Stainless Steel

Orifice Plate

Flow Data

In this flow data manual we have endeavoured to make the information as accurate as possible.
We cannot accept any responsibility should it be found that in any respect the information is inaccurate or incomplete or becomes so as a result of further developments or otherwise.

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HERZ-Stainless steel orifice plate PN16

March 2008

Issue 1

Technical Data

Installation

The flow rate can be calculated using the K_{VS} value and a measured signal.

$$K_V = \frac{Q}{\sqrt{\Delta P}} \qquad K_{VS} = \frac{Q}{\sqrt{\Delta Ps}}$$

where K_V & K_{VS} = flow coefficient (m^3/hr at 1 bar differential)
Q = flow rate (m^3/hr)
ΔP = headloss attributable to valve (bar)
ΔPs = differential press across tappings (signal) (bar)

K_{VS} Values

Size	DN65	DN80	DN100	DN125	DN150	DN200
K_{VS}	100.7	133.8	237.7	339	511	858

Size	DN250	DN300
K_{VS}	1235	1793

Pressure Loss

The pressure loss across the orifice plate can be determined by multiplying the signal by the pressure loss factor.

The pressure loss is always less than measured signal.

Pressure Loss Factors

Size	DN65	DN80	DN100	DN125	DN150	DN200
Factor	0.40	0.40	0.35	0.35	0.35	0.35

Size	DN250	DN300
Factor	0.35	0.35

PED Categorisation

Under the Pressure Equipment Directive (PED) these orifice plates have been specified for Group 2 Liquids i.e. non hazardous

Sizes DN50 to DN300 are classified as SEP

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Orifice Plates can be installed in isolation or close coupled to a globe double regulating valve complying to BS 7350, of the same nominal diameter.

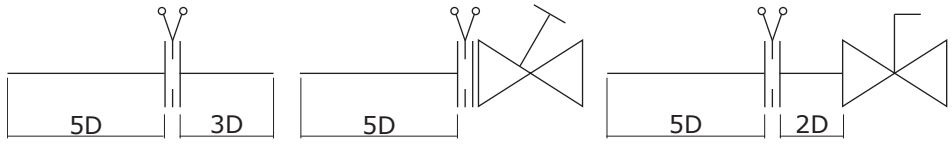
Regardless of installation there must always be a minimum of 5 pipe diameters of straight pipe, without intrusion, upstream of the orifice plate.

When used in isolation a minimum of 2 pipe diameters of straight pipe are required downstream of the orifice plate.

When close coupled to a double regulating valve no straight pipe is required after the valve.

When used in conjunction with a butterfly double regulating valve, a spool piece equivalent to a minimum of 2 pipe diameters is required between the orifice plate and butterfly valve.

For more detailed instructions please refer to the Installation, Operation and Maintenance Instructions supplied with the orifice plate.



Sizing

Once the required flow rate has been calculated, the size of the orifice plate can be determined based on the following:

The minimum signal at the design flow rate of 1 kPa.

For minimum pressure loss, a maximum signal of 4.7 kPa, which corresponds to the maximum differential pressure range of a flurocarbon manometer.

