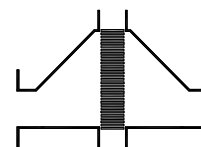


Type sheet

Bi-directional in-line deflagration flame arrester, short-time burning proof

KITO® EFA-Def0-I-.../...-1.2

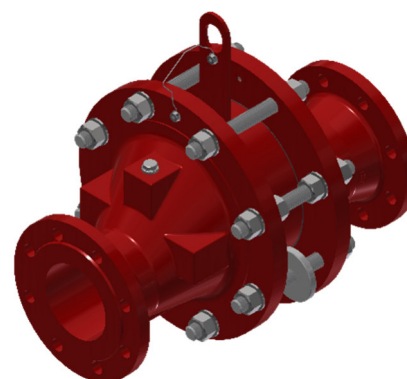
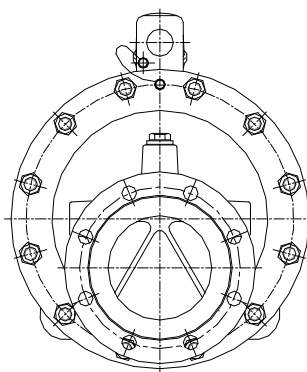
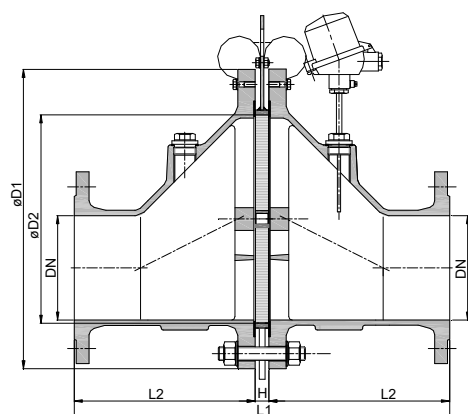
KITO® EFA-Def0-I-.../...-1.2-T (-TT)



Application

For installation into pipes to the protection of vessels and components against deflagration of flammable liquids and gases. Approved for all substances of explosion group IIA1 (old: I) with a maximum experimental safe gap (MESG) ≥ 1.14 mm. Bi-directionally working in pipes, whereby an operating pressure of 1.2 bar abs. and an operating temperature of 60 °C must not be exceeded. The distance between a potential ignition source and the flame arrester must not exceed 50 times the inner pipe diameter. The installation of the deflagration flame arrester into horizontal and vertical pipes is permissible. When equipped with one or two temperature sensors, the devices are protected under atmospheric conditions against a short time burning by a burning time $t_{BT} = 1.0$ min. If only one temperature sensor, then it is to be placed on the device side where a burning could be expected.

Dimension (mm)



NG	DN		D1	D2	L1	H	L2	kg
	DIN	ASME						
65	25 PN 40	1"	155	70	260	20	120	11
	32 PN 40	1 1/4"						12
100	40 PN 40	1 1/2"	220	106	310	20	145	22
	50 PN 16	2"						24
150	50 PN 16	2"	285	159	370	20	175	38
	65 PN 16	2 1/2"						40
	80 PN 16	3"						41
200	80 PN 16	3"	340	206	420	20	200	57
	100 PN 16	4"						58
300	100 PN 16	4"	445	308	560	20	270	91
	125 PN 16	5"						97
	150 PN 16	6"						100
400	150 PN 16	6"	565	388	650	20	315	151
	200 PN 10	8"						166
500	200 PN 10	8"	670	485	780	20	380	224
	250 PN 10	10"						242
600	250 PN 10	10"	780	584	920	20	450	316
	300 PN 10	12"						332
800	350 PN 10	14"	1015	810	1287	47	620	600
	400 PN 10	16"						

Weight refers to the standard design

Example for order

KITO® EFA-Def0-I-100/40-1.2-T

(Design NG 100 with flange connection DN 40 PN 40 and a temperature sensor)

Type examination certificate to EN ISO 16852 and CE-marking in accordance to ATEX-Directive 2014/34/EU

