Tech Data

Viega ProPress® Pressure Independent Balancing and Control Valve (PIBCV)

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.

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 to 250°F
- Max Pressure Differential: 116 psid

This document is subject to updates. For the most current Viega technical literature, please visit www.viega.us.

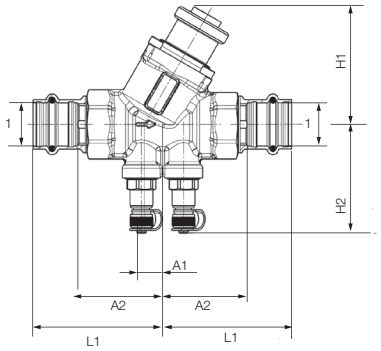
Viega products are designed to be installed by licensed and trained plumbing and mechanical professionals who are familiar with Viega products and their installation. **Installation by non-professionals may void Viega LLC's warranty.**

Component	Material
Body	DZR Brass CW602N (½" to 1¼"), Ductile Iron (1½" to 2")
Spring	Stainless Steel
Diaphragm	HNBR
Sealing Element	EPDM

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

Viega ProPress Pressure Independent Balancing and Control Valve - Models 2981.71 / 2987.72



Part No. 2981.71	Part No. 2987.72	Size (in) 1	H1 (in)	H2 (in)	L1 (in)	A1 (in)	A2 (in)	Flow Range (GPM)	Cv (US gal/min)
87365	89925	½	2.44	2.24	2.40	0.39	1.58	0.26 - 4.75	3.02
87370	89930	¾	2.64	2.24	2.68	0.39	1.77	0.45 - 8.50	3.02
87375	89935	1	2.76	2.32	2.84	0.39	1.93	0.60 - 10.57	4.87
87380	89940	1¼	3.35	2.68	3.31	0.55	2.28	0.88 - 22.01	12.65
87385	89945	1½	5.63	2.80	4.25	0.83	2.84	3.17 - 32.58	20.88
87390	89950	2	5.63	3.03	4.53	0.83	2.95	3.96 - 45.57	23.55

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.

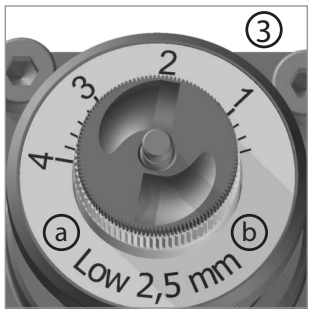
The presetting of the dial is user-friendly requiring only a simple flow vs. presetting graph. Once the flow is set, the actuator can be mounted and the valve ready to operate.

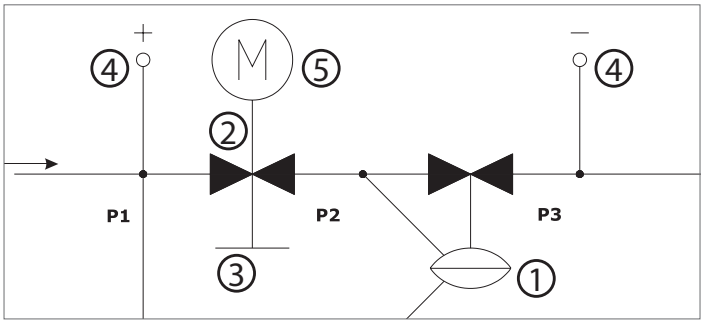
For lowest energy consumption, check the differential pressure at the index valve to set the pump at minimum speed.

