



ISO Registered Company

## TECHNICAL BULLETIN

6A00 - TB

01-17



# Model 6A00

## Inline Deflagration Flame Arrestor

### **OBJECTIVE**

The Model 6A00 inline deflagration flame arrestor is a device that can be fitted to the opening of an enclosure or to the connecting pipe work of a system of enclosures. Its primary function is to allow the flow of gases or vapor of flammable liquids through the enclosure, but prevent the transmission of a flame. The element inside the housing provides an extinguishing barrier to the ignited vapor mixture by absorbing heat from the flame. The Model 6A00 is used as an independent safety system to ensure explosion protection.

### **TECHNIQUE**

6A00 flame arrestors are designed on the principle of "quenching gap". The crimped SST metal element allows vapor to pass through in order to allow a vessel to breathe, yet prevents the propagation of a flame from the exposed side to the protected side.

### **CONSTRUCTION**

**Housing Material:** Carbon Steel, Stainless Steel.

**Trim Material:** Stainless Steel (1.4571) element. Standard element is suitable for explosion group IIA1, IIA, IIB1, IIB3, IIB and IIC flammable gases and vapors. Elements for other gas groups are available upon request.

### **SPECIAL FEATURES**

The Model 6A00 is designed, manufactured, and tested according to Directive 2014/34/EU (ATEX114) and ISO 16852.

The single element design is bidirectional and available for horizontal or vertical installations.

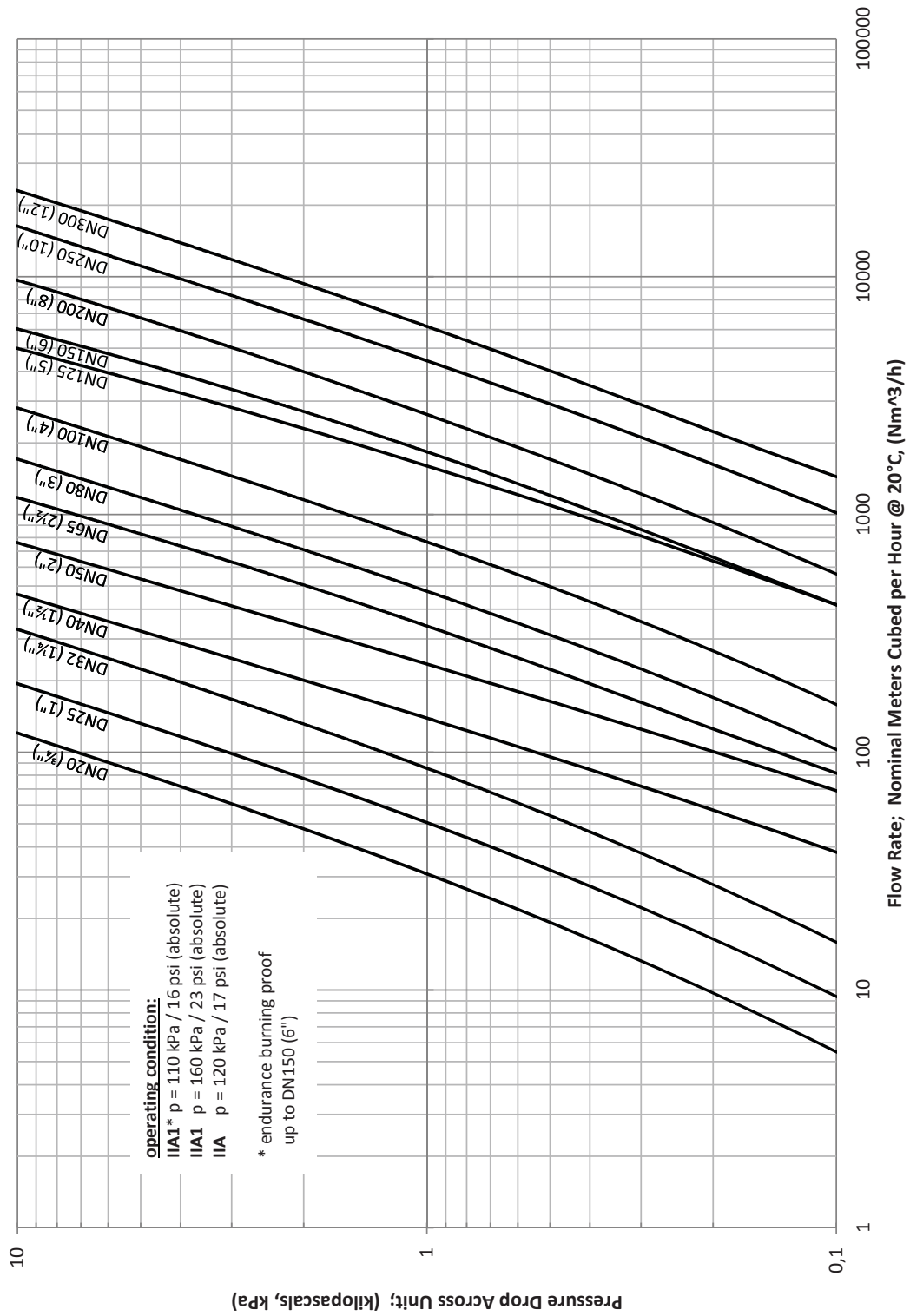
The maximum distance between flame arrestor and ignition source should not be more than 50 x the diameter of the connection size for most hydrocarbon gases.

