

MDFO



Fixed orifices

Flow measuring orifice

MDFO

Flow measuring orifice with self-sealed measuring points.

Key features

> **Self-sealing measuring points**

For simple, accurate balancing.

> **Stainless steel**

Guarantees a longer lifetime.



Technical description

Application:

Heating and cooling systems
Tapwater systems

Function:

Measuring

Dimensions:

DN 20-900

Pressure class:

PN 16 (DN 20-900)
PN 25 (DN 65-300)
PN 40 (DN 65-450)

Temperature:

Max. working temperature: 110°C
Min. working temperature: -20°C

Material:

Fixed orifice: Stainless steel
X3CrNiMo17-13-3 (No. 1.4436 according
to EN 10028-7 or EN 10272 (BS 970
316/S16)
Measuring points: AMETAL®
Sealing (measuring points): EPDM

AMETAL® is the dezincification resistant
alloy of IMI Hydronic Engineering.

Marking:

TA, MDFO, DN, PN, Charge No, flow
direction arrow.
DN 20-150 (PN 16): BS 7350.

General

Wafer pattern orifice for fixing between EN 1092, ISO 7005 (BS 4504) flanges.

The measuring orifice fulfils the requirements of BS 1042: Section 1.1:1992 (ISO 5167-1:1991).

The calculation of flow rates are according to BS 1042: Section 1.4:1992.

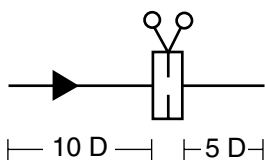
Measuring points

MDFO (52 176 and 52 276) with extended self-sealed measuring points.

Installation

Before you install the measuring orifice, check that:

- it is clean and undamaged.
- the surfaces that are to seal against are clean and undamaged.
- there is enough straight pipe lengths before and after the measuring orifice.



The measuring orifice should be installed between two counter flanges. Check that these counter flanges are parallel and that the gaskets are according to given standard for flanges. Check also that the measuring orifice and the gaskets are correctly centred before tightening.

Differential pressure measurement should take place with extreme care especially if this concerns hot media.

Pressure switch and thermostat

In order to guarantee the lowest and highest pressure as well as to ensure that the temperature is not exceeded the system should be fitted with a pressure switch and thermostat.

Commissioning

Test the pressure on the valve using cold water.

Tighten the flange joints and check for leakage in connection with commissioning.

Maintenance

The measuring orifice MDFO are maintenance free under the condition that they are used within their normal application area.

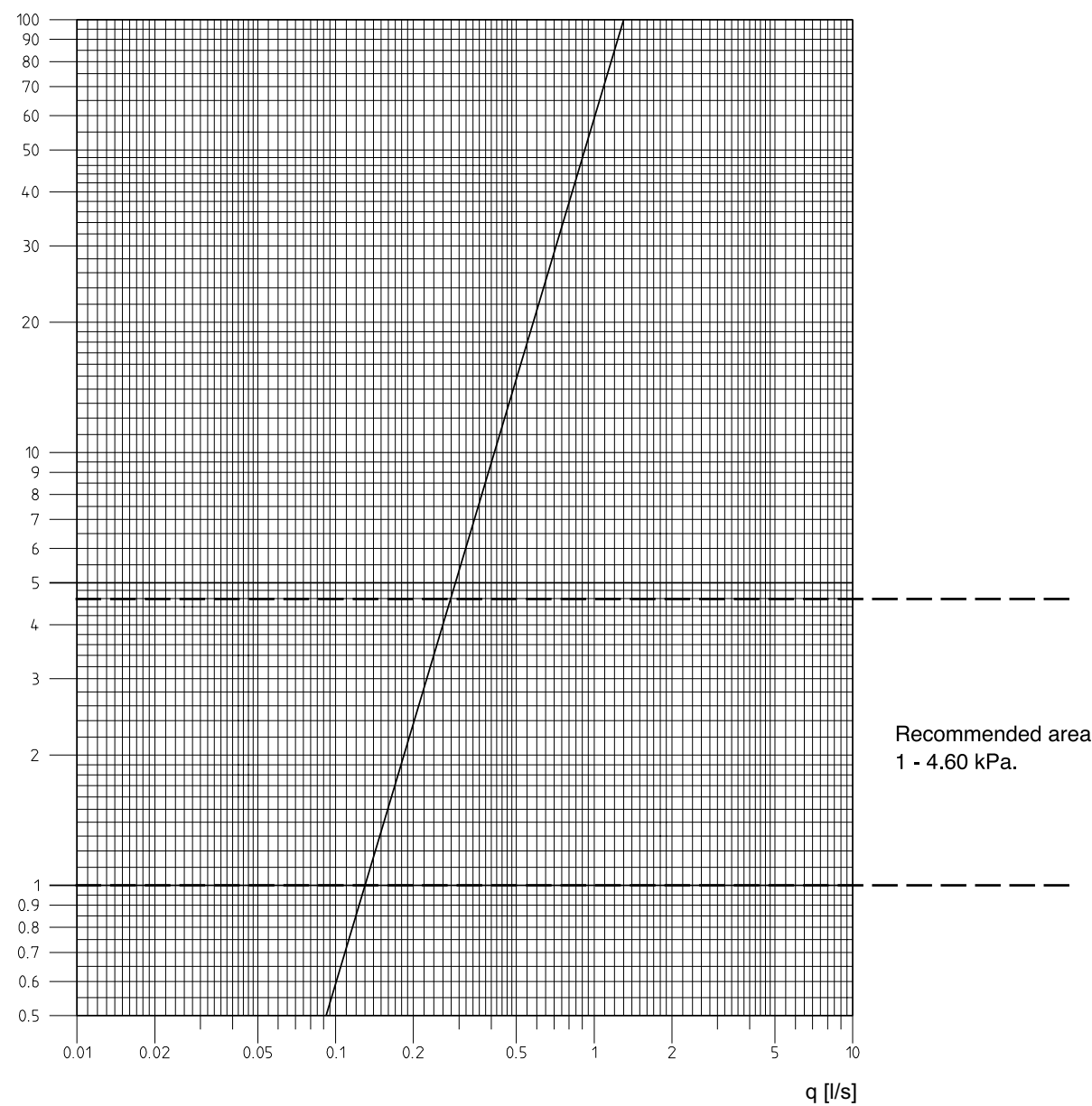
Performance Graph, DN 20 (3/4)

Standard Flow

Kvs 4.68

Flanged Fitting

Δp [kPa]