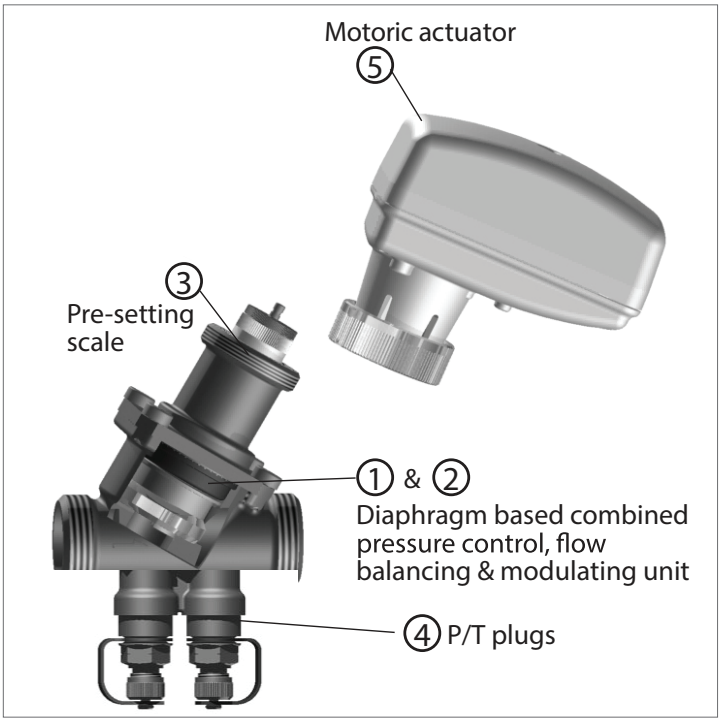
Design

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

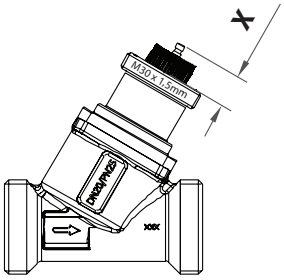






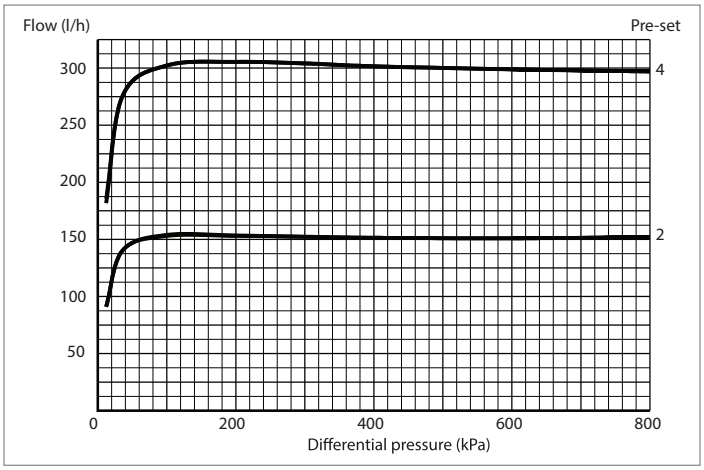
Actuator Requirements ½" to 2"

