
Handle	Zinc-plated steel
Handle cover	Polyvinyl
Sealing element	EPDM

ProPress Ball Valve Bronze/Brass P x P Model 2973



Part No.	Size (in) 1	A (in)	A1 (in)	L (in)	L1 (in)	L2 (in)	H (in)
24000	1⁄2	0.83	0.83	1.58	1.58	3.94	1.69
24005	3⁄4	0.95	0.95	1.86	1.86	4.72	1.97
24010	1	1.18	1.18	2.09	2.09	4.72	2.13
24015	1¼	1.29	1.29	2.31	2.31	6.22	2.87
24020	1½	1.39	1.39	2.81	2.81	6.22	3.11
24025	2	1.85	1.85	3.43	3.43	6.22	3.46



Model 2973 is for use in non-potable applications. For NSF-61G compliant valves, refer to Viega ProPress Models 2971.1ZL and 2971.3ZL.



### Tech Data Sheet ProPress Ball Valve Model 2973.1



**Description** Viega ProPress model 2973.1 is a two-piece, full-port ball valve intended for hydronic and non-potable applications. The ball valve features EPDM

sealing elements, EPDM stem seals and Viega's Smart Connect technology for easy identification of unpressed connections during pressure testing.

### **Features**

- Chrome-plated brass ball
- Blowout-proof stem
- Reinforced PTFE seats
- Smart Connect technology
- Press x FPT connections

### Ratings

- 300 CWP
- Temperature range: 0°F–200°F
- Max. operating pressure: 300 psi

### **Approvals**

- Conforms to MSS SP-110
- NSF<sub>®</sub>-U.P. Code
- IAPMO/ANSI Z1157

### ProPress Ball Valve 2973.1 Insulation Thickness

Size (in)	Insulation max. without ext. (in)	Insulation max. with ext. (in)	Extension part no.
1⁄2	0.59	2.81	23449
3⁄4	0.58	3.04	23451
1	0.55	3.01	23451

Component	Material
Body	Brass C37700
Ball	Chrome-plated brass
Seat	Reinforced PTFE
Stem	Brass C37700
Stem seals	EPDM
Nut	Zinc-plated steel
Handle	Zinc-plated steel
Handle cover	Polyvinyl
Sealing element	EPDM

### ProPress Ball Valve Bronze/Brass P x FPT Model 2973.1



Part No. Size (in) 1 x FPT	A (in)	A1 (in)	L (in)	L1 (in)	L2 (in)	H (in)
24030 ½ x ½	0.83	0.63	1.58	1.16	3.94	1.69
24035 ¾ x ¾	0.95	0.71	1.86	1.26	4.72	1.97
24040 1 x 1	1.18	0.93	2.09	1.59	4.72	2.13



Model 2973.1 is for use in non-potable applications. For NSF-61G compliant valves, refer to Viega ProPress Model 2971.4ZL.



### Tech Data Sheet ProPress Ball Valve Model 2973.3



**Description** Viega ProPress model 2973.3 is a two-piece, full-port ball valve intended for hydronic and non-potable applications. The ball valve features

EPDM sealing elements, EPDM stem seals and Viega's Smart Connect technology for easy identification of unpressed connections during pressure testing.

### **Features**

- Chrome-plated brass ball
- Blowout-proof stem
- Reinforced PTFE seats
- Smart Connect feature
- Press x garden hose connections
- Hose cap is full pressure rated
- Sizes: ½" x ¾" and ¾" x ¾"

### Ratings

- 300 CWP
- Temperature range: 0°F–200°F
- Max. operating pressure: 300 psi

### **Approvals**

- Conforms to MSS SP-110
- NSF<sub>®</sub>-U.P. Code
- IAPMO/ANSI Z1157

### ProPress Ball Valve Bronze/Brass P x Hose Model 2973.3



Part No. Size (in) 1 x Hose	A (in)	A1 (in)	L (in)	L1 (in)	L2 (in)	H (in)
24090 ½ x ¾	0.83	0.85	1.58	1.30	3.89	1.67
24095 34 x 34	0.95	0.94	1.86	1.39	4.72	1.97

### ProPress Ball Valve 2973.3 Insulation Thickness

Size (in)	Insulation max. without ext. (in)	Insulation max. with ext. (in)	Extension part no.
1⁄2	0.68	2.90	23449
3⁄4	0.75	3.21	23451

Component	Material
Body	Brass C37700
Ball	Chrome-plated brass
Seat	Reinforced PTFE
Stem	Brass C37700
Stem seals	EPDM
Nut	Zinc-plated steel
Handle	Zinc-plated steel
Handle cover	Polyvinyl
Sealing element	EPDM



### Tech Data Sheet ProPress Zero Lead Threaded Ball Valve Model 2800ZL



**Description** Viega ProPress zero lead threaded ball valve is a full port ball valve intended for potable applications. The ball valve features female pipe threads and an EPDM stem seal.

Component	Material
Body	Zero Lead brass CW511L
Ball	316 stainless steel
Seat	Reinforced PTFE
Stem	316 stainless steel
Stem seals	EPDM
Nut	316 stainless steel

### **Features**

- 316 stainless steel stem
- 316 stainless steel ball
- Reinforced PTFE seats

### Accessories

- Handle models 2971.8, 2971.26, 2971.46
- Stem extension model 4070.96

### **Ratings**

- Valve design rating: 600CWP
- Temperature range: 0°F–250°F
- 300psi max. at 250°F

### **Approvals**

- ASME A112
- IAPMO/ANSI Z1157
- NSF<sub>®</sub>-61
- NSF<sub>®</sub>-372
- NSF<sub>®</sub>-U.P. Code
- Listed by NSF to Commercial Hot

### ProPress Threaded Ball Valve Zero Lead Model 2800ZL



Part No.	. Size (in)	H1 (in)	H2 (in)	L1 (in)	L2 (in)	L3 (in)	A1 (in)	A2 (in)	Cv (US
	1								gal/min)
87920	1/2	2.05	0.63	1.14	1.14	4.61	0.59	0.59	16
87925	3⁄4	2.17	0.75	1.30	1.30	4.61	0.71	0.71	27.1
87930	1	2.60	0.91	1.54	1.54	5.79	0.87	0.87	45.1
87935	1¼	2.83	1.18	1.77	1.77	5.79	1.10	1.10	106
87940	1½	3.11	1.42	1.93	1.93	6.14	1.26	1.26	160
87945	2	3.43	1.73	2.17	2.17	6.14	1.46	1.46	255



### Tech Data Sheet ProPress 316 Ball Valve Model 4070



### Description

The ProPress 316 two-piece ball valve can be used in a variety of commercial and industrial applications. The EPDM sealing elements make it the perfect choice for potable

water systems while the durable 316 stainless steel allows it to stand up to some of the harshest environments found in power plants, refineries, utilities, and mills. The double EPDM stem seals prevent leaks without the need for constant adjustment. The 316 stainless steel ball valves are available in sizes ranging from ½" to 2" and are equipped with Viega's unique Smart Connect technology for easy identification of unpressed connections during pressure testing.

### **Features**

- ProPress press ends
- 316 stainless steel ball and stem
- Full-port, two-piece design
- Blowout-proof stainless steel stem
- Reinforced PTFE seats
- Lockable metal handle

### Ratings

- 250 CWP
- Temperature range: 0°F–250°F
- Max. operating pressure: 200 psi

#### **Approvals**

- Conforms to MSS SP-110
- NSF-61 Annex G
- NSF-372

Component	Material
Body	316 stainless steel
Ball	316 stainless steel
Seat	Reinforced PTFE
Stem	316 stainless steel
Stem seals	EPDM
Nut	Zinc-plated steel
Handle	Zinc-plated steel
Handle cover	Polyvinyl
Sealing element	EPDM

### ProPress 316 Ball Valve Model 4070



Part No.	Size (in) 1	A (in)	A1 (in)	L (in)	L1 (in)	L2 (in)	H (in)
81080	1/2	0.89	1.17	1.64	1.92	5.55	2.44
81085	3⁄4	1.06	1.36	1.97	2.26	5.55	2.52
81090	1	1.18	1.57	2.09	2.48	5.55	2.68
81095	1¼	1.45	1.72	2.48	2.75	6.10	3.09
81100	1½	1.83	1.81	3.26	3.24	6.10	3.34
81105	2	1.97	2.18	3.54	3.78	6.10	3.66



### Tech Data Sheet ProPress 316 Ball Valve Model 4075



### Description

The ProPress 316 ball valve can be used in a variety of commercial and industrial applications. The EPDM sealing elements make it the perfect choice for potable

water systems, while the durable 316 stainless steel allows it to stand up to some of the harshest environments found in power plants, refineries, utilities, and mills. The double EPDM stem seals prevent leaks without the need for constant adjustment. The 316 stainless steel ball valves are available in sizes ranging from ½" to 2" and are equipped with Viega's unique Smart Connect<sup>®</sup> technology for easy identification of unpressed connections during pressure testing.

### **Features**

- Smart Connect<sup>®</sup> ProPress press ends
- EPDM sealing elements
- 316 stainless steel ball and stem
- Full-port design
- Blowout-proof stainless steel stem
- Reinforced PTFE seats
- Lockable, 316 stainless steel handle

### ProPress 316 Ball Valve Model 4075



### Ratings

- 250 CWP
- Temperature range: 0°F–250°F
- Max. operating pressure: 250 psi

#### **Approvals**

- Conforms to MSS SP-110
- ASME A112.4.14/CSA B125.14
- IAPMO/ANSI Z1157
- NSF<sub>®</sub>-61
- NSF<sub>®</sub>-372
- NSF<sub>®</sub>-U.P. Code

Component	Material
Body	316 stainless steel
Ball	316 stainless steel
Seat	Reinforced PTFE
Stem	316 stainless steel
Stem seals	EPDM
Nut	Stainless steel
Handle	316 stainless steel
Handle cover	Polyvinyl
Sealing element	EPDM

Part No.	Size (in) 1	A (in)	L (in)	H1 (in)	H2 (in)	Cv (US gal/min)
81081	1/2	1.10	1.85	2.01	0.59	10.4
81086	3⁄4	1.22	2.13	2.09	0.71	23.6
81096	1	1.38	2.68	2.48	0.87	46.2
81097	1¼	1.46	2.48	2.68	1.14	96.2
81106	1½	1.61	3.03	3.03	1.38	143
81107	2	1.85	3.46	3.31	1.65	252



### Tech Data Sheet ProPress Bronze 3-Piece Ball Valve Model 2972.1ZL



The ProPress Bronze 3-Piece Ball valve is equipped with a full port, stainless-steel 3-piece body. The ball valve features an EPDM sealing element and Viega's Smart Connect<sup>®</sup> Technology

for easy identification of unpressed connections during pressure testing.

### **Features**

- 316 stainless steel ball
- Blowout-proof 316 stainless steel stem
- Adjustable packing nut
- Reinforced PTFE seats
- ProPress connection
- Smart Connect<sup>®</sup> technology

### Accessories

- Handle model 4875.80
- Stem extension model 2972.12

### **Approvals**

- Conforms to MSS SP-110
- NSF<sub>®</sub>-61
- NSF<sub>®</sub>-372
- NSF<sub>®</sub>-U.P. Code
- IAPMO/ANSI Z1157
- Listed by NSF to Commercial Hot

		L2	
1		_ 1	H2 H1

roPress B	Bronze 3-Pi	ece Ball Va	alve Model 2	2972.1 <b>ZL</b>

Part No.	Size (in)	H1 (in)	H2 (in)	L1 (in)	L2 (in)	A1 (in)	Cv (US	Bolt Torque
	1						gai/min)	(it/ibs)
87275	1⁄2	2.28	0.91	1.93	3.98	1.10	10.9	7.5
87280	3⁄4	2.83	1.06	2.52	5.87	1.61	23.9	15
87285	1	2.91	1.14	2.60	5.87	1.70	47.3	15
87290	1¼	3.35	1.38	3.27	7.56	2.24	76.4	22.5
87295	1½	3.58	1.54	3.78	7.56	2.36	113	22.5
87300	2	3.90	1.81	4.06	7.56	2.48	210	22.5
87290 87295 87300	1½ 1½ 2	3.35 3.58 3.90	1.38 1.54 1.81	3.27 3.78 4.06	7.56 7.56 7.56	2.24 2.36 2.48	76.4 113 210	22.5 22.5 22.5

### Ratings

- 250 CWP
- Temperature range: 0°F–250°F
- Max. operating pressure: 250 psi

Component	Material
Body	316 stainless steel
Ball	316 stainless steel
Seat	Reinforced PTFE
Stem	316 stainless steel
Nut	316 stainless steel
Sealing element	EPDM



## Tech Data Sheet ProPress Butterfly Valve Model 2979.8ZL



### Description

The Viega ProPress Epoxy Powdercoated Ductile Iron Butterfly Valve provides reliable flow isolation and control in a compact, lightweight design that is often more costeffective than other valve types. Its durable epoxy powder-coated body and 316 stainless steel disc ensure long-lasting performance.