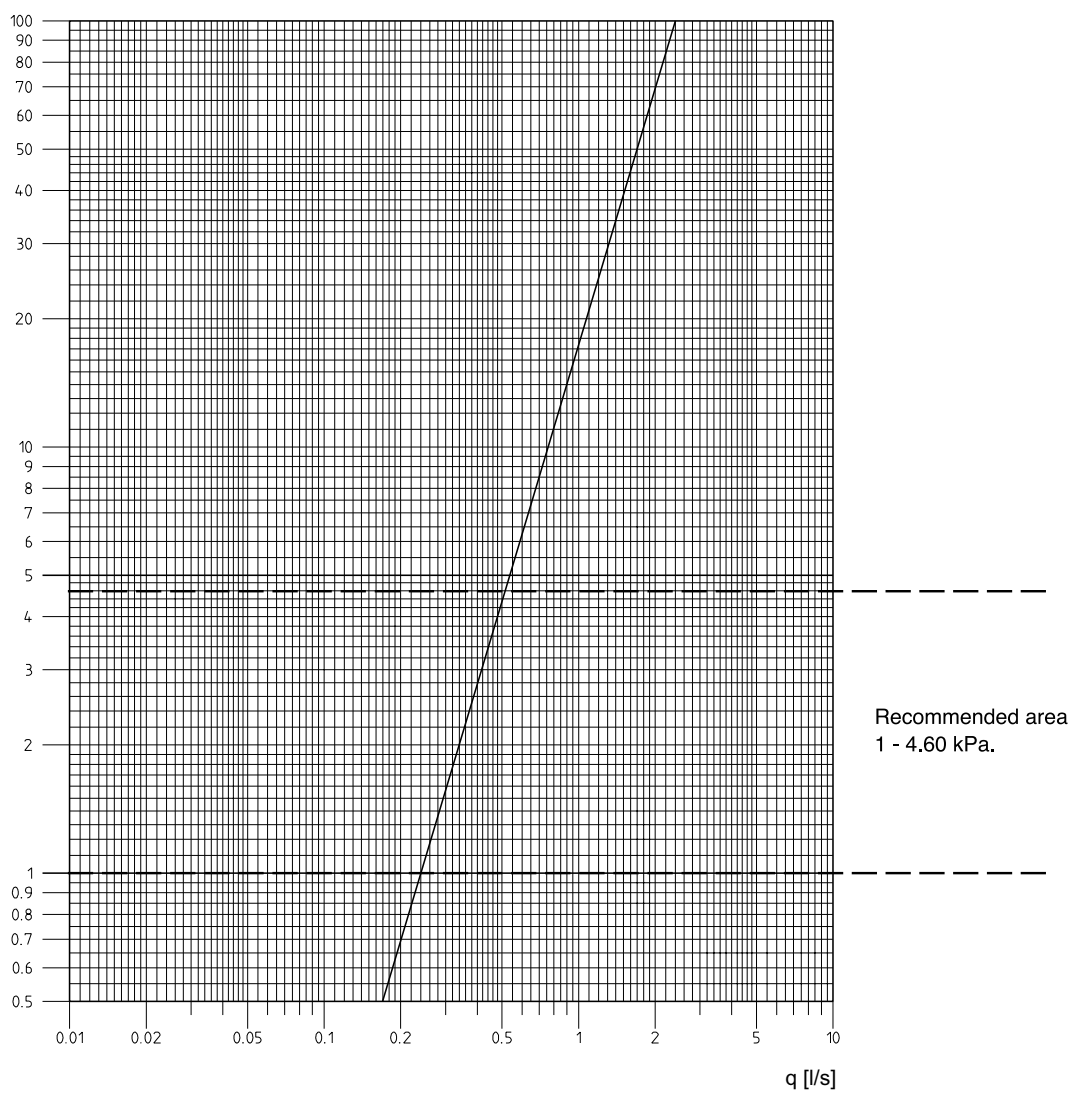
Performance Graph, DN 25 (1)

Standard Flow

Kvs 8.64

Flanged Fitting

Δp [kPa]



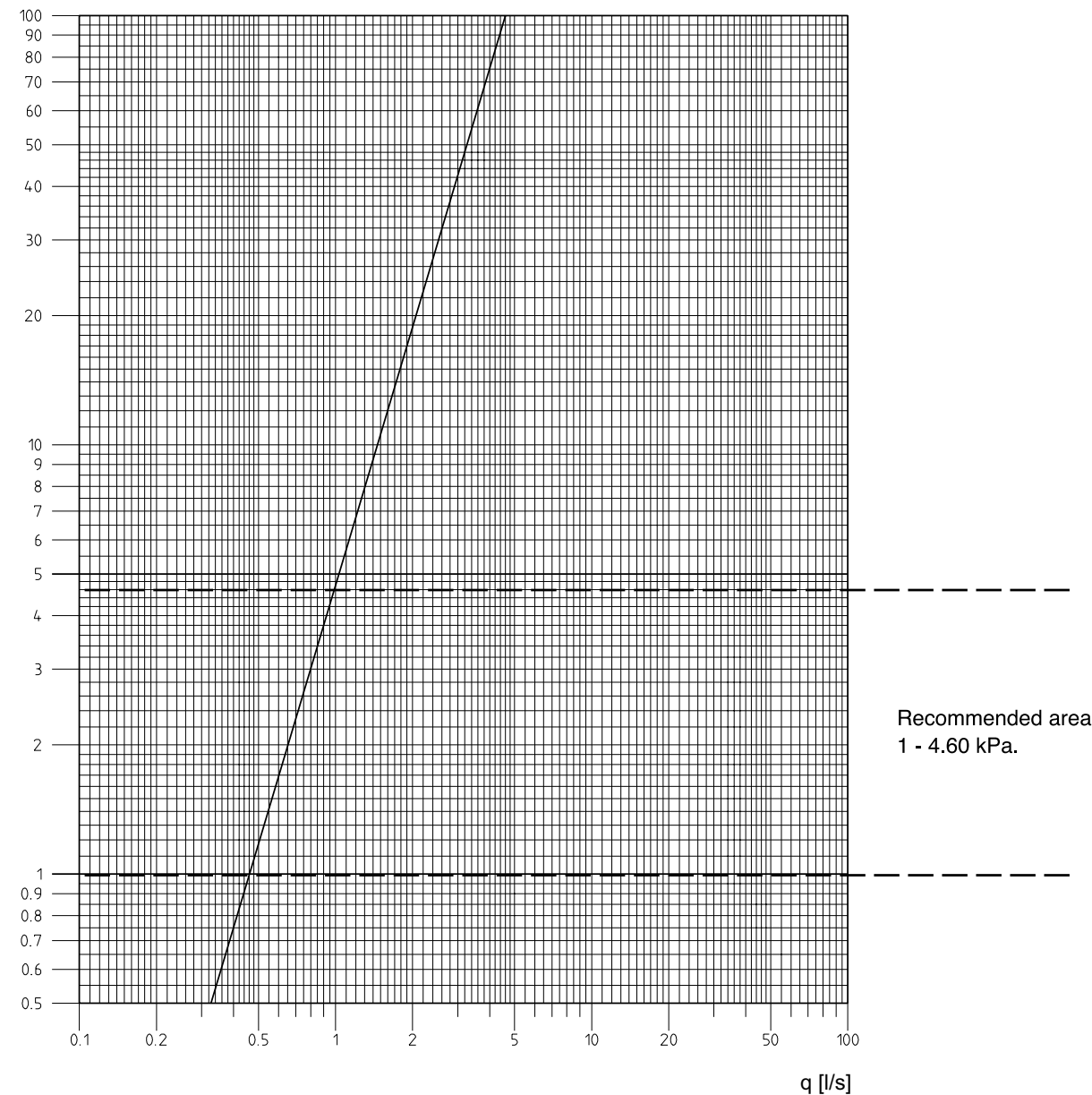
Performance Graph, DN32 (1 1/4)

Standard Flow

Kvs 16.6

Flanged Fitting

Δp [kPa]