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



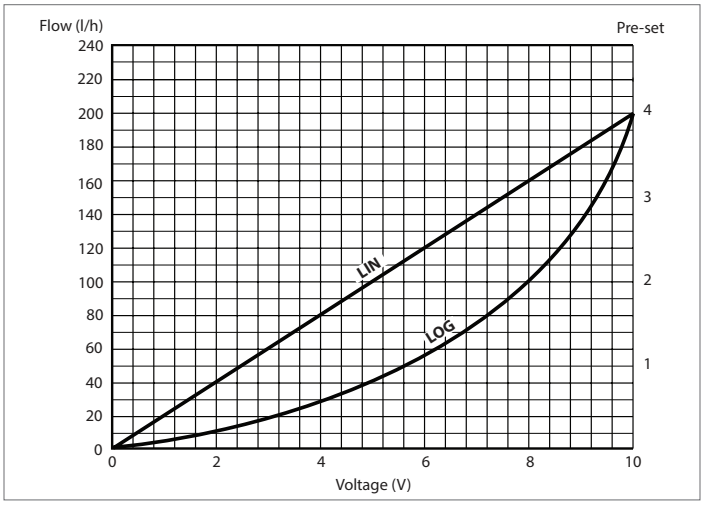
Flow Rate vs. Differential Pressure

Preset flow: 300 l/h, 150 l/h



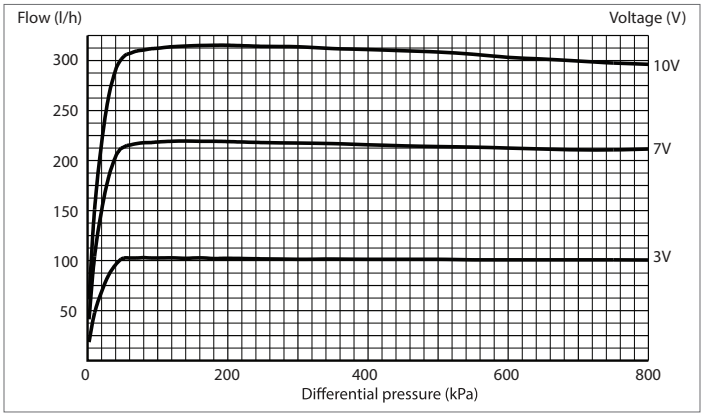
Flow Rate vs. Voltage

Preset flow: 200 l/h

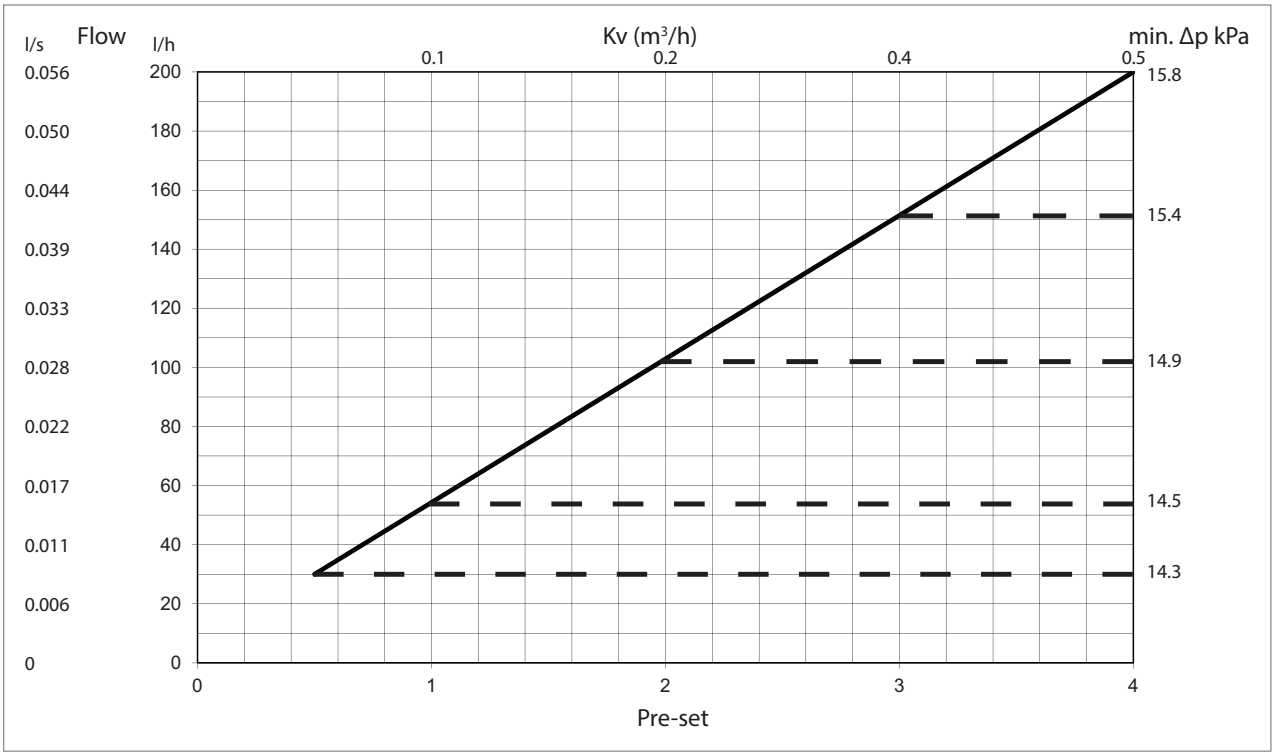