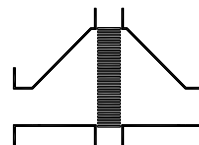
page 1 of 2

**KITO**

Armaturen GmbH

Type sheet

Bi-directional in-line deflagration flame arrester, short-time burning proof

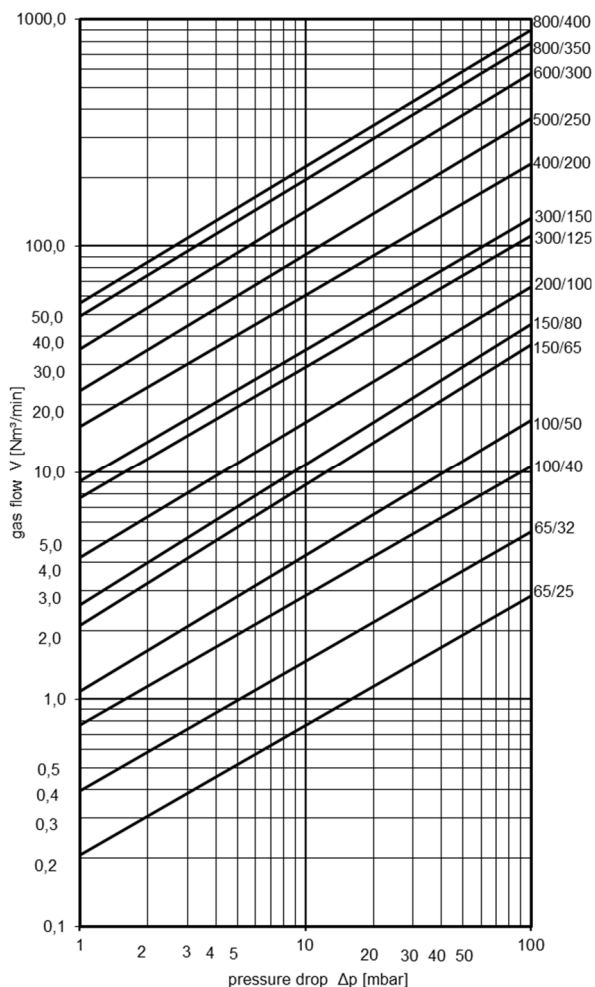
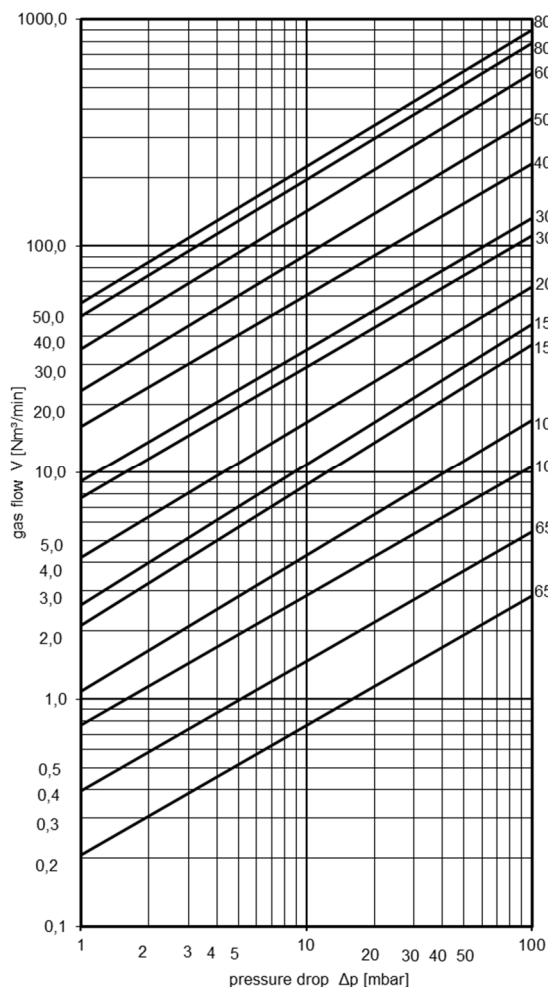
KITO® EFA-Def0-I-.../...-1.2**KITO® EFA-Def0-I-.../...-1.2-T (-TT)****Design**

	standard	optionally
housing	cast steel 1.0619	stainless cast steel 1.4408
gasket	HD 3822	PTFE
KITO®-flame arrester element	completely interchangeable	
KITO®-casing	steel (galvanized to NG 400)	stainless steel mat. no. 1.4571 or 1.4581
KITO®-grid	stainless steel mat. no. 1.4310	stainless steel mat. no. 1.4571
bolts / nuts	galvanized steel	A2
temperature sensor		PT 100, connection 3/8", 1.4571
flange connection	EN 1092-1 type B1	ASME B16.5 Class 150 RF

Performance curves

Flow capacity V based on air of a density $\rho = 1.29 \text{ kg/m}^3$ at $T = 273 \text{ K}$ and atmospheric pressure $p = 1.013 \text{ mbar}$. For other gases the flow can be approximately calculated by

$$\dot{V} = \dot{V}_b \cdot \sqrt{\frac{\rho_b}{1.29}} \quad \text{or} \quad \dot{V}_b = \dot{V} \cdot \sqrt{\frac{1.29}{\rho_b}}$$