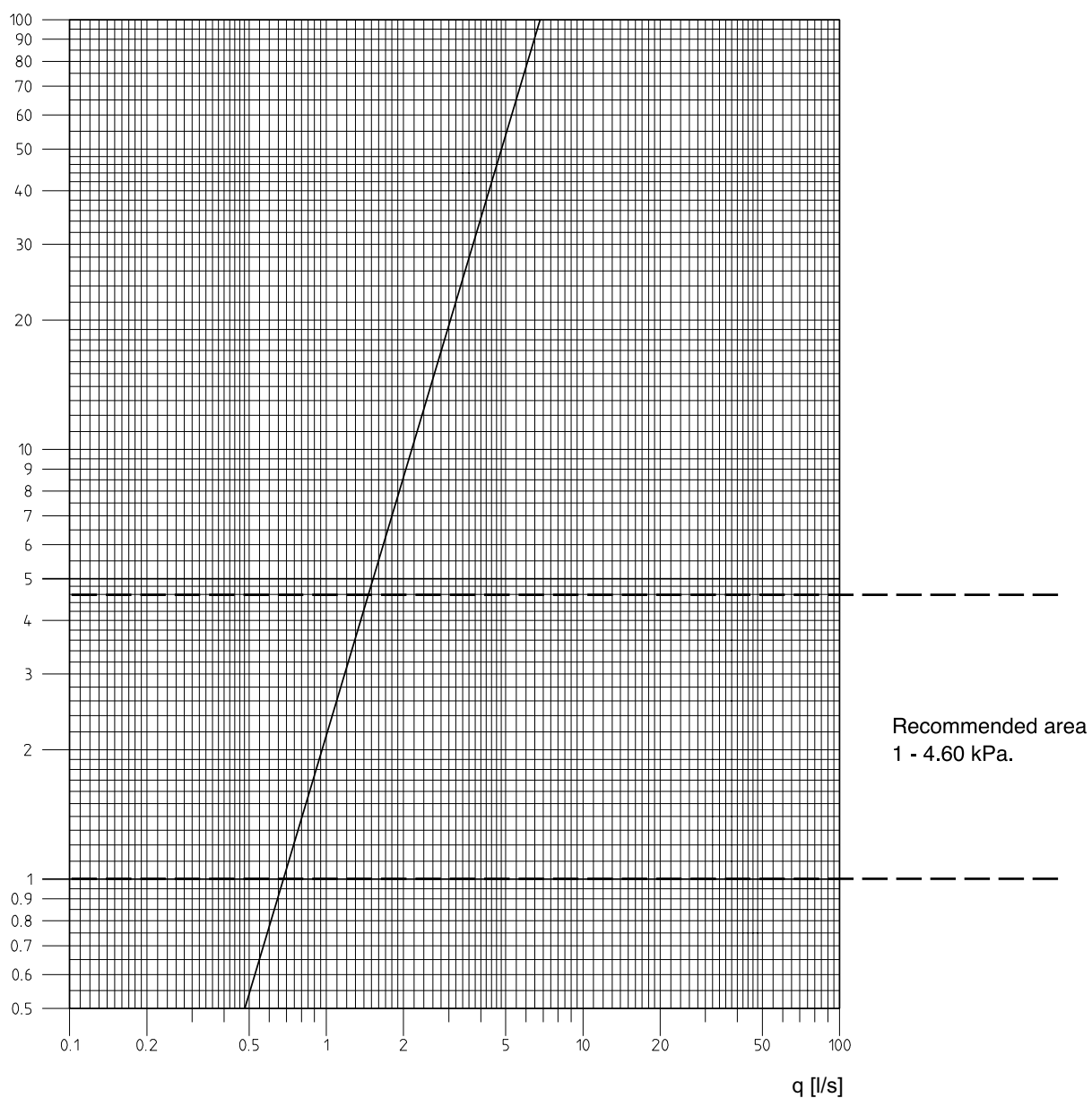
Performance Graph, DN 40 (1 1/2)

Standard Flow

Kvs 24.5

Flanged Fitting

Δp [kPa]



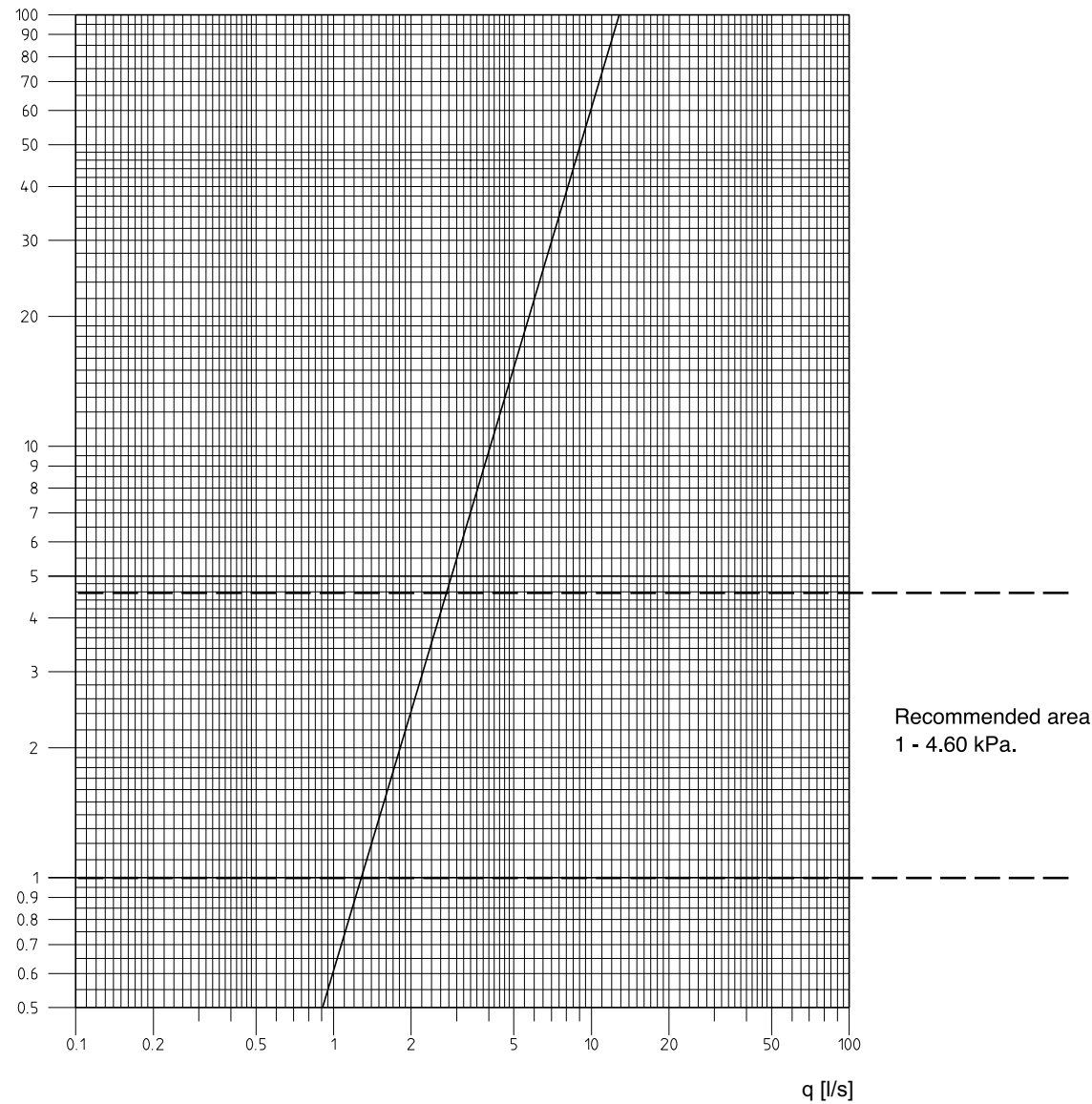
Performance Graph, DN 50 (2)