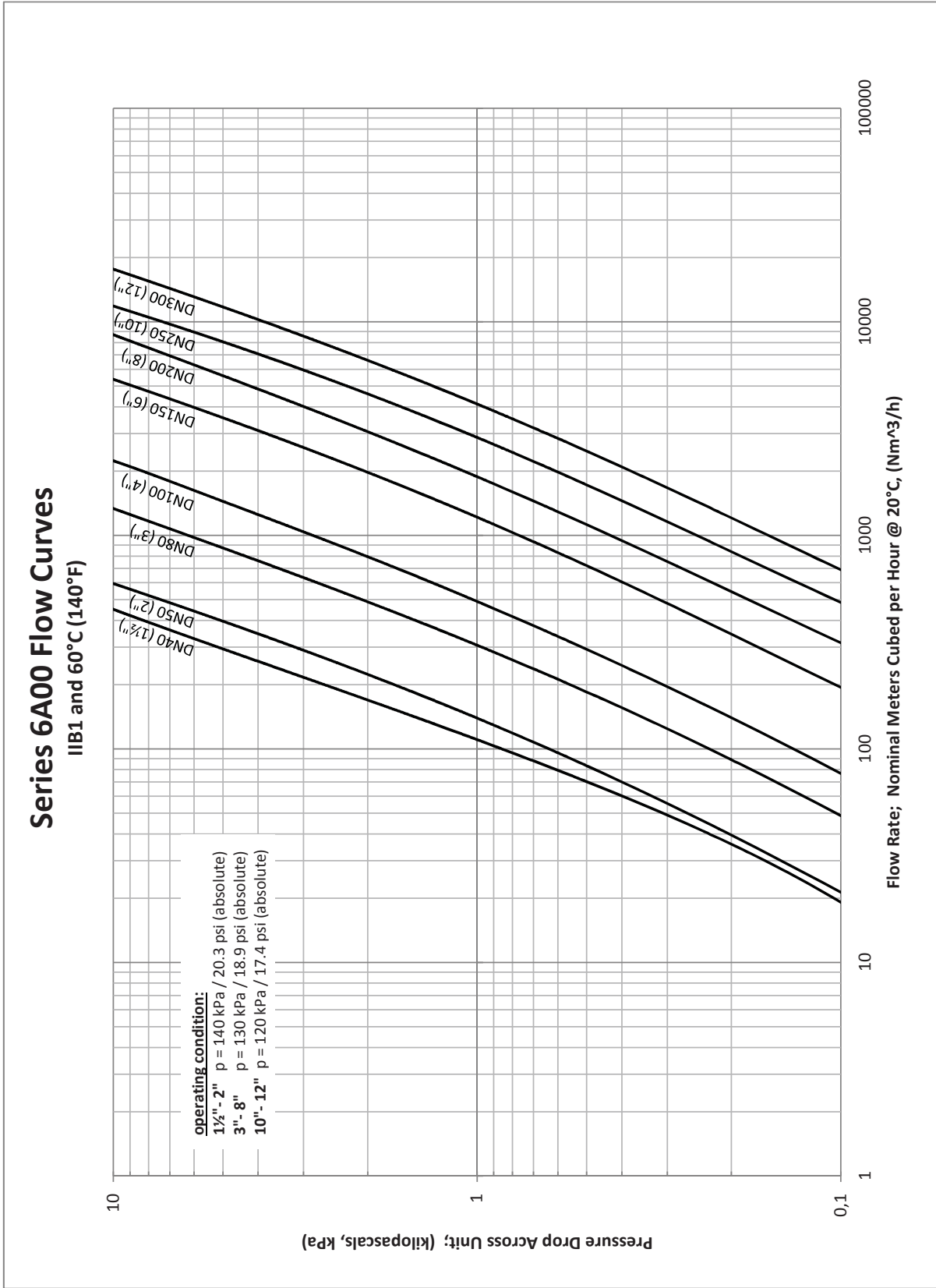
**Easy Maintenance:** The Model 6A00 deflagration flame arrestor is a passive device with no moving parts. The flame cell element can be easily removed for inspection and cleaning in appropriate solvent solution.