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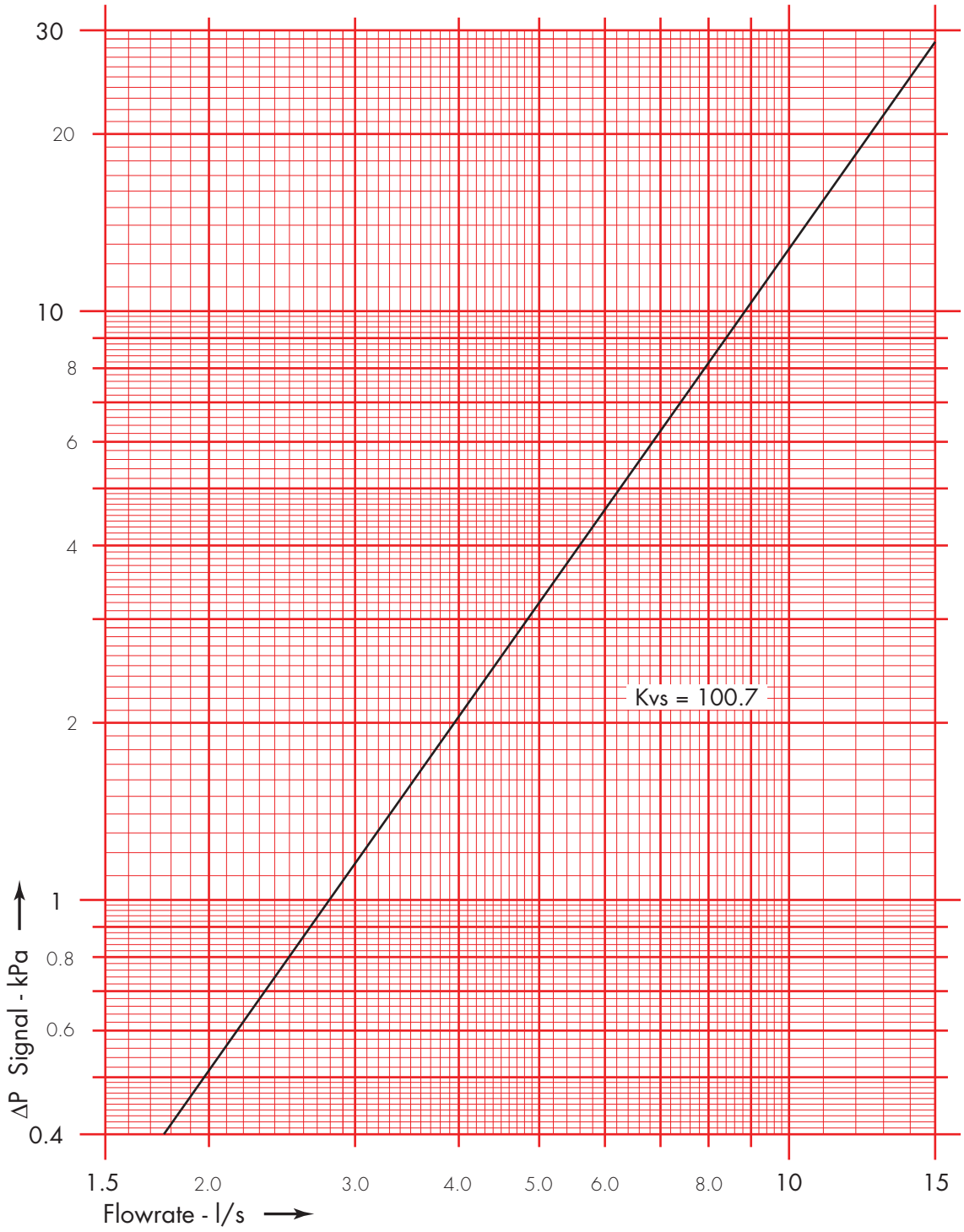
HERZ - Flow data	Stainless Steel Orifice Plate
Art. HV**2740 -** 07	Dim. DN65



