

VSHB series Static balancing valves

Application

Honeywell VSHB series static balancing valves can preset the flow rate accurately by rotating handwheel and working with suitable commissioning meter. Static balancing valves can achieve static hydraulic balancing of pipe system of HVAC by presetting the maximum flow rate, remove overflow and under-flow of pipes.

Honeywell VSHB series static balancing valves are typical installed in the stand pipes, branch pipes and pipes of terminal equipment of HVAC system, also can be applied to other same or similar functional requirements.

Basic technical data

PN & DN	PN16: DN50-DN500 PN25: DN15-DN50, DN65-DN500
Medium	Cold and hot water, up to 50%glycol solution
Medium temperature	-25...150°C
mail parts material	PN16: DN50-DN500 PN25: DN65-DN500 Body Nodular cast iron QT450-10 Stem Stainless steel Plug Stainless steel Handwheel Die-casting aluminum
	PN25: DN15-DN50 Body BrassHPb59-1 Stem Brass Plug Brass handwheel PA
Connection	PN25: DN15-DN50 Rp Threads (ISO7-1)
	PN16: DN50-DN500 PN25: DN65-DN500 Flanges (ISO7005-2)



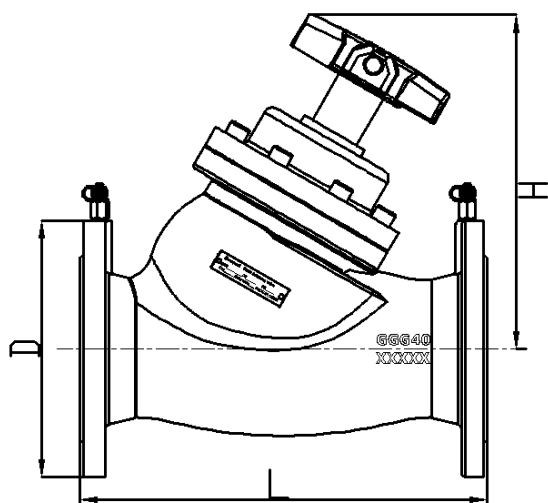
Special features

- Larger Kv design**
 Larger Kv means lower pressure drop and more energy-saving.
- Pressure balancing globe plug**
 The thrust force demand of pressure balancing globe plug is much lower, so it's easy to rotate handwheel to adjust or switch the valves, which result in easier commissioning and higher adjusting accuracy.
- Completely shut off design**
 Completely shut off design make the pipes can be shut off when test equipment or maintain pipe system.
 Large size valves have a bar connecting hole and suitable bar to achieve large size valve convenient switch and adjustment.
- Numeric handwheel**
 Numeric handwheel has number to indicate the position of plug, which result in easy reading and accurate commissioning while pipe system commissioning.
- Self-sealing testing ports**
 Self-sealing testing ports are used to connect the commissioning meter, exhaust and drain.
- Valve bodies are made of high performance materials.**
 Valve bodies are made of Nodular cast iron QT450-10.