**Sizes:** Units are available in DN20, 25, 32, 40, 50, 65, 80, 100, 125, 150, 200, 250, 300 (3/4", 1", 1-1/4", 1-1/2", 2", 2-1/2", 3", 4", 5", 6", 8", 10", 12") line sizes; thread connections according to ISO7/1, BS21 or ASME B1.20.1. Standard for flange connections to EN1092-1 PN10, ASME B16.5 150#RF or JIS B 2220 10K.

# Series 6A00 Flow Curves

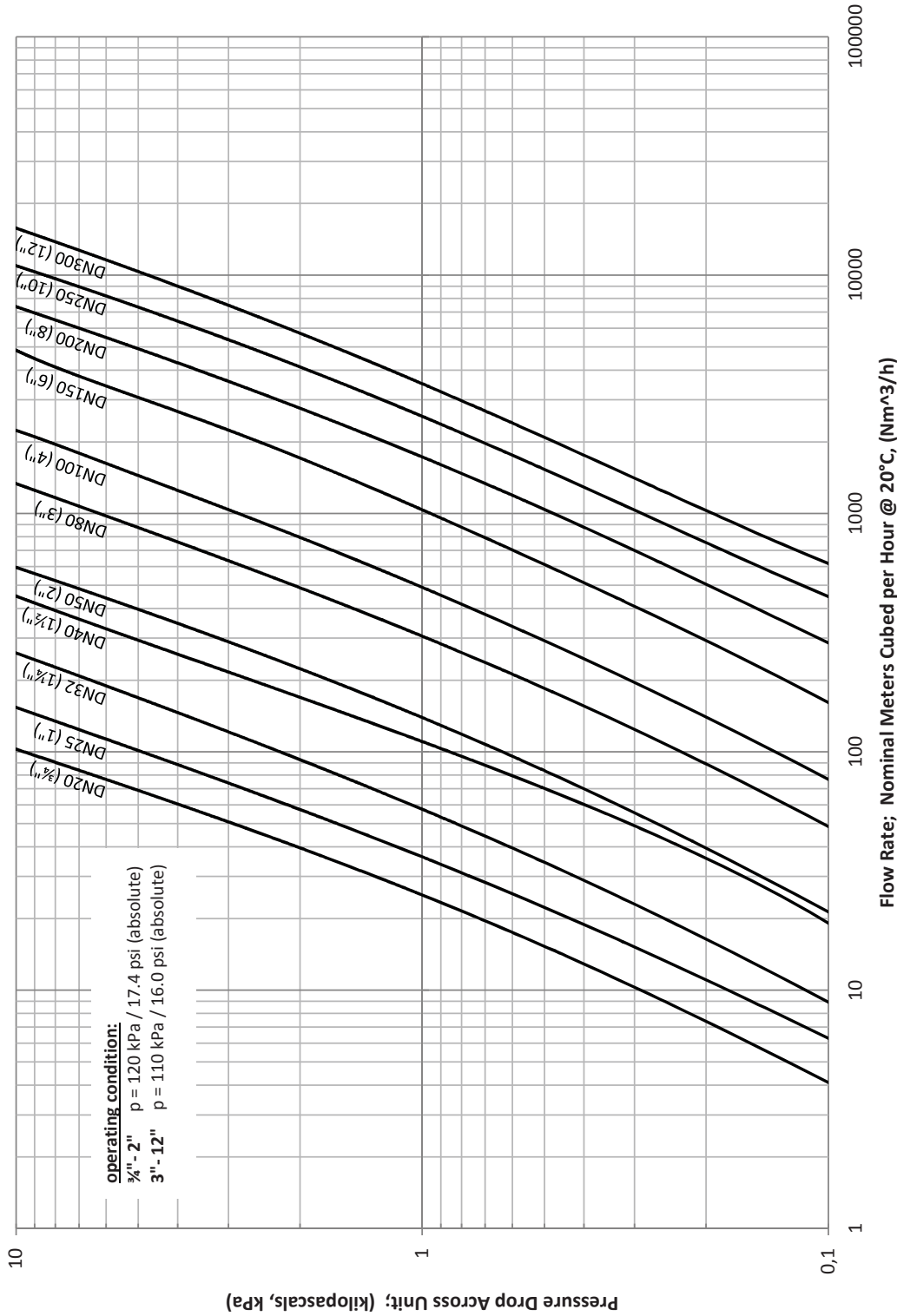
IIA1/IIA and 60°C (140°F)