We reserve the right to make design modifications

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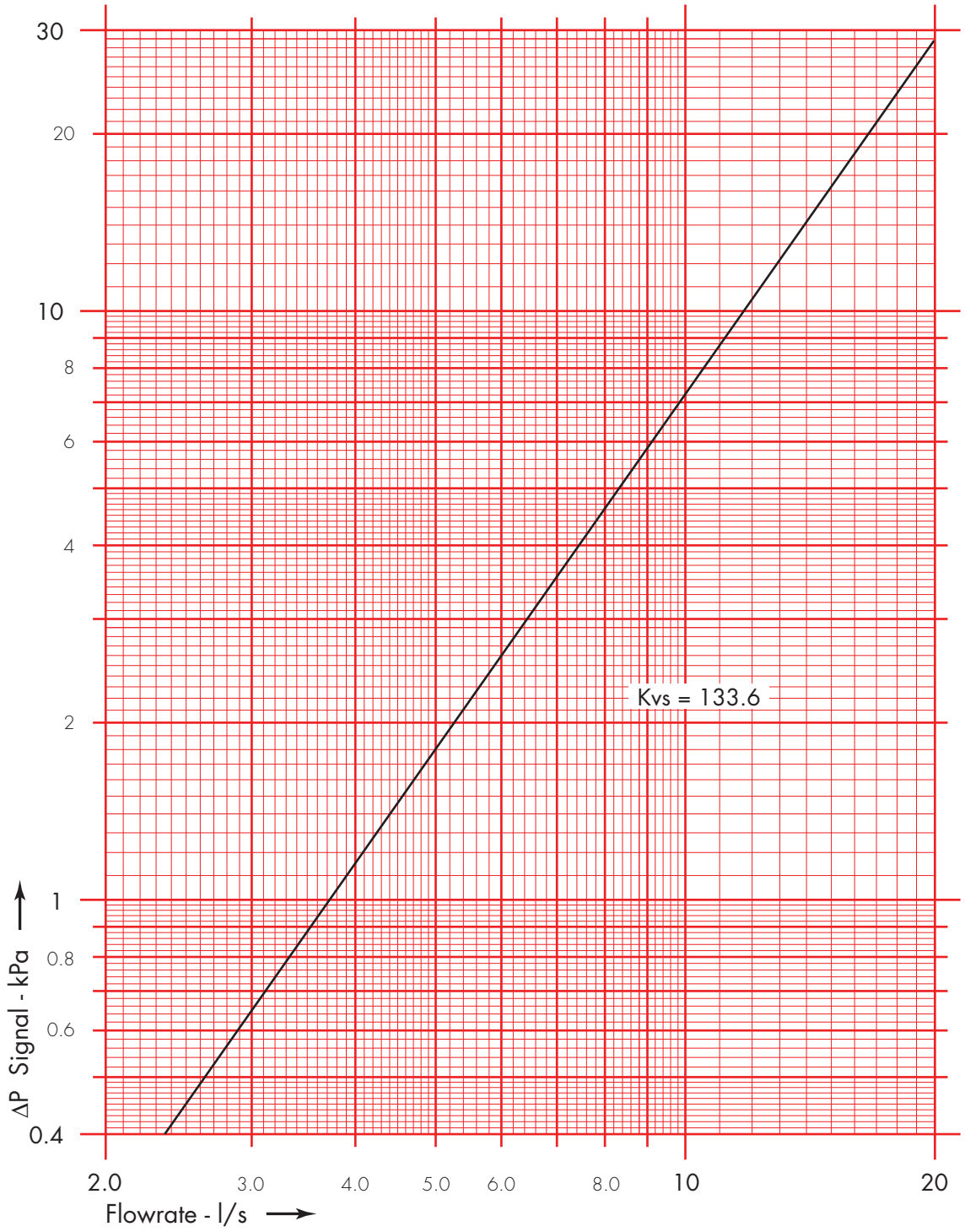
HERZ - Flow data	Stainless Steel Orifice Plate
Art. HV**2740** - 08	Dim. DN80



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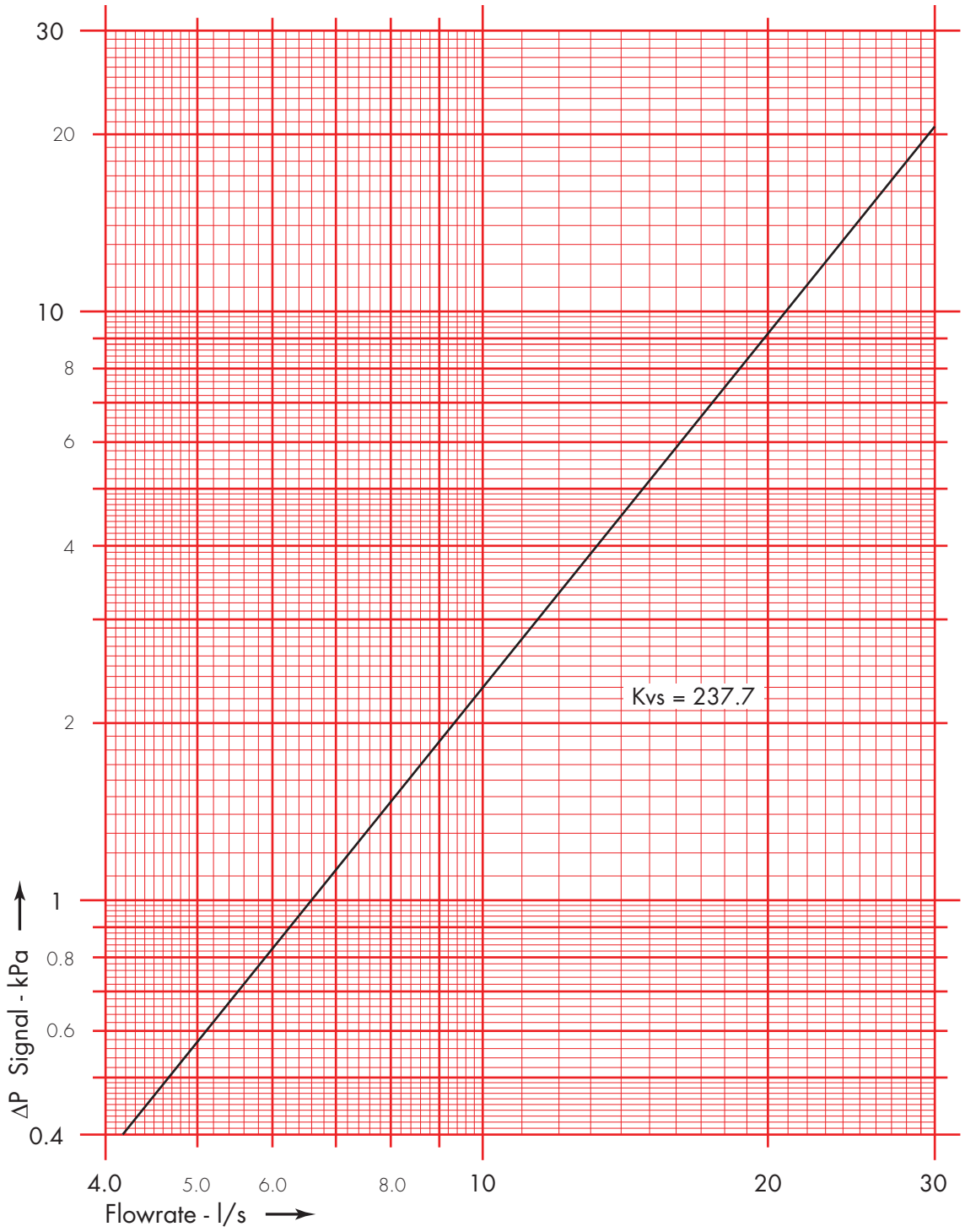
HERZ - Flow data	Stainless Steel Orifice Plate
Art. HV**2740** - 09	Dim. DN100