Standard Flow

Kvs 46.10

Flanged Fitting

Δp [kPa]



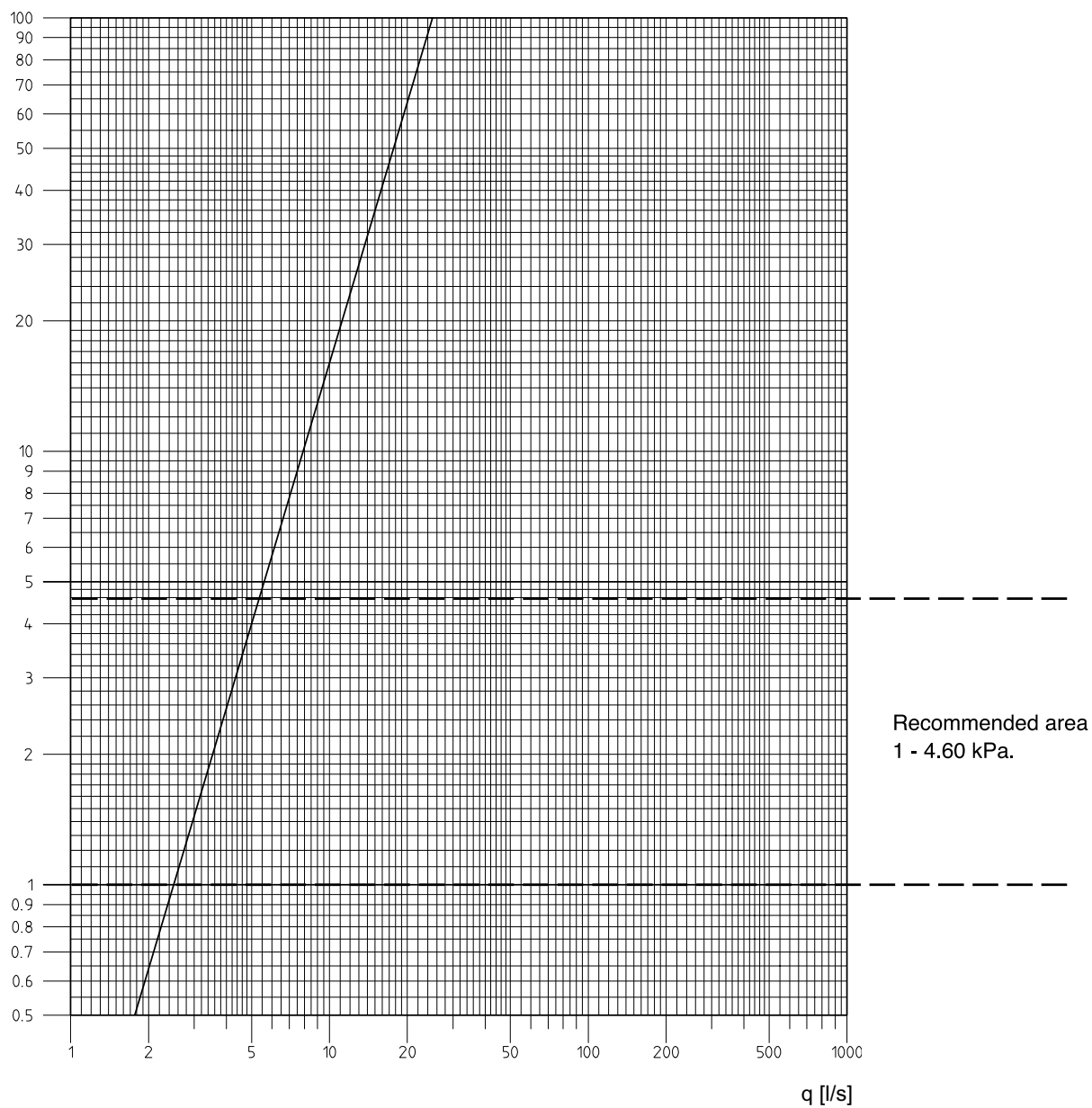
Performance Graph, DN 65-2, (2 1/2)

Standard Flow

Kvs 90

Flanged Fitting

Δp [kPa]



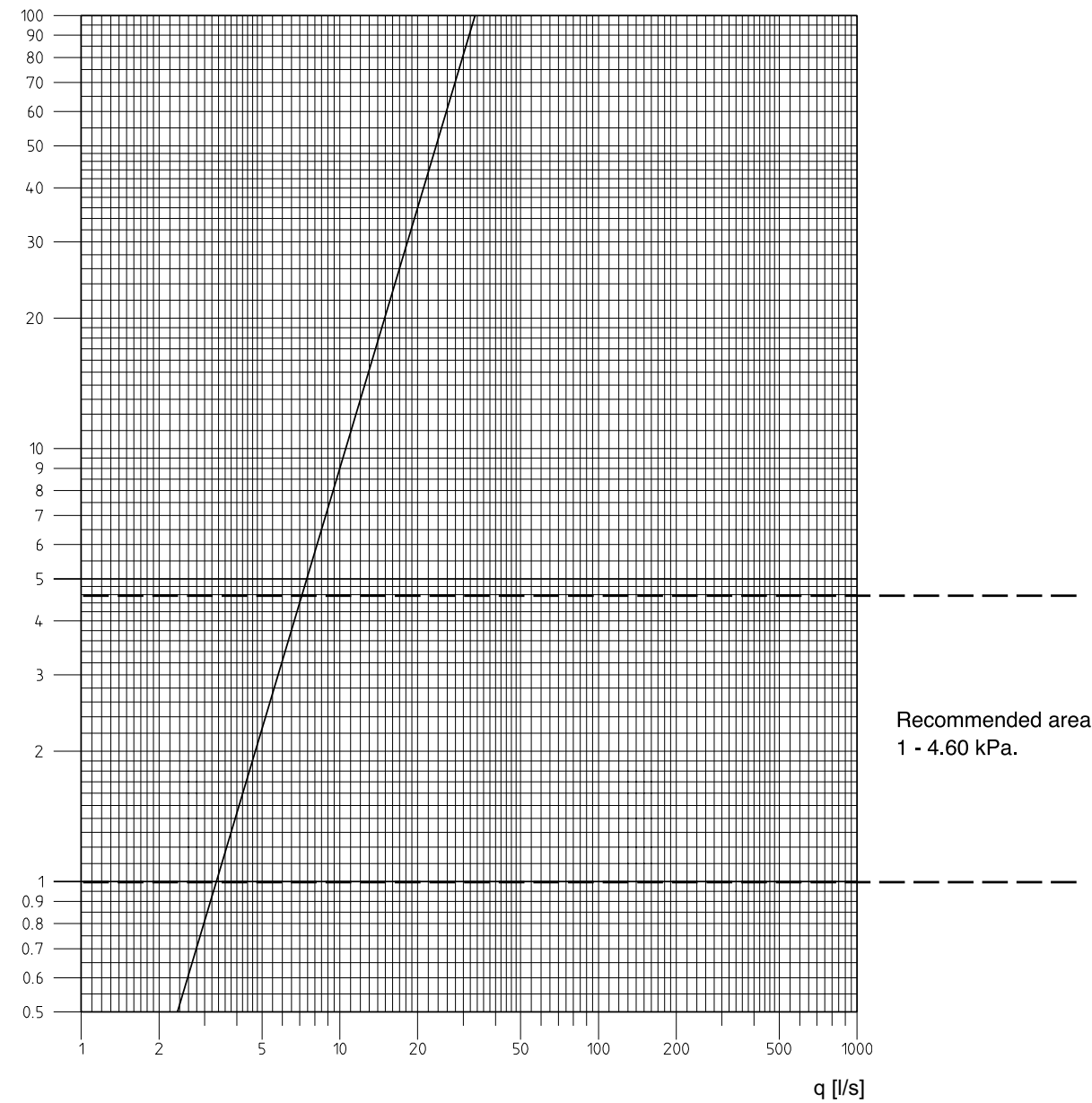
Performance Graph, DN 80 (3)