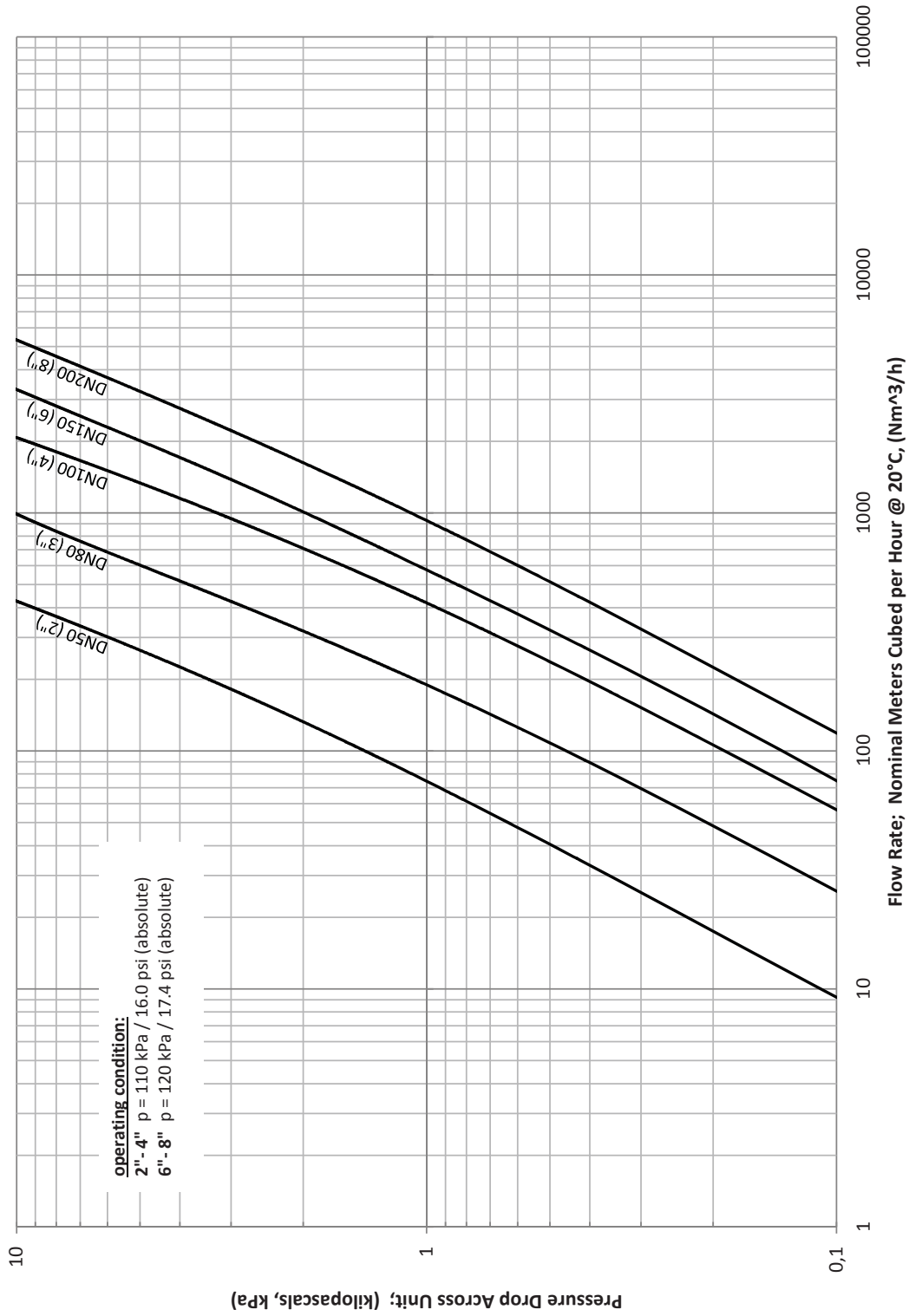
# Series 6A00 Flow Curves

IIB3 and 60°C (140°F)