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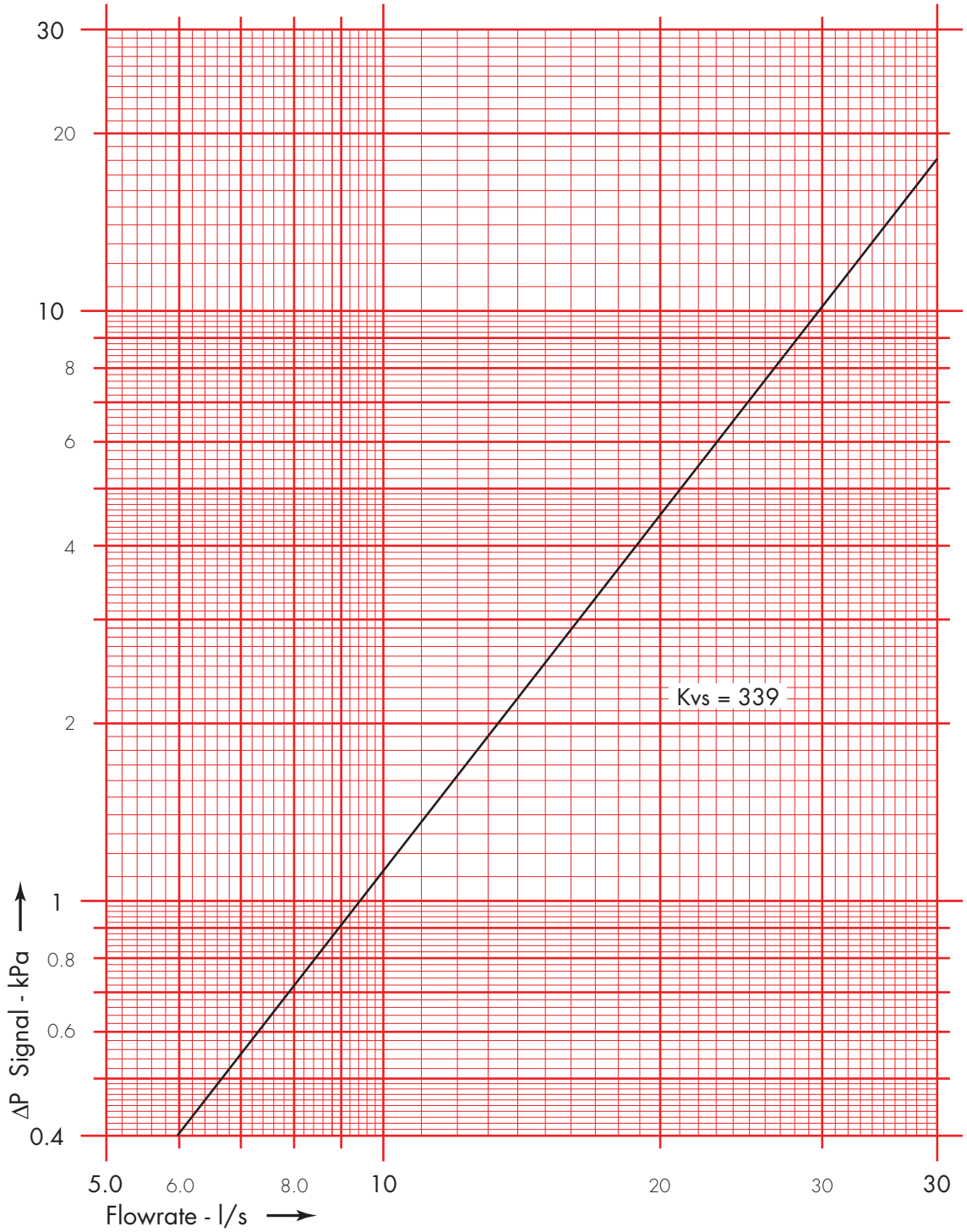
HERZ - Flow data	Stainless Steel Orifice Plate
Art. HV**2740 -** 10	Dim. DN125