The EPDM seal creates a tight seal while reducing noise and vibration. Designed for compatibility with Viega ProPress and MegaPress<sup>®</sup> flange adapters, it offers a dependable solution for various piping systems.

### **Features**

- Lug-style body of epoxy powder-coated ductile iron
- 316 stainless steel disc, screw plug, and grub screw
- Bidirectional design allows installation in several positions
- Anti-blowout, stainless steel shaft
- Multi-position locking aluminum hand lever
- EPDM seal
- Sizes: 2 ½", 3", 4"
- Lighter than most ¼-turn isolation valves
- Lugged-style bolt pattern
- ISO 5211 F05 flathead actuation-ready mounting
- Class 150 ASME B16.5 compatible
- Suitable for use with Viega ProPress and MegaPress flange adapters

### **Ratings**

- Temperature range: 0°F–250°F
- Max. operating pressure: 250 psi

### Approvals

- NSF<sub>®</sub>-61-372
- Conforms to MSS SP-67
- Conforms to MSS SP-25

### **Gear Operator Accessory**

- 2979.88
- All models sold separately.

### Viega Flange Adapter Compatibility

- 0959.5XL (ProPress)
- 4059XL (MegaPress 316SST)
- 5159XL (MegaPress 316SST)
- All models sold separately.

Component	Material
Body	Epoxy powder-coated ductile iron
Seal	EPDM
Disc	316 stainless steel CF8M
Screw plug	316 stainless steel CF8M
Grub screw	316 stainless steel CF8M
Upper shaft	QT650 stainlesss steel
Lower shaft	QT650 stainlesss steel
Hand lever	Cast aluminum
Locking disc	Nylon
Joint washer	Copper

**ProPress Butterfly Valve Model 2979.8ZL** 



Part	Size (in)	L1	L2	L3	В	k	H1	H2
No.	1	(in)						
87660	21⁄2	5.24	8.15	6.50	1.34	5.51	3.66	5.31
87665	3	5.51	9.41	7.68	1.42	5.98	4.09	6.18
87670	4	8.11	9.80	7.68	1.57	7.52	4.53	6.61



### **Actuating Torque Values**

The table below shows torque values to be used as a guide for actuator selection. Increased breakaway and actuating torques may occur during operation. This can happen due to contamination or irregular use. When designing an actuator, a safety factor of at least 1.5 should be selected depending on variables such as media characteristics and number of cycles. Temperature may require an extra safety factor.

IPS					Breakaway	Actuating										
(MP	Material	Part	ØD	ON	torque	torque		Α	E	3	Ø	С	Ç	ØD	E	Ξ
System)	No.	No.	(in)	(mm)	(Nm)	(Nm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)
21⁄2	888133	87660	2.559	65	25	18	0.443	11	0.531	13.5	0.236	6	1.653	42(F04)	2.215	54
3	888143	87665	3.149	80	38	24	0.551	14	0.669	17	0.255	6.5	1.968	50(F05)	2.559	65
4	888153	87670	3.937	100	56	37	0.551	14	0.669	17	0.255	6.5	1.968	50(F05)	2.559	65







### Tech Data Sheet ProPress Butterfly Valve Model 2873.81



### Description

- Ductile iron body
- Lug body is polyurethane coated
- Anti-blowout stainless steel shaft
- Downstream dismantling allowed
- EPDM liner
- Sizes 2½" and 3" for 4 bolt pattern flanges
- Size 4" for 8 bolt pattern flanges
- Class 150

#### **Features**

- Spheroidal graphite cast iron body
- Lug body is polyurethane coated
- 316 stainless steel disc
- Anti-blowout stainless steel shaft
- Downstream dismantling allowed
- Bidirectional, can be mounted in all positions
- ISO 5211 flange type F05 flat head
- Conforms to MSS-SP67 and MSS-SP25

#### Ratings

- Temperature range: 0°–250°F
- Max. operating pressure: 200 psi

#### **Standard Variants**

- Pneumatic actuator: Actair / Dynactair
- Electric actuator: Various manufacturers
- Limit switches: Monitor
- Positioner: Siemens

Weight					
Size (in)	lbs.				
21/2	7.78				
3	8.46				
4	12.79				

Weights include the unit valve plus the handle.





Sizes 21/2" and 3"

Size 4"





Butterfly Valve Dimensions										
Part No.	Size (in)	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	l (in)
22074	21⁄2	6.50	7.40	2.17	0.43	1.81	2.64	5.35	5.20	5.51
22075	3	6.50	7.64	2.80	0.67	1.81	2.82	5.59	7.01	5.98
22076	4	9.06	8.47	3.54	0.91	2.05	3.62	6.42	8.27	7.48

Operating Torque Data					
Size (in)	ft./lbs.				
21/2	22.12				
3	29.50				
4	44.25				

Lubricated

The safety coefficient to define the adapted actuator is included in the torque value.

Hydraulic Characteristics					
Size (in)	Cvo				
21⁄2	280				
3	475				
4	760				

Bolt and Washer						
Grade 5 Zinc-plated Blue Chromated						
Part No.	Size (in)					
19768	5%" x 1½					
19773	5%" x 15%					
19778	%" x 1¾					

ASME B18.2.1 -- 1996

Bolt Tightening						
Part No.	Recommended Max. Bolt Torque (ft/lbs)					
19768						
19773	75					
19778						



### Tech Data Sheet Gear Operator Handwheel Model 2979.88



**Description** The Viega Gear Operator Handwheel is designed for use with Viega Butterfly Valves. This handwheel, equipped with a gear operator, provides precise flow control by

allowing for gradual and accurate valve positioning. The gear mechanism reduces the operating torque, minimizing the force needed to open or close the valve. This makes handwheels ideal for higher pressure applications, where a traditional lever handle operation may otherwise require more effort.

### **Features**

- Removable stem drive inserts
- 2 keyways to cater to 45° and 90° positions
- Clockwise closing motion
- High-performance gears to increase torque
- Flange connection in accordance with ISO 5211
- IP 65 protection class
- Stainless steel shaft
- Self-locking

### Ratings

Temperature range: -4°F–250°F

### **Butterfly Valve Compatibility**

- Model 2979.8ZL
- Model 5179.8
- All models sold separately.

Component	Material		
Set screw	Steel		
Needle bearings	AXK-AS/LS		
Worm screw	Steel		
Worm	Carbon steel		
Plain bearing	Permaglide		
Oil seal	Nitrile		
Shaft	Protected steel		
Renolit CLX2	Calcium soap		
Body	Aluminum		
Cover plate	Aluminum		
Quadrant	Ductile iron		
Position indicator	Scanblend FS7		
Nut cap	Polyethylene		
Inserts	Sintered steel		

### Gear Operator Handwheel Model 2979.88



Part	Size	Α	В	С	D	Е	F	Torqu	e (Nm)	Weight
No.	(in)	(in)		(in)	(in)		(in)	Output	Input	(lbs)
87690	21⁄2	0.433	M5	1.65	0.945	M8	2.76	0.124	12.4	1.8
87695	3	0.551	M6	1.97	0.945	M8	2.76	0.124	12.4	1.8
87695	4	0.551	M6	1.97	0.945	M8	2.76	0.124	12.4	1.8



## Tech Data Sheet

ProPress Zero Lead Bronze Check Valve Model 2974ZL



### Description

- Zero Lead Bronze body
- ProPress ends
- Spring check
- EPDM seals
- 0.5 psi cracking pressure

### **Features**

- Low pressure loss
- Silent operation
- Stainless steel spring
- Smart Connect technology

### **Ratings**

- 400 WOG
- Max. operating pressure: 200 psi
- Temperature range: 0°F–200°F

### **Approvals**

- Conforms to MSS SP-80
- NSF-61 Annex G

### Pressure Drop



### ProPress Check Valve Zero Lead Bronze P x P Model 2974ZL



Part No.	Size 1	A (in)	L (in)
79035	1⁄2	0.87	2.52
79040	3⁄4	1.14	2.95
79045	1	1.34	3.15
79050	1¼	1.69	3.74
79055	1½	2.09	4.92
79060	2	2.56	5.71



### Tech Data Sheet ProPress Zero Lead Swing Check Valve Model 2974.2ZL



**Description** Viega ProPress Swing Check valve is a swingstyle check valve with a zero lead brass body and ProPress press ends. The valve features EPDM sealing elements and

Viega's Smart Connect<sup>®</sup> technology for easy identification of unpressed connections during pressure testing.

### **Features**

- PTFE gasket
- Swing-style check
- EPDM sealing element
- ProPress connections
- Smart Connect technology

#### **Ratings**

- Temperature range: 0°F–250°F
- Max. operating pressure: 300 psi

#### **Approvals**

- ESL-1443
- NSF<sub>®</sub>-61
- NSF<sub>®</sub>-372
- NSF<sub>®</sub>-U.P. Code

ProPress Swing Check Valve Zero Lead Model 2974.2ZL



Part No.	Size (in)	H1 (in)	H2 (in)	L1 (in)	A1 (in)	A2 (in)	Cv (US
	1						gal/min)
87170	1⁄2	1.65	0.55	2.05	0.47	1.22	5.6
87175	3⁄4	1.97	0.67	2.40	0.55	1.50	9.6
87180	1	2.24	0.83	2.72	0.75	1.81	17
87185	1¼	2.72	0.98	3.03	0.91	2.01	28.2
87190	1½	3.15	1.14	3.62	1.02	2.20	44
87195	2	3.86	1.38	4.21	1.30	2.64	82.3

Component	Material
Body	Zero Lead brass CB770S
Сар	Brass CW511L
Hanger	Brass CW511L
Pin	Brass CW509L
Seat shutter	PTFE
Seat cap	PTFE
Nut	316 stainless steel
Screw-in piece	CC246E
Sealing element	EPDM



### Tech Data Sheet ProPress Wafer Check Valve Model 2974.3XL



### Description

The Viega ProPress Epoxy Powder-Coated Ductile Iron Wafer Check Valve prevents reverse flow with a compact, lightweight design that is more efficient than traditional fullbody check valves. Constructed with a durable epoxy powder-coated body, stainless steel shaft, and spring-

loaded stainless steel double disc, it ensures long-lasting performance. The EPDM seal provides a tight seal while reducing noise and vibration. Designed for compatibility with Viega ProPress and MegaPress flange adapters, it offers a reliable solution for various piping systems.

### **Features**

- Epoxy powder-coated ductile iron body
- 316 stainless steel shaft and spring-loaded double disc
- EPDM seal
- Sizes: 2 ½", 3", 4"
- Compact inline design
- Lighter than traditional full-body check valves
- Low cracking pressure
- Class 150 ASME B16.5 compatible
- Suitable for use with Viega ProPress and MegaPress flange adapters

### Ratings

- Temperature range: 0°F–250°F
- Max. operating pressure: 250 psi

### ProPress Wafer Check Valve Model 2974.3XL



### Approvals

- NSF<sub>®</sub> 61-372
- Conforms to MSS SP-25
- Conforms to MSS SP-139 with Viega flange adapters
- Conforms to API-598

### Viega Flange Adapter Compatibility

- 0959.5XL (ProPress)
- 4059XL (MegaPress 316SST)
- 5159XL (MegaPress 316SST)
- All sold separately.