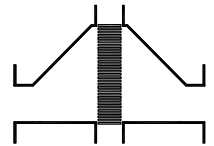


Type sheet

Bi-directional in-line deflagration flame arrester, short-time burning proof

KITO® EFA-Def0-I-.../...-1.2-X16

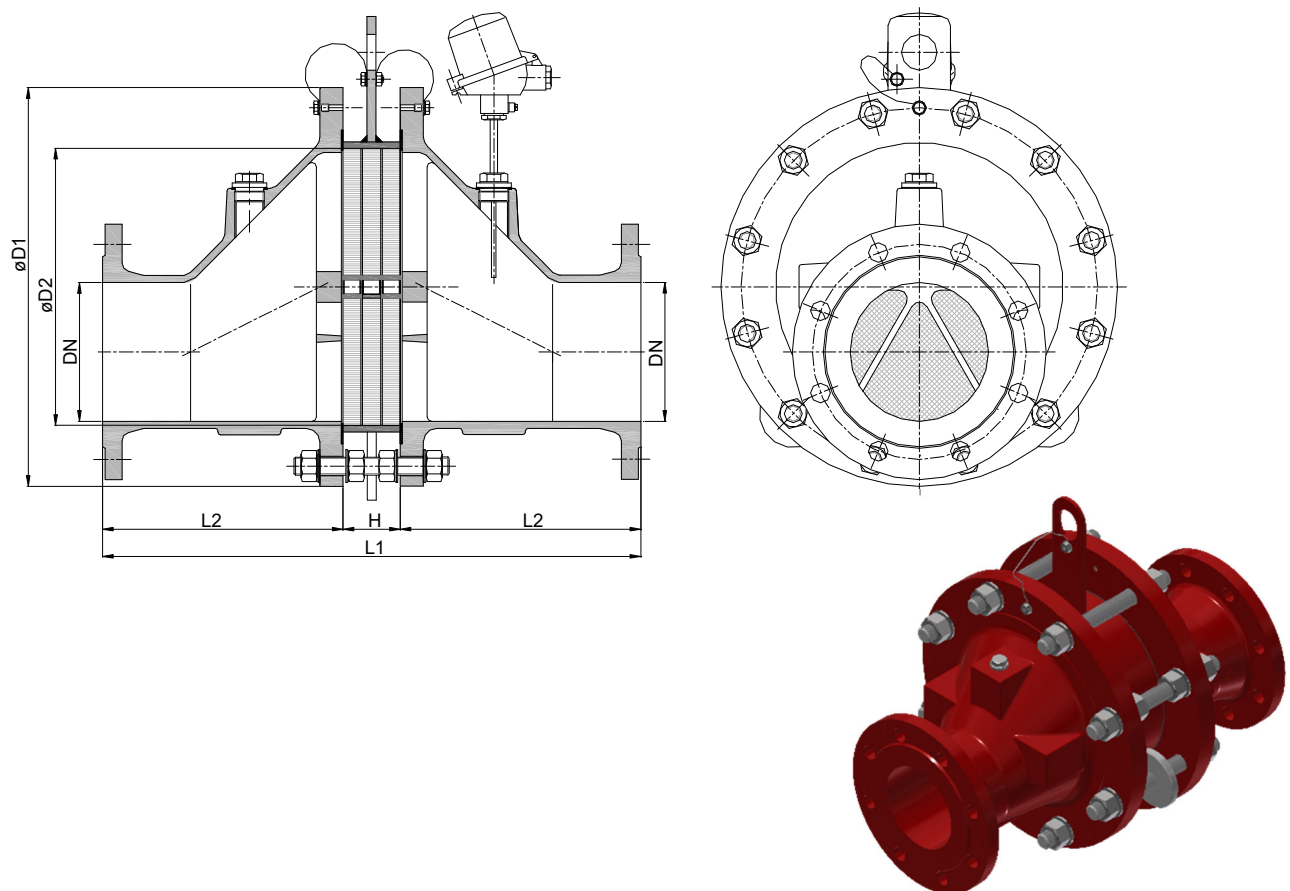
KITO® EFA-Def0-I-.../...-1.2-X16-T (-TT)



Application

For installation into pipes to the protection of vessels and components against deflagration of flammable liquids and gases. Approved for all substances of explosion group IIA1 (old: I) with a maximum experimental safe gap (MESG) ≥ 1.14 mm. Bi-directionally working in pipes, whereby an operating pressure of 1.2 bar abs. and an operating temperature of 160 °C must not be exceeded. The distance between a potential ignition source and the flame arrester must not exceed 50 times the inner pipe diameter. The installation of the deflagration flame arrester into horizontal and vertical pipes is permissible. When equipped with one or two temperature sensors, the devices are protected under atmospheric conditions against a short time burning by a burning time $t_{BT} = 1.0$ min. If only one temperature sensor, then it is to be placed on the device side where a burning could be expected.

Dimension (mm)



NG	DN		D1	D2	L1	H	L2	kg
	DIN	ASME						
800	350 PN 10	14"	1015	810	1328	88	620	
	400 PN 10	16"						

Weight refers to the standard design

Example for order

KITO® EFA-Def0-I-800/400-1.2-X16-T

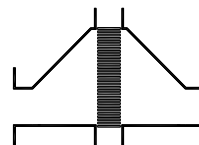
(Design NG 800 with flange connection DN 400 PN 10 and a temperature sensor)

Type examination certificate to EN ISO 16852 and CE-marking in accordance to ATEX-Directive 2014/34/EU

