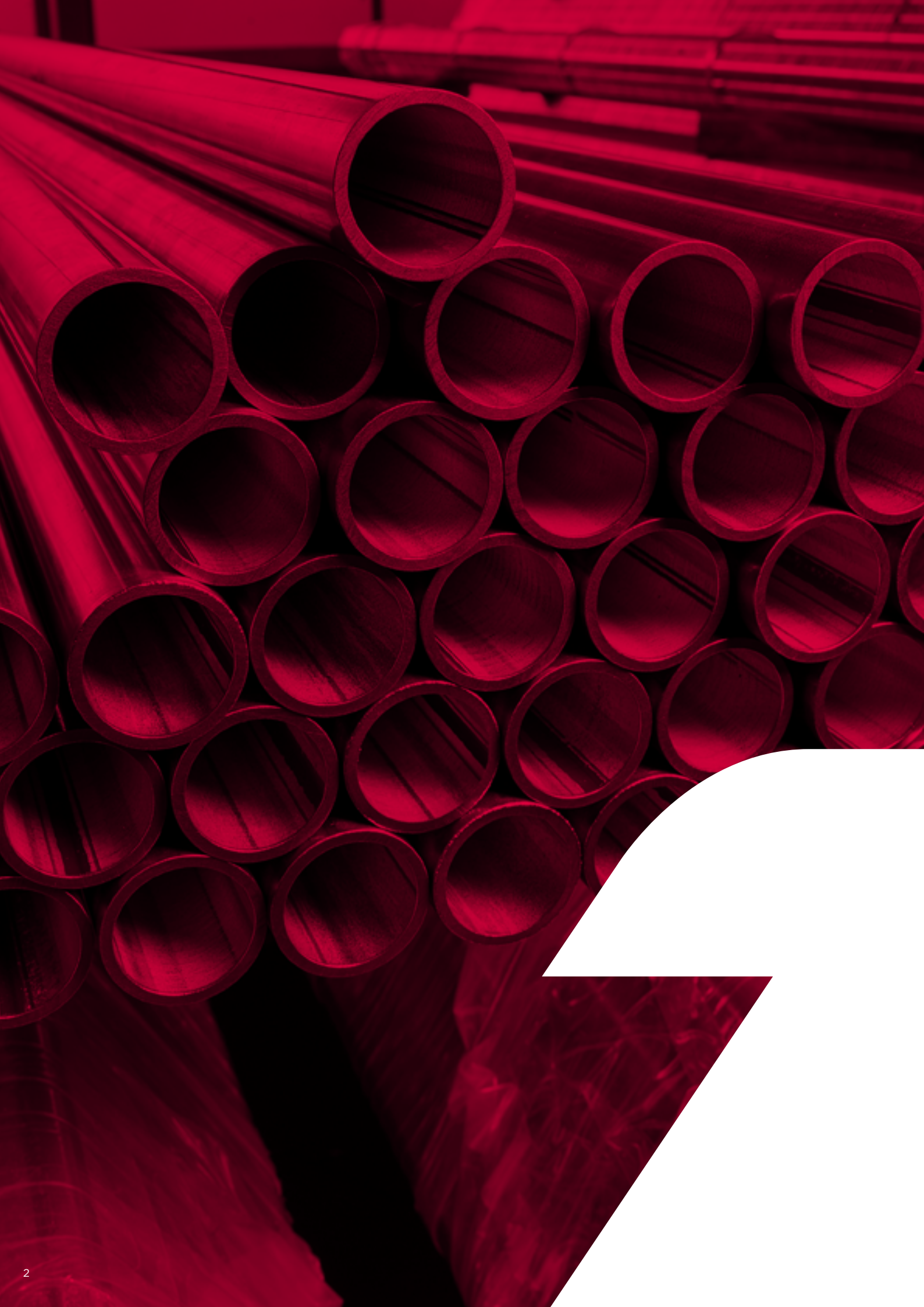
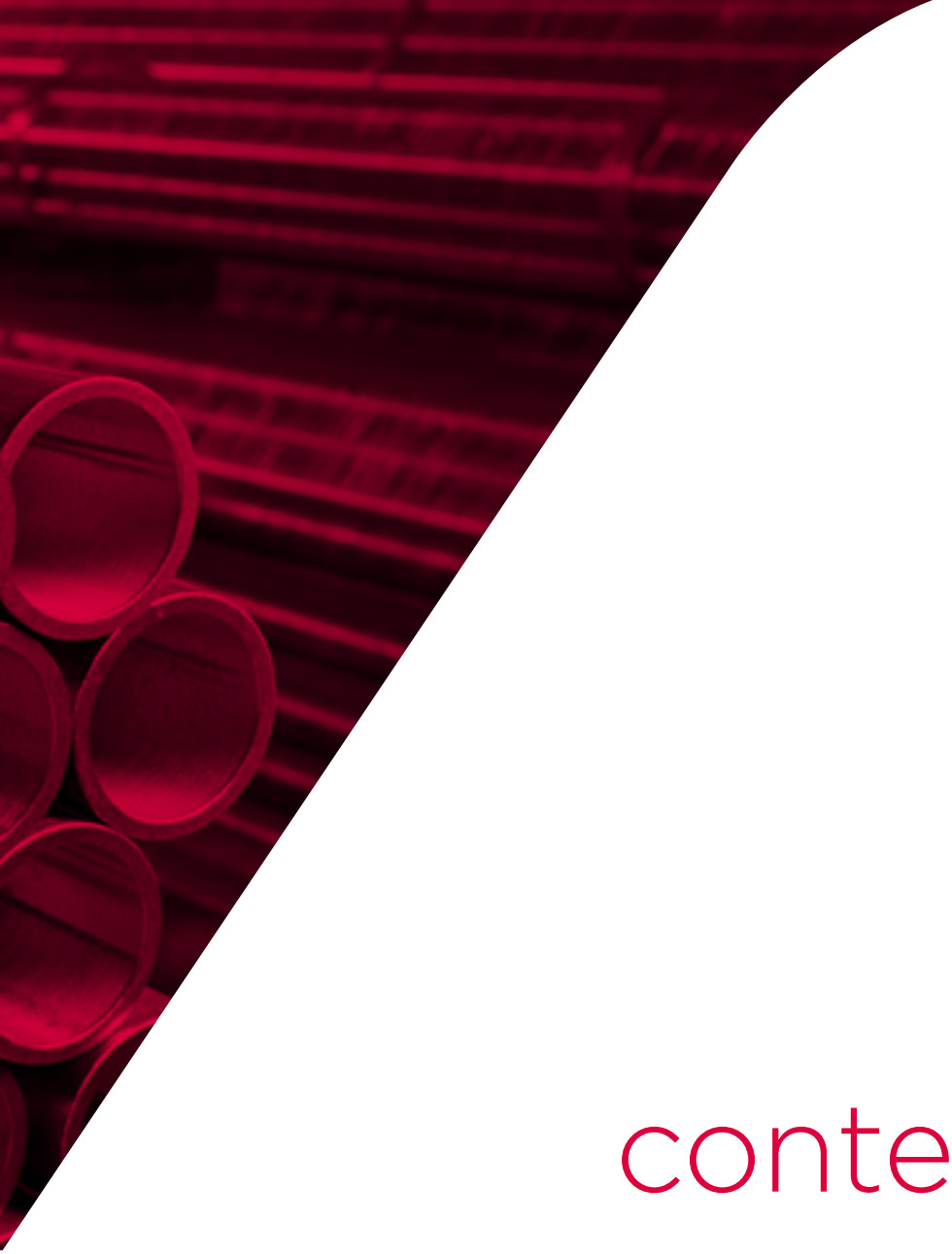
aalberts integrated piping systems

Apollo ProFlow

EN balancing charts





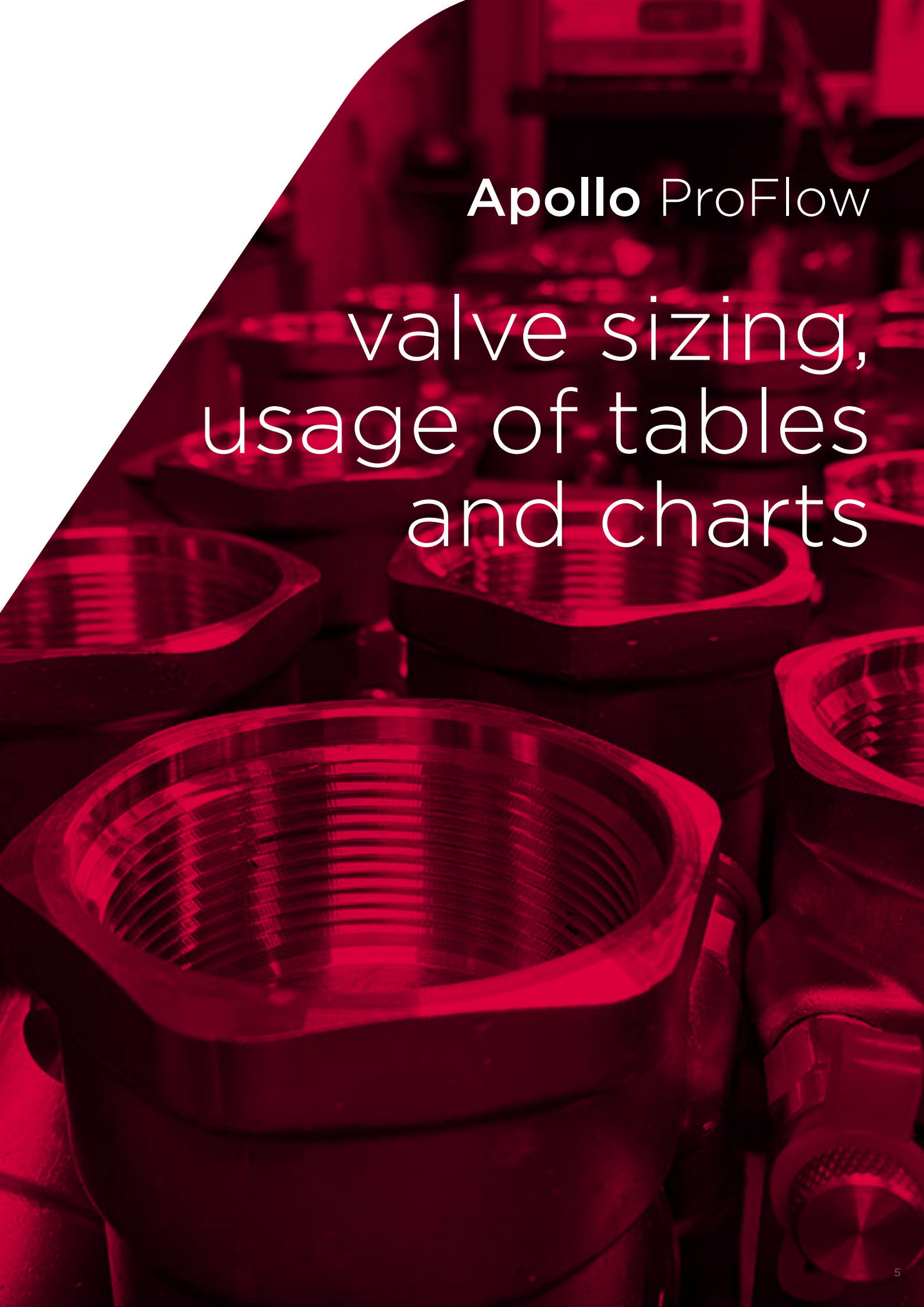
contents

valve sizing, usage of tables and charts 5

Apollo ProFlow 1260 static balancing valve charts 15

Apollo ProFlow V955 static balancing valve charts 25

Apollo ProFlow 1600 PICV dynamic balancing valve charts 33



Apollo ProFlow

valve sizing, usage of tables and charts

how to use tables and charts

valve sizing and selection

Each balancing valve needs to be sized correctly for optimising the distribution of water in a building's hydronic heating or cooling system, to provide the intended indoor climate at optimum energy efficiency and minimal operating costs. There are multiple options to choose the correct valve size.

valve selection by calculating Kv value

The correct valve size for the Apollo ProFlow 1260 static commissioning valves can be obtained by calculating the Kv value by the following formula:

$$Kv = 36 \frac{Q}{\sqrt{\Delta p}}$$

Q = flow [l/s]
Δp = pressure loss [kPa]
Kv = valve coefficient [m³/h]

Once the Kv value is calculated the corresponding valve size can be found in the table below.

example 1:

required flow (Q):	0.15 l/s
required pressure drop:	29 kPa
calculated Kv value:	1.0

In the table you will find this Kv value in several places: DN20 standard flow with a presetting of 4.0, DN15 standard flow with a presetting of 4.3 and DN15 medium flow at a presetting of 7.1. It's recommended to use the smallest DN size with medium presetting, in this case DN15 standard flow with prestting 4.3. The tube size can give preferance to use the DN20 standard flow valve.
The relevant Kv values and presettings are highlighted in the table.

example 2:

required flow [Q]:	0.055 l/s
required pressure drop:	10 kPa
calculated Kv value:	0.63

In the table you will find DN20 standard flow with a presetting of 2.0, DN15 standard flow with a presetting of 2.4 and DN15 medium flow at a presetting of 5.2. It's recommended to use the smallest DN size with medium presetting, in this case DN15 medium flow.