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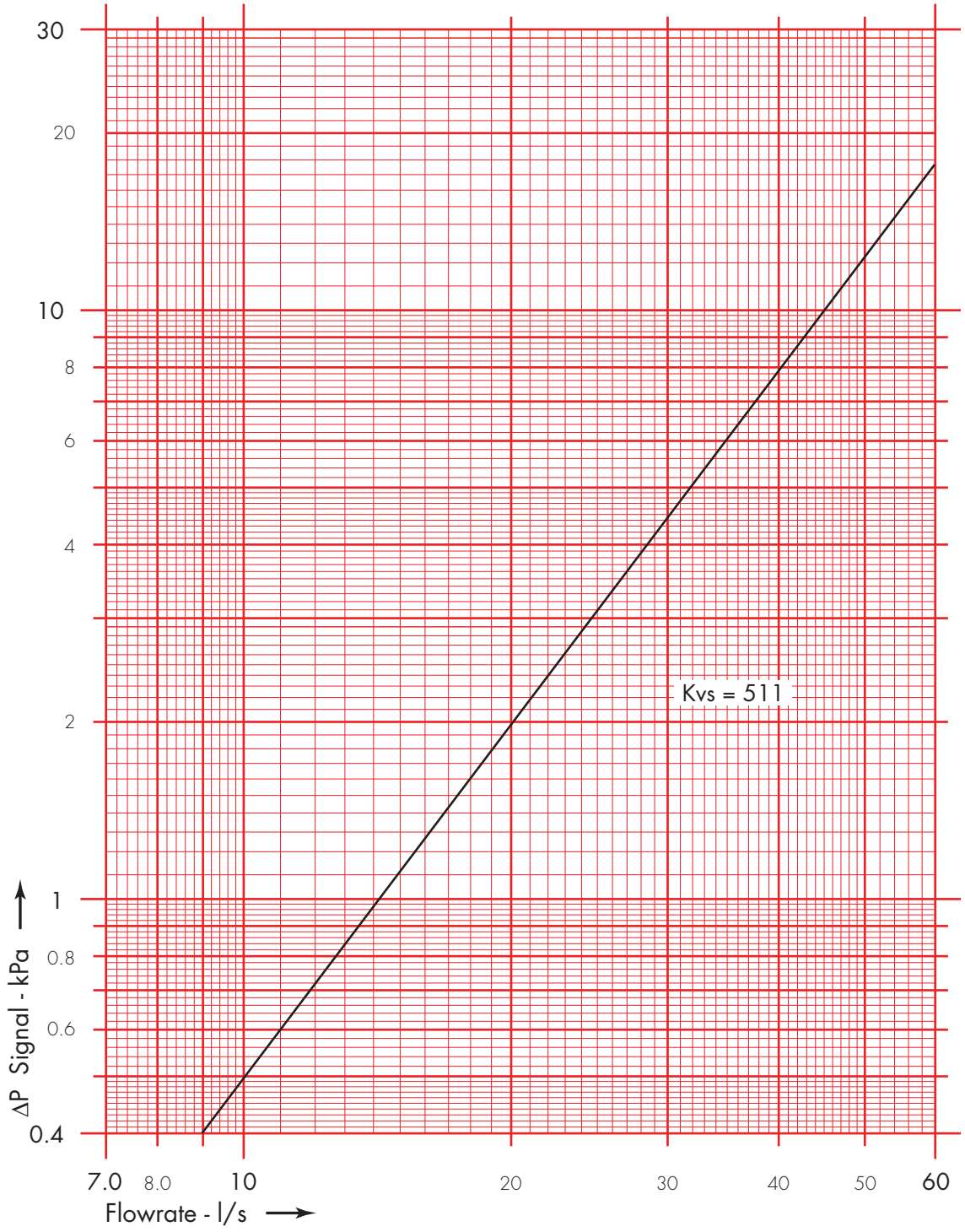
HERZ - Flow data	Stainless Steel Orifice Plate
Art. HV**2740 -** 11	Dim. DN150