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**Type sheet**

Bi-directional in-line deflagration flame arrester, short-time burning proof

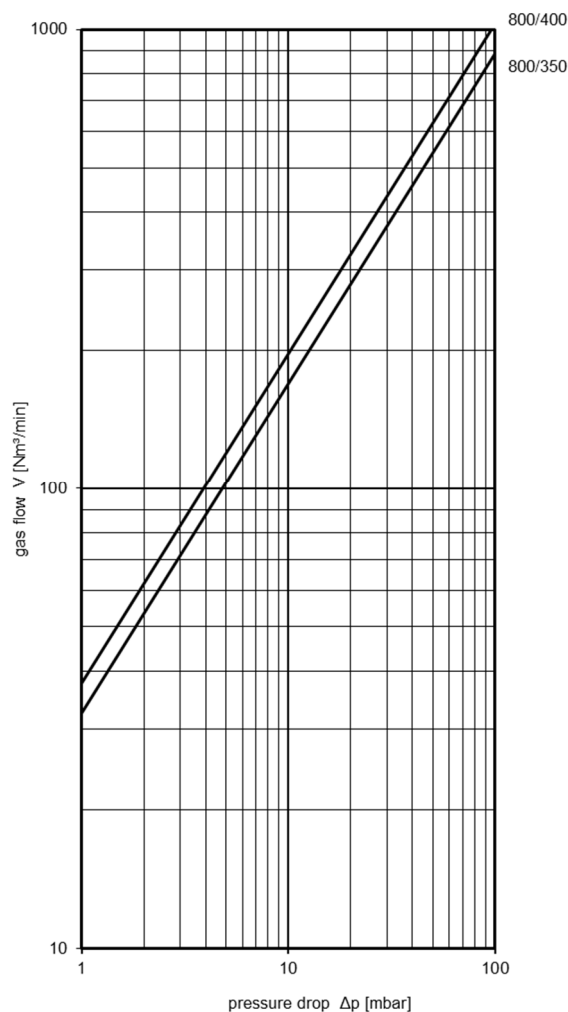
KITO® EFA-Def0-I-.../...-1.2-X16**KITO® EFA-Def0-I-.../...-1.2-X16-T (-TT)****Design**

	standard	optionally
housing	cast steel 1.0619	stainless cast steel 1.4408
gasket	HD 3822	PTFE
KITO®-flame arrester element	completely interchangeable	
KITO®-casing	stainless steel mat. no. 1.4571	
KITO®-grid	stainless steel mat. no. 1.4571	
bolts / nuts	A2	
temperature sensor		PT 100, connection 3/8", 1.4571
flange connection	EN 1092-1 type B1	ASME B16.5 Class 150 RF

Performance curves

Flow capacity V based on air of a density $\rho = 1.29 \text{ kg/m}^3$ at $T = 273 \text{ K}$ and atmospheric pressure $p = 1.013 \text{ mbar}$. For other gases the flow can be approximately calculated by

$$\dot{V} = \dot{V}_b \cdot \sqrt{\frac{\rho_b}{1.29}} \quad \text{or} \quad \dot{V}_b = \dot{V} \cdot \sqrt{\frac{1.29}{\rho_b}}$$

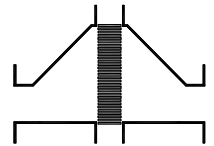


Type sheet

Bi-directional in-line deflagration flame arrester, short-time burning proof

KITO® EFA-Def0-I-.../...-2.5

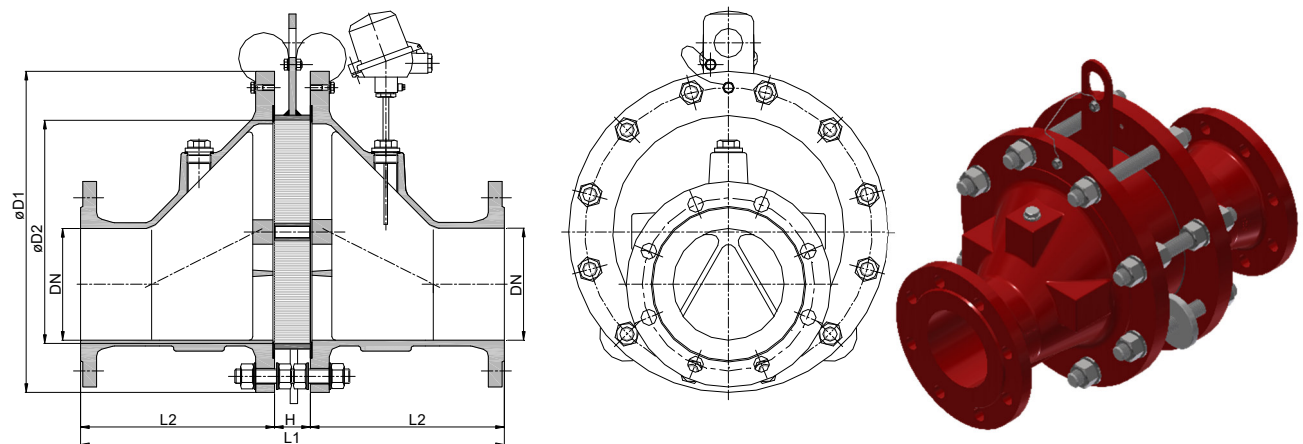
KITO® EFA-Def0-I-.../...-2.5-T (-TT)



Application

For installation into pipes to the protection of vessels and components against deflagration of flammable liquids and gases. Approved for all substances of explosion group IIA1 (old: I) with a maximum experimental safe gap (MESG) ≥ 1.14 mm. Bi-directionally working in pipes, whereby an operating pressure of 2.5 bar abs. and an operating temperature of 60 °C must not be exceeded. The distance between a potential ignition source and the flame arrester must not exceed 50 times the inner pipe diameter. The installation of the deflagration flame arrester into horizontal and vertical pipes is permissible. When equipped with one or two temperature sensors, the devices are protected under atmospheric conditions against a short time burning by a burning time $t_{BT} = 1.0$ min. If only one temperature sensor, then it is to be placed on the device side where a burning could be expected.