presetting table Kvs and Kv values

	DN15 ultra low flow (ULF)	DN15 low flow (LF)	DN15 medium flow (MF)	DN15 standard flow (SF)	DN20 standard flow (SF)	DN25 standard flow (SF)	DN32 standard flow (SF)	DN40 standard flow (SF)	DN50 standard flow (SF)
	Kvs 0.25	Kvs 0.49	Kvs 0.98	Kvs 2.02	Kvs 4.43	Kvs 6.07	Kvs 11.10	Kvs 22.26	Kvs 42.46
Pre-set	Kv	Kv	Kv	Kv	Kv	Kv	Kv	Kv	Kv
1.2	0.04	0.08	0.15	0.43	0.49	0.91	0.73	2.43	2.92
1.3	0.04	0.09	0.16	0.45	0.50	0.97	1.93	2.71	3.17
1.4	0.04	0.09	0.17	0.47	0.52	1.02	2.12	2.99	3.42
1.5	0.05	0.10	0.18	0.48	0.54	1.08	2.32	3.27	3.67
1.6	0.05	0.11	0.18	0.50	0.56	1.14	2.52	3.54	3.92
1.7	0.05	0.11	0.19	0.52	0.58	1.20	2.71	3.82	4.17
1.8	0.05	0.12	0.20	0.53	0.59	1.26	2.91	4.10	4.42
1.9	0.05	0.12	0.20	0.53	0.59	1.26	2.91	4.10	4.42
2.0	0.06	0.13	0.22	0.57	0.63	1.37	3.31	4.65	4.93
2.1	0.06	0.14	0.23	0.58	0.65	1.43	3.51	4.93	5.18
2.2	0.07	0.15	0.24	0.60	0.66	1.49	3.70	5.21	5.43
2.3	0.07	0.15	0.25	0.62	0.68	1.55	3.90	5.49	5.68
2.4	0.07	0.16	0.26	0.63	0.70	1.60	4.10	5.77	5.93
2.5	0.07	0.17	0.27	0.65	0.72	1.66	4.30	6.05	6.18
2.6	0.08	0.17	0.28	0.67	0.74	1.72	4.50	6.33	6.44
2.7	0.08	0.18	0.28	0.68	0.75	1.78	4.70	6.61	6.69
2.8	0.08	0.19	0.29	0.70	0.77	1.84	4.90	6.89	6.94
2.9	0.08	0.20	0.30	0.72	0.79	1.89	5.10	7.17	7.19
3.0	0.09	0.20	0.31	0.74	0.81	1.95	5.30	7.45	7.44
3.1	0.09	0.21	0.32	0.75	0.83	2.01	5.50	7.74	7.70
3.2	0.09	0.22	0.33	0.77	0.84	2.07	5.70	8.02	7.95
3.3	0.10	0.22	0.34	0.79	0.86	2.13	5.90	8.31	8.20
3.4	0.10	0.23	0.35	0.80	0.88	2.19	6.10	8.59	8.45
3.5	0.10	0.24	0.36	0.82	0.90	2.24	6.30	8.88	8.71
3.6	0.10	0.24	0.37	0.84	0.92	2.30	6.51	9.16	8.96
3.7	0.11	0.25	0.38	0.85	0.93	2.36	6.71	9.45	9.21
3.8	0.11	0.26	0.38	0.87	0.95	2.42	6.91	9.73	9.47
3.9	0.11	0.26	0.39	0.89	0.97	2.48	7.11	10.01	9.72
example 2 4.0	0.11	0.27	0.40	0.90	0.99	2.54	7.31	10.30	9.97

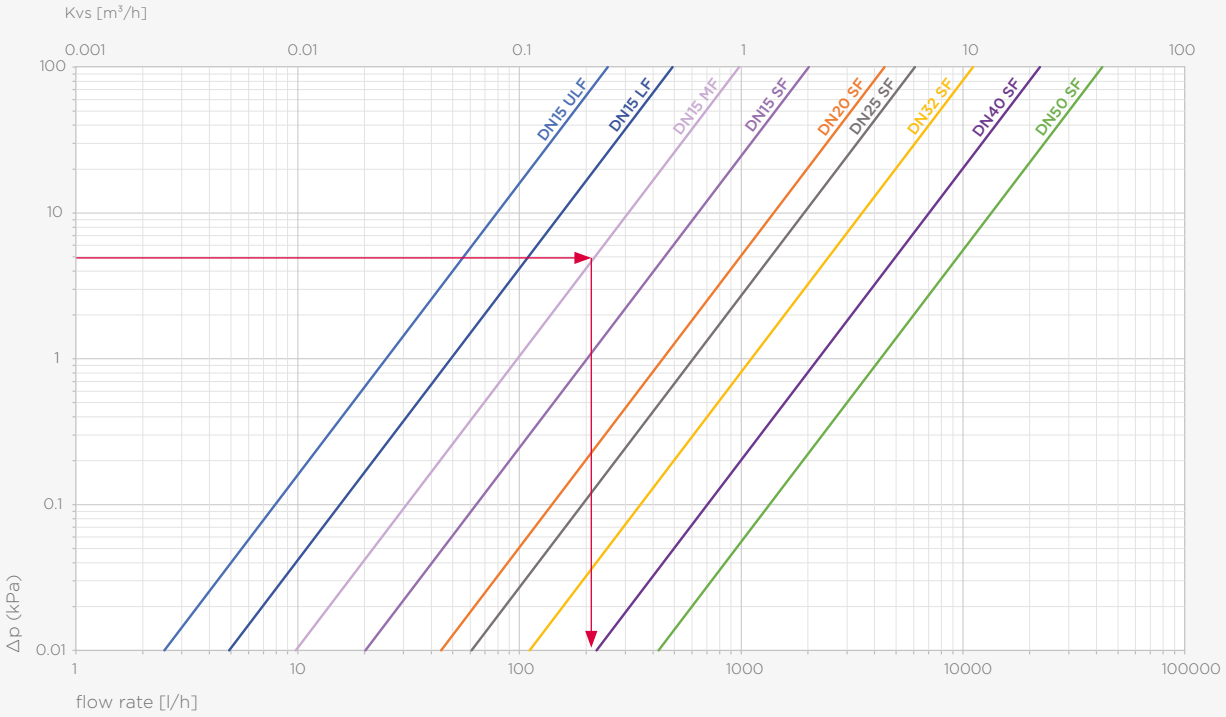
	DN15 ultra low flow (ULF)	DN15 low flow (LF)	DN15 medium flow (MF)	DN15 standard flow (SF)	DN20 standard flow (SF)	DN25 standard flow (SF)	DN32 standard flow (SF)	DN40 standard flow (SF)	DN50 standard flow (SF)
	Kvs 0.25	Kvs 0.49	Kvs 0.98	Kvs 2.02	Kvs 4.43	Kvs 6.07	Kvs 11.10	Kvs 22.26	Kvs 42.46
Pre-set	Kv	Kv	Kv	Kv	Kv	Kv	Kv	Kv	Kv
4.1	0.12	0.28	0.42	0.94	1.04	2.63	7.46	10.62	10.45
4.2	0.12	0.29	0.44	0.97	1.10	2.72	7.60	10.94	10.93
example 2 4.3	0.13	0.29	0.46	1.00	1.15	2.81	7.75	11.27	11.41
4.4	0.13	0.30	0.48	1.04	1.20	2.90	7.89	11.59	11.89
4.5	0.14	0.31	0.50	1.07	1.26	2.99	8.04	11.91	12.37
4.6	0.14	0.32	0.52	1.10	1.31	3.09	8.18	12.23	12.85
4.7	0.15	0.32	0.54	1.14	1.37	3.18	8.33	12.56	13.33
4.8	0.15	0.33	0.56	1.17	1.42	3.27	8.48	12.88	13.81
4.9	0.16	0.34	0.57	1.20	1.47	3.36	8.62	13.20	14.29
5.0	0.16	0.35	0.59	1.24	1.53	3.45	8.77	13.52	14.77
5.1	0.16	0.36	0.61	1.27	1.58	3.54	8.91	13.86	15.26
example 1 5.2	0.17	0.36	0.63	1.31	1.64	3.64	9.06	14.19	15.74
5.3	0.17	0.37	0.65	1.34	1.69	3.73	9.21	14.52	16.23
5.4	0.18	0.38	0.67	1.37	1.75	3.82	9.36	14.86	16.72
5.5	0.18	0.39	0.69	1.41	1.80	3.91	9.51	15.19	17.21
5.6	0.19	0.40	0.71	1.44	1.86	4.01	9.65	15.52	17.69
5.7	0.19	0.40	0.73	1.47	1.91	4.10	9.80	15.86	18.18
5.8	0.20	0.41	0.75	1.51	1.96	4.19	9.95	16.19	18.67
5.9	0.20	0.42	0.77	1.54	2.02	4.29	10.10	16.52	19.16
6.0	0.20	0.43	0.78	1.58	2.07	4.38	10.24	16.85	19.64
6.1	0.21	0.44	0.81	1.61	2.13	4.47	10.40	17.20	20.14
6.2	0.21	0.44	0.82	1.64	2.18	4.57	10.55	17.55	20.64
6.3	0.22	0.45	0.84	1.68	2.24	4.66	10.70	17.90	21.14
6.4	0.22	0.46	0.86	1.71	2.29	4.76	10.85	18.24	21.64
6.5	0.23	0.47	0.88	1.75	2.35	4.85	11.00	18.59	22.14
6.6	0.23	0.48	0.90	1.78	2.41	4.95	11.15	18.94	22.63
6.7	0.24	0.48	0.92	1.81	2.46	5.04	11.30	19.28	23.13
6.8	0.24	0.49	0.94	1.85	2.52	5.13	11.45	19.63	23.63
6.9	0.25	0.50	0.96	1.88	2.57	5.23	11.60	19.98	24.13
7.0	0.25	0.51	0.98	1.92	2.63	5.32	11.75	20.32	24.63
7.1	0.25	0.52	1.00	1.95	2.68	5.42	11.90	20.69	25.14
7.2	0.26	0.52	1.02	1.99	2.74	5.52	12.06	21.05	25.65
7.3	0.26	0.53	1.04	2.02	2.79	5.61	12.21	21.41	26.16
7.4	0.27	0.54	1.06	2.06	2.85	5.71	12.37	21.77	26.67
7.5	0.27	0.55	1.08	2.09	2.90	5.81	12.52	22.13	27.18
7.6	0.27	0.55	1.08	2.09	2.96	5.90	12.67	22.49	27.68
7.7	0.27	0.55	1.08	2.09	3.02	6.00	12.83	22.49	28.19
7.8	0.27	0.55	1.08	2.09	3.07	6.10	12.98	22.49	28.19
7.9	0.27	0.55	1.08	2.09	3.07	6.19	13.13	22.49	28.19

checking flow rate using the flow signal chart

It is recommended, when using the orifice plate in the Apollo ProFlow 1260 valves to measure flow rate or to set the valve, to use a manometer or electronic flow computer that can instantly convert the Kvs value into a live flow rate.
If the device being used does not have this functionality, the chart below can be used to determine the flow rate or signal.

for checking the flow rate follow the steps below:

- record the signal measured from the orifice plate in kPa (convert if necessary). In the example below the signal is 5kPa.
- identify the class of valve. In the example below this is a DN15 medium flow (DN15 MF) valve.
- draw a horizontal line from the measured signal to the line for the class of valve being measured.
- draw a vertical line down to the x-axis from where the horizontal line meets the valve line.
- read the flow rate from where the vertical line crosses the x-axis. This is 220 l/h, the current flow rate in the valve.



Apollo ProFlow 1260 flow data signal

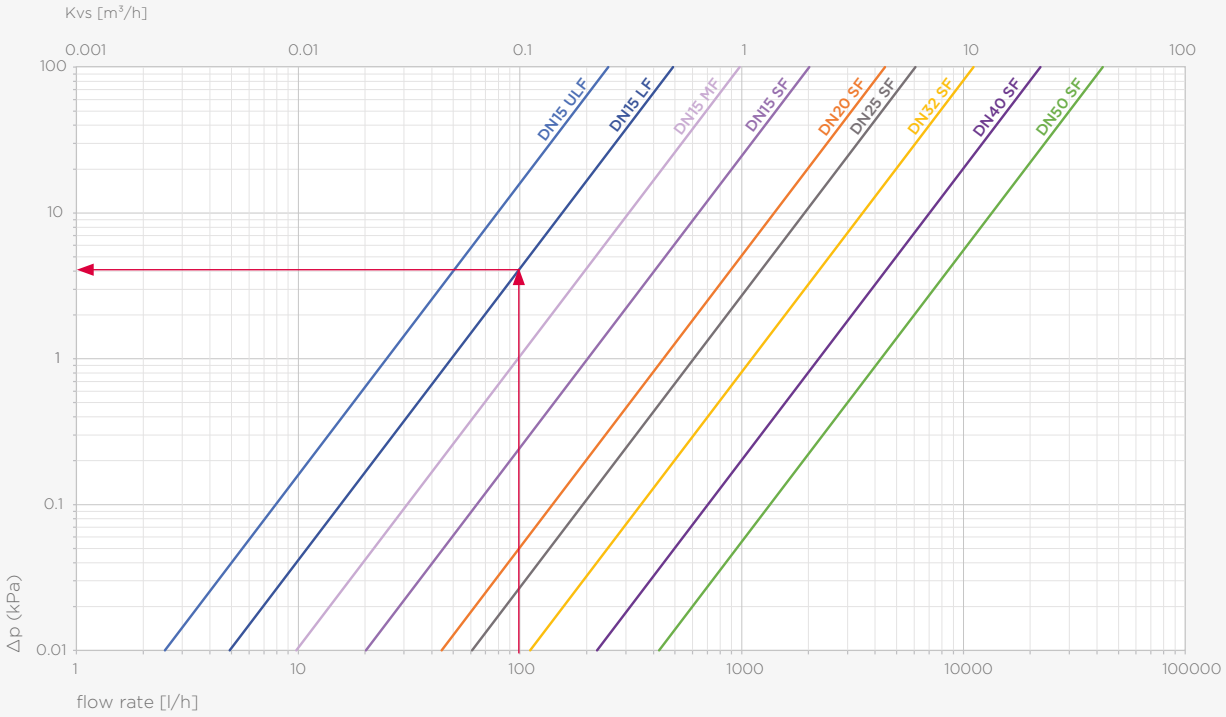
identifying the target signal using a known flow rate.

If the target flow rate is known and the valve needs commissioning then the target orifice plate signal can be determined.

this can be done by using the method below:

- draw a vertical line up from the target flow rate on the x-axis until it meets the line for the valve to be set. The example below shows a 100 l/h flow rate requirement for a DN15 low flow (DN15 LF) valve.
- draw a horizontal line from where the vertical line meets the valve line to the y-axis.
- read the value where this line meets the y-axis. In the example below this is 4.2 kPa, the signal value the valve needs to be set to.

Connect a manometer to the valve and adjust the handle until the signal matches the value identified from the chart, then set this valve to the desired flow rate.