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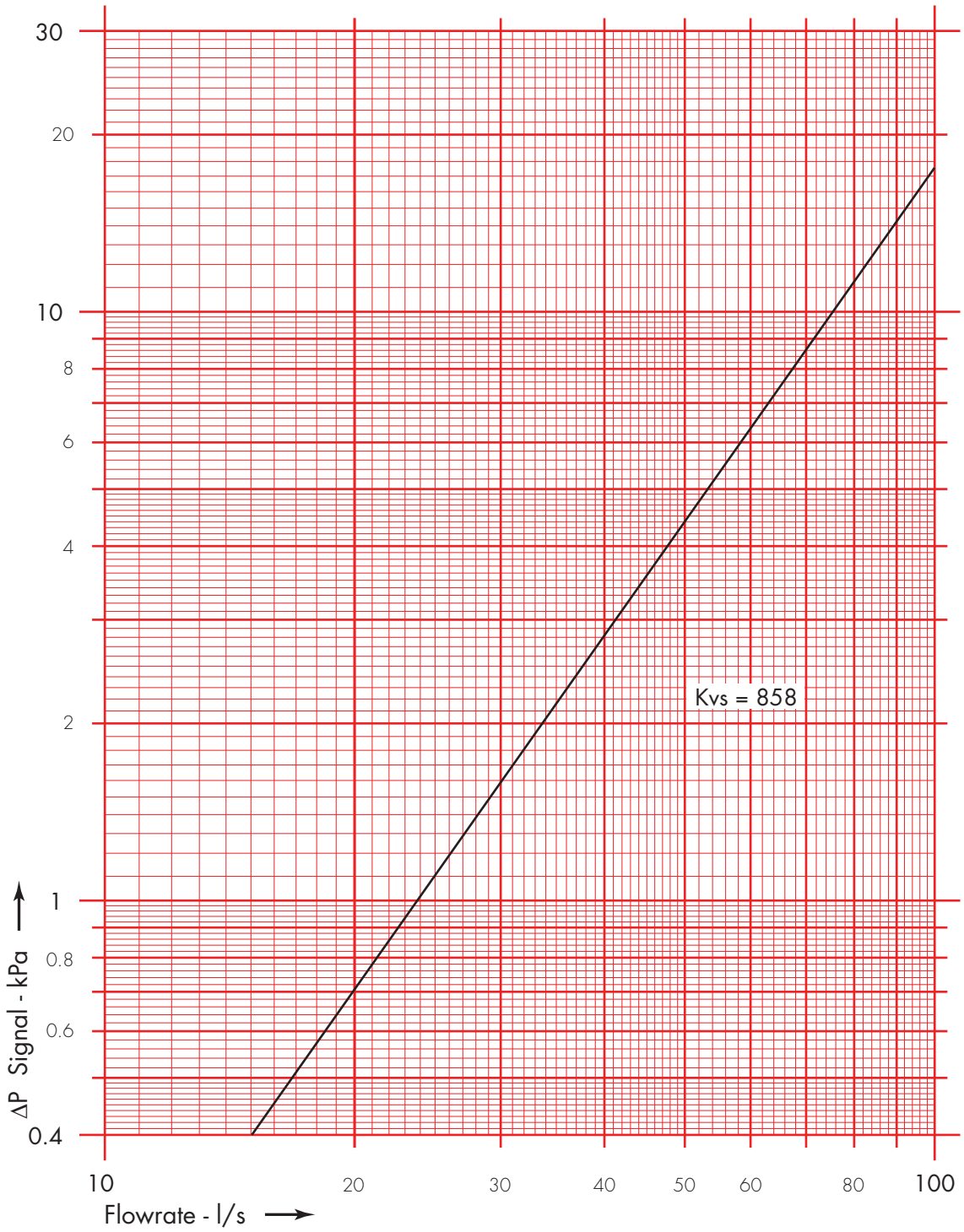
HERZ - Flow data	Stainless Steel Orifice Plate
Art. HV**2740 -** 12	Dim. DN200