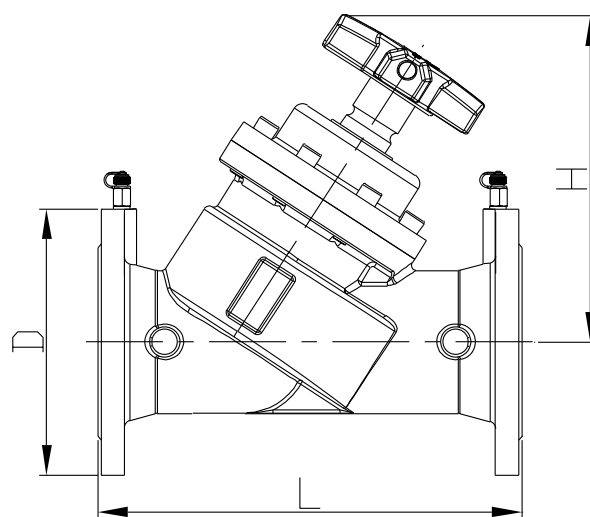
VSHB series Static balancing valves

Technical parameters

SKU	DN	PN	Connection	Kvs m ³ /h	D mm	L mm	H mm	weight kg
VSHB16F-050	DN50	16	Flanges	50	165	230	205	11
VSHB16F-065	DN65	16	Flanges	103	185	290	221	15
VSHB16F-080	DN80	16	Flanges	149	200	310	257	21
VSHB16F-100	DN100	16	Flanges	255	220	350	287	32
VSHB16F-125	DN125	16	Flanges	432	250	400	339	47
VSHB16F-150	DN150	16	Flanges	646	285	480	412	67
VSHB16F-200	DN200	16	Flanges	1067	340	600	513	138
VSHB16F-250	DN250	16	Flanges	1631	405	730	569	218
VSHB16F-300	DN300	16	Flanges	2228	460	850	650	298
VSHB16F-350	DN350	16	Flanges	3204	520	980	759	407
VSHB16F-400	DN400	16	Flanges	4850	580	1100	800	630
VSHB16F-450	DN450	16	Flanges	7033	640	1200	810	885
VSHB16F-500	DN500	16	Flanges	8485	715	1250	900	1125



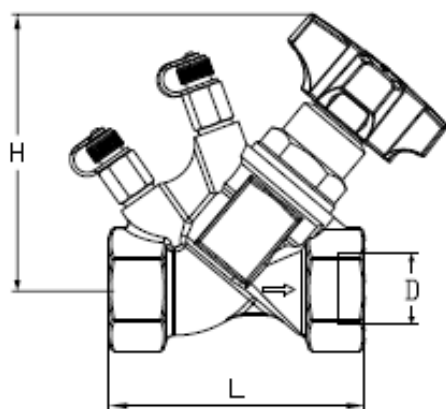
PN16: DN50-DN350



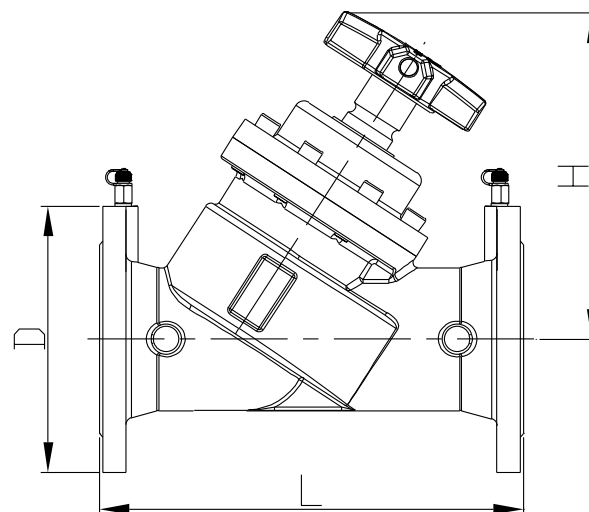
PN16: DN400-DN500

VSHB series Static balancing valves

SKU	DN	PN	Connection	Kvs m³/h	D mm	L mm	H mm	weight kg
VSHB25R-015	DN15	25	Threads	5.8	Rp1/2"	80	102	0.8
VSHB25R-020	DN20	25	Threads	8.0	Rp3/4"	85	104	0.9
VSHB25R-025	DN25	25	Threads	11	Rp1"	98	105	1.2
VSHB25R-032	DN32	25	Threads	17	Rp1-1/4"	110	115	1.6
VSHB25R-040	DN40	25	Threads	25	Rp1-1/2"	120	122	2.0
VSHB25R-050	DN50	25	Threads	34	Rp2"	150	135	3.7
VSHB25F-065	DN65	25	Flanges	107	185	290	222	15
VSHB25F-080	DN80	25	Flanges	145	200	310	257	21
VSHB25F-100	DN100	25	Flanges	259	235	350	275	32
VSHB25F-125	DN125	25	Flanges	430	270	400	332	47
VSHB25F-150	DN150	25	Flanges	647	300	480	396	67
VSHB25F-200	DN200	25	Flanges	1085	360	600	498	126
VSHB25F-250	DN250	25	Flanges	1630	425	730	555	200
VSHB25F-300	DN300	25	Flanges	2495	485	850	630	330
VSHB25F-350	DN350	25	Flanges	3229	555	980	733	450
VSHB25F-400	DN400	25	Flanges	4850	620	1100	800	650
VSHB25F-450	DN450	25	Flanges	7033	670	1200	810	900
VSHB25F-500	DN500	25	Flanges	8485	730	1250	900	1150