Apollo ProFlow 1260 flow data signal

valve size selection by a design flow rate chart

The correct valve size can be obtained for the Apollo ProFlow 1260 static commissioning valves by using the flow rate chart below:

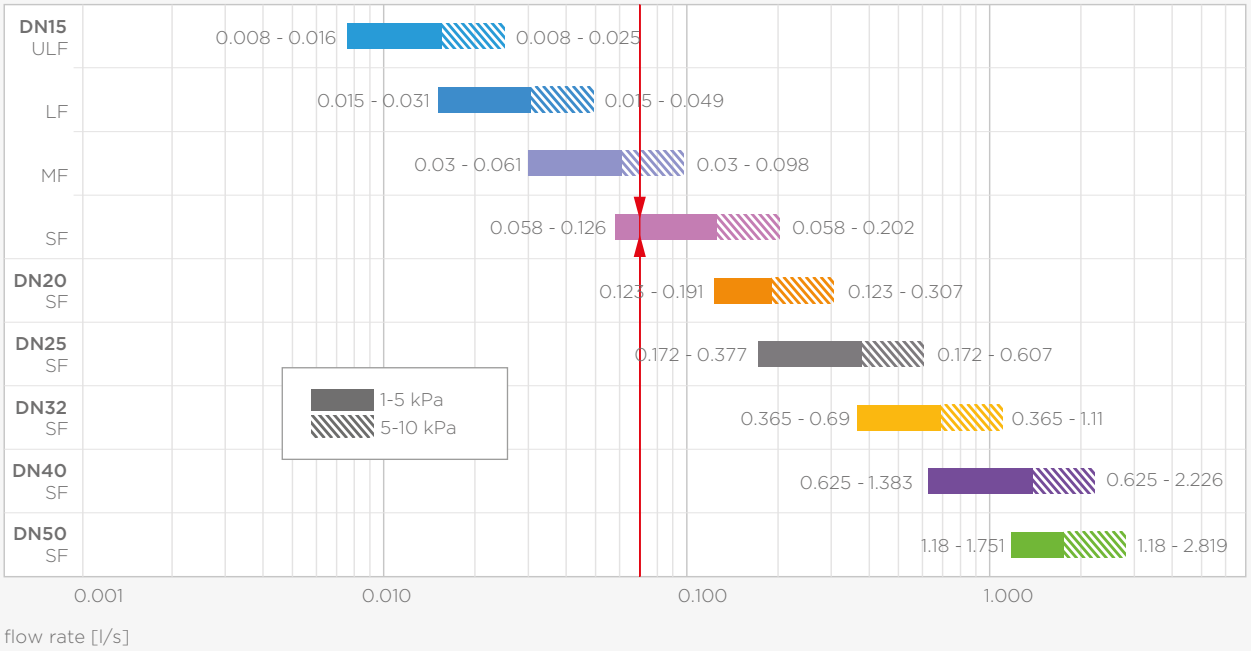
example:

required flow:	0.07 l/s = 252 l/h
allowable pressure drop:	10 kPa

for selecting a valve by a design flow rate chart follow the steps below:

- draw a vertical line up from the desired flow rate.
- where the line meets the solid coloured bar, this indicates the suitable valve which has a maximum pressure loss and signal less than 5 kPa.
- where the line crosses a hatched bar this indicates the valve is suitable if an increased pressure loss and signal of up to 10 kPa is acceptable.
- it is recommended to select a valve using the solid coloured bar where possible, as it will provide more accuracy and noise reduction. In some cases however, the hatched bar area may offer a chance to downsize the valve, which may save installation costs.

In the example below the red line is drawn up from the desired flow rate (0.07 l/s) and crosses the solid bar of the DN15 standard flow and the hatched bar of the DN15 medium flow. In this example a pressure loss of 10 kPa is allowed so either valve could be selected. As both valves are DN15 it is recommended to select the DN15 standard flow as it crosses the solid section of the bar.



Apollo ProFlow 1260 design flow rate chart

using pre-setting data

The charts are provided for pre-setting verification. Here is an example how to utilize the published charts and how to verify the flow rate when using a balancing computer.

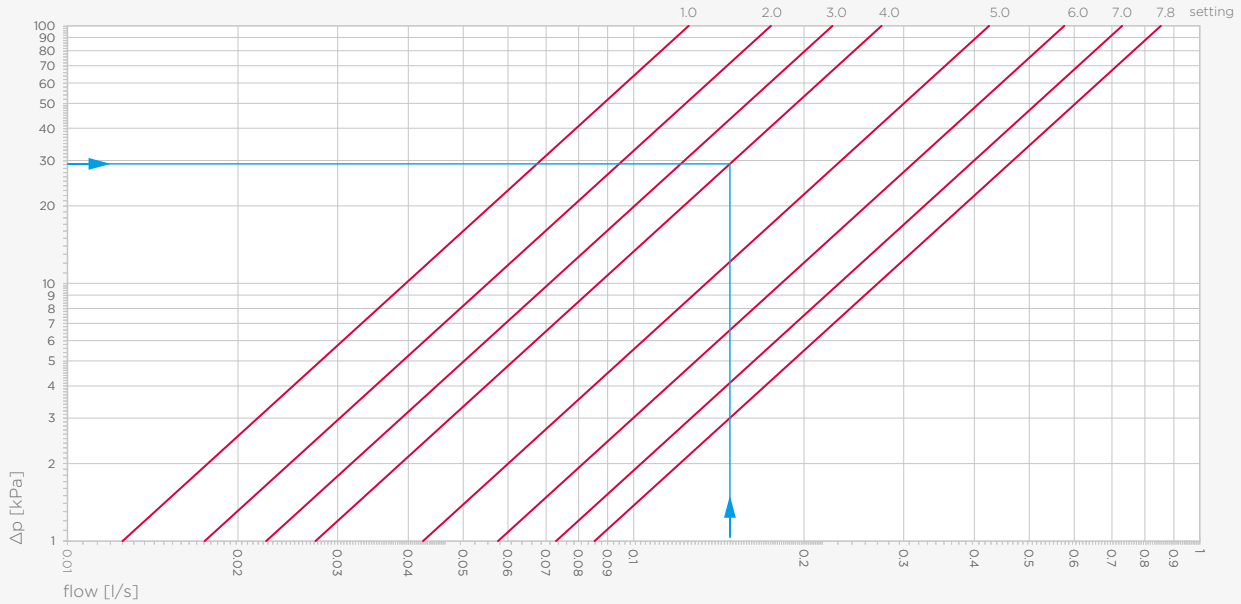
example

required flow:	0.15 l/s (vertical line)
required pressure drop:	29 kPa (horizontal line)
setting:	4.0 (intersection of both lines)

In case of overlap it's recommended to use the smallest DN size.

flow measuring

Verification of flow can be measured using a suitable flow measurement device on the valves test points. The Apollo ProFlow BC3 balancing computer is pre-programmed with loss coefficient data (Kvs values) for both the Apollo ProFlow 1260 and V955 allowing direct measurement of flow rate to be obtained, ensuring the system is balanced correctly for optimum efficiency. Using the Apollo ProFlow BC3 balancing computer is further described in the Apollo ProFlow technical manual.



Apollo ProFlow 1260 DN20 standard flow - hand wheel setting

using pre-setting data for the Apollo ProFlow 1600 PICV

Flow rate charts are provided for pre-setting verification, here is an example how to use the pre-published chart and how to verify the flow rate when using a balancing computer.

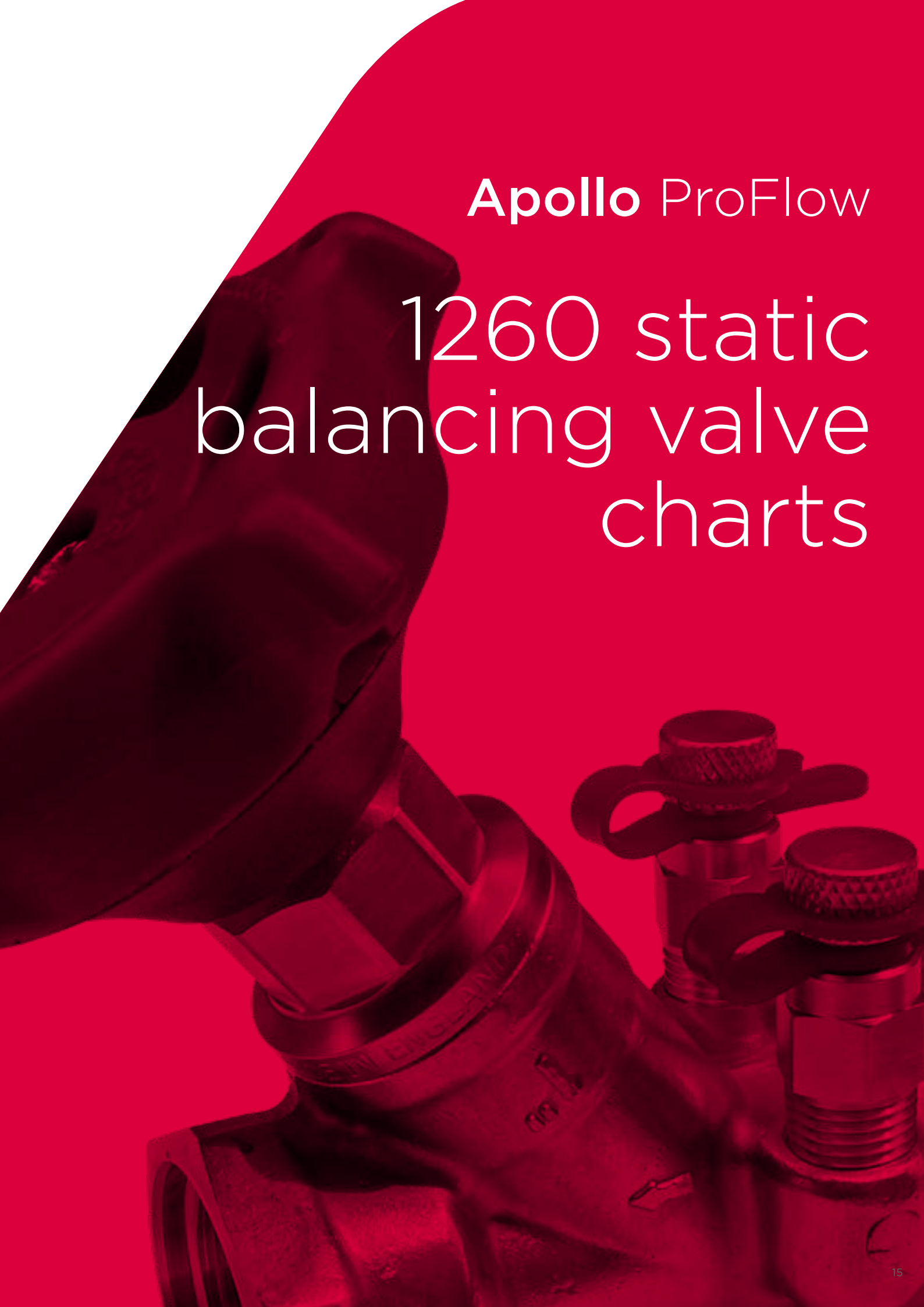
using the example

required flow:	0.025 l/s
setting:	4.2 (interpolation between settings 4 and 5)
minimum required differential pressure:	30 kPa