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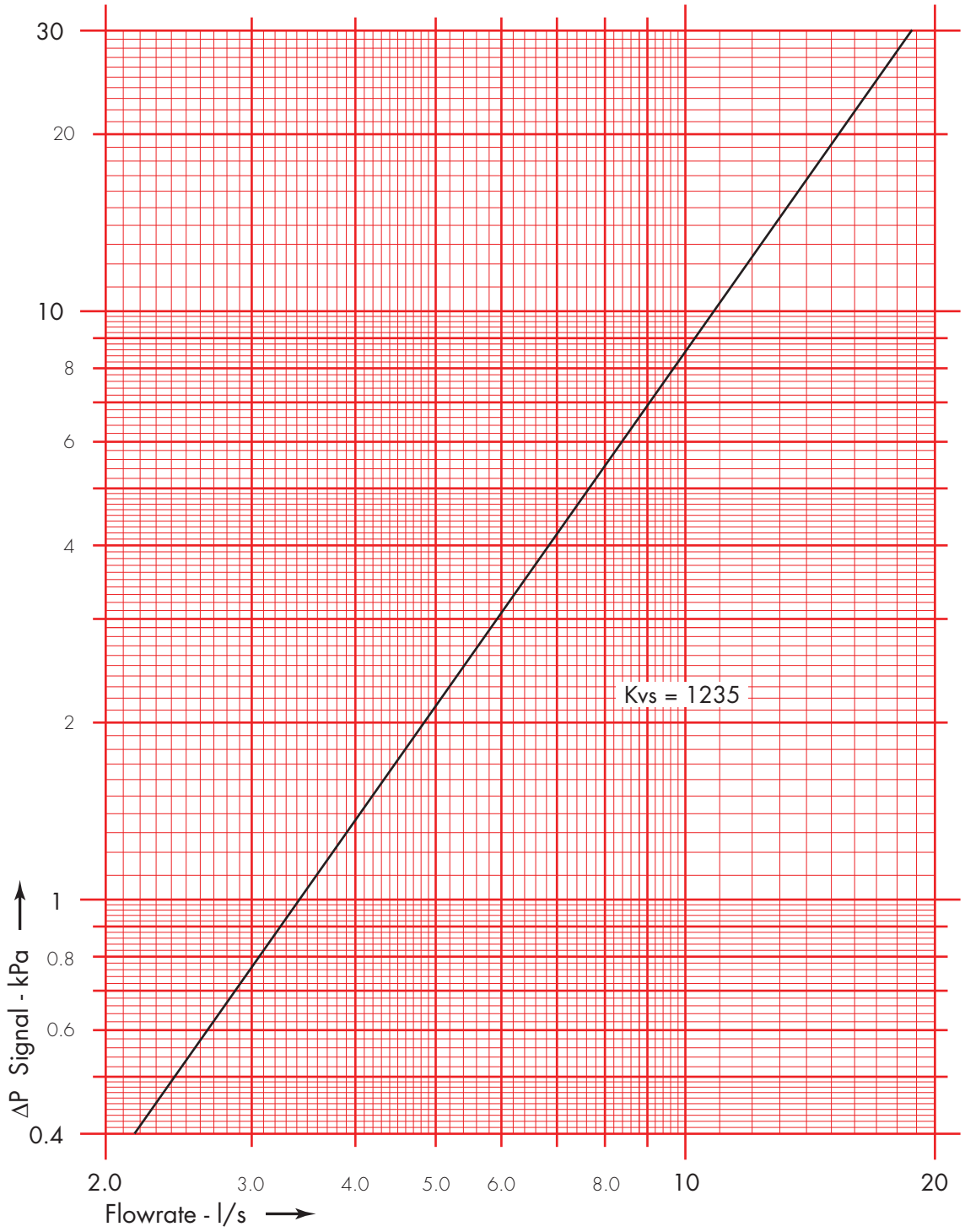
HERZ - Flow data	Stainless Steel Orifice Plate
Art. HV**2740 -** 13	Dim. DN250