PN25: DN15-DN50



PN25: DN65-DN500

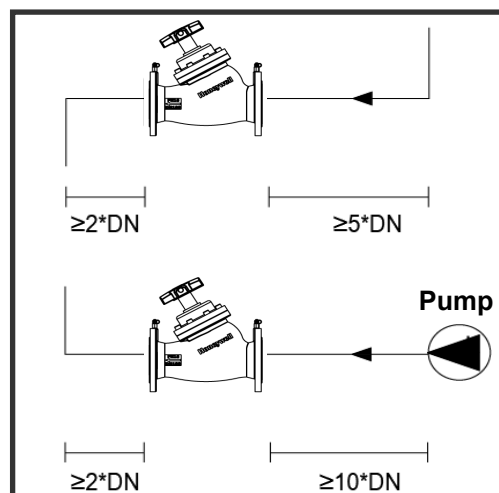
VSHB series Static balancing valves

Installation

The pipe flow direction must be consistent with the flow arrow on the valve body when install the valves in the pipes.

In order to avoid the effect of water flow instability on the measurement accuracy, the valve is required to be installed with a certain length of straight pipe at both the inlet and outlet, as shown in the right image.

Special attention: if the inlet side is next to the water pump, the straight pipe is guaranteed at least 10 DN (DN is pipe diameter). Otherwise, the commissioning accuracy is not guaranteed.



Presetting

The final presetting value or position (is the handwheel reading corresponding to the presetting Kv) will be got after commissioning, and handwheel is required to be locked to prevent the change of preset value from various causes and affect the balance of the system.

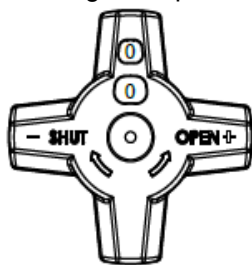
Setting method

1. Shut off the valves, as shown in the below image, the handwheel reading should be 0.0 at **off position**.
2. Open the valve to presetting position, e.g. the presetting position is 6.8(6 is the large circle reading, locates outside, 8 is the small circle reading, locates inside), rotate the handwheel to the **presetting position** as shown below image.
3. After rotate handwheel, put the suitable hex wrench into the hold of handwheel and rotate wrench clockwise to tighten. As shown below image is the **lock position**.

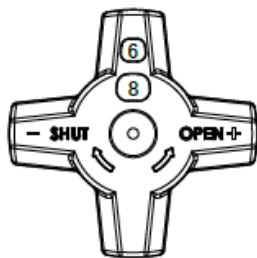
Checking method

Check the presetting position after setting.

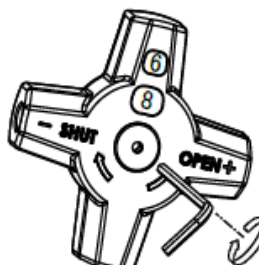
1. Shut off valve, the handwheel reading should be 0.0;
2. Rotate the handwheel until it can't move, present handwheel reading should be presetting value. As shown below image, the presetting position is 6.8.



Off position



Presetting position
The current shown presetting value is 6.8.



Lock position
The locked presetting value is 6.8.

lock the preset position with hex wrench.