Standard Flow

Kvs 120

Flanged Fitting

Δp [kPa]



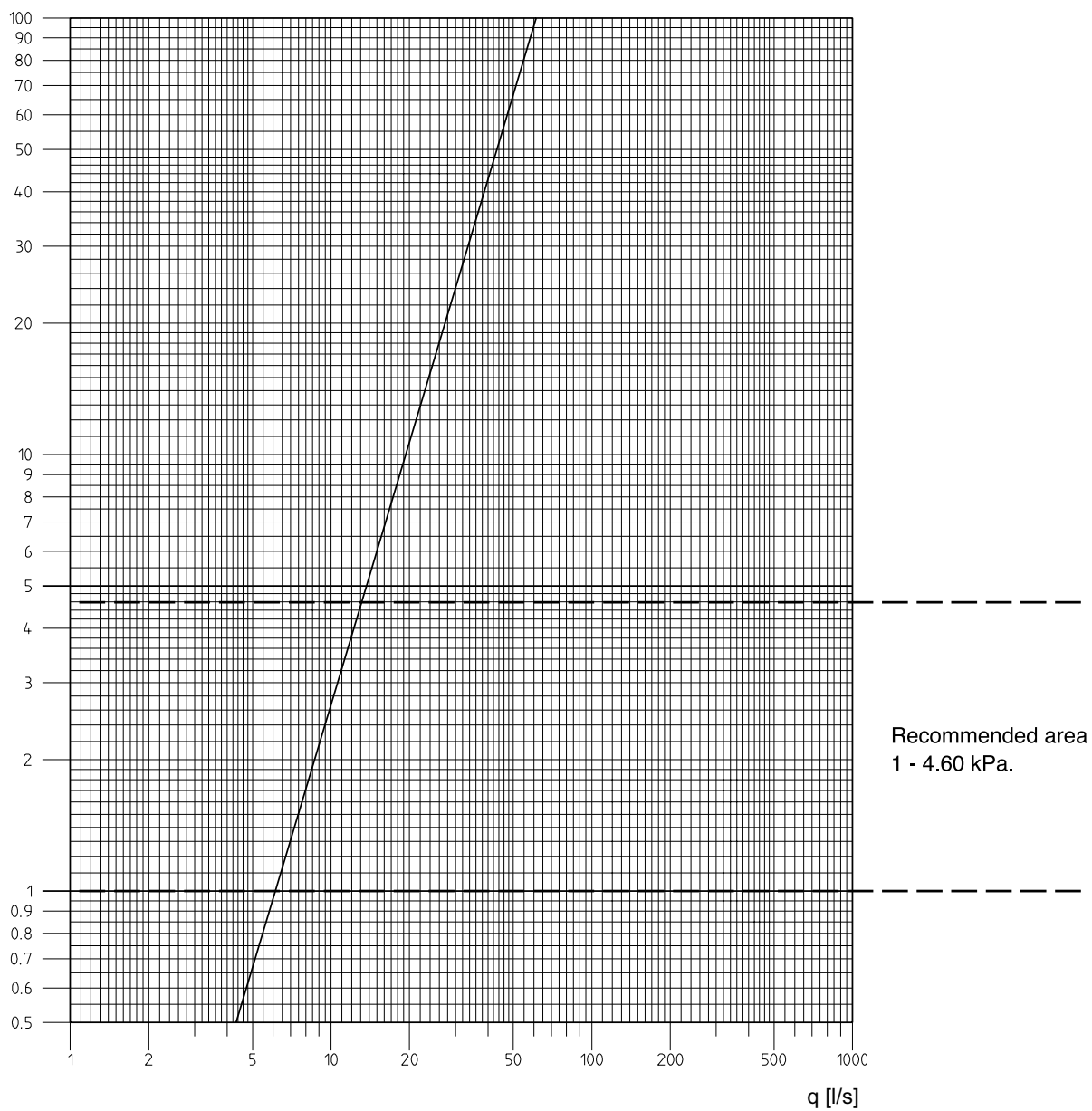
Performance Graph, DN 100 (4)

Standard Flow

Kvs 220

Flanged Fitting

Δp [kPa]



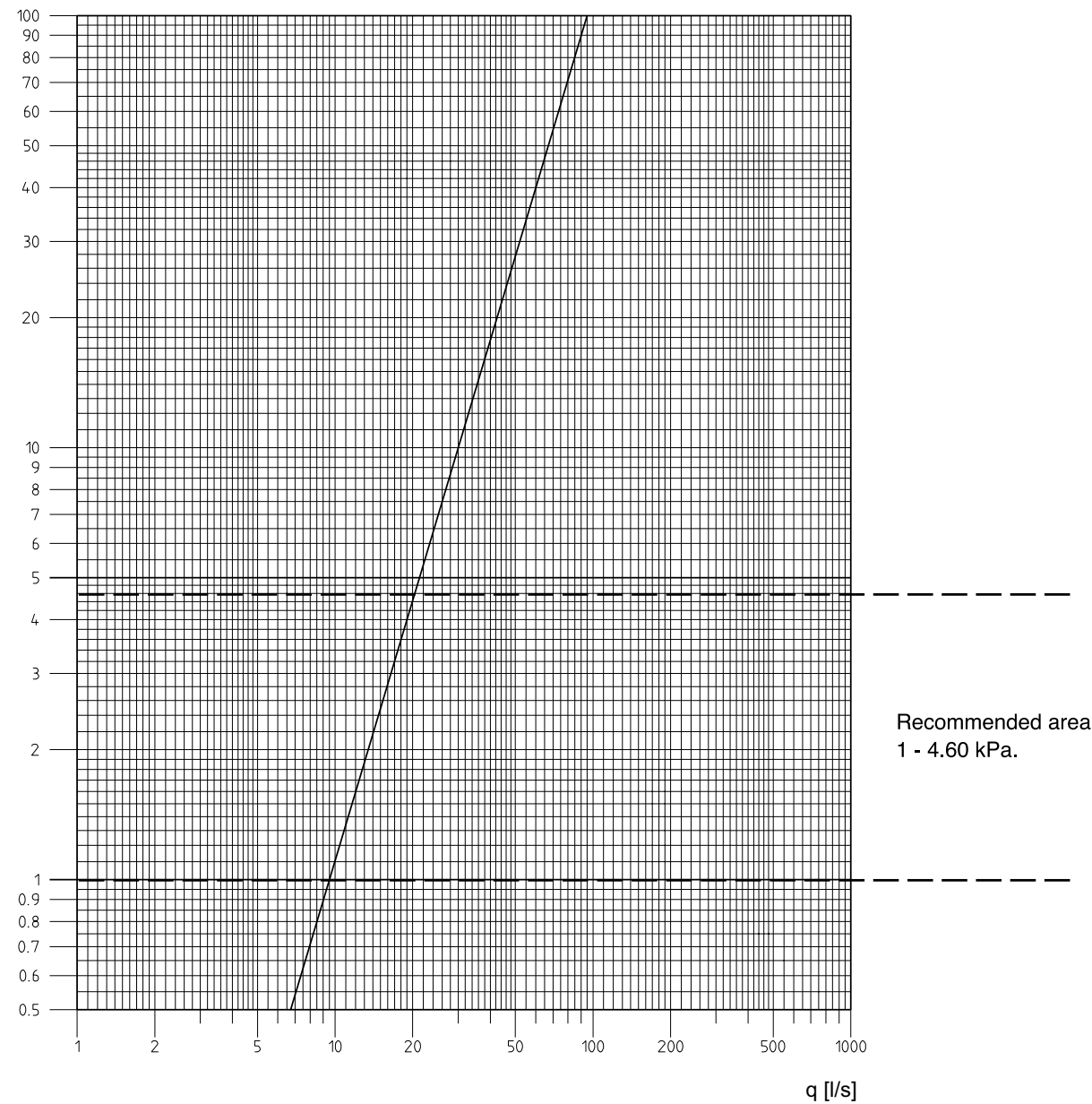
Performance Graph, DN 125 (5)