Apollo ProFlow 1600 PICV DN15 low flow setting

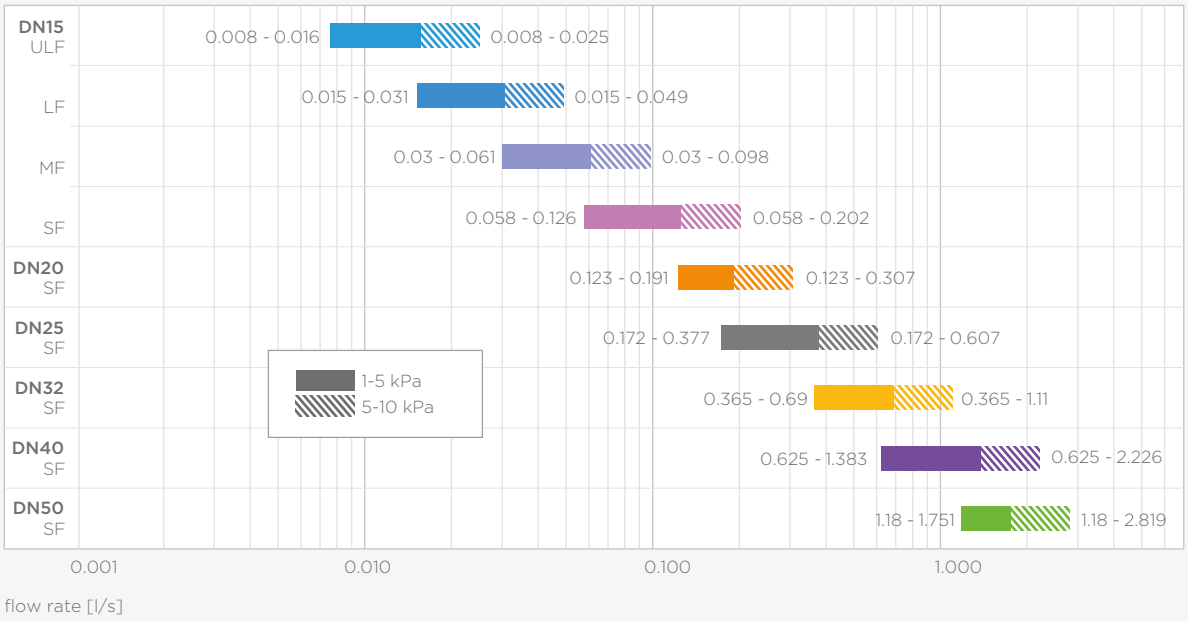
Apollo ProFlow

1260 static balancing valve charts

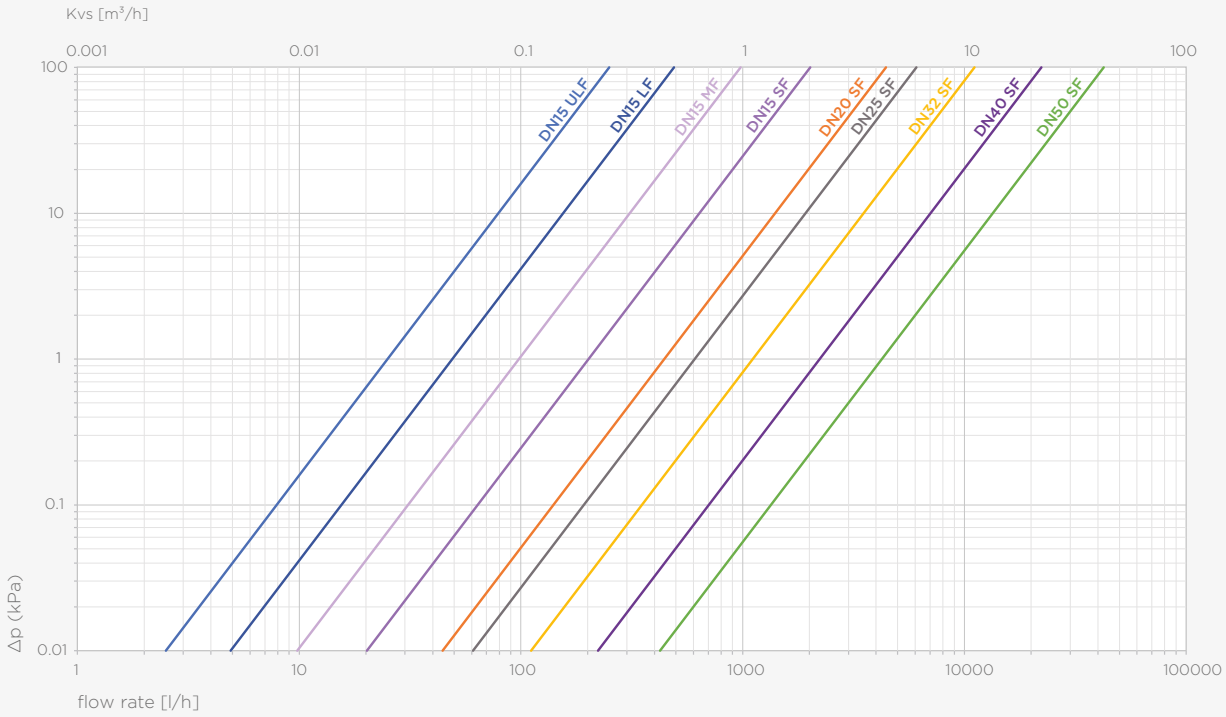


selection charts

flow rate Apollo ProFlow 1260

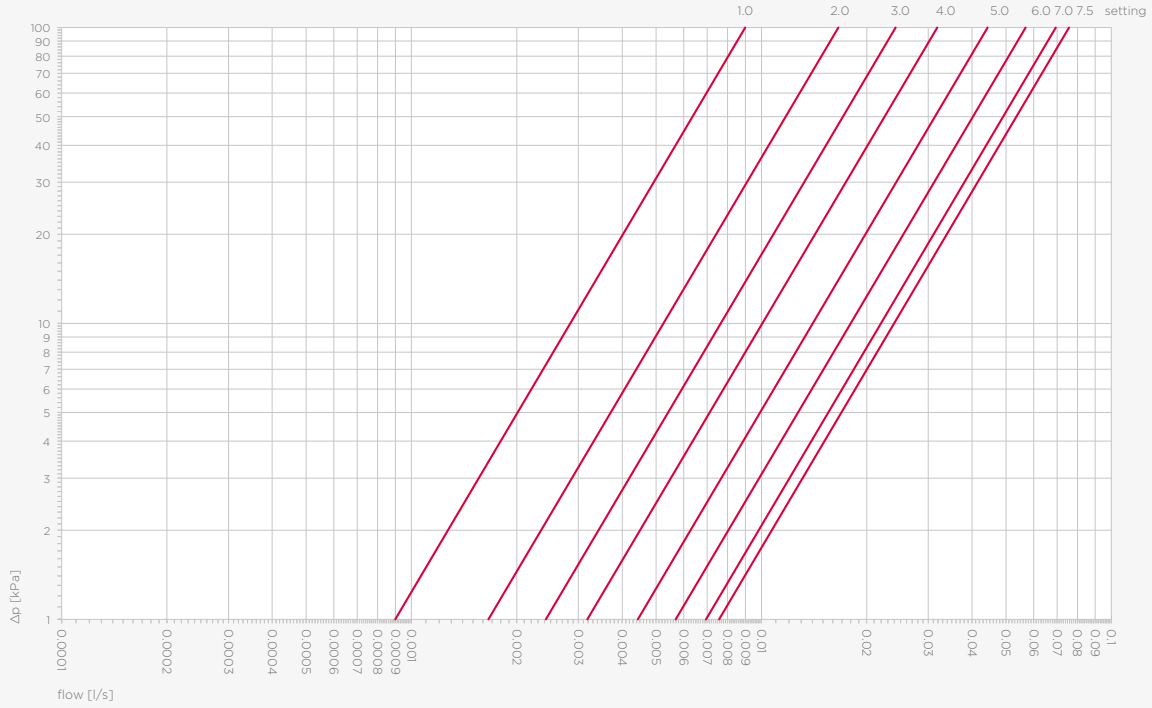


pressure loss Apollo ProFlow 1260

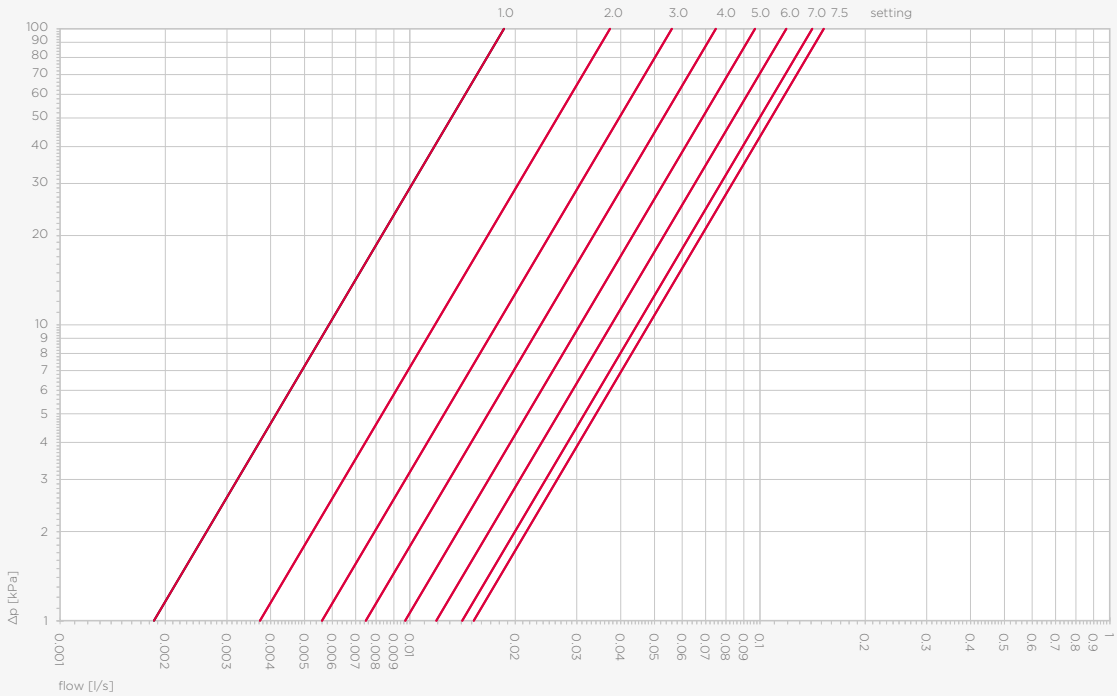


pre-setting charts

Apollo ProFlow 1260 - DN15 Ultra Low Flow, handwheel setting



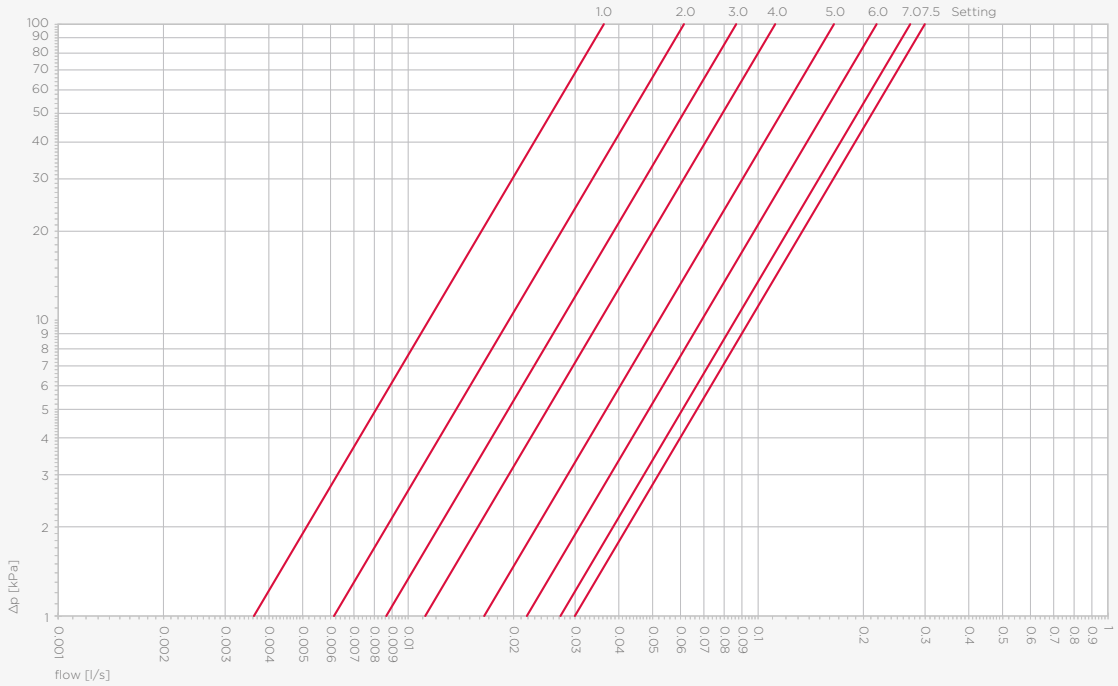
Apollo ProFlow 1260 - DN15 Low Flow, handwheel setting



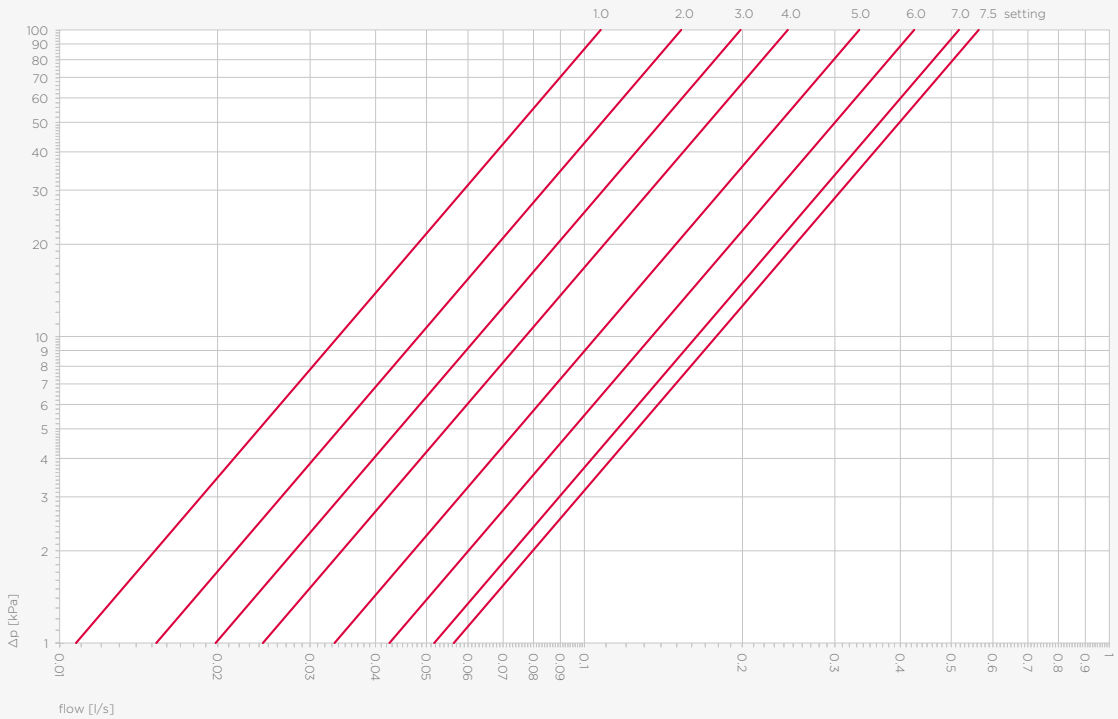
Information supplied in the charts is for guidance only. It is recommended that flow rates are verified with the use of a flow measurement device to ensure that the required flow rate is achieved.