Flow data diagram

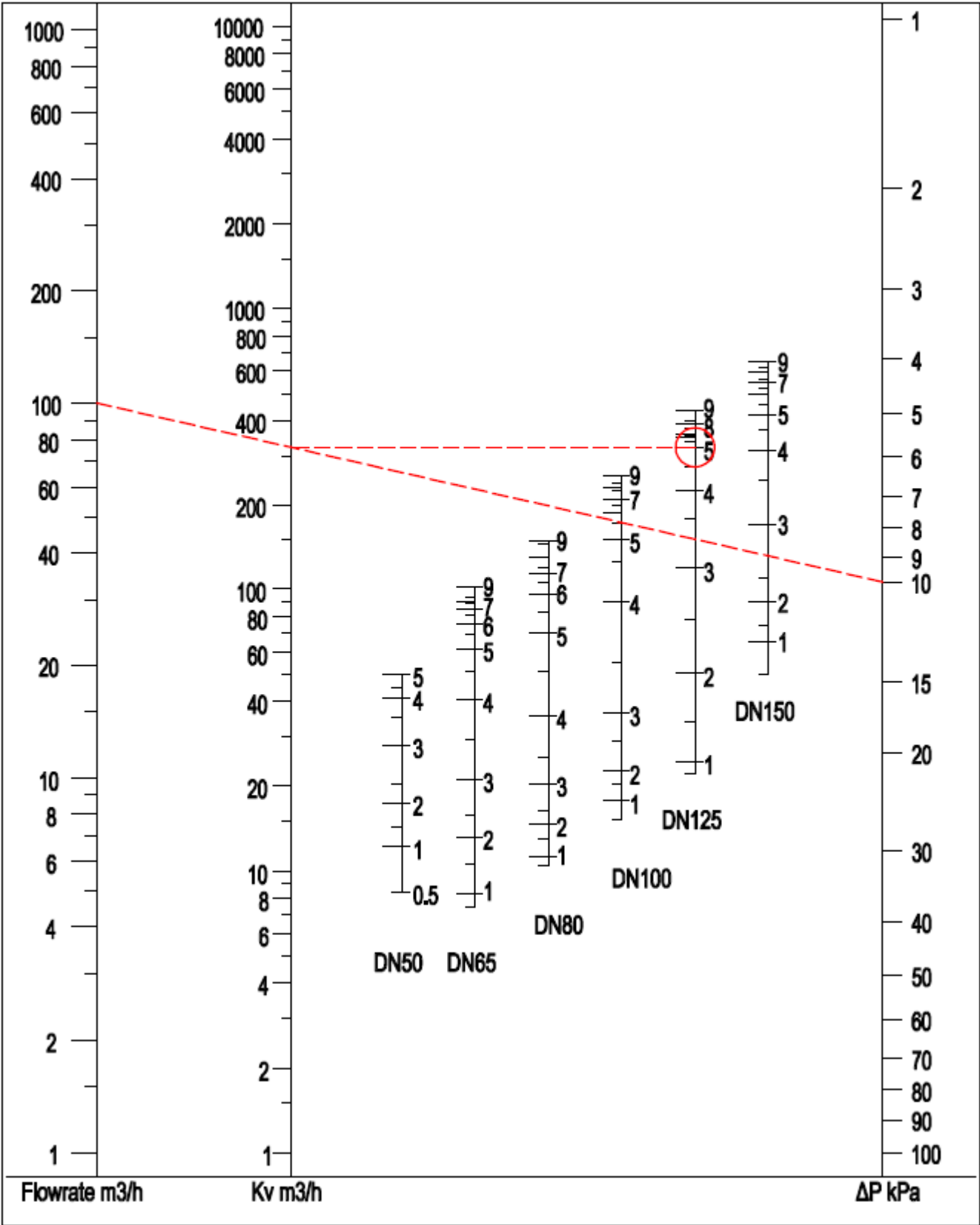
The flow data diagram can be used for static balance valve selection, preset value determining, and the query of the flow rate and pressure difference (DP) under different opening.

Valve selection and preset value confirmation: Kv value can be obtained at the intersection point between the Kv value axis and the line of flowrate and DP. Through the intersection point between the horizontal line passing through the Kv value point and preset value axis of valves of different DN, the valve DN selection and its preset value (Numeric handwheel Reading) can be determined.