Cracking pressures for the wafer check valves:  $2\frac{1}{2} - 0.032$  psi 3 - 0.030 psi 4 - 0.026 psi

•	
Component	Material
Body	Epoxy powder-coated

•	
Body	Epoxy powder-coated ductile iron
Disc	A351 CF8M 316 stainless steel
Shaft	316L stainless steel
Spring	316 stainless steel
Washer	316 stainless steel
Seal	EPDM

Part No	Size (in)	L1	L2	D
Fart NO.	P1	(in)	(in)	(in)
86975	21⁄2	2.64	0.20	4.49
86980	3	2.87	0.35	5.28
86985	4	2.87	0.79	6.65



### Tech Data Sheet ProPress Strainer Valve Model 2981.1ZL



Description Viega ProPress strainer valve has a zero lead brass body, stainless-steel mesh, and ProPress press ends. The valve features an EPDM

Smart Connect® Technology for easy identification of unpressed connections during pressure testing.

**Features** 

- PTFE gasket
- EPDM sealing element
- ProPress connections
- Smart Connect technology

### Accessories

Replacement 100 mesh Model 2981.11

#### Ratings

- Temperature range: 0°F–250°F
- Max. operating pressure: 300 psi

### **Approvals**

- NSF<sub>®</sub>-61
- NSF<sub>®</sub>-372

### ProPress Strainer Valve Model 2981.1ZL



Part No.	Size (in) 1	H1 (in)	H2 (in)	L1 (in)	L2 (in)	A1 (in)	A2 (in)	Cv (US gal/min)
87230	1⁄2	0.59	1.58	2.76	1.73	1.93	0.91	3.1
87235	3⁄4	0.71	1.73	3.07	2.24	2.17	1.34	5.1
87240	1	0.87	2.01	3.50	2.40	2.60	1.50	7.9
87245	1¼	1.02	2.48	4.06	2.36	3.03	1.34	20.5
87250	1½	1.18	2.84	4.84	2.76	3.43	1.34	29.2
87255	2	1.42	3.11	5.51	3.15	3.94	1.58	40

Component	Material
Body	Zero Lead brass CW511L
Cap gasket	PTFE
Mesh	Stainless steel
Сар	316 stainless steel
Screw-in piece	CC246E
Sealing element	EPDM



### Tech Data Sheet ProPress Strainer Valve Model 2981.1XL



**Description** Viega ProPress strainer valve has a zero lead brass body, stainless-steel mesh, and ProPress press ends. The valve features an EPDM sealing element and Viega's

Smart Connect<sup>®</sup> Technology for easy identification of unpressed connections during pressure testing.

### **Features**

- EPDM gasket
- EPDM sealing element
- ProPress connections
- Smart Connect technology

### Accessories

Replacement 100 mesh Model 2981.11

#### **Ratings**

- Temperature range: 0°F–250°F
- Max. operating pressure: 250 psi

### **Approvals**

- NSF<sub>®</sub>-61
- NSF<sub>®</sub>-372

### **ProPress Strainer Valve Model 2981.1XL**



Part No.	Size (in) 1	H1 (in)	H2 (in)	L1 (in)	L2 (in)	A1 (in)	A2 (in)	Cv (US gal/min)
87260	2½	4.09	1.69	6.89	3.82	5.00	1.93	88.9
87265	3	4.80	1.97	7.68	4.09	5.63	2.05	126
87270	4	6.06	2.48	9.13	4.53	6.89	2.29	212.7

Component	Material				
Body	Zero lead brass CB770S				
Cap gasket	EPDM				
Mesh	Stainless steel				
Сар	316 stainless steel				
Screw-in piece	CW511L				
Sealing element	EPDM				



### Tech Data Sheet ProPress Manual Balancing Valve Model 2980ZL



### Description

Viega's ProPress Manual Balancing Valve is a fixed orifice style valve with a venturi insert. The valve features high accuracy with the multi-turn functionality, a positive shut off with memory stop, and Viega's Smart

Connect technology for easy identification of unpressed connection during testing.

### **Features**

- DZR lead-free brass
- PT ports
- ProPress press-ends with Smart Connect technology
- Positive shut-off with memory stop
- Tolerance on nominal Cvs ±3%

### **Operating Parameters**

- 300 WOG
- Temperature range, water:
  - 15°F–250°F
  - Below 32°F only for water with added antifreeze fluids
- Max. operating pressure: 250 psi

### **Listings and Certifications**

- ASTM B927 C27453
- NSF<sub>®</sub>-61-372
- UNS C35330
- UL 2043 classification

### **Approved Applications**

- HVAC
- Potable water

### **ProPress Manual Balancing Valve Model 2980ZL**



Part No.	Size (in)	ФС¹ (in)	H (in)	L (in)	B (in)	Weight (lbs)	Flow Range (GPM)
82100	U-1⁄2	0.627-0.631	4.06	5.157	0.827	1.23/1.16	0.27-0.71
82105	L-1⁄2	0.627-0.631	4.06	5.157	0.827	1.23/1.16	0.49-1.17
82110	1⁄2	0.627-0.631	4.06	5.157	0.827	1.23/1.16	0.98-2.35
82115	3⁄4	0.877-0.881	4.06	5.846	0.905	1.43/1.34	2.19-5.15
82120	1	1.128-1.131	4.06	6.181	0.906	1.73/1.55	4.09-9.56
82125	1¼	1.378-1.381	4.85	6.996	1.024	2.78/2.53	8.56-19.81
82130	1½	1.628-1.632	4.94	7.921	1.417	3.50/3.16	12.84-29.80
82135	2	2.128-2.132	5.34	6.138	1.575	4.80/4.46	24.09-55.63

<sup>1</sup> Tolerance field



### Components

#	Component	Material
1	Nut	Steel / Zn plated
2	Handwheel	ABS (grey)
3	Screw	Steel
4	Stop spring ring	Spring steel
5	Bonnet	DZR lead-free brass
6	Stem	Brass
7	Union <sup>1</sup>	DZR lead-free brass
8-9	Stem O-ring	EPDM Perox
10	Shutter	DZR lead-free brass
11	Disco O-ring <sup>1</sup>	EPDM Perox
12	Disc <sup>1</sup>	DZR lead-free brass
13	Gasket disc	PTFE
14	Balance cone	DZR lead-free brass
15	Body	DZR lead-free brass
16-19	Venturi insert	DZR lead-free brass
20	Test point	DZR brass <sup>2</sup>



<sup>1</sup> Only on 1¼", 1½", and 2"

<sup>2</sup> Test points with EPDM Perox gaskets and polypropylene ties

### Performance

To obtain the best performance, valve must be installed on a pipe followed by straight pipe lengths as per figure indications.





### **Flow Measurement**





### **Headloss Calculation**

Handwheel	heel Cv Values (GPM @ 1psi)							
Position	U-½"	L-1⁄2"	1⁄2"	3⁄4"	1"	1¼"	1½"	2"
0.5	0.177	0.160	0.474	0.47	1.70	2.96	3.14	6.20
0.7	0.206	0.186	0.474	0.54	2.00	3.38	3.61	7.56
1.0	0.283	0.287	0.613	0.67	2.42	3.95	4.27	9.65
1.3	0.331	0.394	0.717	0.81	2.82	4.49	4.96	12.19
1.5	0.355	0.440	0.809	0.90	3.12	4.83	5.57	14.30
1.7	0.387	0.501	0.902	0.99	3.48	5.25	6.60	16.64
2.0	0.445	0.586	0.99	1.12	4.13	6.27	8.99	20.17
2.3	0.511	0.67	1.10	1.25	4.83	7.82	12.08	23.35
2.5	0.517	0.70	1.18	1.39	5.28	9.16	14.21	25.12
2.7	0.527	0.74	1.32	1.62	5.63	10.46	16.34	26.66
3.0	0.563	0.83	1.60	2.24	6.09	12.21	18.89	28.72
3.3	0.578	0.86	1.88	2.94	6.49	13.39	20.67	30.57
3.5	0.594	0.89	2.03	3.39	6.64	13.94	21.54	31.72
3.7	0.595	0.92	2.12	3.75	6.80	14.34	22.16	32.86
4.0	0.603	0.95	2.19	4.06	7.10	14.50	22.65	34.36
4.4	0.605	0.98	2.22	4.24	7.21	_	_	_

Formula linking flow Q (in GPM) and theoretical valve headloss  $\Delta p$  (in psi). Cv depends on handwheel position as indicated in table.

 $\Delta p = \left(\frac{Q}{C_v}\right)^2$ 



Q = Flow rate in GPM

 $\begin{array}{l} \Delta p = \text{Differential pressure across test points} \\ C_{_{\text{VS}}} = \text{Flow coefficient across valve seat} \end{array}$ 



### Presetting



The diagram to the left can be used to determine the presetting position of the valve with the given design flowrate and headloss:

- 1. Draw a straight line joining design flowrate and design headloss;
- 2. Determine design Cv value as intersection of drawn line and Cv axis;
- 3. Draw a straight horizontal line from intersection previously identified and the specific valve size Axis
- 4. Intersection determines handwheel position to use for presetting.

In the example below, for a design flowrate of 5 GPM and design  $\Delta p$  3psi, a handwheel position of 1.35 is determined for a 1" valve.





### Tech Data Sheet ProPress Dynamic Auto Balancing Valve Model 2981.7



**Description** Viega ProPress Dynamic Automatic Balancing Valve provides an accurately balanced and reliable system for heating and cooling. Unlike most automatic valves, the Viega valve is an externally

adjustable dynamic valve, allowing for changes in the flow rate after initial install. The valve features high accuracy, a max flow rate memory stop, and Viega's Smart Connect<sup>®</sup> technology for easy identification of unpressed connection during testing.

Component	Material
Body	DZR brass CW602N (½" to 1¼"), ductile iron (1½" to 2")
Spring	Stainless steel
Diaphragm	HNBR
Sealing element	EPDM

### **Features**

- Max flow memory stop
- External adjustment for flow rate
- Isolation function
- Built in PT ports
- No minimum pipe length required prior to the valve
- EPDM sealing elements
- ProPress connections
- Smart Connect technology

### **Ratings**

- Temperature range: 14°F–250°F
- Max pressure differential: 58 psid

### ProPress Dynamic Auto Balancing Valve Model 2981.7



Part I	No.	Size (in) 1	H1 (in)	H2 (in)	L1 (in)	A1 (in)	A2 (in)	Flow Range (GPM)	Cv (US gal/min)
8730	05	1⁄2	3.47	2.32	2.40	0.39	1.58	0.26 - 4.75	3.02
873	10	3⁄4	3.47	2.32	2.68	0.39	1.77	0.45 - 8.50	3.02
873	15	1	3.58	2.44	2.84	0.39	1.93	0.60 - 10.57	4.87
8732	20	1¼	4.37	2.76	3.31	0.55	2.28	0.88 - 22.01	12.65
8732	25	1½	5.20	2.87	4.25	0.83	2.84	3.17 - 32.58	20.88
8733	30	2	5.20	3.11	4.53	0.83	2.95	3.96 - 45.57	23.55



### Operations

The valve can be set to the required position by using the hand wheel to limit the flow rate in certain parts of a system, eliminating overflows and wasted energy.

The internal differential pressure control function of the valve ensures that the set flow rate is limited irrespective of pressure fluctuations in the system.

Once the valve has been pre-set to the desired flow rate, the hand wheel can be locked in position. From this position, the valve can be fully closed for isolation purposes and easily reopened back to the required set point.

### Function

The ProPress Dynamic Balancing Valve reacts to pressure fluctuations in a system in order to keep fluctuations to the differential pressure across the unit to a minimum. By achieving this, a maximum flow limit is ensured in accordance with the design.