Dimension (mm)



NG	DN		D1	D2	L1	H	L2	kg
	DIN	ASME						
65	25 PN 40	1"	155	70	290	50	120	12
	32 PN 40	1 1/4"						13
100	40 PN 40	1 1/2"	220	106	340	50	145	24
	50 PN 16	2"						26
150	50 PN 16	2"	285	159	400	50	175	41
	65 PN 16	2 1/2"						43
	80 PN 16	3"						44
200	80 PN 16	3"	340	206	450	50	200	62
	100 PN 16	4"						63
	100 PN 16	4"						104
300	125 PN 16	5"	445	308	590	50	270	110
	150 PN 16	6"						113
	150 PN 16	6"						169
400	200 PN 10	8"	565	388	680	50	315	185
	200 PN 10	8"						253
500	250 PN 10	10"	670	485	810	50	380	272
	250 PN 10	10"						359
600	250 PN 10	10"	780	584	950	50	450	375
	300 PN 10	12"						375

Weight refers to the standard design

Example for order

KITO® EFA-Def0-I-100/40-2.5-T

(Design NG 100 with flange connection DN 40 PN 40 and a temperature sensor)

Type examination certificate to EN ISO 16852 and CE-marking in accordance to ATEX-Directive 2014/34/EU

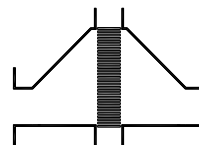
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**KITO**

Armaturen GmbH

Type sheet

Bi-directional in-line deflagration flame arrester, short-time burning proof

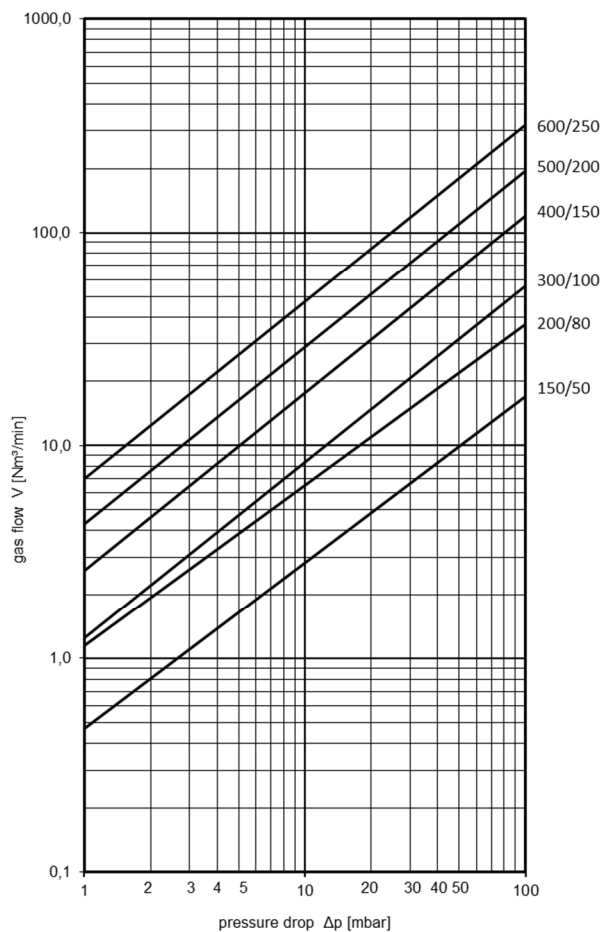
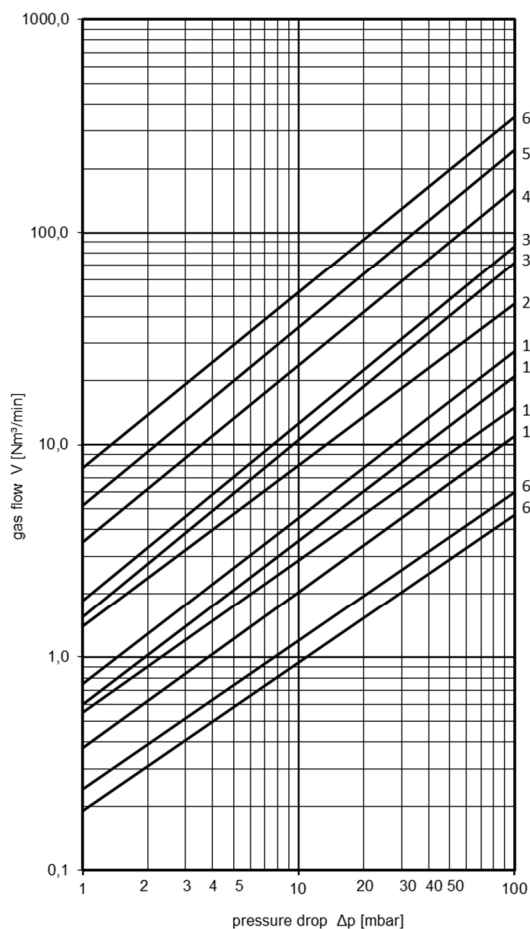
KITO® EFA-Def0-I-.../...-2.5**KITO® EFA-Def0-I-.../...-2.5-T (-TT)****Design**