Query flow rate and DP: After determining the DN and the preset value (Numeric handwheel Reading), you can confirm its Kv value, and you can query the pressure difference through the known flow value by a straight line passing through the Kv value point on the Kv axis. The flow value can also be queried through the known pressure difference.

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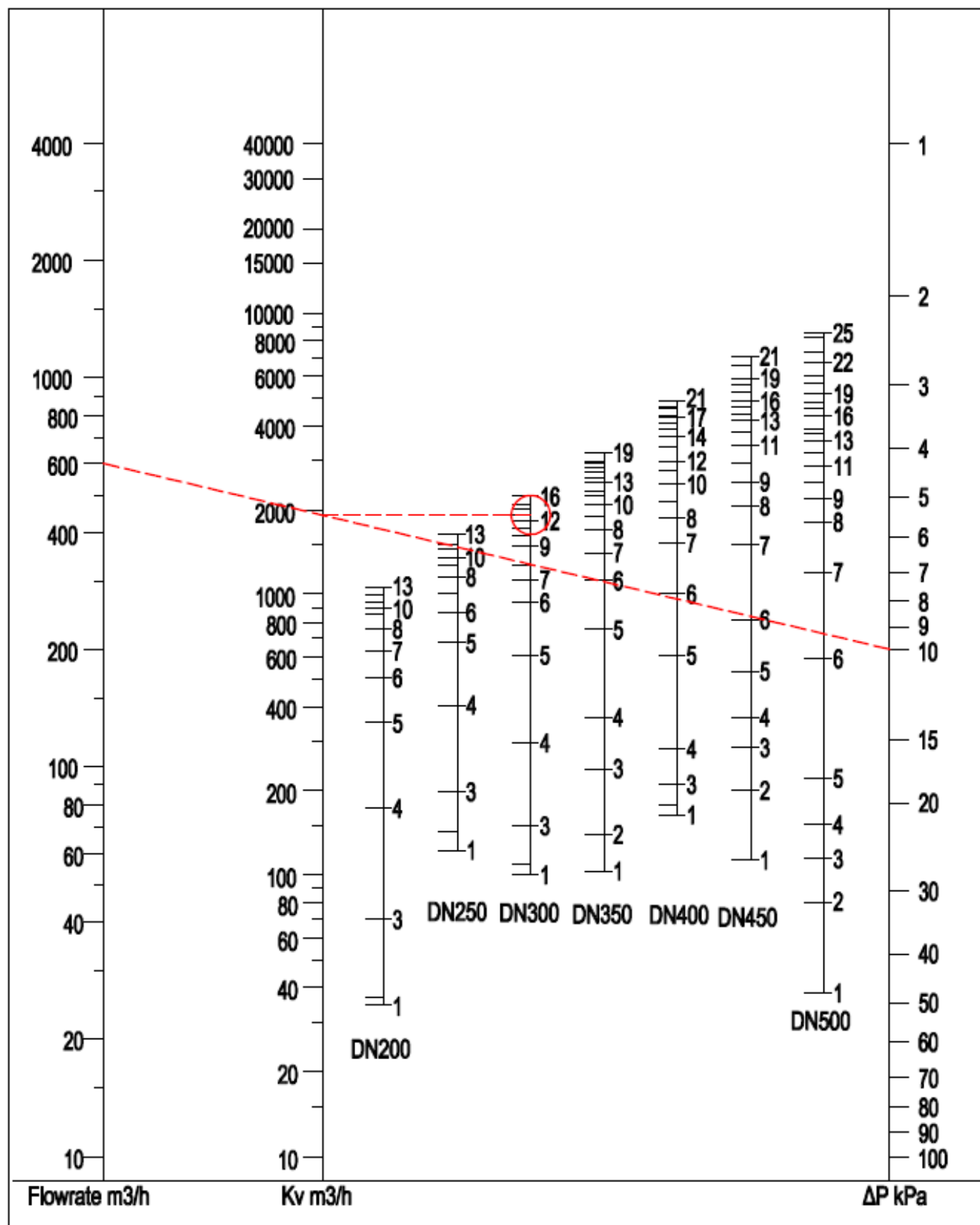
Flow data
PN16: DN50~DN150