The following applies:  $Q = Cv \sqrt{\Delta p}$  Q = Flow (GPM) Cv = Opening area $\Delta p = Differential pressure (psi)$ 

### **Flow Characteristics**

The illustration to the right shows how the flow in the valve reacts in accordance to the pump pressure. For comparison a typical flow characteristic for a static balancing valve is also shown.

The differential pressure function of the valve will work when the differential pressure provided by the pump is sufficient to meet the required minimum differential pressure (which is dependent upon the required flow rate). Once the minimum differential pressure is satisfied, the set flow rate is maintained regardless of any pressure fluctuations in the system.







### **Setting the Valve**

The valve is easily set using the pre-setting scale located on the hand wheel. The set point of the valve can be determined by using the flow graphs or tables on the following pages.

The scale on the hand wheel is for the adjustment of flow and is interpreted using the associated setting and flow chart.

Pre-setting desired flow position:

- Set the valve handle to the desired flow
- Remove cap marked Viega, and tighten (turn clockwise) with 2mm hexagonal key
- The valve can then be reopened to the pre-set flow after the valve has been used for isolation

To set the valve to another flow position, loosen the valve pre-setting with the 2mm hexagonal key (turn anti- clockwise) and set the valve handle to the new flow position and tighten.

### Isolation

To use the valve for isolation, turn the handle clockwise to the fully closed position. The valve will be closed ensuring leakage tightness according to EN1349 Class IV.

### **Verification of Dynamic Systems**

The flow rate in a system can be verified in two ways:

- Direct flow rate verification in a circuit
- Measurement of the differential pressure across the balancing valve or metering station

### **Direct Flow Rate Verification**

This can, for example, be carried out by ultrasonic equipment. On the basis of the measured velocity of the flow and the pipe dimension the software will compute a flow rate. The use of ultrasonic verification requires free access to the pipes as the sensors are fitted directly to the pipe.



Turn the hand wheel clockwise for isolation

Turn clockwise with 2mm hexagonal key to set the valve to max flow position





### Measurement of the Differential Pressure This is the main method of flow verification.

Once the design flow rate is known, the valve can be set using the flow graphs. Either of these tools will show the required set point and the required minimum differential pressure for the set flow rate.



Measurement of the differential pressure ( $\Delta p$ ) across the valve

### Flow Rate Example <sup>1</sup>/<sub>2</sub>" High Required design flow rate 600 l/h - 0,167 l/s

- 1. The required design flow rate is used as the point of reference for the overall rating of dynamic systems.(See the graph to right)
- The pre-setting for the valve can be determined using the flow rate graph. Setting = 2.2
- 3. On the right axis, the minimum differential pressure required from the pump can be determined. Minimum DP required approximately 2.10 psi..

Once the differential pressure has been verified, the flow rate can be recorded according to the flow rate graphs provided.

If the measured differential pressure is below the minimum  $\Delta p$  required for that set point, the flow can be found by using the formulas below.

### **Flow Calculations**

$$Q = Cv \cdot \sqrt{\Delta p}$$

$$Q = gallons/minutes$$

$$\Delta p = psi$$







### **ProPress Dynamic Balancing Valve 1/2" Low**

ProPress Dynamic Balancing Valve 1/2" High






ProPress Dynamic Balancing Valve 3/4" Low

ProPress Dynamic Balancing Valve 3/4" High







#### ProPress Dynamic Balancing Valve 1" Low

ProPress Dynamic Balancing Valve 1" High







#### ProPress Dynamic Balancing Valve 11/4"

ProPress Dynamic Balancing Valve 11/2"







## ProPress Dynamic Balancing Valve 2"



## **Setting and Flow**

Dros Sot	1⁄2"	3⁄4"	1"	<b>1</b> ¼"	11⁄2"	2"
Fles-Set	Flow (gpm)	Flow (gpm)	Flow (gpm)	Flow (gpm)	Flow (gpm)	Flow (gpm)
0.5	0.26	0.45	0.60	0.88	3.17	3.96
0.6	0.45	0.88	1.01	1.54	3.96	4.78
0.7	0.63	1.29	1.36	2.20	4.75	5.63
0.8	0.81	1.67	1.75	2.86	5.52	6.52
0.9	0.95	2.03	2.10	3.52	6.28	7.43
1.0	1.10	2.38	2.42	4.18	7.04	8.37
1.1	1.24	2.70	2.73	4.84	7.80	9.32
1.2	1.38	3.01	3.04	5.49	8.56	10.29
1.3	1.51	3.31	3.34	6.14	9.31	11.28
1.4	1.63	3.59	3.63	6.79	10.07	12.28
1.5	1.76	3.86	3.92	7.43	10.83	13.29
1.6	1.88	4.12	4.20	8.06	11.60	14.31
1.7	2.01	4.36	4.49	8.70	12.38	15.34
1.8	2.13	4.61	4.78	9.33	13.16	16.38
1.9	2.25	4.84	5.08	9.95	13.95	17.43
2.0	2.38	5.06	5.37	10.57	14.75	18.49
2.1	2.50	5.28	5.67	11.18	15.56	19.56
2.2	2.63	5.50	5.97	11.79	16.38	20.64
2.3	2.76	5.70	6.28	12.39	17.21	21.73
2.4	2.89	5.91	6.59	12.99	18.06	22.84
2.5	3.02	6.11	6.90	13.58	18.91	23.96
2.6	3.16	6.30	7.21	14.17	19.77	25.10
2.7	3.29	6.49	7.53	14.75	20.65	26.27
2.8	3.43	6.68	7.84	15.32	21.54	27.46
2.9	3.56	6.87	8.15	15.90	22.43	26.68
3.0	3.70	7.04	8.45	16.47	23.33	29.94
3.1	3.83	7.22	8.75	17.03	24.25	31.23
3.2	3.96	7.39	9.04	17.59	25.17	32.57
3.3	4.09	7.55	9.31	18.15	26.09	33.96
3.4	4.21	7.71	9.57	18.71	27.02	35.40
3.5	4.32	7.86	9.80	19.26	27.95	36.90
3.6	4.43	8.01	10.02	19.81	28.88	38.47
3.7	4.53	8.15	10.21	20.36	29.81	40.12
3.8	4.62	8.27	10.36	20.91	30.74	41.84
3.9	4.69	8.39	10.49	21.46	31.66	43.66
4.0	4.75	8.50	10.57	22.01	32.58	45.57



# Tech Data Sheet

ProPress Pressure Independent Balancing and Control Valve (PIBCV) Models 2981.71 / 2987.72



**Description** Viega ProPress Pressure Independent Balancing and Control Valve (PIBCV—Model 2981.71 with actuator and Model 2987.72 without actuator—provides modulating control with high authority

regardless of changeability in the system. This valve incorporates an automatic balancing valve, a differential pressure control valve and a modulating control valve in one footprint. The valve features the highest balancing accuracy and Viega's Smart Connect® technology for easy identification of unpressed connection during testing.

Component	Material
Body	DZR brass CW602N (½" to 1¼"), ductile iron (1½" to 2")
Spring	Stainless steel
Diaphragm	HNBR
Sealing element	EPDM

#### **Features**

- Full-stroke modulation
- Built in PT ports
- No minimum pipe length required prior to the valve
- EPDM sealing elements
- ProPress connections
- Smart Connect technology

#### **Ratings**

- Temperature Range: 14°F–250°F
- Max Pressure Differential: 116 psid

#### Actuators

Model No.	Description	Control Signal	Supply Voltage	Actuating Force	Stroke	Power Consumption
2877.10	3-position modulating or On/Off control	0-10 V or 4-20 mA	AC/DC 24 V	120 N	5.5 mm	2.5 VA
2877.11	3-position or modulating control	0-10 V or 3-position	24 V AC or 24 V DC	400 N	32 mm	6 VA



#### ProPress Pressure Independent Balancing and Control Valve Models 2981.71 / 2987.72



Part	No.	Size (in)	H1 (in)	H2 (in)	L1 (in)	A1 (in)	A2 (in)	Flow Range	Cv
2981.71	2987.72	1						(GPM)	
87365	89925	1⁄2	2.44	2.24	2.40	0.39	1.58	0.44-2.53	1.5
87370	89930	3⁄4	2.64	2.24	2.68	0.39	1.77	0.97–5.85	3.1
87375	89935	1	2.76	2.32	2.84	0.39	1.93	1.23-7.93	3.3
87380	89940	1¼	3.35	2.68	3.31	0.55	2.28	2.42-17.62	8.7
87385	89945	1½	5.63	2.80	4.25	0.83	2.84	6.03-41.83	22.1
87390	89950	2	5.63	3.03	4.53	0.83	2.95	6.16–50.63	22.1

#### Operations

The design of the valve features a modulating control component that retains the highest possible authority at all times. There are two independent movements for the presetting and the modulating function. During presetting, the inlet area moves radially without interfering with the length of the stroke. During modulating, the inlet area moves axial taking advantage of the full stroke.

Whilst the control component provides proportional modulation irrespective of the preset flow, the automatic balancing guarantees that the flow will never exceed the maximum preset flow. Regardless of pressure fluctuations in the system, the maximum flow is kept constant up to a maximum differential pressure of 116 psi.

#### **Function**

The ProPress Balancing and Control Valve can be flushed and commissioned before the actuator is installed.

The presetting of the dial is user-friendly requiring only a simple flow vs. presetting graph. Once the flow is set, the actuator can be mounted and the valve ready to operate.

For lowest energy consumption, check the differential pressure at the index valve to set the pump at minimum speed.



#### Design

The design of the valve combines high performance with small size and compact construction. The main components of the valve are:

- 1. Differential pressure control
- 2. Modulating control component
- 3. Presetting scale (not accessible when actuator is mounted):
- a. Flow range: Low-High
- b. Stroke: 2.5–5.0–5.5 mm
  - 4. P/T plugs
  - 5. Motoric actuator





Actuator Requirements 1/2" to 2" Dimension "X" in closed position: 2.5 mm stroke = 11.4 mm 5.0 mm stroke = 9.3 mm 5.5 mm stroke = 8.8 mm Actuator minimum force: 100N Actuator connection: M30 x 1.5 mm







#### Flow Rate vs. Differential Pressure Preset flow: 300 l/h, 150 l/h



#### Flow Rate vs. Voltage Preset flow: 200 l/h



#### Flow Rate vs. Differential Pressure Voltage: 10V, 7V, 3V







## ProPress Balancing and Control Valve 1/2", 2.5 mm Stroke

ProPress Balancing and Control Valve 3/4", 5.0 mm Stroke







#### ProPress Balancing and Control Valve 1", 5.5 mm Stroke

ProPress Balancing and Control Valve 11/4", 5.5 mm Stroke







#### ProPress Balancing and Control Valve 11/2", 15.0 mm Stroke

ProPress Balancing and Control Valve 2", 15.0 mm Stroke





## **Setting and Flow**

Dress Cat	1⁄2"	3⁄4"	1"	<b>1</b> ¼"	<b>1</b> ½"	2"
Pres-Set	Flow (gpm)	Flow (gpm)	Flow (gpm)	Flow (gpm)	Flow (gpm)	Flow (gpm)
0.6	0.44	0.97	1.23	2.42	6.03	6.16
0.8	0.56	1.26	1.57	3.32	7.40	7.59
1.0	0.69	1.54	1.89	4.21	8.81	9.03
1.2	0.81	1.83	2.21	5.10	10.27	10.54
1.4	0.93	2.12	2.53	6.00	11.83	12.18
1.6	1.06	2.41	2.85	6.89	13.48	13.99
1.8	1.18	2.69	3.18	7.79	15.26	16.02
2.0	1.30	2.98	3.52	8.68	17.17	18.27
2.2	1.42	3.27	3.88	9.57	19.21	20.77
2.4	1.55	3.56	4.26	10.47	21.39	23.51
2.6	1.67	3.84	4.65	11.36	23.69	26.48
2.8	1.79	4.13	5.07	12.26	26.10	29.66
3.0	1.92	4.42	5.50	13.15	28.62	33.02
3.2	2.04	4.71	5.96	14.04	31.22	36.52
3.4	2.16	4.99	6.43	14.94	33.87	40.10
3.6	2.29	5.28	6.92	15.83	36.54	43.70
3.8	2.41	5.57	7.42	16.73	39.21	47.24
4.0	2.53	5.85	7.93	17.62	41.83	50.63



# Tech Data Sheet

#### ProPress Automatic Recirculation Regulating Valve Model 2981.3ZL



#### Description

The ProPress automatic recirculation regulating valve provides automatic balancing of domestic hot water recirculation return lines. Balancing based on hot water return temperature allows the recirculation system to run more efficiently with smaller pipes and circulators.