Flow Rate vs. Differential Pressure

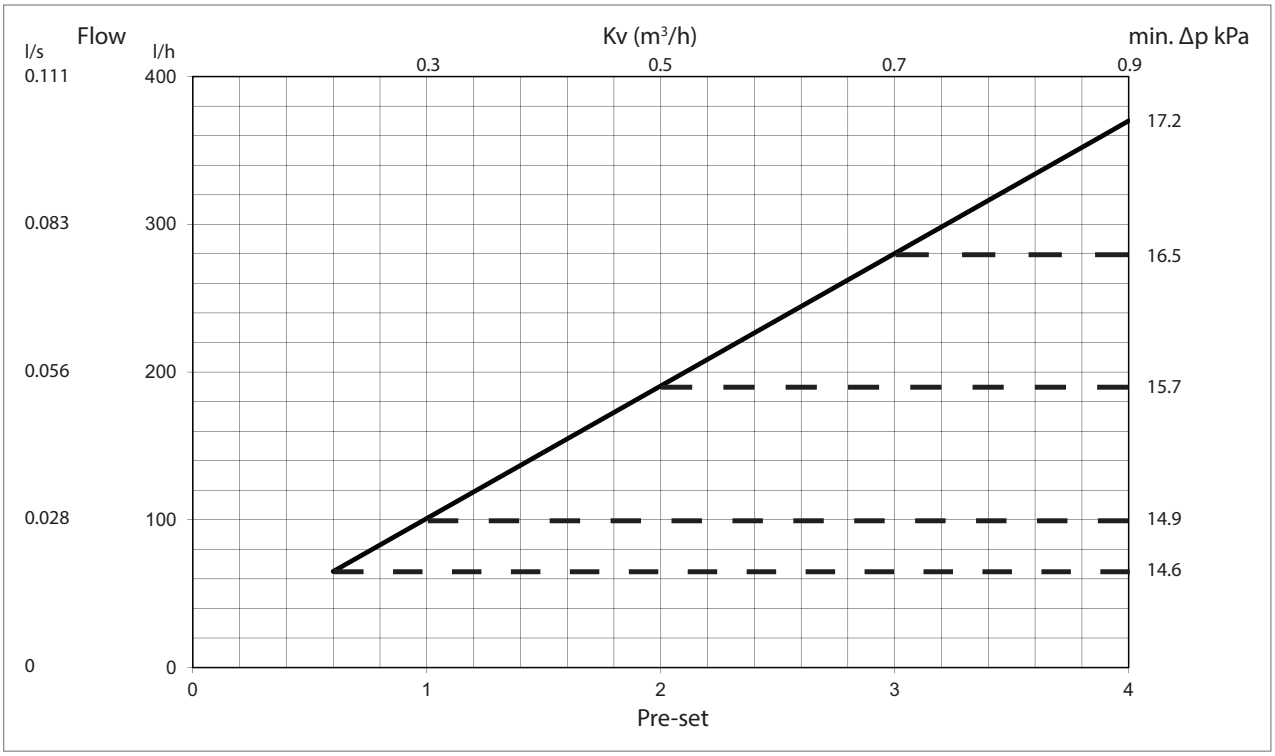
Voltage: 10V, 7V, 3V



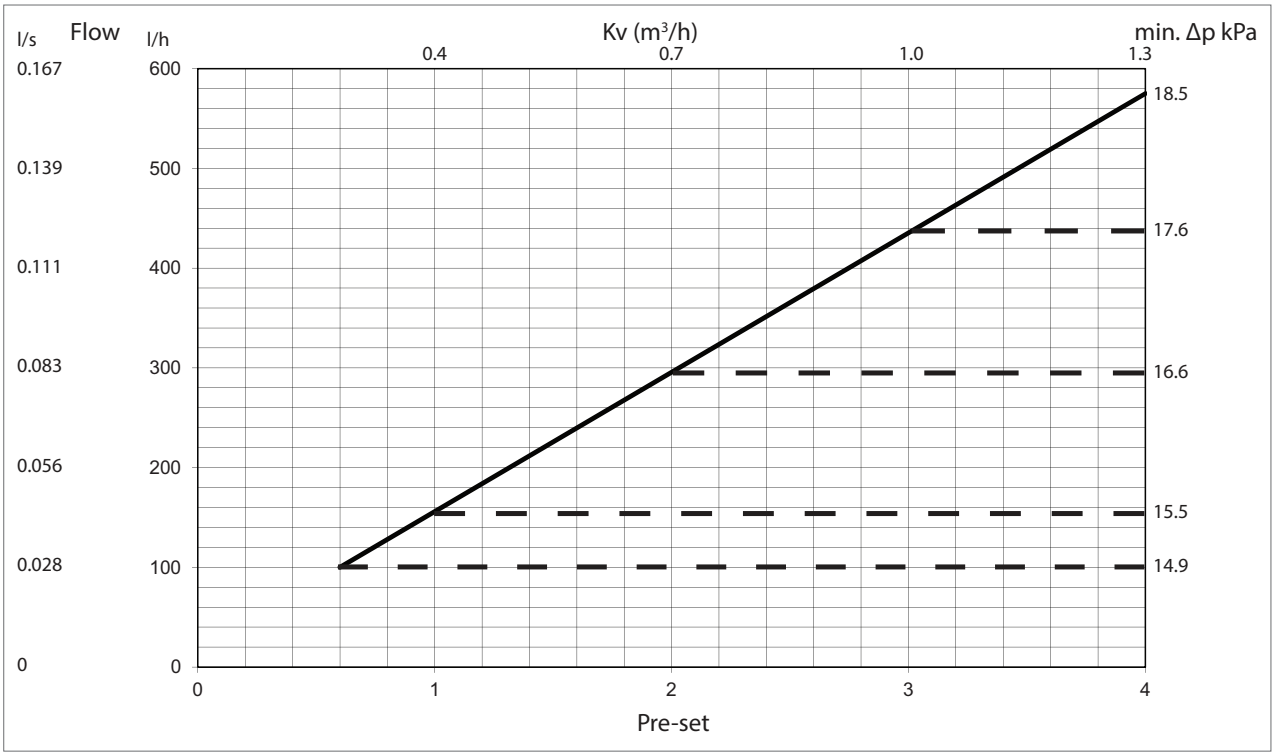
ProPress Balancing and Control Valve ½" Low 2.5



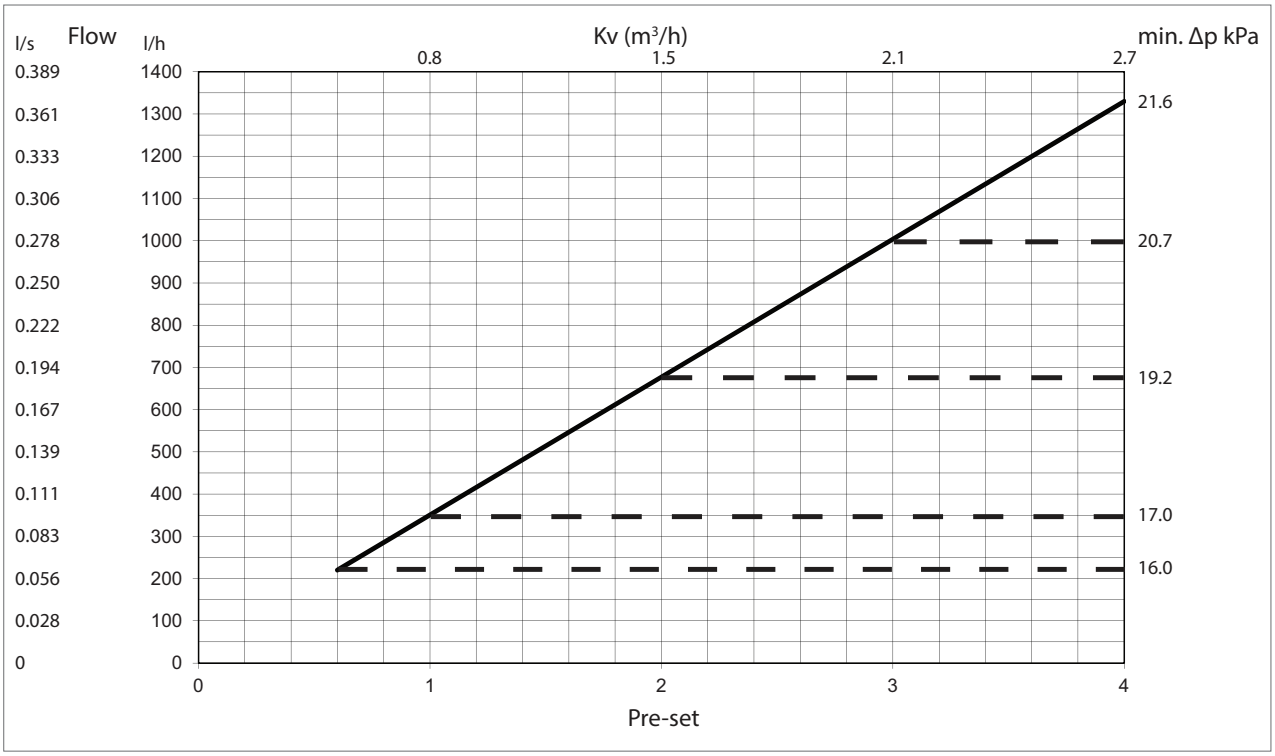
ProPress Balancing and Control Valve ½" Low 5.0