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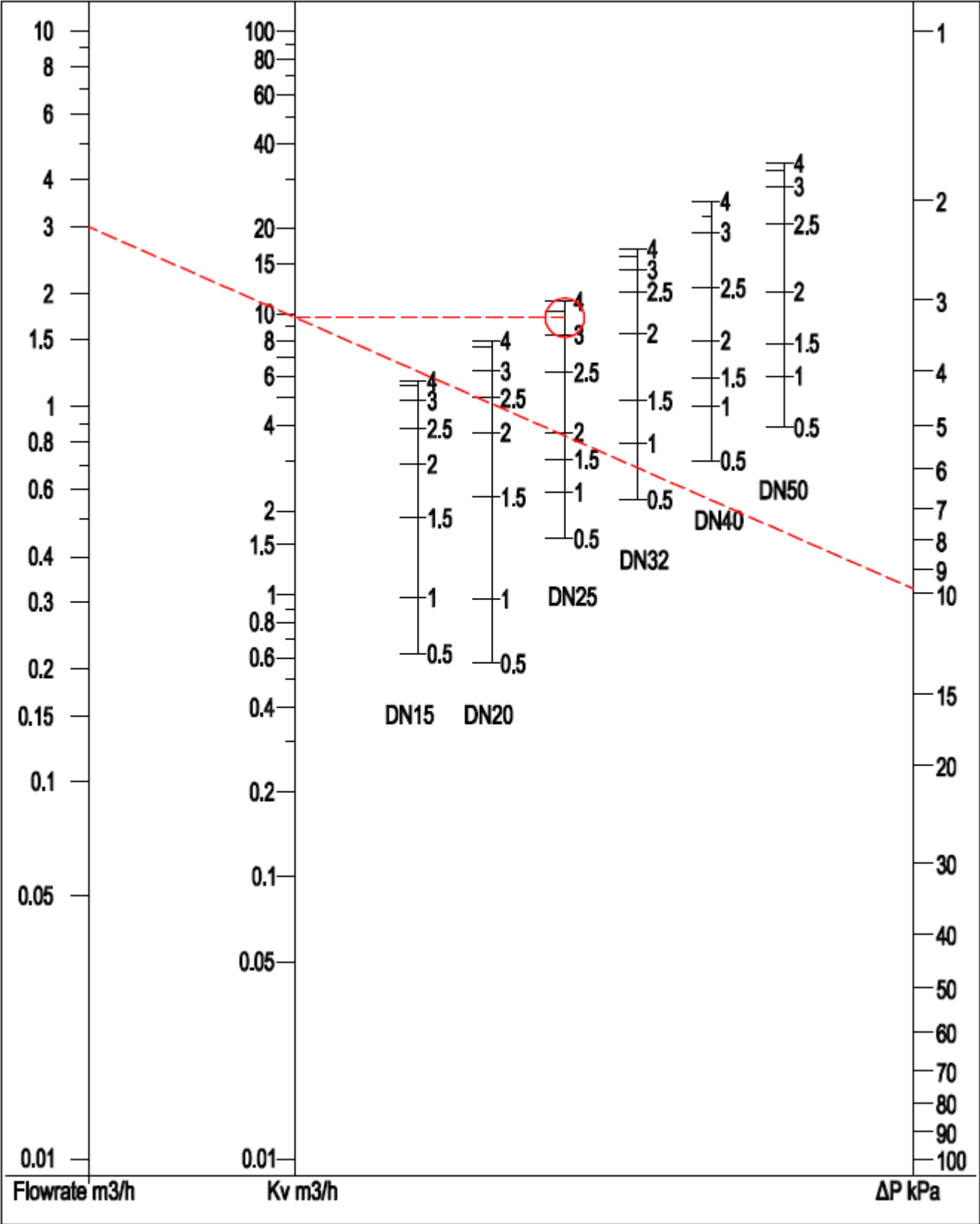
Flow data