The integrated bypass ensures that the thermal element is always sensing representative water and throttles flow accordingly. With low (I) and high (II) bypass settings, the same valve can balance hot water riser returns or hot water returns from smaller fixture groups.

#### Features

- Automatic, thermostatic balancing
- Zero lead body
- Integrated isolation (ball) valve
- Adjustable bypass.
- Adjustable temperature setpoint

#### **Operating Parameters**

- 150 CWP
- Setting range: 105°F–150°F
- Factory setting: 135°F
- Maximum operating temperature: 180°F
- Maximum operating pressure: 150 psi

#### **Listings and Certifications**

- NSF<sub>®</sub>-61
- NSF<sub>®</sub>-372
- Listed by NSF to Commercial Hot

#### Wetted Components

Component	Material
Body	Zero Lead bronze C65680
Bonnet	Zero Lead brass C69300
Disc	316 stainless steel
Springs	316 stainless steel
Plug	Zero Lead brass C69300
Bypass plug	PTFE-coated Zero Lead bronze C65680
Ball	316 stainless steel
Ball seats	POM
Sealing elements	EPDM



- 1. 1" male BSP connections
- 2. Threaded temperature port with threaded plug
- 3. Temperature setpoint adjustment
- 4. Integrated isolation ball valve
- 5. Adjustable bypass
- 6. Flow direction arrow



## **Setting the Bypass Flow Control**

		<b>Cv (Δp 1 psi)</b> [gpm]							
	150	140	135	130	120	110	100	I	II
	150	140	135	130	120	110	100	0.049	0.069
Ē	141.5	135.5	130.5	125.5	115.5	105.5	95.5	0.298	0.319
ے م	136.5	131	126	121	111	101	91	0.47	0.491
nr.	132	126.5	121.5	116.5	106.5	96.5	86.5	0.714	0.735
rat	127.5	122	117	112	102	92	82	0.928	0.949
be	123	117.5	112.5	107.5	97.5	87.5	77.5	1.221	1.242
en	118.5	113	108	103	93	83	73	1.362	1.383
lg t	114	108.5	103.5	98.5	88.5	78.5	68.5	1.498	1.519
nin	109.5	104	99	94	84	74	-	1.532	1.618
CO	105	99.5	94.5	89.5	79.5	69.5	-	1.71	1.731
2	100.5	95	90	85	75	-	-	1.72	1.741
	96	90.5	85.5	80.5	70.5	-	-	1.741	1.762
1.783 1.3									1.803
								t. D.	
			Thermal	disinfection 1	58°F			0.832	

I Cv of bypass only (valve closed) 0.049 gpm

II Cv of bypass only (valve closed) 0.069 gpm

t. D. Thermal disinfection 0.832 gpm



# Tech Data Sheet

### ProPress 3-Way Diverting and Mixing Valve Model 2976.3



Description

Viega ProPress 3-Way Valve is a 3-port valve which can be used as a diverting or a mixing valve. When used as a diverting valve, the valve has one inlet (AB) and two outlets (A and B). When used as a mixing valve, the valve has two inlets (A and B) and one outlet

(AB). The valve helps regulate system fluid temperatures by mixing fluids from two sources. It is ideal for controlling temperatures in heating, cooling, and radiant application. The valve can be controlled both manually or through the use of an actuator (Model #2877.10).

Component	Material
Body	Bronze
Stem	Stainless steel
Insert	Brass
Seal	EPDM
Сар	Plastic

#### **Features**

- Female BSP threads
- Delivered with 3 ProPress tailpieces with EPDM sealing elements
- EPDM flat gasket

#### **Ratings**

- Temperature range: 0°F–250°F
- Max. operating pressure: 250 psi

#### ProPress 3-Way Valve Model 2976.3



Part No.	Size (in) 1	A1 (in)	A2 (in)	A3 (in)	L1 (in)	L2 (in)	L3 (in)	L4 (in)	Cv (US gal/min)
87420	1⁄2	1.85	1.85	2.56	2.68	2.68	2.87	1.65	2.89
87425	3⁄4	2.28	2.28	2.72	3.19	3.19	3.47	2.09	5.09
87430	1	2.52	2.52	2.87	3.43	3.43	3.62	2.09	6.59
87435	1¼	2.68	2.68	2.99	3.70	3.70	3.86	2.09	8.32
87440	1½	3.07	3.07	3.07	4.49	4.49	4.65	2.13	9.83
87445	2	3.07	3.07	3.31	4.65	4.65	4.72	2.32	11.56



## Tech Data Sheet Flash Shower Valve Models 2842.5 and 2842.6



**Description** The Flash Shower Valve body features cast DZR brass construction with a pre-installed flush plug with stainless steel retaining ring with flats, back-to-

back capability, and 1/2" copper

stub-out connections. Available with screwdriver stops. It has a plaster guard designed as a rough-in guide and for use as a thin wall mounting support.

#### **Features**

- Choice of connections: copper stub-outs can accommodate ProPress<sup>®</sup> and PureFlow<sup>®</sup> connections.
- Cast DZR brass valve body: durable, ideal material for prolonged contact with water. Resists corrosion due to high chloride and pH levels in water.
- Flat back: allows valve to be mounted flush against cross brace for easy and solid installation.
- Flush plug: allows valve body to be tested and flushed without the presence of the valve cartridge. Can be tested using Flush Plug with air (100 psi) or water (300 psi).
- Stainless steel retaining ring with flats: secures test cap/cartridge in place and eliminates need for screws. Flats make it simple to loosen ring for quick, easy insertion/removal of test cap/cartridge.
- Back-to-back capability: hot and cold can be reversed quickly and easily.
- Exclusive plaster guard: plaster guard is designed to protect valve and act as a guide during installation. It can serve as mounting support for thin-wall installations.
- Wide rough-in range: from 1¾" to 2¾" from finished wall to the back of the valve.



Front View





## **Codes and Standards**

This product meets or exceeds the following codes and standards:

- ASSE 1016
- ASME A112.18.1016
- CSA B125.16
- ASME A112.18.1
- CSA B125.1



Compatible only with American Standard pressure balance tub/shower, shower only, and valve only trims. Visit <u>www.americanstandard-us.com</u> for more information.





Model 2842.5







STUB-OUT FOR PRESS-CONNECT FITTINGS					
RU102	RU102SS				
½" Stub-Out Inlets/ Outlets	1⁄2" Stub-Out Inlets/ Outlets				
	Screwdriver Stops				



## Tech Data Sheet ProPress Supply Stop Valve Models 2942.3ZL / 2942.4ZL



**Description** Viega ProPress stop valves are available in straight and angled

configurations. The valves are intended for potable water applications, and are manufactured from nickle-plated brass, featuring EPDM sealing elements and Viega's Smart Connect<sup>®</sup> Technology for easy identification of unpressed connections during pressure testing.

Component	Material
Body	Nickel-plated brass
Ball	Plated brass ball
Stem	Nickel-plated brass
Sealing element	EPDM

#### **Features**

- Plated brass stem
- 1/4-turn handle
- EPDM sealing element
- ProPress connections
- Smart Connect technology

#### **Ratings**

- Temperature range: 0°F–180°F
- Max. operating pressure: 160 psi

#### **Approvals**

- ASME A112
- cCSAus
- NSF<sub>®</sub>-61
- NSF<sub>®</sub>-372
- NSF<sub>®</sub>-U.P. Code

#### ProPress Supply Stop Valve Models 2942.3ZL / 2942.4ZL



Part No. S		Size (in)	Size (in) H1 (in) H		H2 (in) L1 (in) L2 (in)			Cv (US
2942.3ZL	2942.4ZL	. 1						gal/min)
89995		1⁄2" CTS x 3⁄8" OD	1.22	0.47	1.50	1.22	0.67	1.50
	90000	1⁄2" CTS x 3⁄8" OD	1.22	0.39	1.50	1.22	0.67	2.20





## Tech Data Sheet ProPress Valves and Accessories by Model

#### Zero Lead Bronze Ball Valve - P x P Model 2971.1ZL



Part

No.

79920

79925

79930

79935

79940

79950

Size

(in)

1/2

3⁄4

1

11/4

11/2

2

- Smart Connect technology
   300 CWP
- Body: Two-piece Zero Lead Bronze
- Ball: Full-port 316 stainless steel
- Stem: Blowout-proof Eco Brass
- Sealing element: EPDM
   Listings: APMO/ANSI Z1157, NSF<sub>®</sub>-61-372, NSF<sub>®</sub>-U.P. Code, Listed by NSF to Commercial Hot
- Conforms to: MSS SP-110
   Parameters: 300 psi max. operating pressure
  - 0°F-250°F operating temperature

#### Zero Lead Bronze Ball Valve - P x P Model 2971.3ZL



Part	Size
No.	(in)
79923	1⁄2
79928	3⁄4
79933	1
79938	11⁄4
79943	1½
79948	2

- Smart Connect technology
   300 CWP
   Baska Tura nises Zam Logal
- Body: Two-piece Zero Lead Bronze
   Ball: Full-port 316 stainless steel
- Ball: Full-port 316 stainless steel
   Stem: Blowout-proof 316 stainless steel
- Sealing element: EPDM
- Listings: APMO/ANSI Z1157, NSF<sub>®</sub>-61-372, NSF<sub>®</sub>-U.P. Code, Listed by NSF to Commercial Hot
- Conforms to: MSS SP-110
   Parameters:
  - 300 psi max. operating pressure 0°F-250°F operating temperature

## Zero Lead Brass Ball Valve - P x P Model 2971.1XL



- Part
   Size

   No.
   (in)

   78300
   2½

   78305
   3

   78310
   4
- Smart Connect technology300 CWP
- Body: Two-piece Zero Lead Brass
- Ball: Chromium-plated BrassLocking handle
- Sealing element: EPDM
- Listings: APMO/ANSI Z1157, NSF<sub>®</sub>-61-372, NSF<sub>®</sub>-U.P. Code, Listed by NSF to Commercial Hot
- Conforms to: MSS SP-110
   Parameters: 300 psi max. operating pressure 0°F-250°F operating temperature

#### Zero Lead Bronze Ball Valve - P x FPT Model 2971.4ZL



- Smart Connect technology300 CWP
- Body: Two-piece Zero Lead Bronze
- Ball: Full-port 316 stainless steel
- Stem: Blowout-proof Eco Brass
- Sealing element: EPDM
- Listings: APMO/ANSI Z1157, NSF<sub>®</sub>-61-372, NSF<sub>®</sub>-U.P. Code, Listed by NSF to Commercial Hot
- Conforms to: MSS SP-110
- Parameters: 300 psi max. operating pressure
  OF to 050°E an erating terms are unit.

0°F to 250°F operating temperature

# Part Size No. (in)

	0.20
No.	(in)
79970	1⁄2
79975	3⁄4
79980	1



# Zero Lead Bronze Ball Valve - P x Hose Model 2971.6ZL



Size

(in)

1/2

3⁄4

Part

No.

79875

79876

Smart Connect technology
300 CWP

- Body: Two-piece Zero Lead Bronze
- Ball: Full-port 316 stainless steel
- Stem: Blowout-proof Eco Brass
- Sealing element: EPDM
   Listings: APMO/ANSI Z1157, NSF<sub>®</sub>-61-372, NSF<sub>®</sub>-U.P. Code, Listed by NSF to Commercial Hot
- Conforms to: MSS SP-110
   Parameters: 300 psi max. operating pressure 0°F-250°F operating temperature

#### Bronze Ball Valve - P x FPT Model 2973.1





Size

(in)

1/2

3⁄4

1

Part

No.