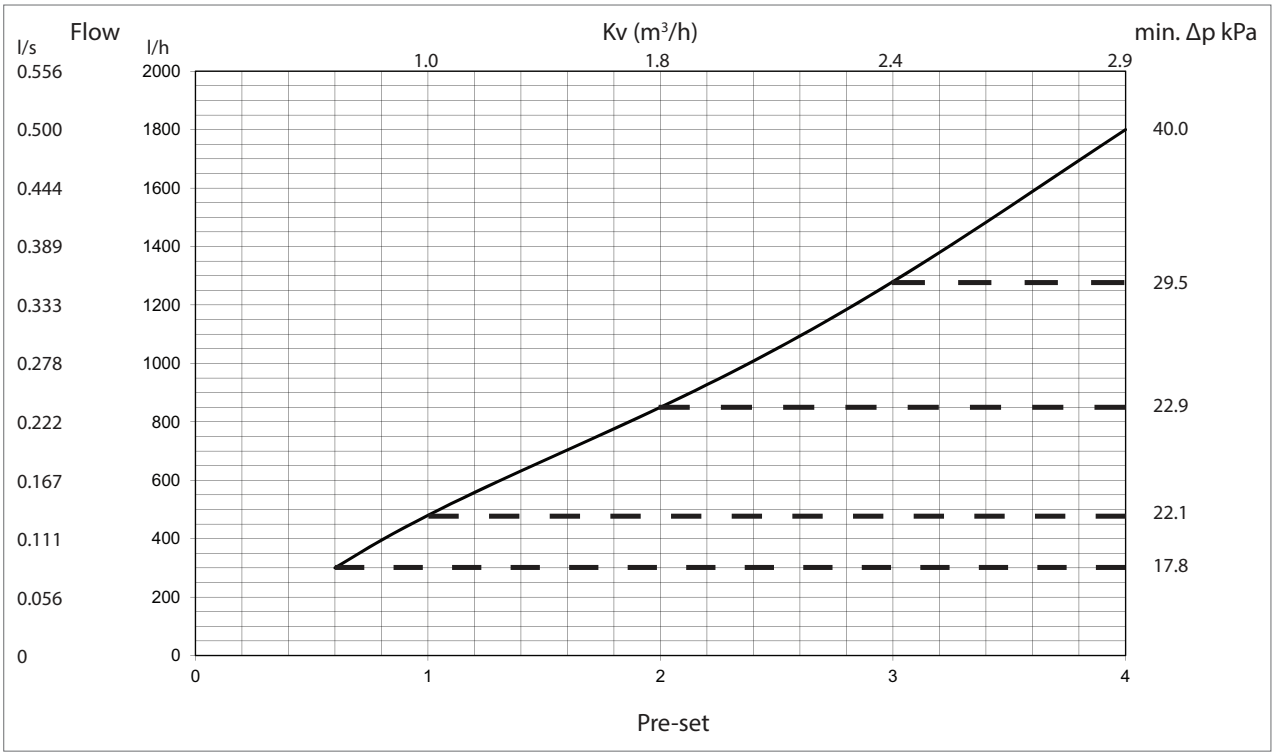
ProPress Balancing and Control Valve ½", ¾" High 2.5