PN16: DN200~DN500

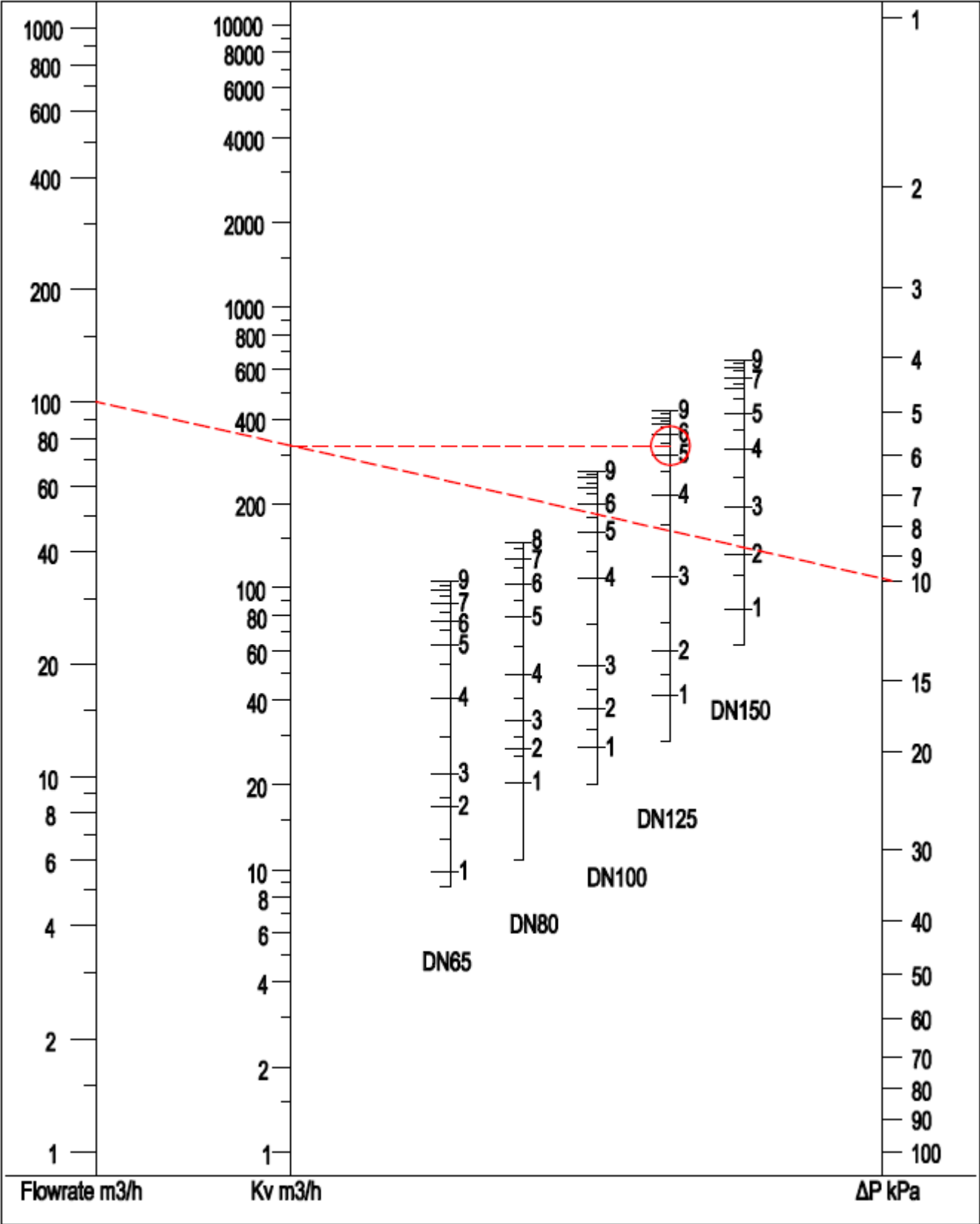


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Flow data
PN25: DN15~DN50



Flow data
PN25: DN65~DN150



VSHB series Static balancing valves

Flow data
PN25: DN200~DN500