	standard	optionally
housing	cast steel 1.0619	stainless cast steel 1.4408
gasket	HD 3822	PTFE
KITO®-flame arrester element	completely interchangeable	
KITO®-casing	steel (galvanized to NG 400)	stainless steel mat. no. 1.4571 or 1.4581
KITO®-grid	stainless steel mat. no. 1.4310	stainless steel mat. no. 1.4571
bolts / nuts	galvanized steel	A2
temperature sensor		PT 100, connection 3/8", 1.4571
flange connection	EN 1092-1 type B1	ASME B16.5 Class 150 RF

Performance curves

Flow capacity V based on air of a density $\rho = 1.29 \text{ kg/m}^3$ at $T = 273 \text{ K}$ and atmospheric pressure $p = 1.013 \text{ mbar}$. For other gases the flow can be approximately calculated by

$$\dot{V} = \dot{V}_b \cdot \sqrt{\frac{\rho_b}{1.29}} \quad \text{or} \quad \dot{V}_b = \dot{V} \cdot \sqrt{\frac{1.29}{\rho_b}}$$

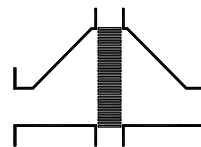


Type sheet

Bi-directional in-line deflagration flame arrester, short-time burning proof

KITO® EFA-Def0-I-.../...-6.0

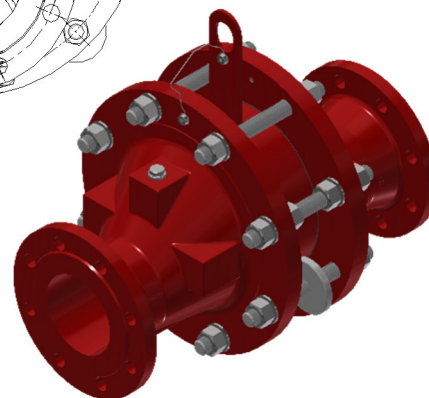
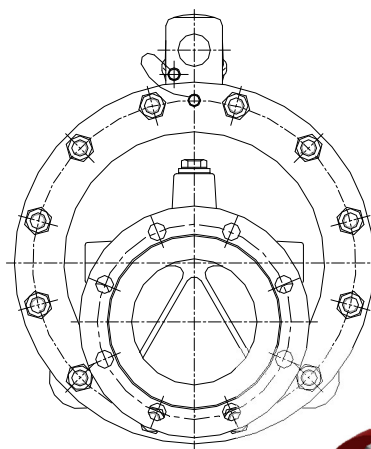
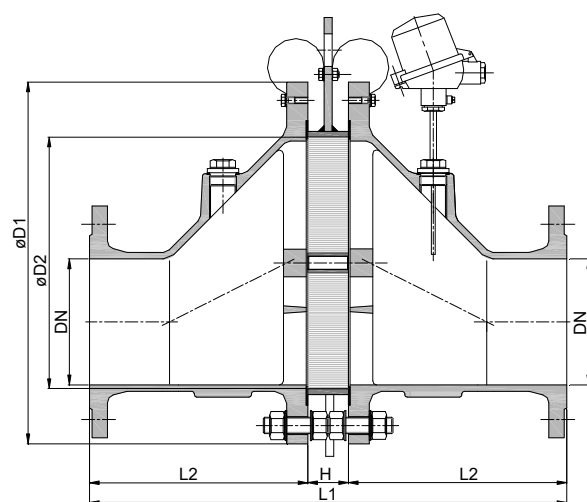
KITO® EFA-Def0-I-.../...-6.0-T (-TT)



Application

For installation into pipes to the protection of vessels and components against deflagration of flammable liquids and gases. Approved for all substances of explosion group IIA1 (old: I) with a maximum experimental safe gap (MESG) ≥ 1.14 mm. Bi-directionally working in pipes, whereby an operating pressure of 6.0 bar abs. and an operating temperature of 60 °C must not be exceeded. The distance between a potential ignition source and the flame arrester must not exceed 50 times the inner pipe diameter. The installation of the deflagration flame arrester into horizontal and vertical pipes is permissible. When equipped with one or two temperature sensors, the devices are protected under atmospheric conditions against a short time burning by a burning time $t_{BT} = 1.0$ min. If only one temperature sensor, then it is to be placed on the device side where a burning could be expected.