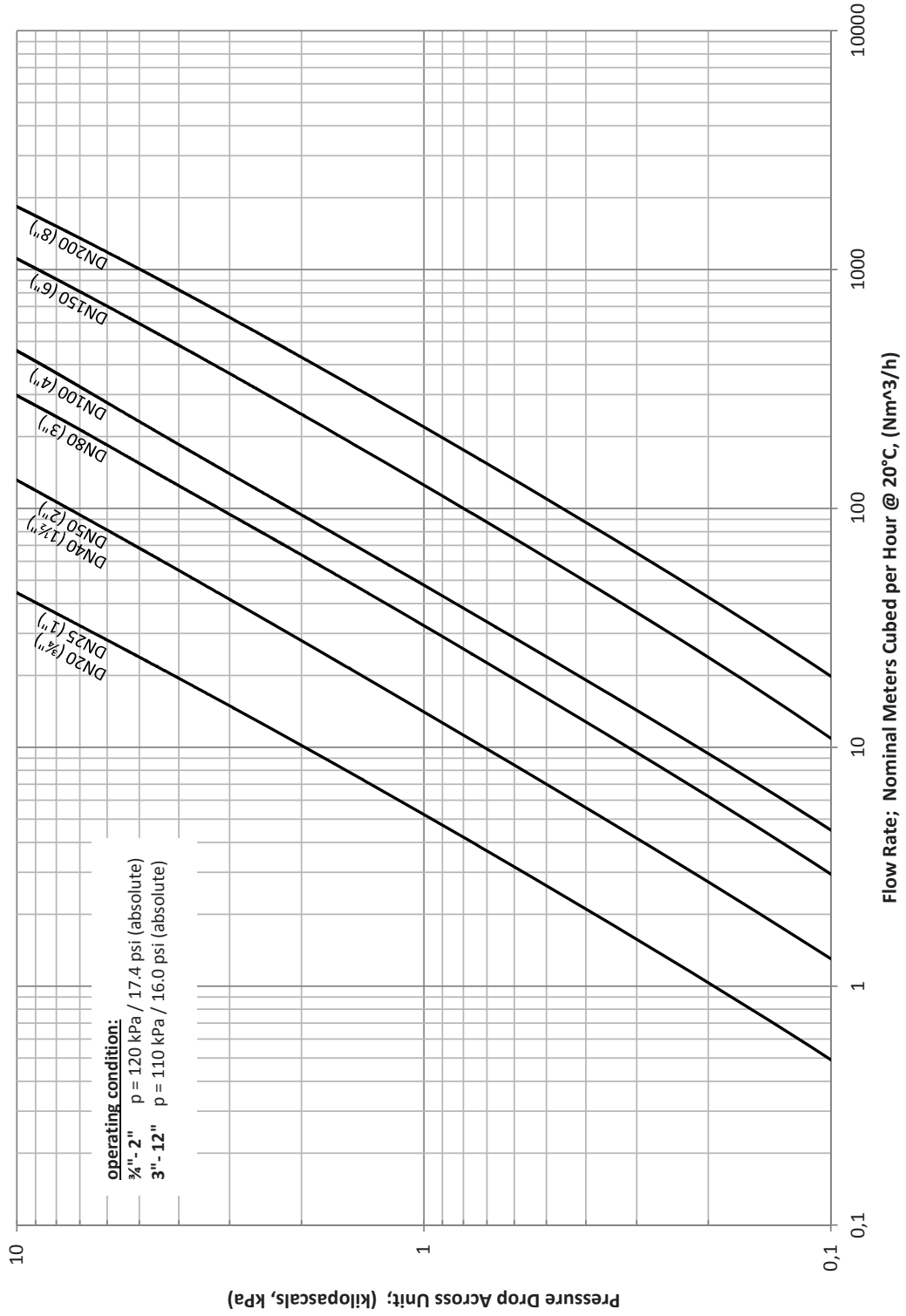
# Series 6A00 Flow Curves

IIB and 60°C (140°F)