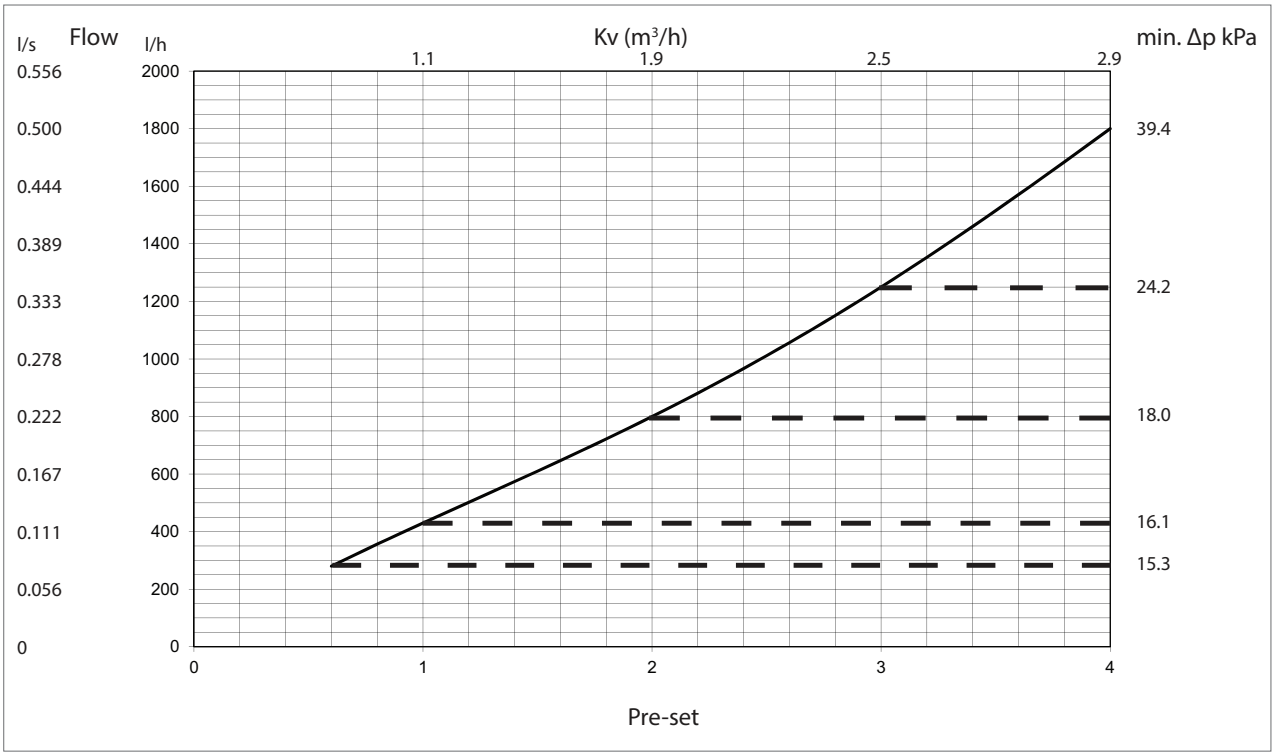
ProPress Balancing and Control Valve ½", ¾" High 5.0



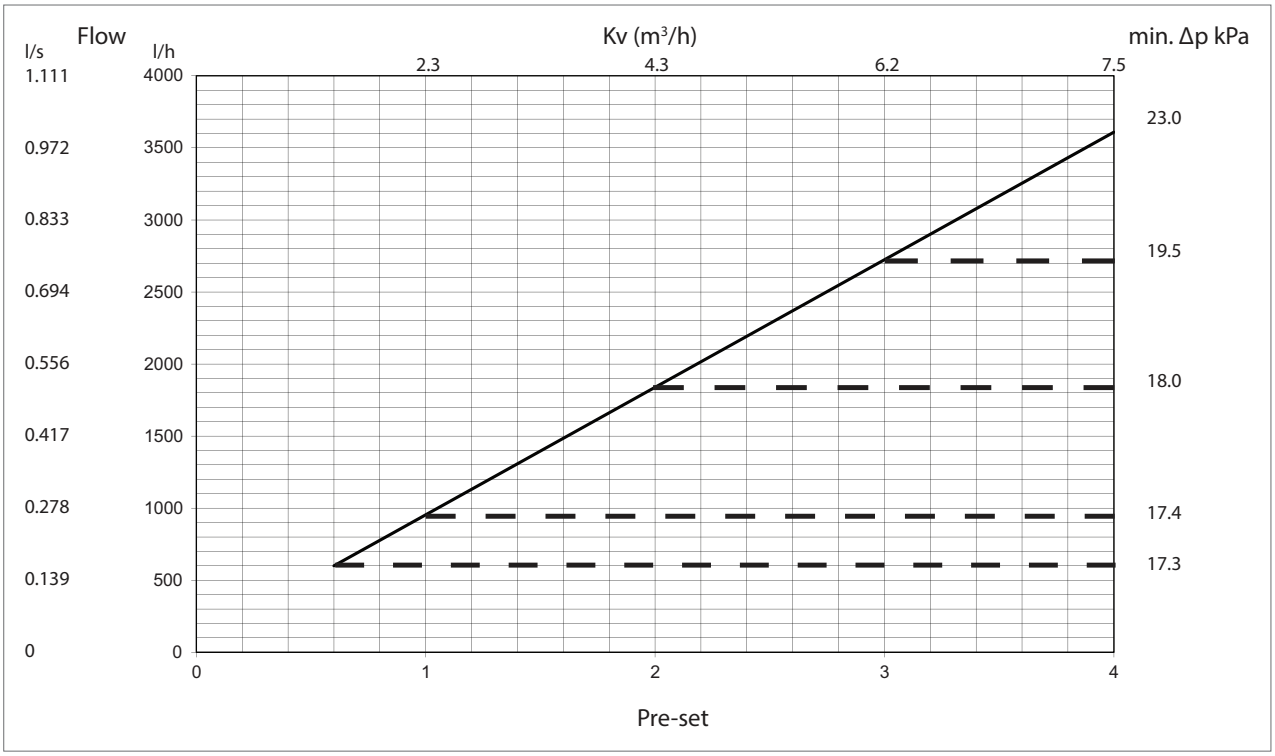
ProPress Balancing and Control Valve ¾" High 5.5