Dimension (mm)



NG	DN		D1	D2	L1	H	L2	kg
	DIN	ASME						
65	25 PN 40	1"	155	70	290	50	120	12
150	50 PN 16	2"	285	159	400	50	175	42
	65 PN 16	2 1/2"						43
	80 PN 16	3"						45

Weight refers to the standard design

Example for order

KITO® EFA-Def0-I-65/25-6.0-T

(Design NG 65 with flange connection DN 25 PN 40 and a temperature sensor)

Type examination certificate to EN ISO 16852 and CE-marking in accordance to ATEX-Directive 2014/34/EU

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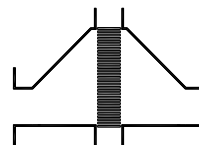


**KITO**

Armaturen GmbH

Type sheet

Bi-directional in-line deflagration flame arrester, short-time burning proof

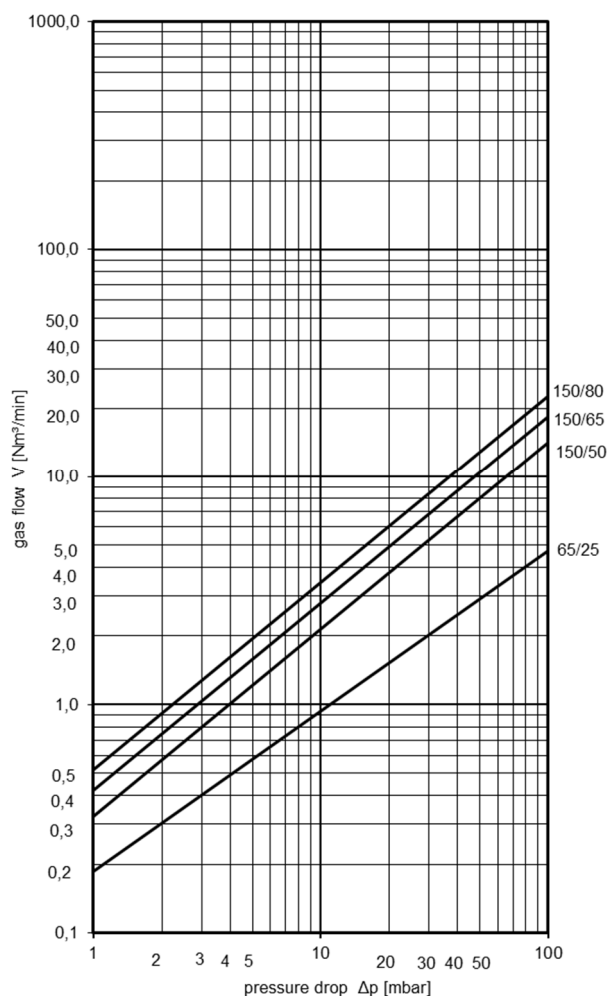
KITO® EFA-Def0-I-.../...-6.0**KITO® EFA-Def0-I-.../...-6.0-T (-TT)****Design**

	standard	optionally
housing	cast steel 1.0619	stainless cast steel 1.4408
gasket	HD 3822	PTFE
KITO®-flame arrester element	completely interchangeable	
KITO®-flame arrester element	steel	stainless steel mat. no. 1.4571
KITO®-grid	stainless steel mat. no. 1.4310	stainless steel mat. no. 1.4571
bolts / nuts	galvanized steel	A2
temperature sensor		PT 100, connection 3/8", 1.4571
flange connection	EN 1092-1 type B1	ASME B16.5 Class 150 RF

Performance curves

Flow capacity V based on air of a density $\rho = 1.29 \text{ kg/m}^3$ at $T = 273 \text{ K}$ and atmospheric pressure $p = 1.013 \text{ mbar}$. For other gases the flow can be approximately calculated by

$$\dot{V} = \dot{V}_b \cdot \sqrt{\frac{\rho_b}{1.29}} \quad \text{or} \quad \dot{V}_b = \dot{V} \cdot \sqrt{\frac{1.29}{\rho_b}}$$



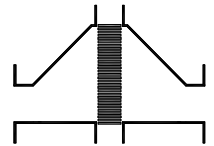
page 2 of 2

Type sheet

Bi-directional in-line deflagration flame arrester, short-time burning proof

KITO® EFA-Def0-IIA-.../...-1.2

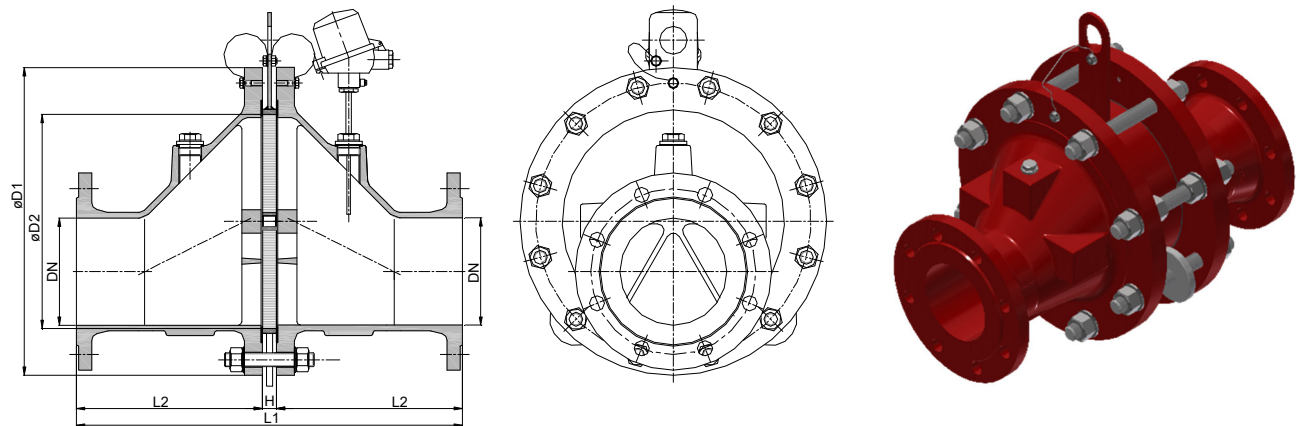
KITO® EFA-Def0-IIA-.../...-1.2-T (-TT)