24030

24035

24040

- Smart Connect technology
   300 CWP
- Body: Brass body with bronze connections
- Ball: Full-port chrome plated brass
- Stem: Blowout-proof Brass
- Sealing element: EPDM
   Listings: NSF<sub>®</sub>-U.P. Code, IAPMO/ANSI Z1157
- Conforms to: MSS SP-110Parameters:

300 psi max. operating pressure 0°F-200°F operating temperature

#### 316 Stainless Steel Ball Valve - P x P Model 4070



Part	Size
No.	(in)
81080	1/2
81085	3⁄4
81090	1
81095	11⁄4
81100	1½
81105	2

- Smart Connect technology
- Body: 316 stainless steel
- Ball: 316 stainless steel full port
- Stem: Blowout-proof 316 stainless steel
- Sealing element: EPDM
- Listings: NSF<sub>®</sub>-61-372
- Conforms to: MSS SP-110
- Parameters:
   200 psi max. operating pressure
   0°F-250°F operating temperature

#### Bronze Ball Valve - P x Hose Model 2973.3



Part	Size	
No.	(in)	
24090	1/2	
24095	3⁄4	

- Smart Connect technology
- 300 CWP
- Body: Brass body with bronze connections
- Ball: Full-port chrome plated brass
- Stem: Blowout-proof Brass
- Sealing element: EPDM
- Listings: NSF<sub>®</sub>-U.P. Code, IAPMO/ANSI Z1157
- Conforms to: MSS SP-110
- Parameters:
   300 psi max. operating pressure
   0°F-200°F operating temperature

## Bronze Ball Valve - P x P – Model 2973



Size

- Smart Connect technology300 CWP
- Body: Brass body with bronze connections
- Ball: Full-port chrome plated brass
- Stem: Blowout-proof brass
- Sealing element: EPDM
   Listings: NSF<sub>®</sub>-U.P. Code,
- IAPMO/ANSI Z1157
- Conforms to: MSS SP-110Parameters:
  - 300 psi max. operating pressure 0°F-200°F operating temperature

## 316 Stainless Steel Ball Valve Model 4075



Size

(in)

1/2

3⁄4

1

11/4

11/2

2

- Smart Connect technologyBody: 316 stainless steel
- Ball: 316 stainless steel
- Stem: 316 stainless steel
- Stern. 310 starnless stee
   Sealing element: EPDM
- Lockable, 316 stainless steel handle
- Listings: NSF<sub>®</sub>-61-372, NSF<sub>®</sub>-U.P. Code, ASME A112.4.14/CSA B125.14, IAPMO/ANSI Z1157
- Conforms to: MSS SP-110Parameters:
  - 250 psi max. operating pressure 0°F-250°F operating temperature

No.	(in)
24000	1⁄2
24005	3⁄4
24010	1
24015	1¼
24020	1½
24025	2

Part

Part

No.

81081

81086

81096

81097

81106

81107



#### **316 Stainless Steel Three Piece Ball Valve** P x P – Model 4370.8



Part

No.

85132

85133

85134

85136

85137

85138

Size

(in)

1/2

3⁄4

1

11/4

1½

2

(in)

1/2

Size

(in)

21/2

3

4

Smart Connect technology
Bady Three Diese 216 stain

- Body: Three Piece 316 stainless steel
- Ball: 316 stainless steel full port Stem: Blowout-proof 316
- stainless steel
- Sealing element: FKM
- Conforms to: MSS SP-110
- Parameters: 200 psi max. operating pressure 0°F-250°F operating temperature

## Automatic Recirculation Regulating Valve Zero Lead – Model 2981.3ZL



- Automatic, thermostatic balancing Zero lead body
- Integrated isolation (ball) valve
- Adjustable temperature setpoint
- 1" BSP male threads
- NSF<sub>®</sub>-61-372

Part Size No. (in) 79901 1 x 1

## Shower Valve – Model 2842.6

Shower Valve – Model 2842.5



No.

93516

- 1/2" copper stub outs
  - DZR brass construction
- Pre-installed flush plug
- Plaster quard
- Can test and flush without valve cartridge
- Flat back for flush mounting
- Back-to-back capability so hot and cold can be reversed easily

## Semi Lug Butterfly Valve – Model 2873.81



Part

No.

22074

22075

22076

Body: Semi-I	ua spher	roidal cas	t iron

- Disc: 316 stainless steel
- Stem: 316 stainless steel
- Handle: 10-position spring locking handle
- Mounting flange: ISO 5211
- Liner: EPDM
- Conforms to: MSS SP 67, AWWA C504-6
- Parameters: 250 psi max. operating pressure 0°F-200°F operating temperature



- 1/2" copper stub outs
- DZR brass construction
- Pre-installed flush plug
- Plaster guard
- Can test and flush without valve cartridae
- Flat back for flush mounting
- Back-to-back capability so hot and cold can be reversed easily
- With screwdriver stops

## Inline Check Valve – Model 2974ZL



Part

No.

79035

79040

79045

79050

79055

79060

- Smart Connect technology
- Body: Zero Lead Bronze
- Check valve insert: POM bubble tiaht
- Cracking pressure: 0.5 psiG
- Sealing element: EPDM
- Listings: NSF<sub>®</sub>-61-372, NSF<sub>®</sub>-U.P. Code
- Parameters: 200 psi max. operating pressure 0°F-180°F operating temperature

Part Size

(in)

1/2

Size

(in)

1/2

3⁄4

1

11/4

 $1\frac{1}{2}$ 

2

No.

93517



## **ProPress Butterfly Valve Model 2979.8ZL**

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Part	Size
No.	(in)
87660	21⁄2
87665	3
87670	4

- Body: Epoxy powder-coated ductile iron
- Disc, screw plug, and grub screw: 316 stainless steel CF8M
- Upper and lower shafts: QT650 stainlesss steel
- Hand lever: Cast aluminum
- Locking disc: Nylon
- Joint washer: Copper
- Sealing element: EPDM
- Listing: NSF<sub>@</sub>-61-372
- Conforms to: MSS SP-67, MSS SP-25
- Parameters: 250 psi max. operating pressure 0°F-250°F operating temperature

#### ProPress Wafer Check Valve Model 2974.3XL

- Body: Epoxy powder-coated ductile iron
- Disc: A351 CF8M 316 stainless steel
- Shaft, spring, and washer: 316 stainless steel
- Seal: EPDM
- Approval: NSF<sub>®</sub>-61-372
- Conforms to: MSS SP-25, MSS SP-139 with Viega flange adapters, API-598
- Parameters: 250 psi max. operating pressure 0°F-250°F operating temperature

#### Zero Lead Manual Balancing Valve – Model 2980ZL



Part

No.

86975

86980

86985

Size

(in)

21/2

3

4



Part	Size	
No.	(in)	
82100	U-1⁄2	
82105	L-1/2	
82110	1⁄2	
82115	3/4	

1

11/4

11/2

2

- DZR lead-free brass
- PT ports
- ProPress press-ends with Smart Connect technology
- Positive shut-off with memory stop ■ NSF<sub>®</sub>-61-372

## Ball Valve Lockable Metal Handle – Model 2970.8

\*Use with Model 4070

The II	Part No.	Size (in)
20	22143	1⁄2, 3⁄4, <b>1</b>
	22163	1¼, 1½, 2

#### Ball Valve Lockable Metal Handle – Model 2971.8

\*Use with Models 2971.1ZL, 2971.3ZL, 2971.4ZL and 2971.6ZL

	Part No.	Size (in)
	22170	1/2 and 3/4
600	22172	1 and 11/4
<b>B</b>	22174	1½ and 2
	22174	1 1/2 and 2

#### Ball Valve Metal Handle – Model 2973.8

\*Use with Models 2973, 2973, 1, and 2973, 3

A CONTRACTOR	Part No.	Size (in)
21	22176	1⁄2
N.Y	22178	<sup>3</sup> ⁄ <sub>4</sub> and 1
0	22180	1¼, 1½, 2

## Gear Operator Handwheel – Model 2979.88

\*Use with Models 2979.8ZL and 5179.8

Part No.	Size (in)
87690	21⁄2
87695	3
87695	4

## Flange Bolt Set – Model 2959.7

\*Use with Model 2873.81

	Part No.	Size (in)
Garren Martin	19748	1, 1¼, 1½
	19758	2, 2½, 3
	19763	4

## Ball Valve Stem Extension Kit - Model 2970.96

\*Use with Model 4070



Part No.	Size (in)
23442	1⁄2, 3⁄4, <b>1</b>
23444	11/4, 11/2, 2

82120

82125

82130

82135



#### Ball Valve Stem Extension Kit – Model 2971.96

\*Use with ProPress Models 2971.1ZL, 2971.3ZL, 2971.4ZL and 2971.6ZL and PureFlow® Model 2870ZL

Part No.	Size (in)
23443	1/2 and 3/4
23445	1 and 11/4
23447	1½ and 2

## Ball Valve Stem Extension Kit – Model 2973.96

\*Use with Models 2973, 2973.1, and 2973.3

Part No.	Size (in)
23449	1/2
23451	<sup>3</sup> ⁄ <sub>4</sub> and 1
23453	1¼ to 2





ProPress Ball Valves 1/2" to 2"

For Hard Copper Tubing in  $1\!\!\!/ 2"$  to 2" and Soft Copper Tubing in  $1\!\!\!/ 2"$  to  $11\!\!\!/ 4"$ 





1 Cut the tube square using a displacementtype cutter or fine toothed saw.



 Remove burr from inside and outside of tubing to prevent cutting the sealing element.



- Check the sealing element for correct fit. Do not use oils or lubricants. Use only Viega ProPress sealing elements.
- 4 Mark the proper insertion depth as indicated by the ProPress Insertion Depth Chart. Improper insertion depth may result in an improper seal.

ProPress Insertion Depth Chart						
Tube Size (III)	insertion Depth (in)					
1/2	3⁄4					
3⁄4	7⁄8					
1	7⁄8					
1¼	1					
1½	17/16					
2	<b>1</b> % <sub>16</sub>					



- 5 While turning slightly, slide ball valve onto tubing to the marked depth. End of tubing must contact stop.
- **6** Insert appropriate Viega ProPress jaw into the press tool and push in, holding pin until it locks in place.
- 7 Open the jaw and place at right angle on the valve. Visually check insertion depth using mark on tubing.

Warning! Keep extremities and foreign objects away from press tool during pressing operation to prevent injury or incomplete press.

- 8 Hold trigger on press tool until press jaws have fully engaged the valve. Jaws will automatically release after a full press is made.
- **9** After pressing, open the jaw and remove the press tool.

Only ball valves marked with NSF-61 and NSF 372 are allowed for use in potable water systems.

Pressure testing with Smart Connect: Unpressed connections are located by pressurizing the system with air or water. When testing with water the proper pressure range is 15 psi to 85 psi. When testing with compressed air the proper pressure range is ½ psi to 45 psi maximum. If testing with compressed air, use an approved leakdetect solution. Following a successful pressure test, the system may be pressure tested up to 200 psi with air or up to 600 psi with water.

Testing for unpressed connections using Smart Connect is not a replacement for pressure testing requirements of local codes and standards.



## Product Instructions ProPress Ball Valves 21/2" to 4"

For Hard Copper Tubing





В

- 1 Cut copper tubing at right angles using displacement-type cutter or fine-toothed steel saw.
- **2** Keep end of tubing a minimum of 4" away from the contact area of the vise to prevent possible damage to the tubing in the press area.
- **3** Remove burr from inside and outside of tubing to prevent cutting sealing element.

For applications requiring a different sealing elements, remove the factory installed sealing element and replace with the applicable sealing element. See Changing Sealing elements Product Instructions on the viega.us website.