pre-setting charts

Apollo ProFlow 1260 - DN15 Medium Flow, handwheel setting



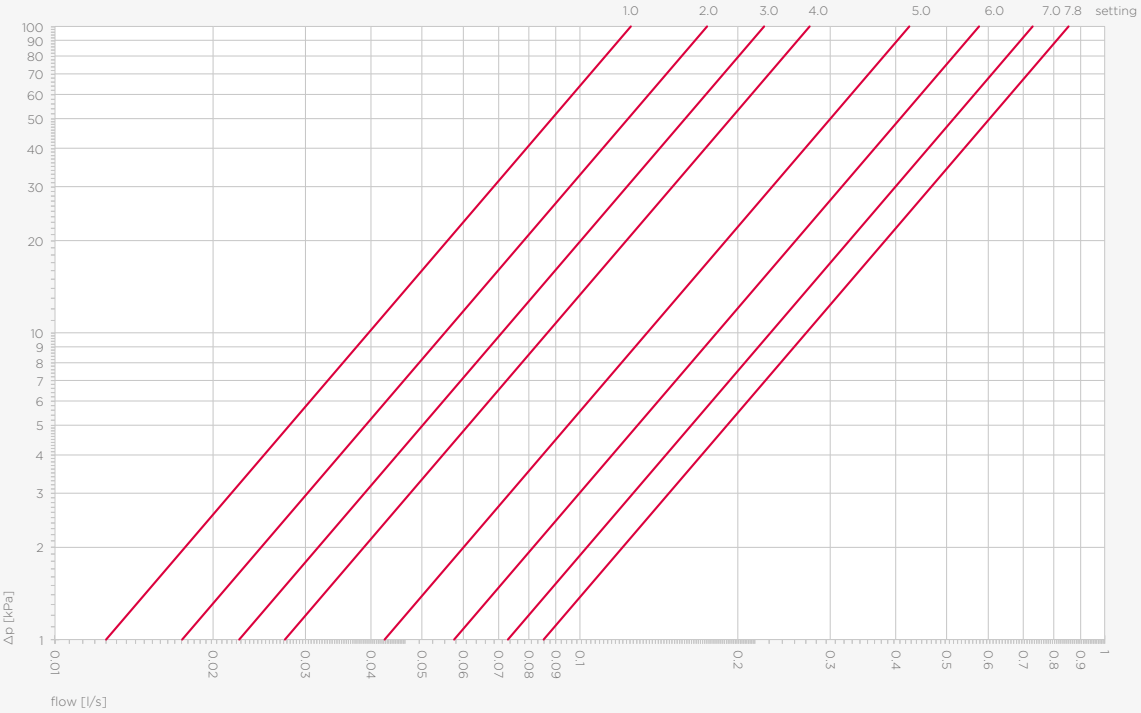
Apollo ProFlow 1260 - DN15 Standard Flow, handwheel setting



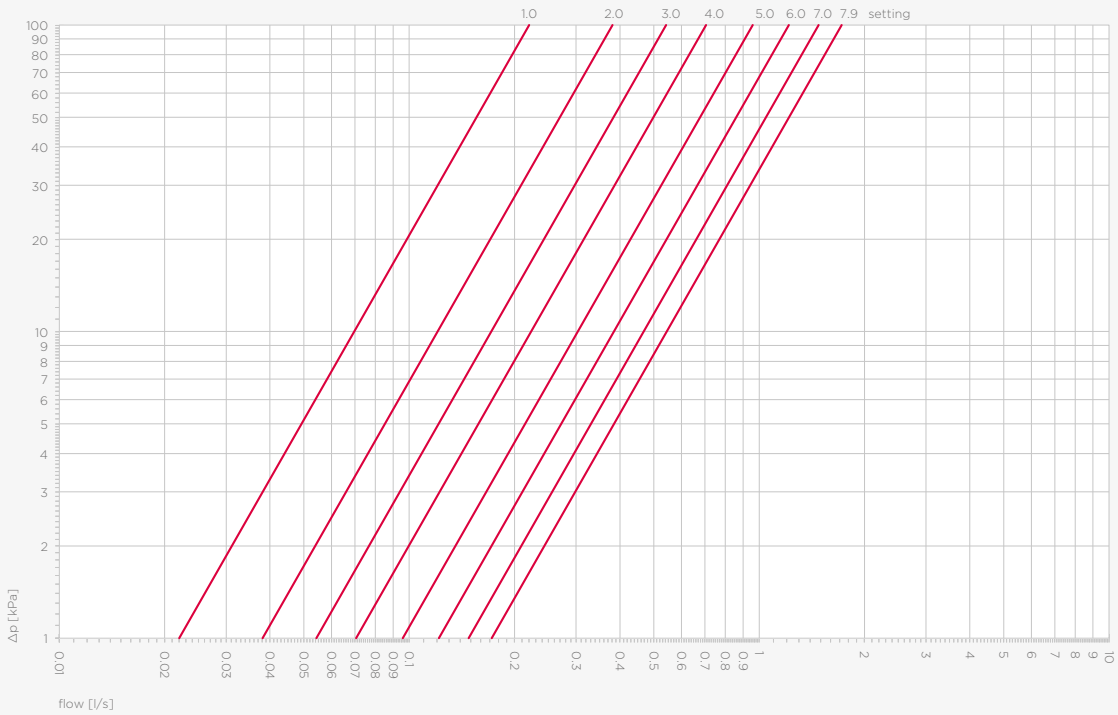
Information supplied in the charts is for guidance only. It is recommended that flow rates are verified with the use of a flow measurement device to ensure that the required flow rate is achieved.

pre-setting charts

Apollo ProFlow 1260 - DN20 Standard Flow, handwheel setting



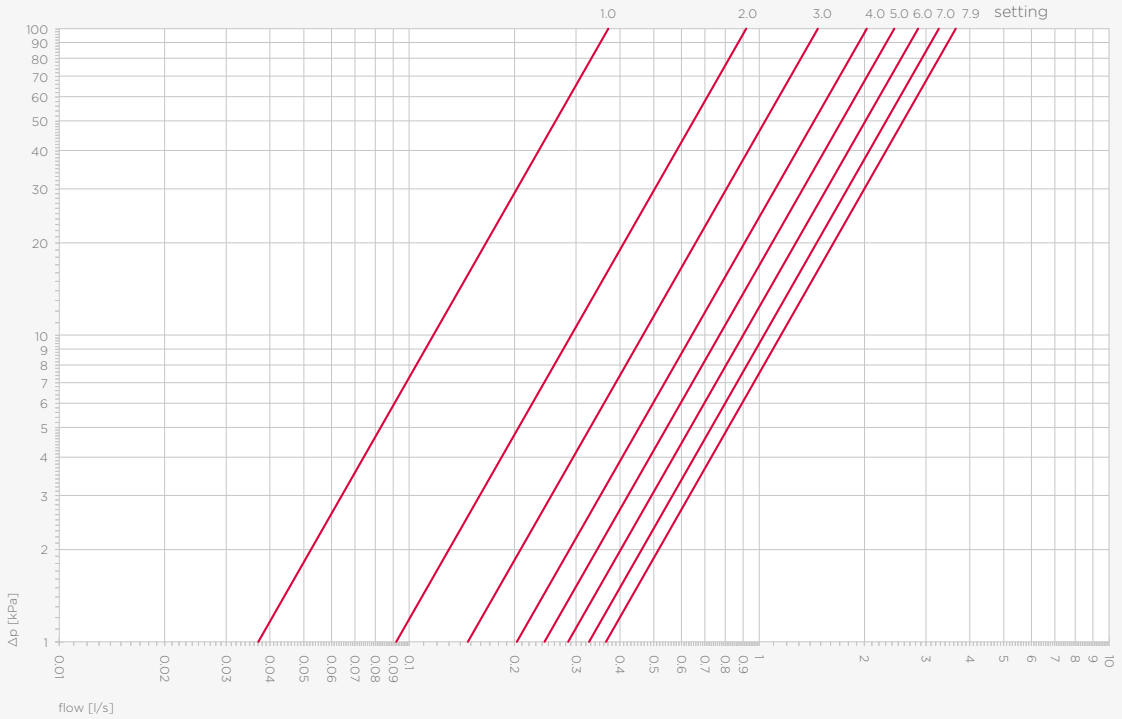
Apollo ProFlow 1260 - DN25 Standard Flow, handwheel setting



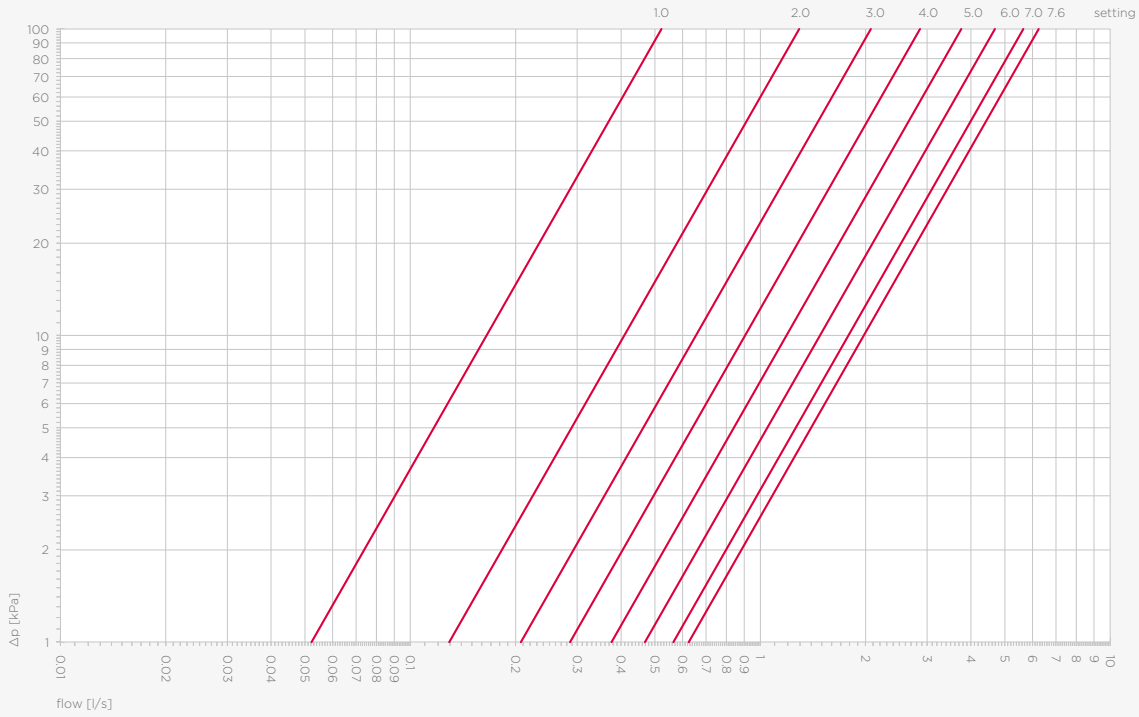
Information supplied in the charts is for guidance only. It is recommended that flow rates are verified with the use of a flow measurement device to ensure that the required flow rate is achieved.

pre-setting charts

Apollo ProFlow 1260 - DN32 Standard Flow, handwheel setting

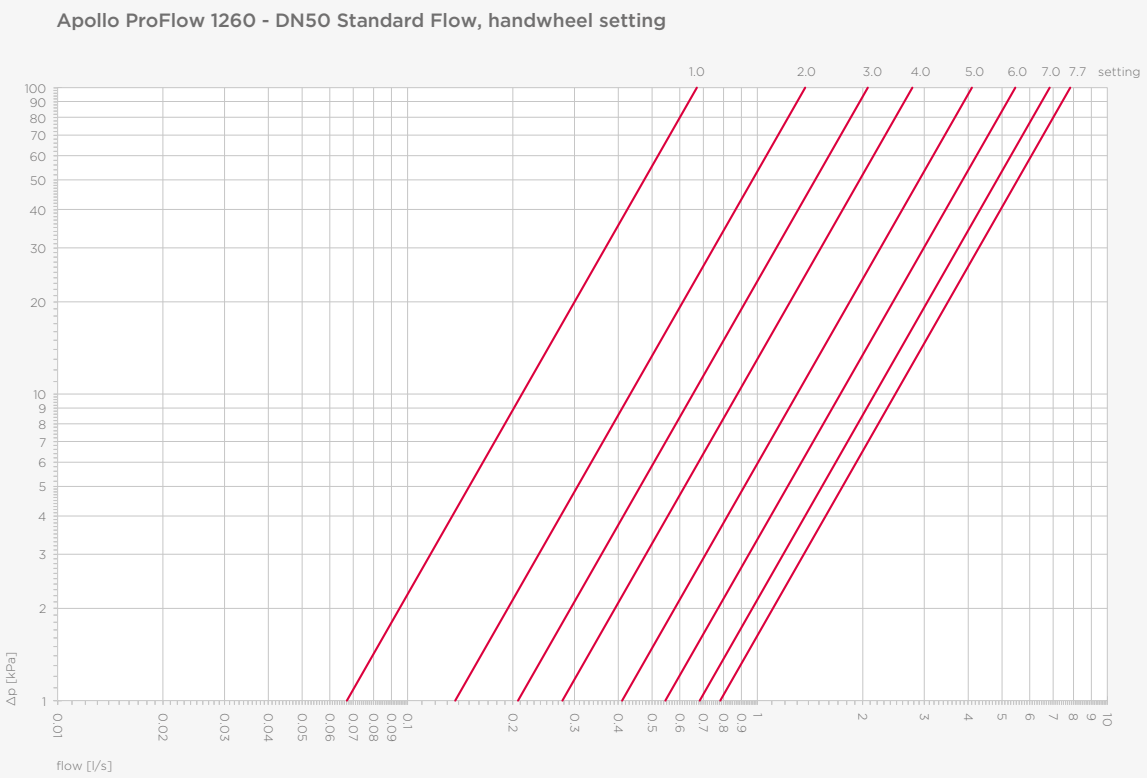


Apollo ProFlow 1260 - DN40 Standard Flow, handwheel setting



Information supplied in the charts is for guidance only. It is recommended that flow rates are verified with the use of a flow measurement device to ensure that the required flow rate is achieved.