Standard Flow

Kvs 342

Flanged Fitting

Δp [kPa]



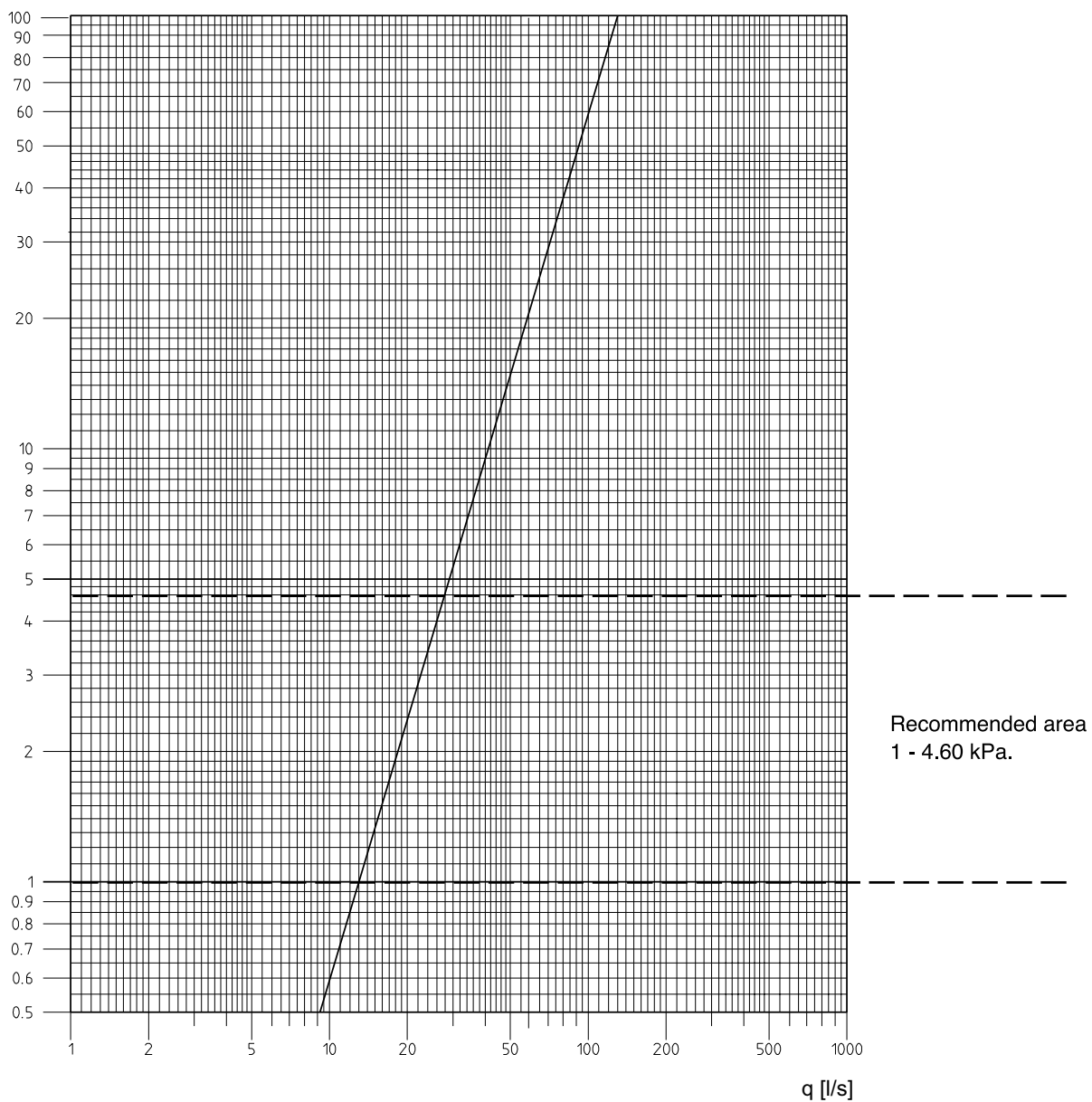
Performance Graph, DN 150 (6)

Standard Flow

Kvs 468

Flanged Fitting

Δp [kPa]