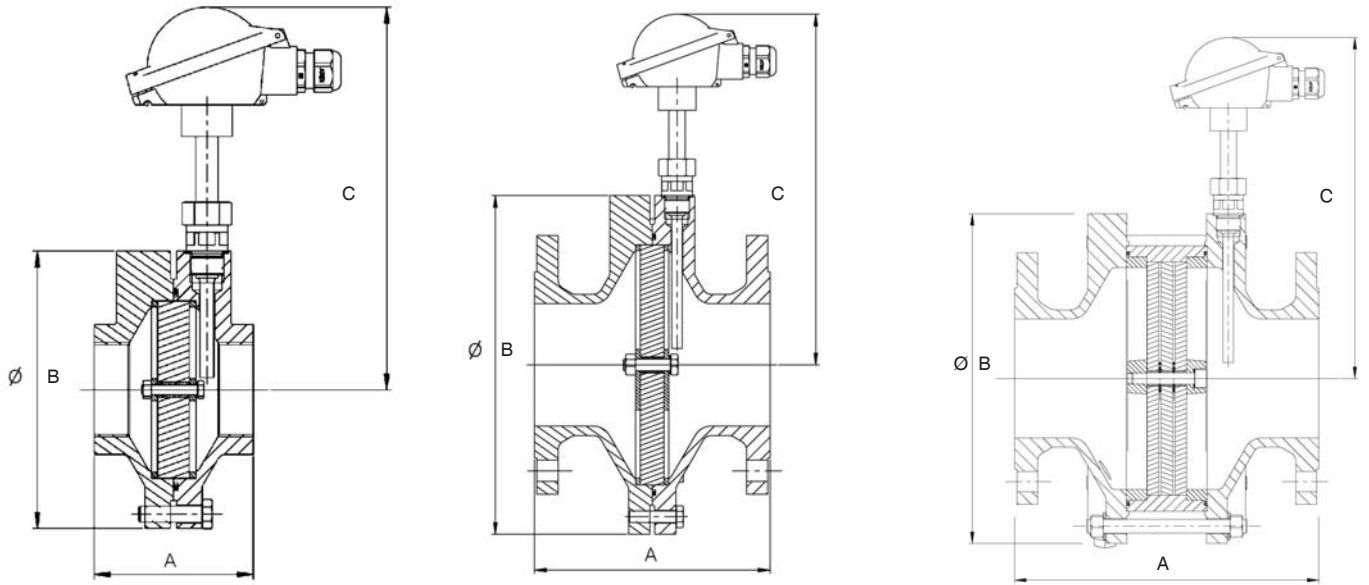


# Series 6A00 Flow Curves

IIC and 60°C (140°F)