pre-setting charts



presetting table Kvs and Kv values

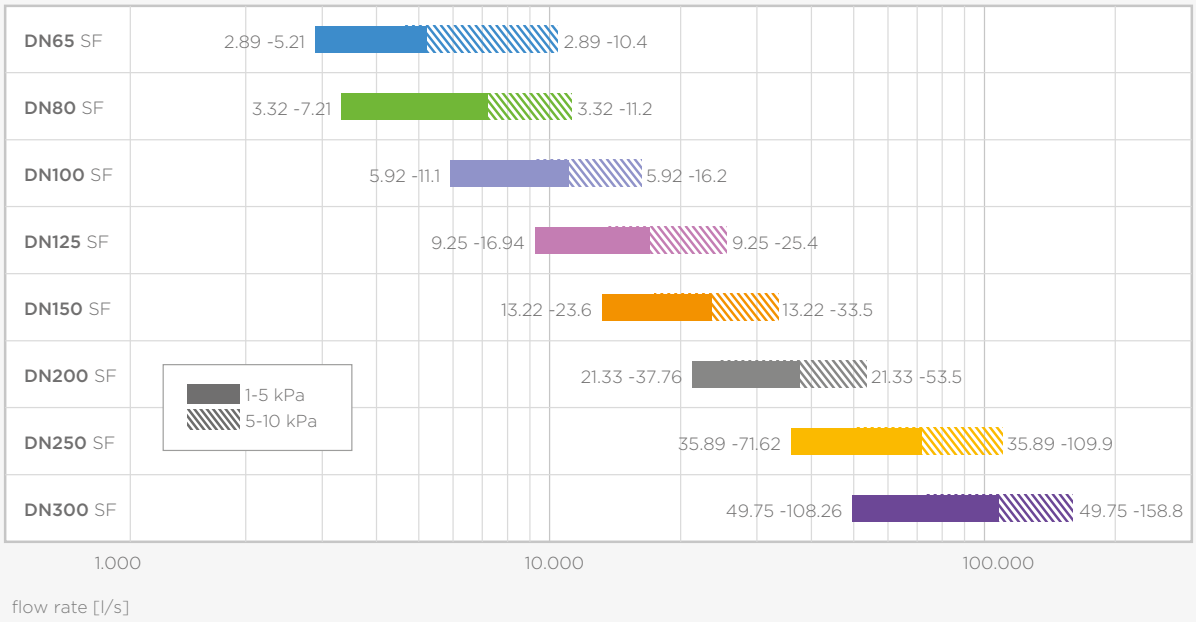
	DN15 ultra low flow (ULF)	DN15 low flow (LF)	DN15 medium flow (MF)	DN15 standard flow (SF)	DN20 standard flow (SF)	DN25 standard flow (SF)	DN32 standard flow (SF)	DN40 standard flow (SF)	DN50 standard flow (SF)
	Kvs 0.25	Kvs 0.49	Kvs 0.98	Kvs 2.02	Kvs 4.43	Kvs 6.07	Kvs 11.10	Kvs 22.26	Kvs 42.46
Pre-set	Kv	Kv	Kv	Kv	Kv	Kv	Kv	Kv	Kv
1.2	0.04	0.08	0.15	0.43	0.49	0.91	0.73	2.43	2.92
1.3	0.04	0.09	0.16	0.45	0.50	0.97	1.93	2.71	3.17
1.4	0.04	0.09	0.17	0.47	0.52	1.02	2.12	2.99	3.42
1.5	0.05	0.10	0.18	0.48	0.54	1.08	2.32	3.27	3.67
1.6	0.05	0.11	0.18	0.50	0.56	1.14	2.52	3.54	3.92
1.7	0.05	0.11	0.19	0.52	0.58	1.20	2.71	3.82	4.17
1.8	0.05	0.12	0.20	0.53	0.59	1.26	2.91	4.10	4.42
1.9	0.05	0.12	0.20	0.53	0.59	1.26	2.91	4.10	4.42
2.0	0.06	0.13	0.22	0.57	0.63	1.37	3.31	4.65	4.93
2.1	0.06	0.14	0.23	0.58	0.65	1.43	3.51	4.93	5.18
2.2	0.07	0.15	0.24	0.60	0.66	1.49	3.70	5.21	5.43
2.3	0.07	0.15	0.25	0.62	0.68	1.55	3.90	5.49	5.68
2.4	0.07	0.16	0.26	0.63	0.70	1.60	4.10	5.77	5.93
2.5	0.07	0.17	0.27	0.65	0.72	1.66	4.30	6.05	6.18
2.6	0.08	0.17	0.28	0.67	0.74	1.72	4.50	6.33	6.44
2.7	0.08	0.18	0.28	0.68	0.75	1.78	4.70	6.61	6.69
2.8	0.08	0.19	0.29	0.70	0.77	1.84	4.90	6.89	6.94
2.9	0.08	0.20	0.30	0.72	0.79	1.89	5.10	7.17	7.19
3.0	0.09	0.20	0.31	0.74	0.81	1.95	5.30	7.45	7.44
3.1	0.09	0.21	0.32	0.75	0.83	2.01	5.50	7.74	7.70
3.2	0.09	0.22	0.33	0.77	0.84	2.07	5.70	8.02	7.95
3.3	0.10	0.22	0.34	0.79	0.86	2.13	5.90	8.31	8.20
3.4	0.10	0.23	0.35	0.80	0.88	2.19	6.10	8.59	8.45
3.5	0.10	0.24	0.36	0.82	0.90	2.24	6.30	8.88	8.71
3.6	0.10	0.24	0.37	0.84	0.92	2.30	6.51	9.16	8.96
3.7	0.11	0.25	0.38	0.85	0.93	2.36	6.71	9.45	9.21
3.8	0.11	0.26	0.38	0.87	0.95	2.42	6.91	9.73	9.47
3.9	0.11	0.26	0.39	0.89	0.97	2.48	7.11	10.01	9.72
4.0	0.11	0.27	0.40	0.90	0.99	2.54	7.31	10.30	9.97
4.1	0.12	0.28	0.42	0.94	1.04	2.63	7.46	10.62	10.45
4.2	0.12	0.29	0.44	0.97	1.10	2.72	7.60	10.94	10.93
4.3	0.13	0.29	0.46	1.00	1.15	2.81	7.75	11.27	11.41
4.4	0.13	0.30	0.48	1.04	1.20	2.90	7.89	11.59	11.89
4.5	0.14	0.31	0.50	1.07	1.26	2.99	8.04	11.91	12.37
4.6	0.14	0.32	0.52	1.10	1.31	3.09	8.18	12.23	12.85
4.7	0.15	0.32	0.54	1.14	1.37	3.18	8.33	12.56	13.33
4.8	0.15	0.33	0.56	1.17	1.42	3.27	8.48	12.88	13.81
4.9	0.16	0.34	0.57	1.20	1.47	3.36	8.62	13.20	14.29
5.0	0.16	0.35	0.59	1.24	1.53	3.45	8.77	13.52	14.77
5.1	0.16	0.36	0.61	1.27	1.58	3.54	8.91	13.86	15.26
5.2	0.17	0.36	0.63	1.31	1.64	3.64	9.06	14.19	15.74
5.3	0.17	0.37	0.65	1.34	1.69	3.73	9.21	14.52	16.23
5.4	0.18	0.38	0.67	1.37	1.75	3.82	9.36	14.86	16.72
5.5	0.18	0.39	0.69	1.41	1.80	3.91	9.51	15.19	17.21
5.6	0.19	0.40	0.71	1.44	1.86	4.01	9.65	15.52	17.69
5.7	0.19	0.40	0.73	1.47	1.91	4.10	9.80	15.86	18.18
5.8	0.20	0.41	0.75	1.51	1.96	4.19	9.95	16.19	18.67
5.9	0.20	0.42	0.77	1.54	2.02	4.29	10.10	16.52	19.16
6.0	0.20	0.43	0.78	1.58	2.07	4.38	10.24	16.85	19.64
6.1	0.21	0.44	0.81	1.61	2.13	4.47	10.40	17.20	20.14
6.2	0.21	0.44	0.82	1.64	2.18	4.57	10.55	17.55	20.64
6.3	0.22	0.45	0.84	1.68	2.24	4.66	10.70	17.90	21.14
6.4	0.22	0.46	0.86	1.71	2.29	4.76	10.85	18.24	21.64
6.5	0.23	0.47	0.88	1.75	2.35	4.85	11.00	18.59	22.14
6.6	0.23	0.48	0.90	1.78	2.41	4.95	11.15	18.94	22.63
6.7	0.24	0.48	0.92	1.81	2.46	5.04	11.30	19.28	23.13
6.8	0.24	0.49	0.94	1.85	2.52	5.13	11.45	19.63	23.63
6.9	0.25	0.50	0.96	1.88	2.57	5.23	11.60	19.98	24.13
7.0	0.25	0.51	0.98	1.92	2.63	5.32	11.75	20.32	24.63
7.1	0.25	0.52	1.00	1.95	2.68	5.42	11.90	20.69	25.14
7.2	0.26	0.52	1.02	1.99	2.74	5.52	12.06	21.05	25.65
7.3	0.26	0.53	1.04	2.02	2.79	5.61	12.21	21.41	26.16
7.4	0.27	0.54	1.06	2.06	2.85	5.71	12.37	21.77	26.67
7.5	0.27	0.55	1.08	2.09	2.90	5.81	12.52	22.13	27.18
7.6	0.27	0.55	1.08	2.09	2.96	5.90	12.67	22.49	27.68
7.7	0.27	0.55	1.08	2.09	3.02	6.00	12.83	22.49	28.19
7.8	0.27	0.55	1.08	2.09	3.07	6.10	12.98	22.49	28.19
7.9	0.27	0.55	1.08	2.09	3.07	6.19	13.13	22.49	28.19

Apollo ProFlow

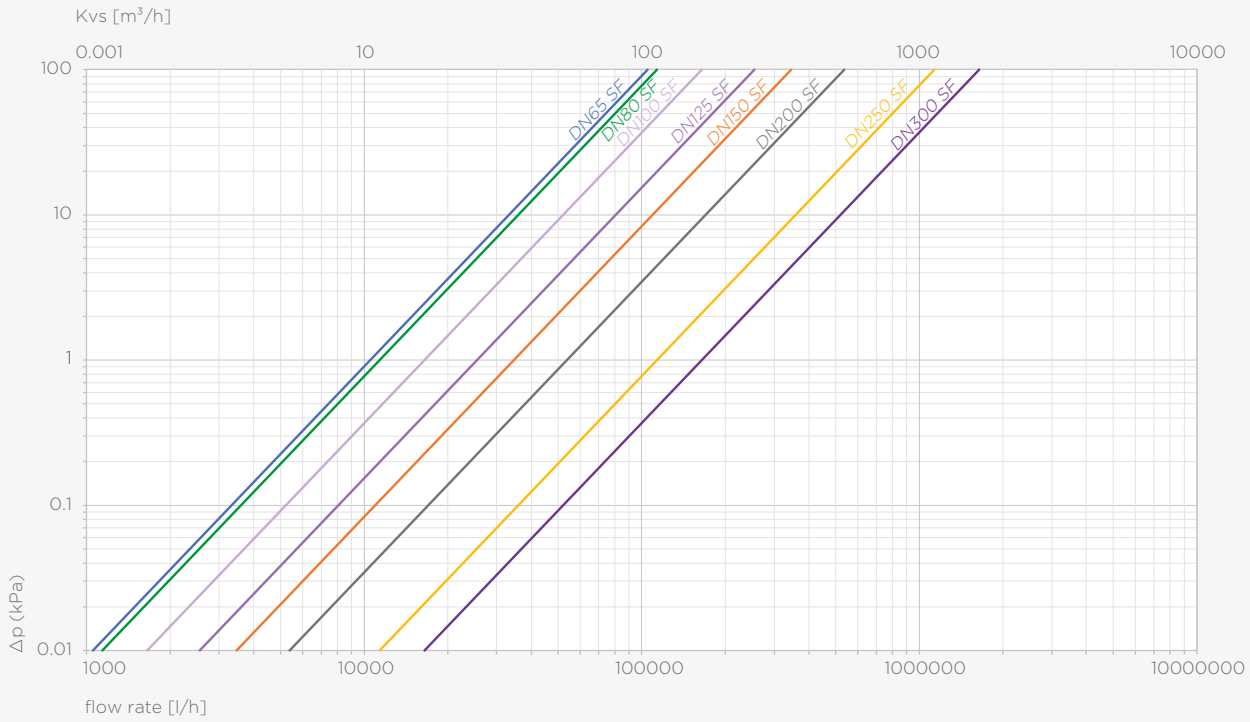
V955 static balancing valve charts

selection charts

flow rate Apollo ProFlow V955



pressure loss Apollo ProFlow V955



pre-setting charts

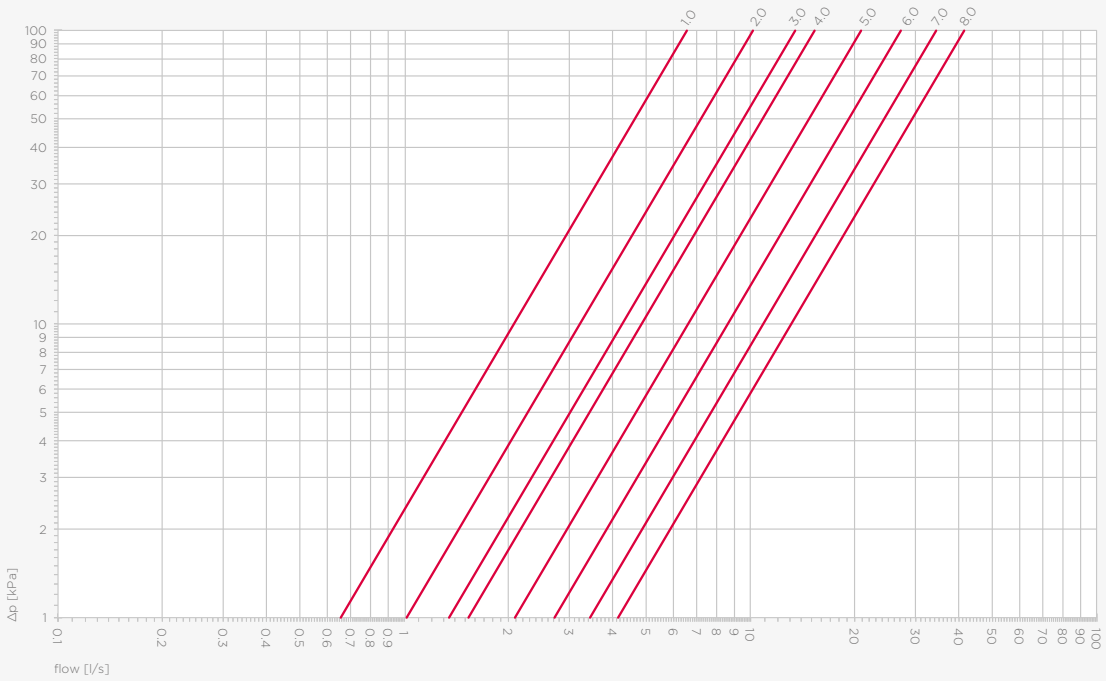
Apollo ProFlow V955 - DN65, handwheel setting