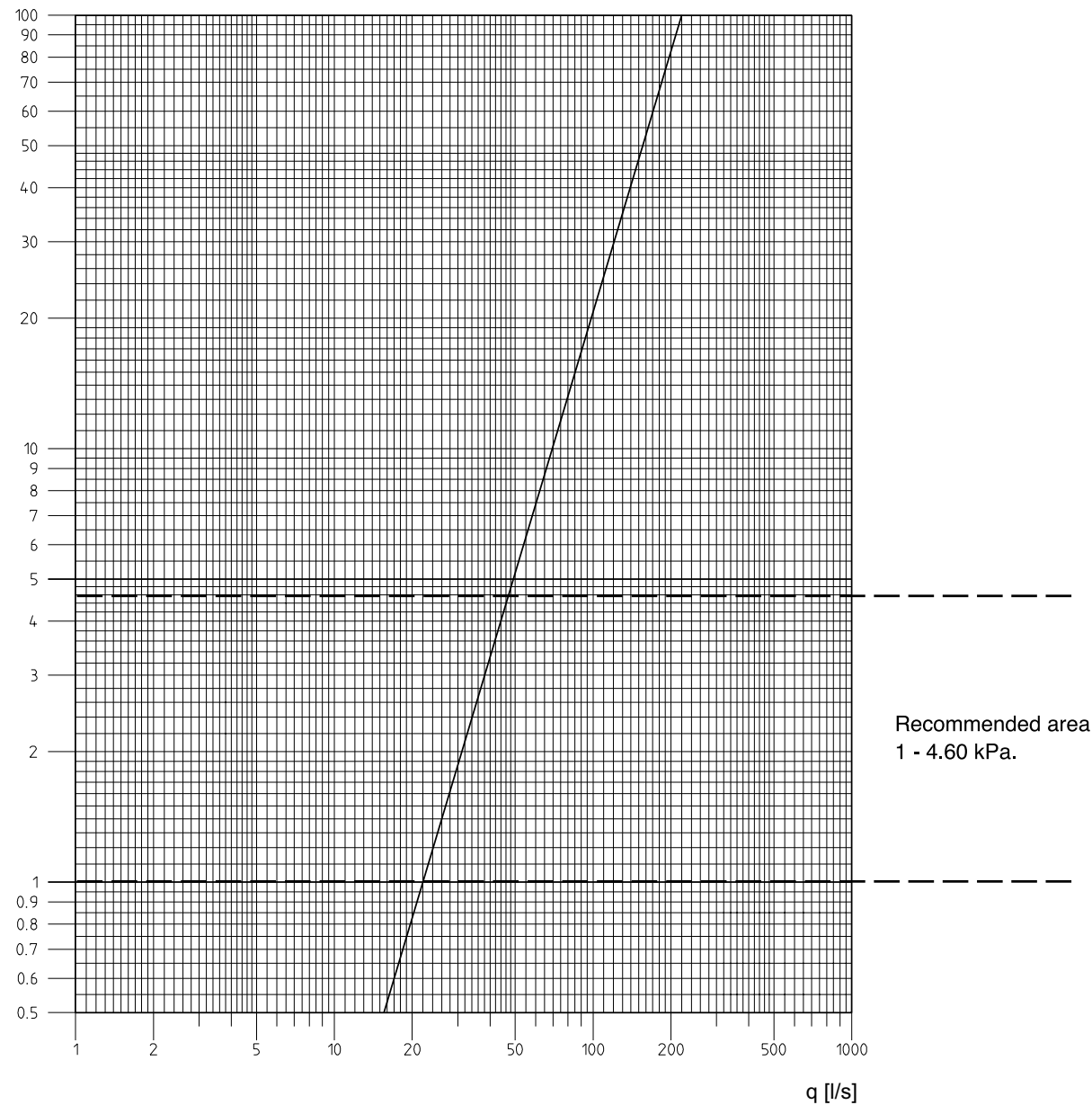
Performance Graph, DN 200 (8)

Standard Flow

Kvs 792

Flanged Fitting

Δp [kPa]



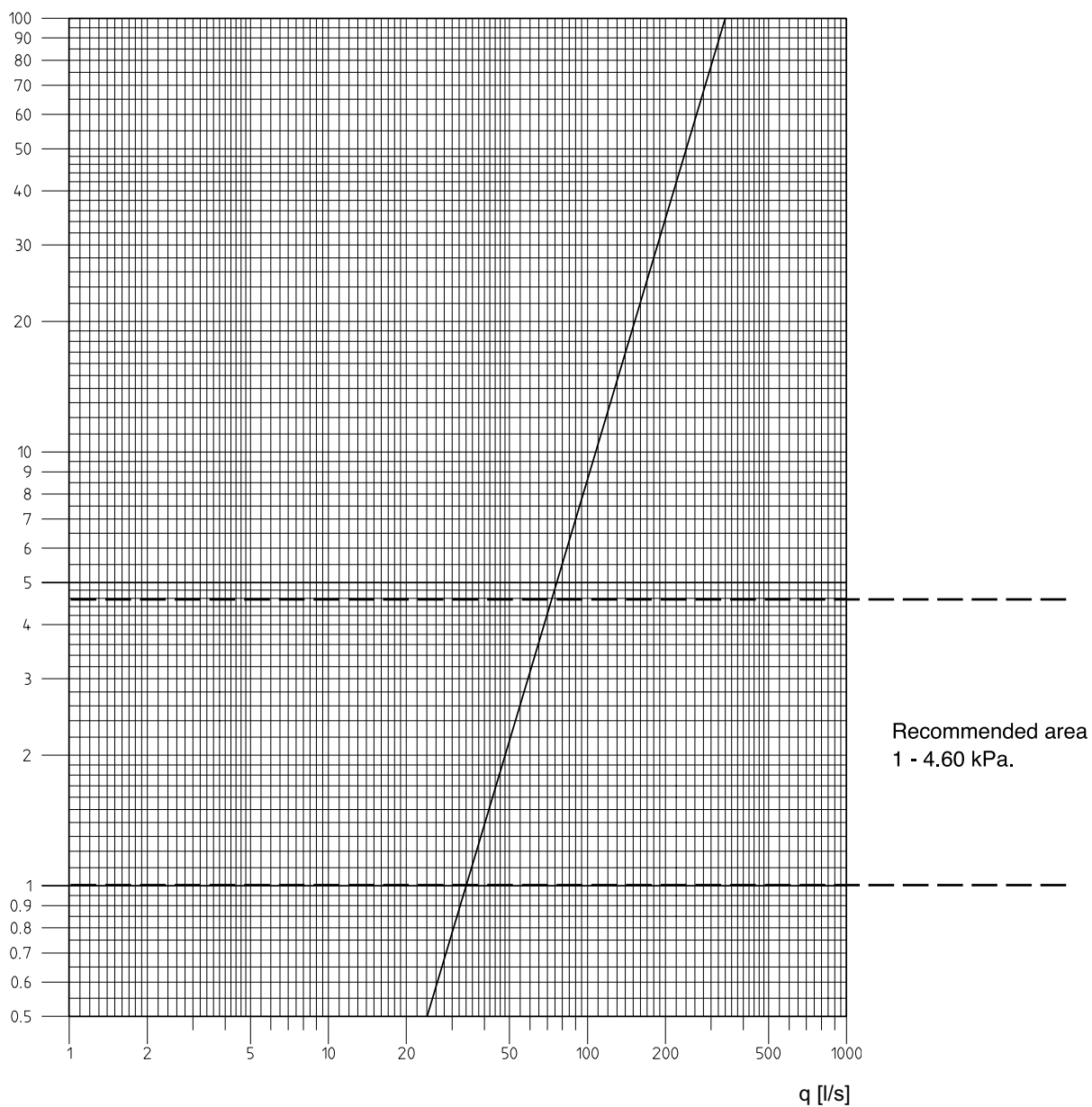
Performance Graph, DN 250 (10)

Standard Flow

Kvs 1224

Flanged Fitting

Δp [kPa]