## DIMENSIONS



Metric Units - mm								
SIZE Rp, BSP, NPTF	A						Ø B	C
	IIA1	IIA	IIB1	IIB3	IIB	IIC		
3/4"	100		139			151	115	210
1"	100		139			151	115	210
1-1/4"	100		139			175	132	220
1-1/2"	100		139			194	175	242
2"	100		139			194	175	242
DIN, JIS, ASME (*)	IIA1	IIA	IIB1	IIB3	IIB	IIC	Ø B	C
DN25	144		183			195	115	210
DN50	160		199		230	254	175	242
DN65 (**)	170		229		249	265	215	262
DN80	190		248		260	284	240	275
DN100	200		266		278	302	290	300
DN125 (**)	246	325	337	361	361	445	445	380
DN150	246	325	337	361	361	445	445	380
DN200	270	358	370	395	395	545	545	430
DN250	385	397	409			434	665	490
DN300	424	436	448			473	765	540

(\*) DIN (PN10) Flange, JIS 10K Flange, ASME 150RF Flange  
 (\*\*) NOT available with ASME 150RF Flange

English Units - in								
SIZE Rp, BSP, NPTF	A						Ø B	C
	IIA1	IIA	IIB1	IIB3	IIB	IIC		
3/4"	3.9		5.5			5.9	4.5	8.3
1"	3.9		5.5			5.9	4.5	8.3
1-1/4"	3.9		5.5			6.9	5.2	8.7
1-1/2"	3.9		5.5			7.6	6.9	9.5
2"	3.9		5.5			7.6	6.9	9.5
DIN, JIS, ASME (*)	IIA1	IIA	IIB1	IIB3	IIB	IIC	Ø B	C
1"	5.7		7.2			7.7	4.5	8.3
2"	6.3		7.8		9.1	10.0	6.9	9.5
2-1/2" (**)	6.7		9.0		9.8	10.4	8.5	10.3
3"	7.5		9.8		10.2	11.2	9.4	10.8
4"	7.9		10.5		10.9	11.9	11.4	11.8
5" (**)	9.7	12.8	13.3	14.2	14.2	17.5	17.5	15
6"	9.7	12.8	13.3	14.2	14.2	17.5	17.5	15
8"	10.6	14.1	14.6	15.6	15.6	21.4	21.4	16.9
10"	15.1	15.6	16.1			17.1	26.2	19.3
12"	16.7	17.2	17.6			30.1	30.1	21.2

(\*) DIN (PN10) Flange, JIS 10K Flange, ASME 150RF Flange  
 (\*\*) NOT available with ASME 150RF Flange

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# 6A00 Series PRODUCT CODER

01/26/17



POSITION 3 & 4 SIZE / EXPLOSION GROUP						
Size metric (in)	IIA1	IIA	IIB1	IIB3	IIB	IIC
	CODE		CODE		CODE	CODE
DN20 (3/4")	0B	3Y		ES		MZ
DN25 (1")	0C	3Z		ET		N0
DN32 (1-1/4")	0K	46		F0		N7
DN40 (1-1/2")	0U	4E	81	F8	JV	NF
DN50 (2")	0V	4F	82	F9	JW	NG
DN65 (2-1/2")	13	4P	8A	FH	K4	NR
DN80 (3")	1B	4Y	8J	FS	KC	NZ
DN100 (4")	1K	56	8T	G0	KL	P7
DN125 (5")	1T	5D	90	G7	KU	PE
DN150 (6")	1U	5E	91	G8	KV	PF
DN200 (8")	22	5N	99	GG	L3	PP
DN250 (10")	2A	5X	9H	GR		PY
DN300 (12")	2H	64	9R	GY		R5