- 4 Check seal and grip ring for correct fit. Ensure sealing element is free of cuts and damage. Do not use oils or lubricants.
- **5** Illustration demonstrates proper fit of grip ring, separation ring and sealing element.

ProPress 21/2" to 4" Insertion Depth Chart									
Tube Size	Tube Size         2½"         3"         4"								
Insertion Depth	<b>1</b> <sup>11</sup> / <sub>16</sub> "	<b>1</b> <sup>15</sup> / <sub>16</sub> "	2%"						

- Copper tubing must be free of surface imperfections, including metal stamped print lines, before a ProPress fitting is installed.
- 6 Mark proper insertion depth as indicated by the ProPress 21/2" to 4" Insertion Depth Chart. Improper insertion depth may result in an improper seal.
- 7 While turning slightly, slide press fitting onto tubing to the marked depth. End of tubing must contact stop.
- 8 ProPress 21/2" to 4" fitting connections must be performed with rings that are compatible with fittings. See Tool Operator's Manual for proper tool instructions.

the fitting bead. Check insertion depth.

#### CAUTION!

Use only rings that are compatible with ProPress 21/2" to 4" fittings.

- Use of incompatible rings will result in an improper connection.
- Do not mix actuators and rings from different manufacturers.
- Do not use rings intended for 21/2" to 4" Bronze fittings.
- **10** With V2 actuator inserted into the tool, open the V2 actuator as shown and connect V2 actuator to the XL-C ring.
- **11** Place V2 actuator onto XL-C ring and start pressing process. Hold the trigger until the actuator has engaged the XL-C ring. Keep extremities and foreign objects away from XL-C ring and V2 actuator during pressing operation to prevent injury or incomplete press.



Keep extremities and foreign objects away from press tool during pressing operation to prevent injury or incomplete press.

12 Release V2 actuator from XL-C ring and then remove the XL-C ring from the fitting on completion of press. Remove tag from fitting, indicating press has been performed.





Only ball valves marked with NSF-61 and NSF 372 are allowed for use in potable water systems.

#### CAUTION!

Pipe wrench flats are not allowed on the valve body, the press ends, or any other piece. Do not clamp the ball valve in a vice.

- 13 A Vertical clearance
  - B Horizontal clearance
  - C Minimum clearance between 2 ball valves
  - D Minimum clearance between 2 ball valves, handles facing each other

Ball Valve	a for A, B, C	a for A, B, C	a for D	a for D
21⁄2"	13"	330 mm	23.6"	600 mm
3"	13"	330 mm	23.6"	600 mm
4"	13"	330 mm	23.6"	600 mm

Viega recommends providing pipe hangers with a distance of 6" to 8" in front of and behind the press connections or in accordance with local codes.

## CAUTION!

Ball valves are to be used in only the fully closed or fully opened position.

#### Pressure Testing with Smart Connect

Unpressed connections are located by pressurizing the system with air or water. When testing with water the proper pressure range is 15 psi to 85 psi. When testing with compressed air the proper pressure range is 1/2 psi to 45 psi maximum. If testing with compressed air, use an approved leak-detect solution. Following a successful pressure test, the system may be pressure tested up to 200 psi with air or up to 600 psi with water.



Testing for unpressed connections using Smart Connect is not a replacement for pressure testing requirements of local

#### CAUTION!

The use of ProPress ball valves for applications other than those listed in the approved Application Chart must be approved by the Viega Technical Services Department.

#### CAUTION!

Additional protection or coating may be necessary for applications that deviate from the general descriptions or for special ambient conditions. Please consult Viega Technical Service.



## Product Instructions **ProPress Strainer Valve**

Models 2981.1ZL and 2981.1XL



7 While turning slightly, slide valve onto tubing to the marked depth. End of tubing must contact stop.

#### Warning!



Keep extremities and foreign objects away from press tool during pressing operation to prevent injury or incomplete press.

#### Pressing 1/2" to 2" Valves

- 8a Insert appropriate Viega ProPress jaw into the press tool and push in, holding pin (1) until it locks in place.
- 8b Open the jaw and place at right angle on the valve. Visually check insertion depth using mark on tubing.
- 8c Hold trigger on press tool until press jaws have fully engaged the valve.
- 8d After pressing, open the jaw and remove the press tool. Repeat steps for the other end of the valve.



Read and understand all instructions for installing Viega ProPress fittings. Failure to follow all instructions may result in extensive property damage, serious injury, or death.



Only valves marked with NSF-61 and NSF-372 are allowed for use in potable water systems.

#### Install

- 1 Cut copper tubing square using
- displacement-type cutter or fine-toothed saw. 2 Cut tubing a minimum of 4" away from the
- contact area of the vise to prevent possible damage to the tubing in the press area.
- 3 Remove burr from inside and outside of tubing and prep to proper insertion depth using a preparation tool or fine grit sandpaper.
- 4 Check the sealing element for correct fit. Do not use oils or lubricants.
- 5 Mark proper insertion depth as indicated by the Viega ProPress Insertion Depth Chart. Improper insertion depth may result in improper seal. It is recommended that the

depth marking be visible on the completed assembly. Make sure the flow direction indicator on the valve is facing the correct direction.

Vi	Viega ProPress Insertion Depth Chart								
Tube Size	1⁄2"	3⁄4"	1"	11⁄4"	11⁄2"	2"	21⁄2"	3"	4"
Insertion Depth	3⁄4"	7⁄8"	7⁄8"	1"	17⁄16"	1%16"	111/16"	1 <sup>15</sup> ⁄16"	2%"



imperfections, including metal stamped print lines, before a ProPress valve is installed.

6 Refer to the following chart for minimum distance between fittings. To ensure a correct press, a minimum distance between press fittings must be maintained. Failure to provide this distance may result in an improper seal.

Tube Diameter (in)	d (in)	d (mm)
1/2	0	0
3/4	0	0
1	0	0
11⁄4	7⁄16	10
1½	5⁄8	15
2	3⁄4	20
21/2	5⁄8	15
3	5⁄8	15
4	5/8	15



#### Pressing 21/2" to 4" Valves

- **9a** ProPress 2½" to 4" connections must be performed with rings that are compatible. Do not mix actuators and rings from different manufacturers.
- **9b** Open XL-C ring and place at right angles on the fitting. XL-C ring must be engaged on the fitting bead. Check insertion depth.
- **9c** With V2 actuator inserted into the tool, open the V2 actuator as shown and connect V2 actuator to the XL-C ring.
- **9d** Hold the trigger until the V2 actuator has fully engaged the XL-C ring. Keep extremities and foreign objects away from XL-C ring and V2 actuator during pressing operation to prevent injury or incomplete press. Release V2 actuator from XL-C ring and then remove the XL-C ring from the fitting on completion of press.

#### Maintenance

- **10** To replace strainer, twist the knob counterclockwise until lid screws off.
- **11** Remove strainer and debris and clean the strainer before reinstalling.
- 12 Double check the gasket on the cap, as well as the sealing surface on the valve. Screw lid back on in a clockwise motion either by hand or with a wrench.



Viega Butterfly Valve Models 2979.8ZL, 5179.8, and 2979.88





## Product Instructions ProPress Butterfly Valve Model 2873.81





- Ensure the flange face as well as the Butterfly Valve sealing surface are clean and free of debris and valve is in the near closed position.
- Place the Butterfly Valve between the flanges. Use the flange bolts to align and center valve between the flanges.
- 3 Install flat washers on each bolt and tighten nuts to "finger tight".
- 4 Install Butterfly Valve handle by placing the handle over the stem and pushing the handle completely onto the stem.
- 5 Tighten handle set screw.
- 6 Open valve to full open position. Tighten to the recommended maximum bolt torque in the table below.
- 7 Position the Butterfly Valve in the required operating position by using the spring loaded locking indicator on the valve handle.







Part No.	Size (in)	Bolt Dimensions (in)	Recommended Max. Bolt Torque (ft/lbs)
22074	2½	% x 1½ (4 per flange)	
22075	3	% x 1% (4 per flange)	75
22076	4	% x 1¾ (8 per flange)	

When using flanges other than Viega ProPress Adapter Flanges, bolt length requirements may vary.



The Viega ProPress Butterfly Valve is designed to be installed as an in-line or end-line valve.



Wafer Check Valve Models 2974.3XL, 5174XL, and 5974XL







Only valves marked with NSF-61 and NSF-372 are allowed for use in potable water systems.



Only the wafer check valve is included in the package; all other parts needed for assembly are not included.



These instructions show how to install the valve with Viega products. They do not show any third-party products.

Cracking pressures for wafer check valves: 2% - 0.032 psi

- **3** 0.030 psi
- **4** 0.026 psi

DANGER! Read and understand all instructions for installing Viega ProPress fittings. Failure to follow all instructions may result in extensive property damage, serious injury, or death.

- Take the valve out of the packaging and check the sealing surfaces. If cleaning is necessary, use a suitable tool to avoid damaging the sealing surfaces.
- 2 To install the valve with Viega products, you will need the following products/tools:
  - 1 Viega wafer check valve (included)
  - 2 Viega flange adapters (ProPress or MegaPress)
  - 3 Seals for flange connections
  - 4 Nuts for threaded rod
  - 5 Threaded rod
  - 6 Washer for threaded rod
- 3 Make sure that the flange with the seals and the valve are assembled properly. The center axes should lie on top of each other.
- Insert the threaded rods through the holes provided in the flange. The threaded rods should all be shortened by one length for this purpose.
- 5 Screw the nuts with the washers onto the threaded rods as far as you can using handtightening or a suitable tool. Make sure that the nuts are tightened crosswise. An initial torque of 50 Nm should be assumed. If leaks do occur, the torque can be increased crosswise until there are no more leaks.

- 6 Check flow direction on valve before installing.
- **7** For vertical installation, it is essential to ensure that the flow direction is from bottom to top.
- 8 In horizontal installation positions, the hinge pin must remain in a vertical orientation.
- **9** The distances to walls and identical valves can be found in following the table:

Size (in)	Wall feed- through (in)	Wall distance (in)	Distance between valves (in)			
ProPr	ess (2974.3XL	.)				
21/2	4.72	6.30	9.45			
3	5.12	7.48	11.22			
4	5.51	8.86	13.31			
Megal	MegaPress (5174XL), MegaPress 316 (5974XL)					
21/2	5.91	6.30	9.45			
3	6.89	7.48	11.22			
4	7.28	8.86	13.31			



ProPress Manual Balancing Valve  $\frac{1}{2}$ " to 2" For Hard Copper Tubing in  $\frac{1}{2}$ " to 2" and Soft Copper Tubing in  $\frac{1}{2}$ " to 1<sup>1</sup>/<sub>4</sub>"





1 Cut copper tubing square using displacementtype cutter or fine-toothed saw.

Cut tubing a minimum of 4" away from the contact area of the vise to prevent possible damage to the tubing in the press area.

2 Remove burr from inside and outside of tubing to prevent cutting the sealing element.



- Check the sealing element for correct fit. Do not use oils or lubricants. Use only Viega ProPress sealing elements.
- 4 Mark the proper insertion depth as indicated by the ProPress Insertion Depth Chart. Improper insertion depth may result in an improper seal.

ProPress Insertion Depth Chart Tube Size (in) Insertion Depth (in)					
1/2	3⁄4				
3⁄4	7⁄8				
1	7⁄8				
1¼	1				
1½	<b>1</b> 7⁄16				
2	<b>1</b> % <sub>16</sub>				



- 5 While turning slightly, slide ball valve onto tubing to the marked depth. End of tubing must contact stop. Ensure the indication arrow on the body matches the correct flow direction of the system.
- 6 Insert appropriate Viega ProPress jaw into the press tool and push in, holding pin until it locks in place.
- 7 Open the jaw and place at right angle on the valve. Visually check insertion depth using mark on tubing.

Warning! Keep extremities and foreign objects away from press tool during pressing operation to prevent injury or incomplete press.