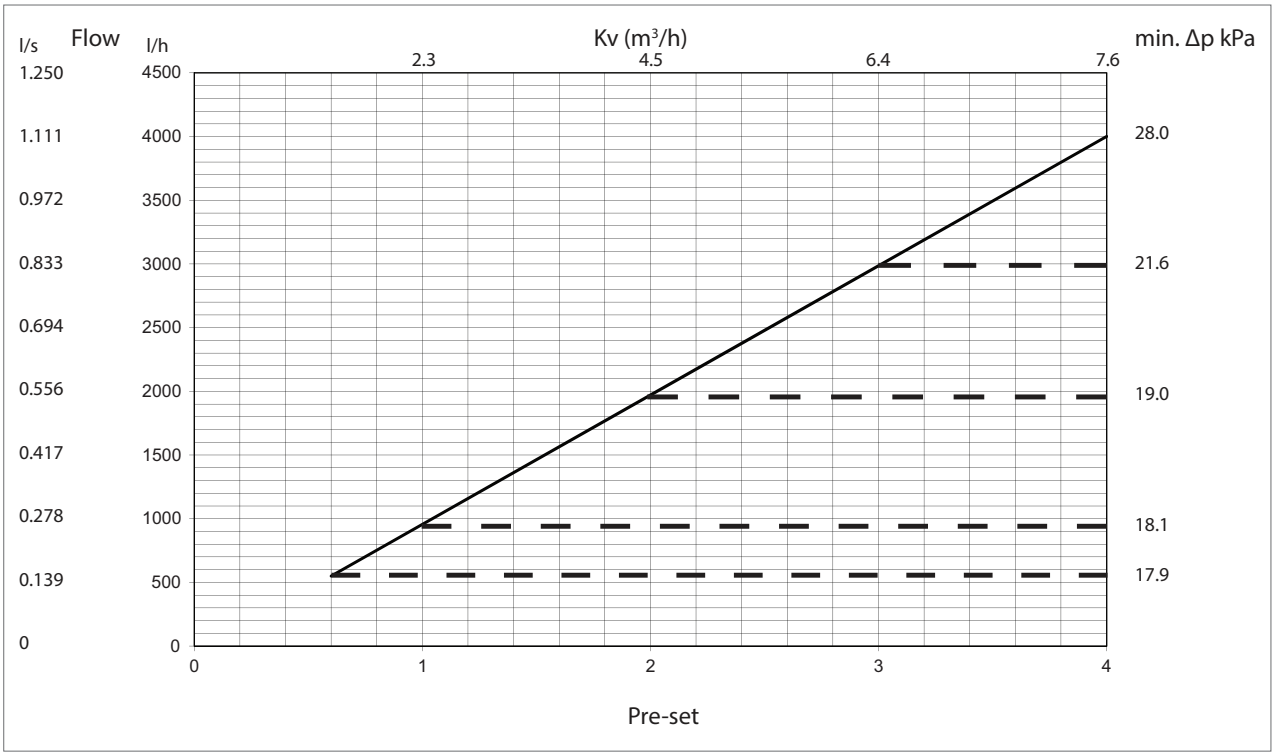
ProPress Balancing and Control Valve 1" Low 5.5