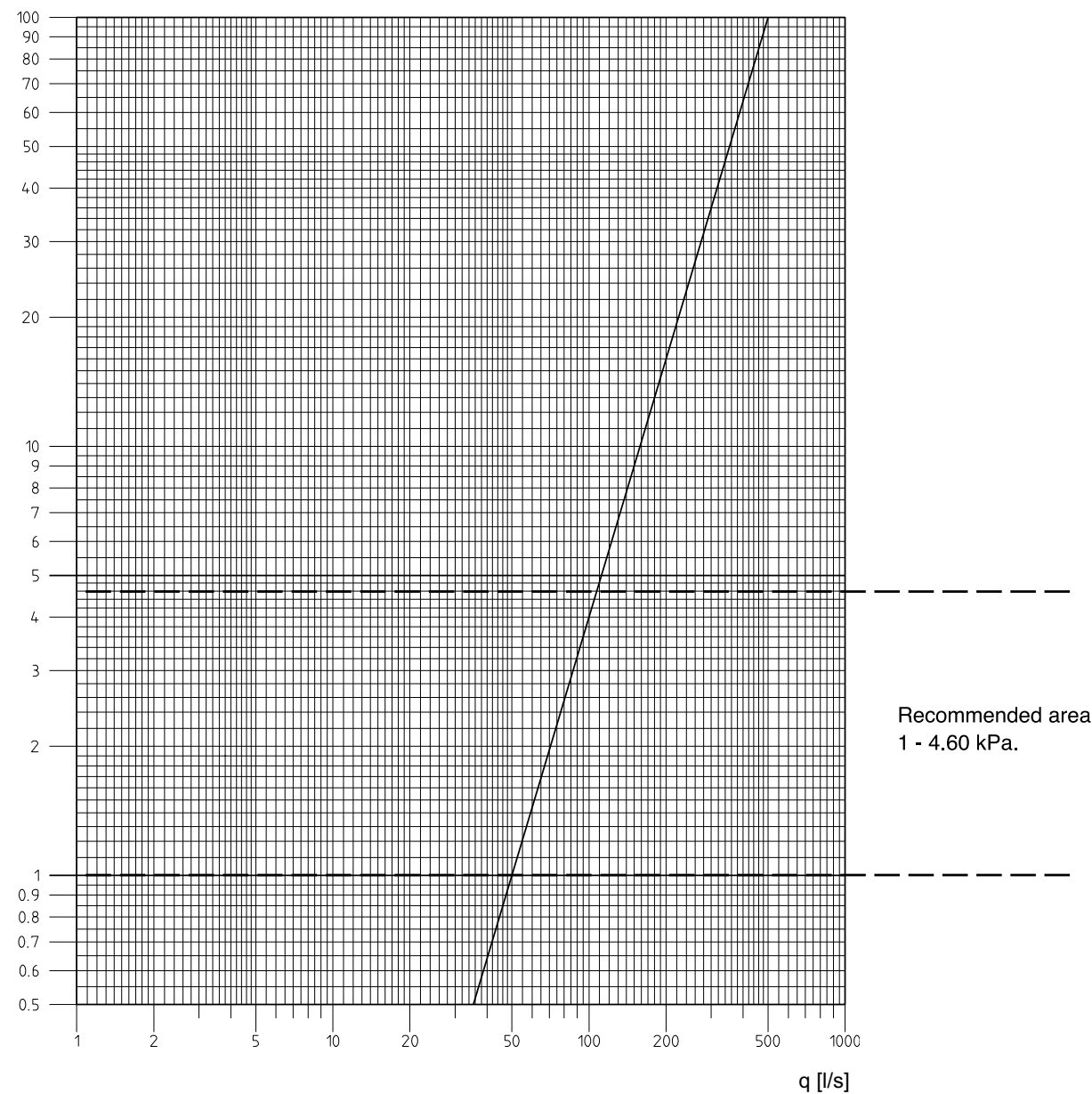
Performance Graph, DN 300 (12)

Standard Flow

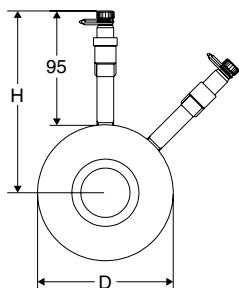
Kvs 1800

Flanged Fitting

Δp [kPa]



Articles



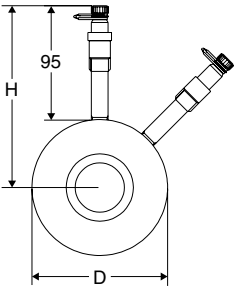
With self-sealed measuring points

PN 16

DN	D	H	Flange thickness	Kv _{max}	Kv _{signal}	Kg	Article No
20	63	127	18	6	4,68	0,59	52 176-920
25	73	131	18	11	8,64	0,70	52 176-925
32	84	137	18	23	16,6	0,83	52 176-932
40	94	142	18	35	24,5	0,98	52 176-940
50	109	150	18	72	46,1	1,2	52 176-950
65	127	159	18	154	90	1,5	52 176-965
80	142	166	18	220	120	1,8	52 176-980
100	162	176	18	373	220	2,0	52 176-990
125	192	191	18	570	342	2,5	52 176-991
150	218	204	18	789	468	3,0	52 176-992
200	273	231	18	1383	792	4,3	52 176-993
250	329	260	18	2122	1224	5,7	52 176-994
300	384	287	18	3116	1800	7,0	52 176-995
350	444	317	20	4000	2250	10	52 176-996
400	496	343	23	5300	3000	14	52 176-997
450	556	373	28	6400	3750	22	52 176-999
500	618	404	28	7950	4500	26	52 176-998
600	735	463	29	10700	6500	43	52 276-001
700	805	498	31	15000	9000	44	52 276-002
750	865	528	32	17500	10500	51	52 276-012
800	911	551	32	20300	12000	56	52 276-003
900	1011	601	33	26000	15500	65	52 276-004

PN 25

DN	D	H	Flange thickness	Kv _{max}	Kv _{signal}	Kg	Article No
20	63	127	18	6	4,68	0,59	52 176-820
25	73	131	18	11	8,64	0,70	52 176-825
32	84	137	18	23	16,6	0,83	52 176-832
40	94	142	18	35	24,5	0,98	52 176-840
50	109	150	18	72	46,1	1,2	52 176-850
65	127	159	18	154	90	1,5	52 176-865
80	142	166	18	220	120	1,8	52 176-880
100	168	179	18	373	220	2,0	52 176-890
125	194	192	18	570	342	2,5	52 176-891
150	224	207	18	789	468	3,0	52 176-892
200	284	237	18	1383	792	4,3	52 176-893
250	340	265	18	2122	1224	5,7	52 176-894
300	400	295	18	3116	1800	7,0	52 176-895



PN 40

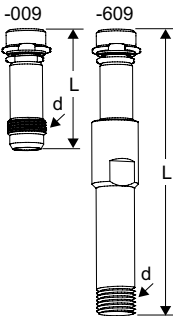
DN	D	H	Flange thickness	Kv _{max}	Kv _{signal}	Kg	Article No
65	127	159	18	154	90	1,5	52 176-765
80	142	166	18	220	120	1,8	52 176-780
100	168	179	18	373	220	2,0	52 176-790
125	194	192	18	570	342	2,5	52 176-791
150	224	207	18	789	468	3,0	52 176-792
200	290	240	18	1383	792	4,3	52 176-793
250	352	271	18	2122	1224	5,7	52 176-794
300	417	304	18	3116	1800	7,0	52 176-795
350	474	332	20	4000	2250	15,0	52 176-796
400	546	368	23	5300	3000	23,0	52 176-797
450	571	381	28	6400	3750	26,0	52 176-798

Commissioning set

Commissioning set

This product, when combined with the STAF/STAF-SG balancing valve can be ordered as a commissioning set by the name of MDF4 or MDF4SG.

Accessories



Measuring points

Max 120°C (intermittent 150°C)

d	L		Article No
1/4	39		52 179-009
1/4	103	extended	52 179-609