Apollo ProFlow V955 - DN80, handwheel setting

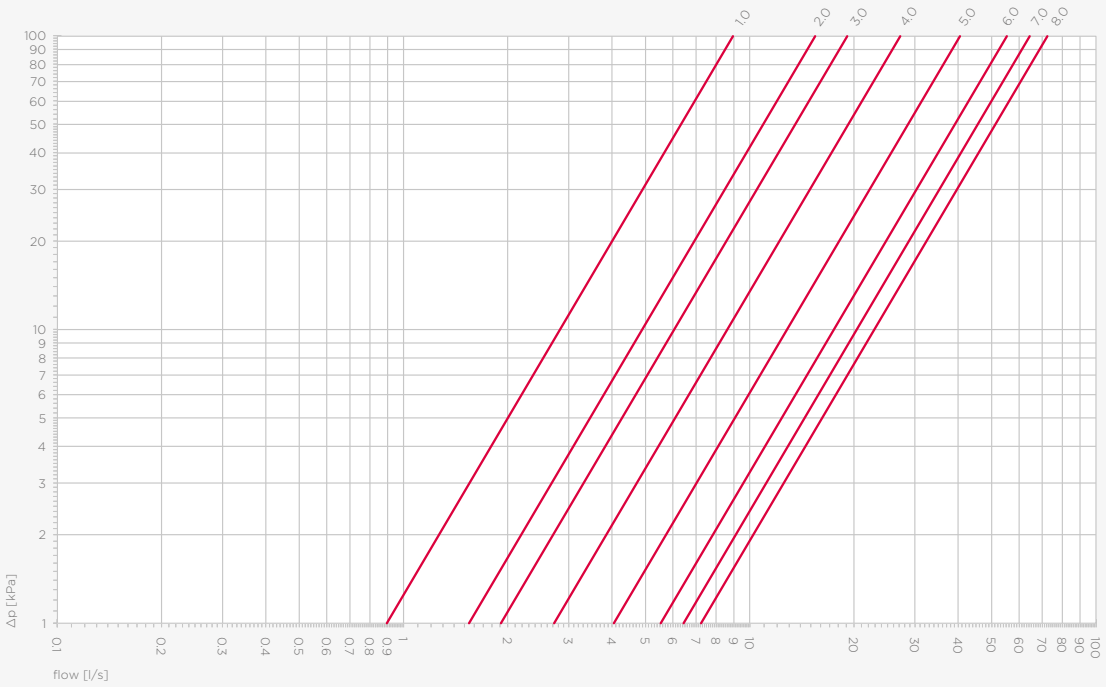
Information supplied in the charts is for guidance only. It is recommended that flow rates are verified with the use of a flow measurement device to ensure that the required flow rate is achieved.

pre-setting charts

Apollo ProFlow V955 - DN100, handwheel setting

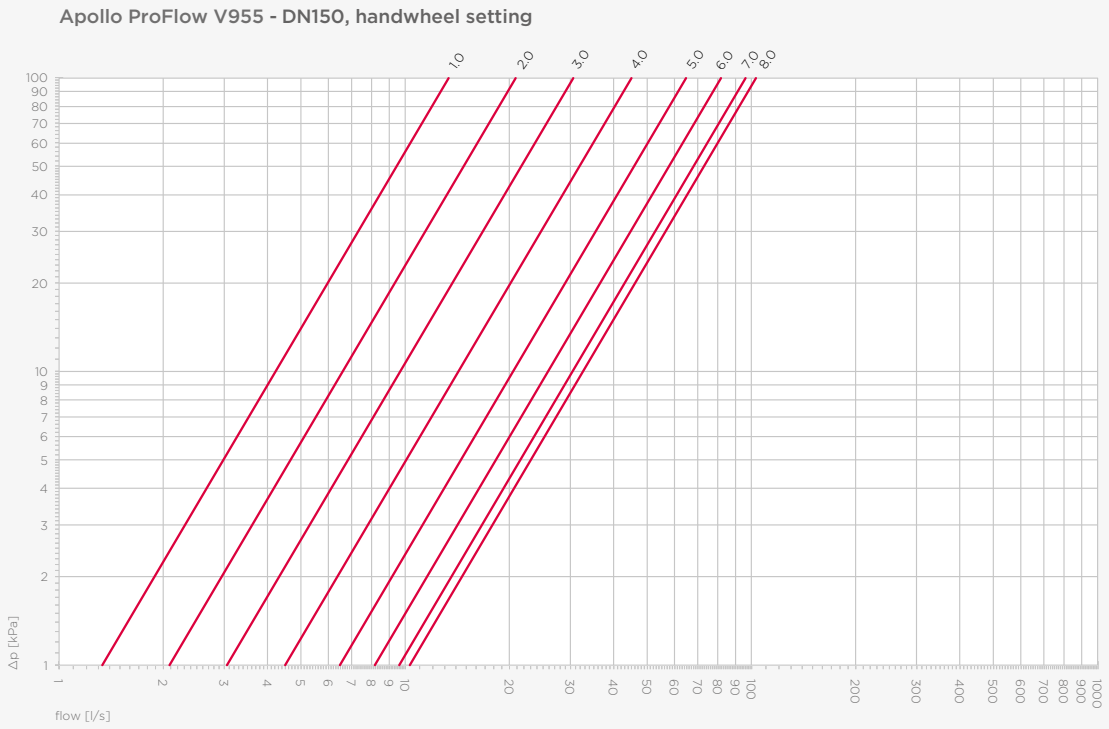


Apollo ProFlow V955 - DN125, handwheel setting



Information supplied in the charts is for guidance only. It is recommended that flow rates are verified with the use of a flow measurement device to ensure that the required flow rate is achieved.

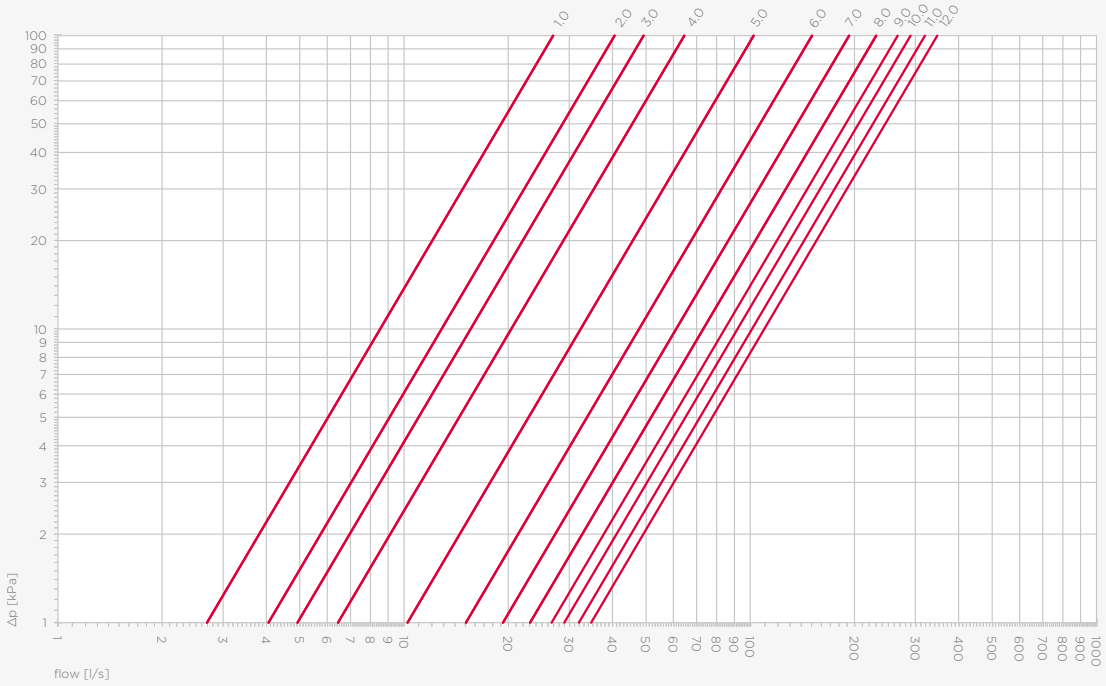
pre-setting charts



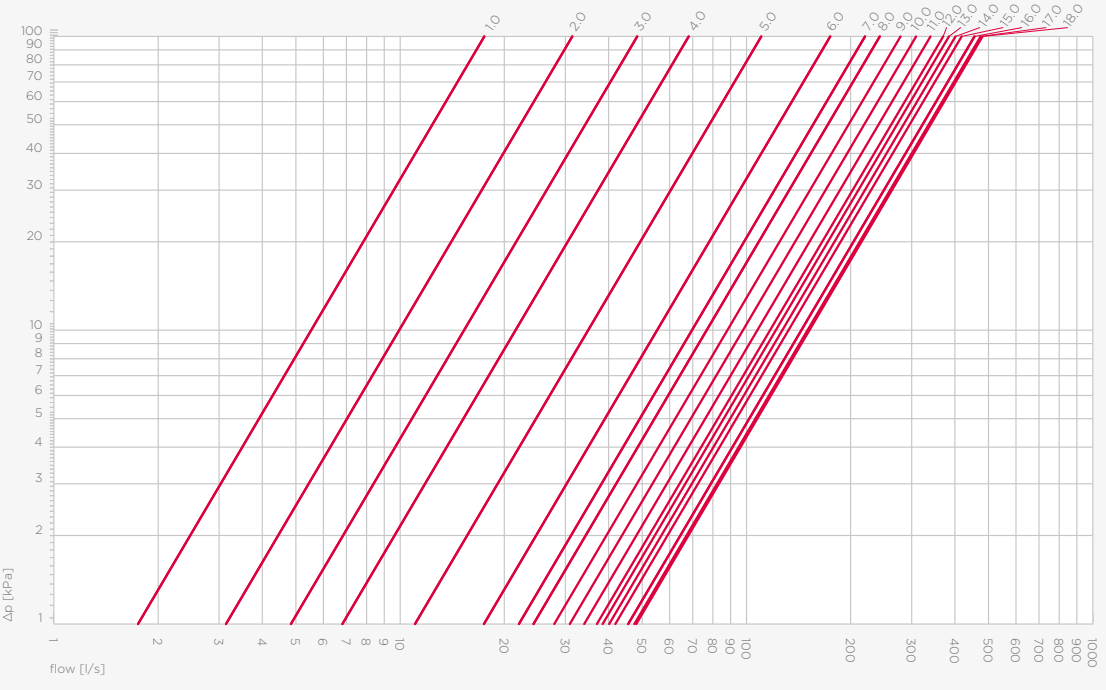
Information supplied in the charts is for guidance only. It is recommended that flow rates are verified with the use of a flow measurement device to ensure that the required flow rate is achieved.

pre-setting charts

Apollo ProFlow V955 - DN250, handwheel setting



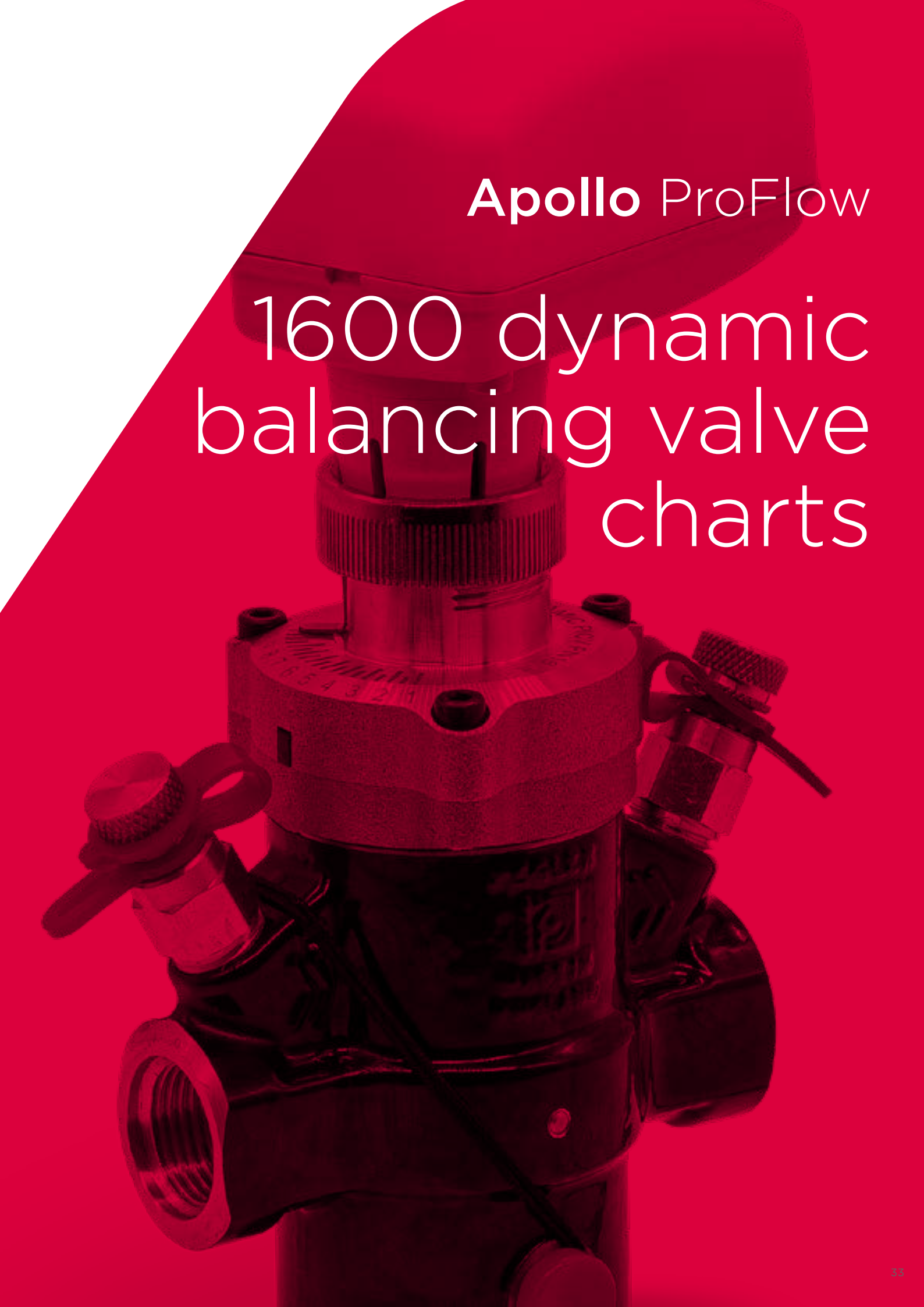
Apollo ProFlow V955 - DN300, handwheel setting



Information supplied in the charts is for guidance only. It is recommended that flow rates are verified with the use of a flow measurement device to ensure that the required flow rate is achieved.