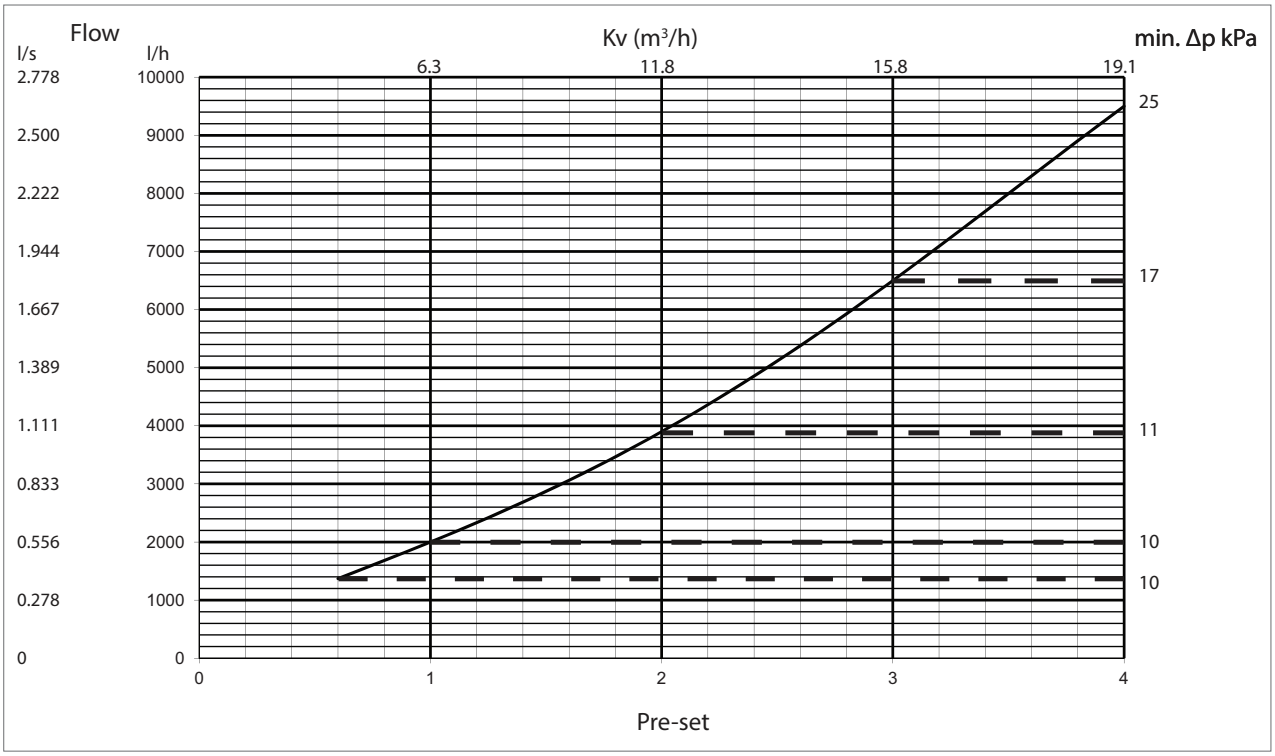
ProPress Balancing and Control Valve 1" High 5.5



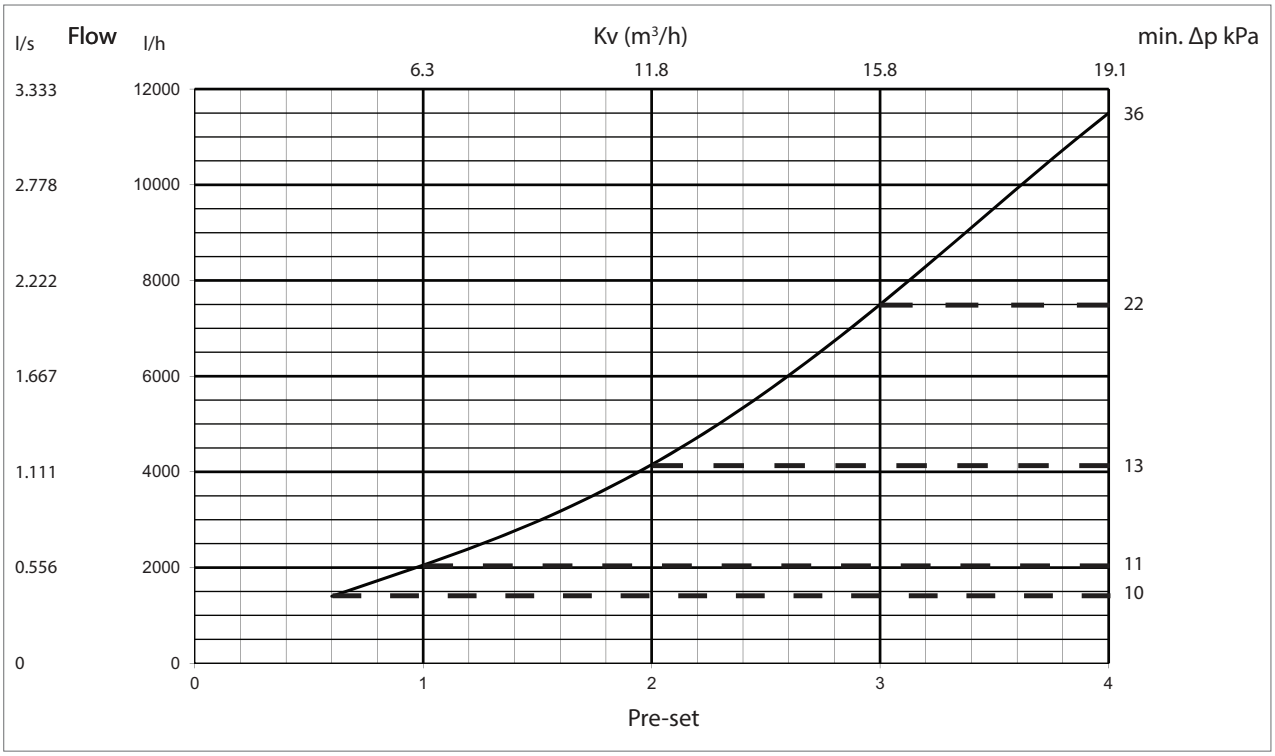
ProPress Balancing and Control Valve 1¼"



ProPress Balancing and Control Valve 1½"



ProPress Balancing and Control Valve 2"



Setting and Flow

Pres-Set	½" Flow (gpm)	¾" Flow (gpm)	1" Flow (gpm)	1¼" Flow (gpm)	1½" Flow (gpm)	2" 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

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