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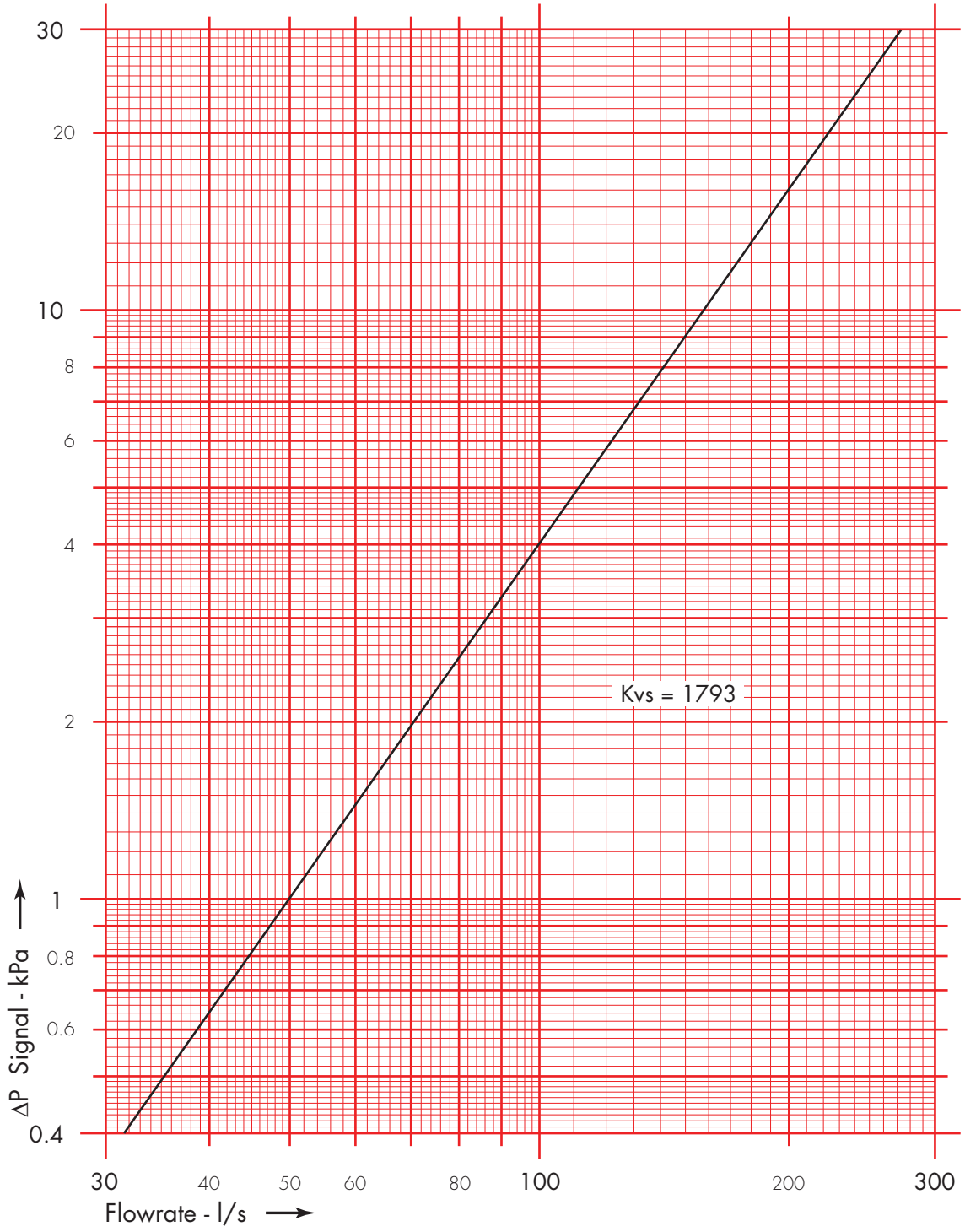
HERZ - Flow data	Stainless Steel Orifice Plate
Art. HV**2740 -** 14	Dim. DN300



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