- 8 Hold trigger on press tool until press jaws have fully engaged the valve. Jaws will automatically release after a full press is made.
- **9** After pressing, open the jaw and remove the press tool.

Only ball valves marked with NSF-61 and NSF 372 are allowed for use in potable water systems.

#### **10** Pressure testing with Smart Connect:

Unpressed connections are located by pressurizing the system with air or water. When testing with water the proper pressure range is 15 psi to 85 psi. When testing with compressed air the proper pressure range is ½ psi to 45 psi maximum. If testing with compressed air, use an approved leak-detect solution. Following a successful pressure test, the system may be pressure tested up to 200 psi with air or up to 600 psi with water.



Do not remove model from packaging prior to installation. Valves are delivered in the fully open position. More detailed information about flow and settings in the technical documentation.



ProPress Dynamic Balancing Valve Model 2981.7 For Hard Copper Tubing in  $\frac{1}{2}$ " to 2" and Soft Copper Tubing in  $\frac{1}{2}$ " to 1<sup>1</sup>/<sub>4</sub>"



Viega products are designed to be installed by licensed and trained plumbing and mechanical professionals who are familiar with Viega products and their installation. Installation by non-professionals may void Viega LLC's warranty.

#### DANGER!

Read and understand all instructions for installing Viega ProPress fittings. Failure to follow all instructions may result in extensive property damage, serious injury, or death.



Only valves marked with NSF-61 and NSF-372 are allowed for use in potable water systems.

- 1 Cut copper tubing square using displacement-type cutter or fine-toothed saw.
- 2 Cut tubing a minimum of 4" away from the contact area of the vise to prevent possible damage to the tubing in the press area.
- 3 Remove burr from inside and outside of tubing and prep to proper insertion depth using a preparation tool or fine grit sandpaper.
- 4 Check the sealing element for correct fit. Do not use oils or lubricants. Ensure the indication arrow on the valve body matches the correct flow direction of the system.

**5** Mark proper insertion depth as indicated by the Viega ProPress Insertion Depth Chart. Improper insertion depth may result in improper seal. It is recommended that the depth marking be visible on the completed assembly. Make sure the flow direction indicator on the valve is facing the correct direction.

Viega ProPress	Insertion	Depth	Chart
----------------	-----------	-------	-------

Tube Size	1⁄2"	3⁄4"	1"	1¼"	1½"	2"
Insertion Depth	3⁄4 "	7⁄8"	7⁄8"	1"	<b>1</b> %16"	<b>1</b> %16"

6 Refer to the chart below for minimum distance between fittings. To ensure a correct press, a minimum distance between press fittings must be maintained. Failure to provide this distance may result in an improper seal.

Tube Diameter (in)	d (in)	d (mm)
1/2	0	0
3⁄4	0	0
1	0	0
1¼	7⁄16	10
1½	5⁄8	15
2	3⁄4	20

Copper tubing must be free of surface imperfections, including metal stamped print lines, before a ProPress valve is installed.

- 7 While turning slightly, slide valve onto tubing to the marked depth. End of tubing must contact stop.
- 8 Insert appropriate Viega ProPress jaw into the press tool and push in, holding pin until it locks in place.

#### WARNING!

Keep extremities and foreign objects away from press tool during pressing operation to prevent injury or incomplete press.

- 9 Open the jaw and place at right angle on the valve. Visually check insertion depth using mark on tubing.
- **10** Hold trigger on press tool until press jaws have fully engaged the valve.
- After pressing, open the jaw and remove the press tool. Repeat steps for the other end of the valve.



ProPress Pressure Independent Balancing and Control Valve (PIBCV) Models 2981.71 and 2987.72 For Hard Copper Tubing in 1/2" to 2" and Soft Copper Tubing in 1/2" to 11/4"



Viega products are designed to be installed by licensed and trained plumbing and mechanical professionals who are familiar with Viega products and their installation. Installation by non-professionals may void Viega LLC's warranty.

#### DANGER!

Read and understand all instructions for installing Viega ProPress fittings. Failure to follow all instructions may result in extensive property damage, serious injury, or death.



Only valves marked with NSF-61 and NSF-372 are allowed for use in potable water systems.

- 1 Cut copper tubing square using displacement-type cutter or fine-toothed saw.
- 2 Cut tubing a minimum of 4" away from the contact area of the vise to prevent possible damage to the tubing in the press area.
- 3 Remove burr from inside and outside of tubing and prep to proper insertion depth using a preparation tool or fine grit sandpaper.

- 4 Check the sealing element for correct fit. Do not use oils or lubricants.
- 5 Mark proper insertion depth as indicated by the Viega ProPress Insertion Depth Chart. Improper insertion depth may result in improper seal. It is recommended that the depth marking be visible on the completed assembly. Ensure the indication arrow on the valve body matches the correct flow direction of the system.

Viega ProPress Insertion Depth Chart							
Tube Size	1⁄2"	3⁄4 "	1"	1¼"	1½"	2"	
Insertion Depth	3⁄4 "	7⁄8"	7⁄8"	1"	17⁄16"	1%16"	

6 Refer to the chart below for minimum distance between fittings. To ensure a correct press, a minimum distance between press fittings must be maintained. Failure to provide this distance may result in an improper seal.

Tube Diameter (in)	d (in)	d (mm)
1/2	0	0
3⁄4	0	0
1	0	0
1¼	7⁄16	10
1½	5⁄8	15
2	3⁄4	20



Copper tubing must be free of surface imperfections, including metal stamped print lines, before a ProPress valve is installed.

- 7 While turning slightly, slide valve onto tubing to the marked depth. End of tubing must contact stop.
- 8 Insert appropriate Viega ProPress jaw into the press tool and push in, holding pin until it locks in place.

#### WARNING!

Keep extremities and foreign objects away from press tool during pressing operation to prevent injury or incomplete press.

- 9 Open the jaw and place at right angle on the valve. Visually check insertion depth using mark on tubing.
- **10** Hold trigger on press tool until press jaws have fully engaged the valve.
- After pressing, open the jaw and remove the press tool. Repeat steps for the other end of the valve.



ProPress Three-Way Valve Model 2976.3

For Hard Copper Tubing in  $1\!\!\!/ 2"$  to 2" and Soft Copper Tubing in  $1\!\!\!/ 2"$  to  $11\!\!\!/ 4"$ 





Viega products are designed to be installed by licensed and trained plumbing and mechanical professionals who are familiar with Viega products and their installation. Installation by non-professionals may void Viega LLC's warranty.



#### Read and understand all

**ProPress fittings.** Failure to follow all instructions may result in extensive property damage, serious injury, or death.



Only valves marked with NSF-61 and NSF-372 are allowed for use in potable water systems.

- 1 Cut copper tubing square using displacement-type cutter or fine-toothed saw.
- 2 Cut tubing a minimum of 4" away from the contact area of the vise to prevent possible damage to the tubing in the press area.
- 3 Remove burr from inside and outside of tubing and prep to proper insertion depth using a preparation tool or fine grit sandpaper.

- 4 Valve comes with unassembled union tailpieces. Place required gasket between union end and valve.
- 5 Assemble union tailpieces using an adjustable wrench. Recommend tightening torque of 60Nm for the ½" unions and 80Nm for the unions from ¾" to 2".
- 6 Check the sealing element for correct fit. Do not use oils or lubricants.
- 7 Mark proper insertion depth as indicated by the Viega ProPress Insertion Depth Chart. Improper insertion depth may result in improper seal. It is recommended that the depth marking be visible on the completed assembly.

Viega ProPress Insertion Depth Chart						
Tube Size	1⁄2"	3⁄4"	1"	1¼"	1½"	2"
Insertion Depth	3⁄4"	7⁄8"	7⁄8"	1"	<b>1</b> 7⁄16"	<b>1</b> %16"

Copper tubing must be free of surface imperfections, including metal stamped print lines, before a ProPress valve is installed.

8 Refer to the following chart for minimum distance between fittings. To ensure a correct press, a minimum distance between press fittings must be maintained. Failure to provide this distance may result in an improper seal.

Tube Diameter (in)	d (in)	d (mm)
1/2	0	0
3⁄4	0	0
1	0	0
1¼	7⁄16	10
1½	5/8	15
2	3⁄4	20

- While turning slightly, slide valve onto tubing to the marked depth. End of tubing must contact stop.
- 10 Insert appropriate Viega ProPress jaw into the press tool and push in, holding pin until it locks in place.

#### WARNING!

Keep extremities and foreign objects away from press tool during pressing operation to prevent injury or incomplete press.

- Open the jaw and place at right angle on the valve. Visually check insertion depth using mark on tubing.
- **12** Hold trigger on press tool until press jaws have fully engaged the valve.
- **13** After pressing, open the jaw and remove the press tool. Repeat steps for the remaining unions.
## 3 Limited Warranty Viega ProPress Fitting and Valves

Subject to the conditions and limitations in this Limited Warranty, Viega LLC (VIEGA) warrants to end users, installers, and distribution houses in the United States and Canada, that its ProPress fittings with application appropriate sealing element and when properly installed in non-industrial and non-marine applications and under specified operating conditions of use, will be free of failure caused by manufacturing defect for a period of fifty (50) years from date of installation and that its ProPress valves, when properly installed in non-industrial and non-marine applications and under normal conditions of use, will be free of failure caused by manufacturing defect for a period of five (5) years from date of installation.

Under this Limited Warranty, you only have a right to a remedy if the failure or leak resulted from a manufacturing defect in the Viega product covered by this warranty and the failure or leak occurred during the warranty period. You do not have a remedy under this warranty and the warranty does not apply if the failure or any resulting damage is caused by (1) components other than those manufactured or sold by Viega; (2) not designing, installing, inspecting, testing, or maintaining the Viega product in accordance with Viega's installation instructions and other specifications in effect at the time of the installation; applicable code requirements; and accepted industry practice; (3) use of the Viega product under non-recommended system operating conditions; improper handling and protection of the Viega product prior to, during, and after installation; inadequate freeze protection; and exposure to environmental conditions, water pressures, temperatures, or applications outside acceptable operating conditions; (4) acts of nature, such as, but not limited to, earthquakes, fire, flood, lightning, or weather damage, or (5) external environmental causes, such as water quality variations, aggressive water, or other external chemical or physical conditions.

In the event of a leak or other failure of the parts covered by this warranty, it is the responsibility of the end user to take appropriate measures to mitigate any damage, to include making timely repairs. Only if the warranty applies will Viega be responsible for the remedy under this warranty. The part or parts which you claim failed should be kept and Viega contacted by writing to the address below or telephoning 1-800-976-9819 within thirty (30) days after the leak or other failure and identifying yourself as having a warranty claim. You should be prepared to ship, at your expense, the product which you claim failed due to a manufacturing defect, and document the date of installation and the amount of the repair or replacement if performed by you. Within a reasonable time after receiving the product, Viega will investigate the reasons for the failure, which includes the right to inspect the product at a Viega location and reasonable access to the site of damage. Viega will notify you in writing of the results of its review.

In the event that Viega determines that the failure or leak was the result of a manufacturing defect in the Viega product covered by this warranty and that this warranty applies, the EXCLUSIVE AND ONLY REMEDY under this warranty shall be the reimbursement for reasonable charges for repair or replacement of the Viega product itself. VIEGA SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR OTHER DAMAGE (FOR EXAMPLE, ECONOMIC LOSS, WATER OR PROPERTY OR MOLD REMEDIATION) UNDER ANY LEGAL THEORY AND WHETHER ASSERTED BY DIRECT ACTION, FOR CONTRIBUTION OR INDEMNITY OR OTHERWISE.

THE ABOVE WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Other than this Limited Warranty, Viega does not authorize any person or firm to create for it any other obligation or liability in connection with its products.

This Limited Warranty gives you specific legal rights and you also may have other rights which may vary from state to state. This warranty shall be interpreted and applied under the law of the state in which the product is installed and is intended as a COMMERCIAL WARRANTY.

Viega LLC 585 Interlocken Blvd. Broomfield, CO 80021

Phone (800) 976-9819 www.viega.us