POSITION 5 OPERATING CONDITION				
Explosion Group	Size	p <sub>max</sub> absolute in kPa (psi)	T <sub>max</sub> in °C (°F)	CODE
IIA1 *	All Sizes	110 (16)	≤ 60 (140)	1
	All Sizes	160 (23)	≤ 60 (140)	6
IIA	All Sizes	120 (17)	≤ 60 (140)	2
IIB1	DN40 & 50	140 (20)	≤ 60 (140)	4
	DN65 - 200	130 (19)	≤ 60 (140)	3
	DN250 & 300	120 (17)	≤ 60 (140)	2
IIB3	DN20 - 50	120 (17)	≤ 60 (140)	2
	DN65 - 300	110 (16)	≤ 60 (140)	1
IIB	DN40 - 100	110 (16)	≤ 60 (140)	1
	DN100 - 200	120 (17)	≤ 60 (140)	2
IIC	DN20 - 50	120 (17)	≤ 60 (140)	2
	DN65 - 300	110 (16)	≤ 60 (140)	1

\* Endurance burning proof available up to DN150 (6") size.  
Consult factory for additional operating conditions.

POSITION 7 & 8 CASING / ELEMENT / RIM MATERIALS	
Material	CODE
Stainless Steel (1.4571) IIA1 / IIA STD. Sizes up to DN200 (8")	02
Stainless Steel (1.4571) Sizes up to DN50 (2")	0C
Stainless Steel (1.4571) Sizes DN65 - 300 (2-1/2" - 12")	0D

POSITION 9 GASKET MATERIALS	
Material	CODE
NBR	1
FKM	2
EPDM	3
FKM/FEP seamless covered	4

POSITION 10 & 11 HOUSING MATERIALS / CONNECTION			
(Threaded) Sizes DN20 - 50 (3/4" - 2")	Rp	BSPP	NPT
	CODE		
CS (zinc plated)			23
CS (1.0619 zinc plated)	41	42	
Stainless Steel (1.4581)	91	92	
(Flanged) Sizes DN25 - 300 (1" - 12")	DIN (PN10)	ASME(150#RF) *	JIS (10K)
	CODE		
CS Sizes DN250 & 300 (10" & 12")	17	19	1C
CS (zinc plated) Sizes DN25 (1")	27	29	2C
CS (1.0619) Sizes DN32 - 200 (1-1/4" - 8")*	37	39	3C
Stainless Steel (1.4571) Sizes DN250 & 300 (10" & 12")	87	89	8C
Stainless Steel (1.4581) * Sizes DN25 - 200 (1" - 8" sizes)	97	99	9C

(\* ) Not Available in Sizes 2-1/2" and 5".

POSITION 12 PORTS	
Number / Location	CODE
Without ports For NPT - Sizes DN20 - 50 ( 3/4" - 2") For ASME Flange - Sizes DN25 (1")	1
One port G1/2" on each side Std for all ex. - groups and sizes <b>except</b> IIA1 / IIA sizes DN20 - 200 (3/4" - 8")	2
Two ports G1/2" on one side Std for explosion groups IIA1 / IIA sizes DN20 - 200 (3/4" - 8")	3
Two ports G1/2" on each side	4

POSITION 13 MOUNTING KIT MAT'L FOR HOUSING	
Material	CODE
Standard 8.8 Zinc Plated	1
Standard A2 Stainless Steel	2
A4 Stainless Steel	3

POSITION 14 & 15 TEMPERATURE SENSOR (PT100)		
Quantity	Ex ib 3-wire	Ex ib 3-wire plus transmitter
	CODE	
None	00	00
One	01	02

POSITION 16 NAME PLATE	
Material / Language	CODE
Alum / German	7
Alum / English	8

POSITION 18 PAINT	
Color	CODE
No Paint (CS-Zinc or SST)	0
Blue Epoxy	1

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