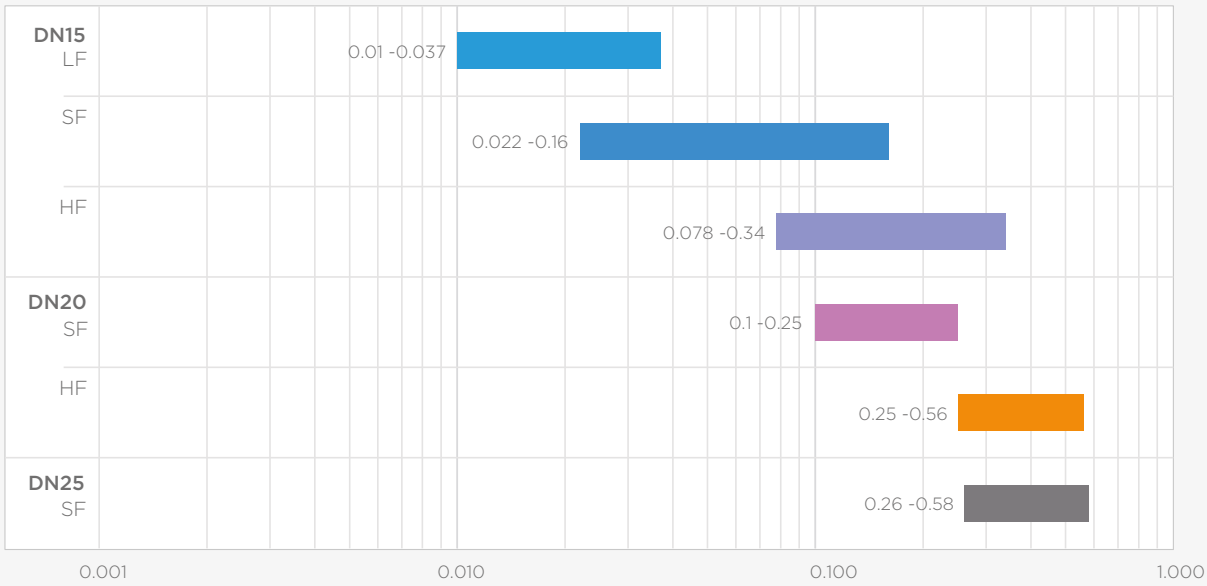
Apollo ProFlow

1600 dynamic balancing valve charts



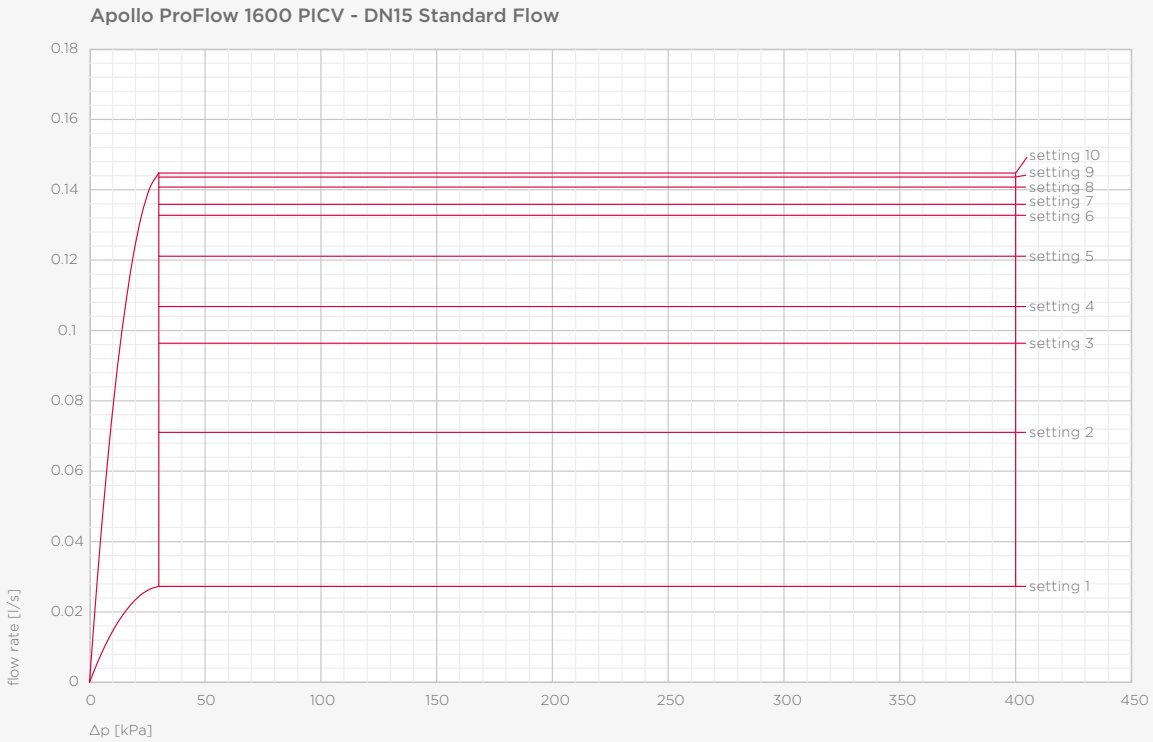
selection charts

flow rate Apollo ProFlow 1600 PICV



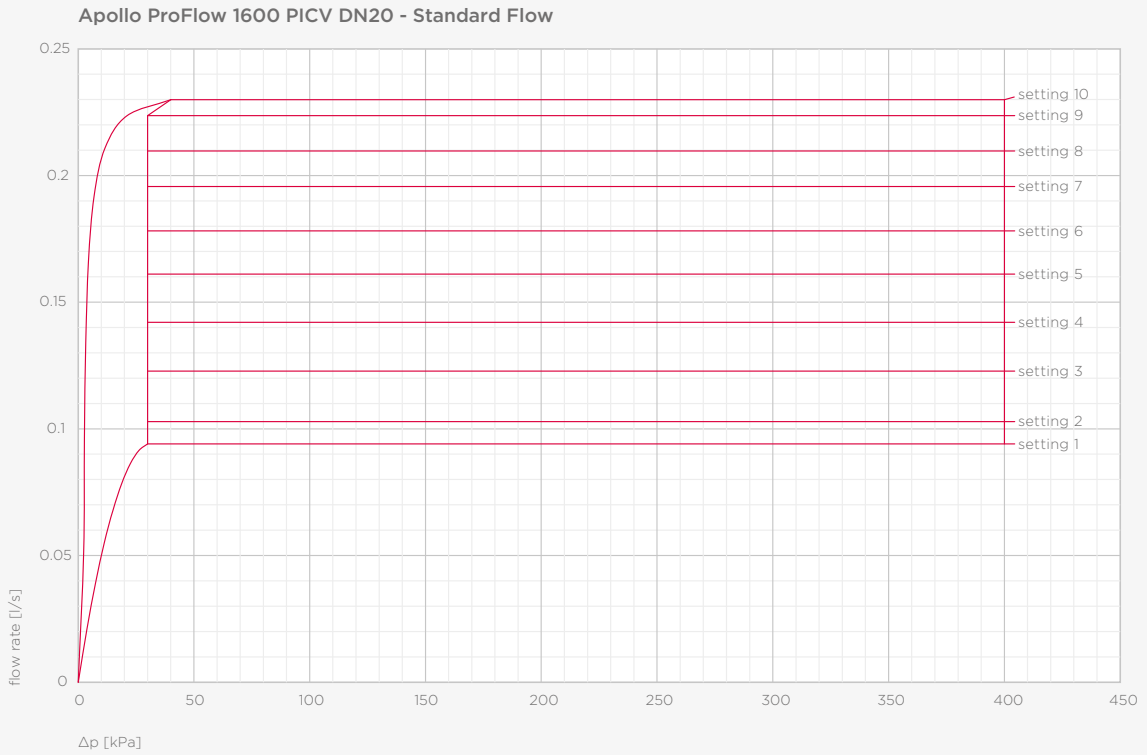
pre-setting charts

for settings lower than 2, ultra low flows can be achieved, however the accuracy is variable.



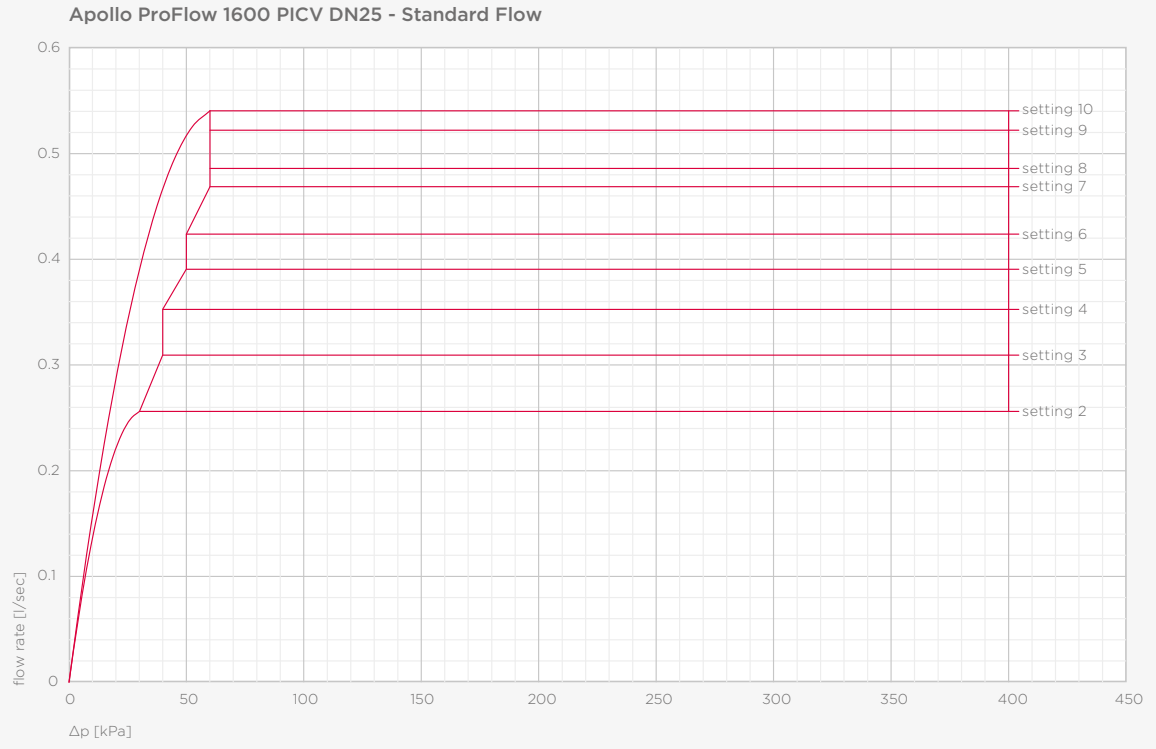
Information supplied in the charts is for guidance only. It is recommended that flow rates are verified with the use of a flow measurement device to ensure that the required flow rate is achieved.

selection charts



Information supplied in the charts is for guidance only. It is recommended that flow rates are verified with the use of a flow measurement device to ensure that the required flow rate is achieved.

selection charts



for settings lower than 2, ultra low flows can be achieved, however the accuracy is variable.

Information supplied in the charts is for guidance only. It is recommended that flow rates are verified with the use of a flow measurement device to ensure that the required flow rate is achieved.

integrated
piping systems

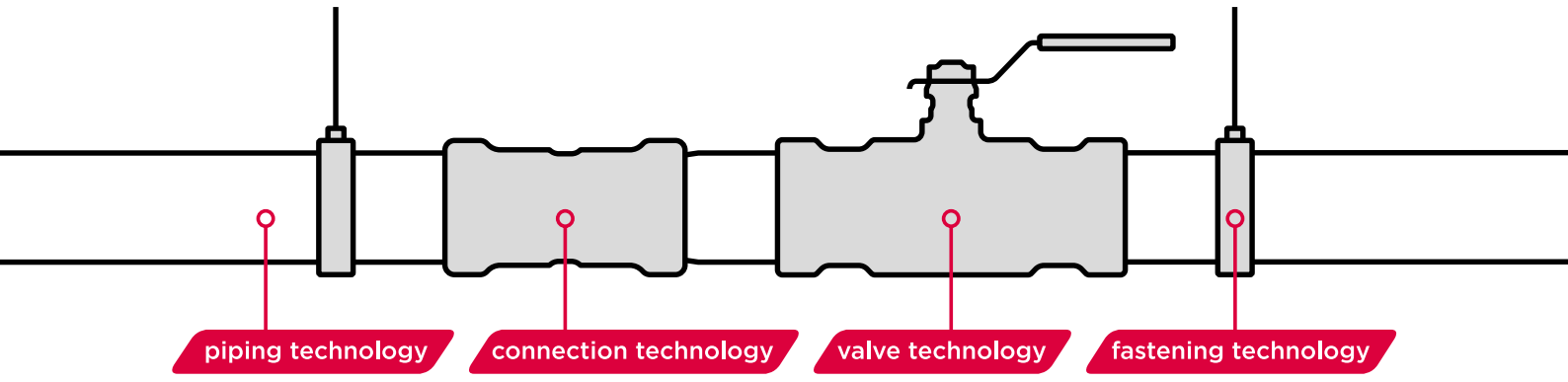
aalberts

more information?

For a complete and up-to-date product range and our additional services, visit: www.aalberts-ips.eu

Would you like to make an appointment to meet an account manager in your region or receive advice and support from one off our experts?
Please contact:

Aalberts integrated piping systems Customer Service
+31 (0)35 68 84 330
salessupport.emea@aalberts-ips.com



Aalberts integrated piping systems B.V.
Oude Amersfoortseweg 99 / 1212 AA Hilversum
P.O. Box 498 / 1200 AL Hilversum
The Netherlands
www.aalberts-ips.eu

5009939-2022-1.1 EN