Application

For installation into pipes to the protection of vessels and components against deflagration of flammable liquids and gases. Approved for all substances of explosion groups IIA1 to IIA with a maximum experimental safe gap (MESG) > 0.9 mm. Bi-directionally working in pipes, whereby an operating pressure of 1.2 bar abs. and an operating temperature of 60 °C must not be exceeded. The distance between a potential ignition source and the flame arrester must not exceed 50 times the inner pipe diameter. The installation of the deflagration flame arrester into horizontal and vertical pipes is permissible. When equipped with one or two temperature sensors, the devices are protected under atmospheric conditions against a short time burning by a burning time $t_{BT} = 1.0$ min. If only one temperature sensor, then it is to be placed on the device side where a burning could be expected.

Dimension (mm)



NG	DN		D1	D2	L1	H	L2	kg
	DIN	ASME						
65	25 PN 40	1"	155	70	260	20	120	11
	32 PN 40	1 1/4"						13
100	40 PN 40	1 1/2"	220	106	310	20	145	22
	50 PN 16	2"						24
150	50 PN 16	2"	285	159	370	20	175	38
	65 PN 16	2 1/2"						40
	80 PN 16	3"						41
200	80 PN 16	3"	340	206	420	20	200	57
	100 PN 16	4"						58
300	100 PN 16	4"	445	308	560	20	270	92
	125 PN 16	5"						98
	150 PN 16	6"						101
400	150 PN 16	6"	565	388	650	20	315	153
	200 PN 10	8"						168
500	200 PN 10	8"	670	485	780	20	380	227
	250 PN 10	10"						245
600	250 PN 10	10"	780	584	920	20	450	320
	300 PN 10	12"						336
800	350 PN 10	14"	1015	810	1287	47	620	
	400 PN 10	16"						

Weight refers to the standard design

Example for order

KITO® EFA-Def0-IIA-100/40-1.2-T

(Design NG 100 with flange connection DN 40 PN 40 and a temperature sensor)

Type examination certificate to EN ISO 16852 and CE-marking in accordance to ATEX-Directive 2014/34/EU

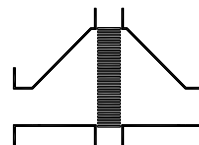
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**KITO**

Armaturen GmbH

Type sheet

Bi-directional in-line deflagration flame arrester, short-time burning proof

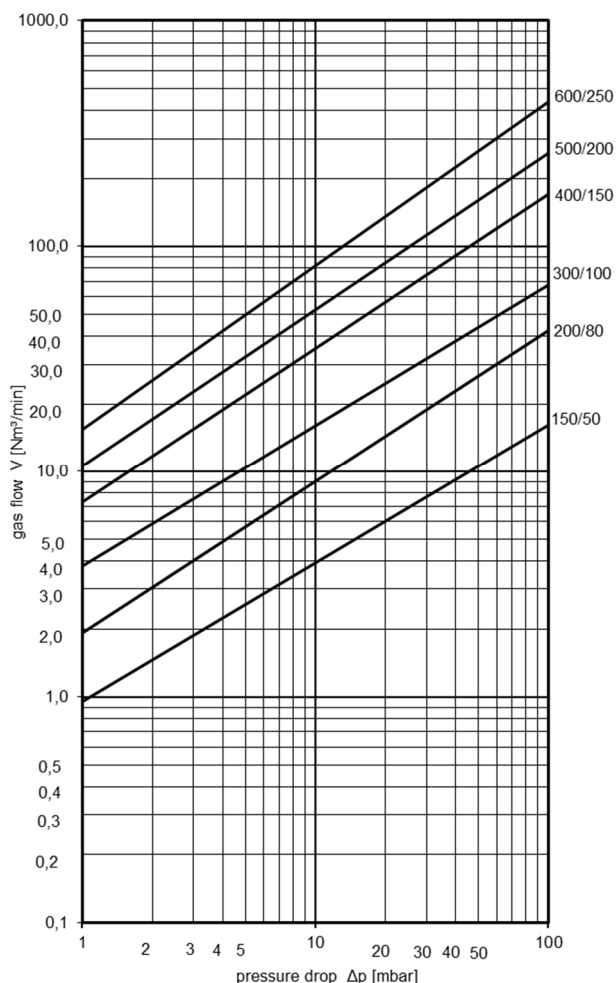
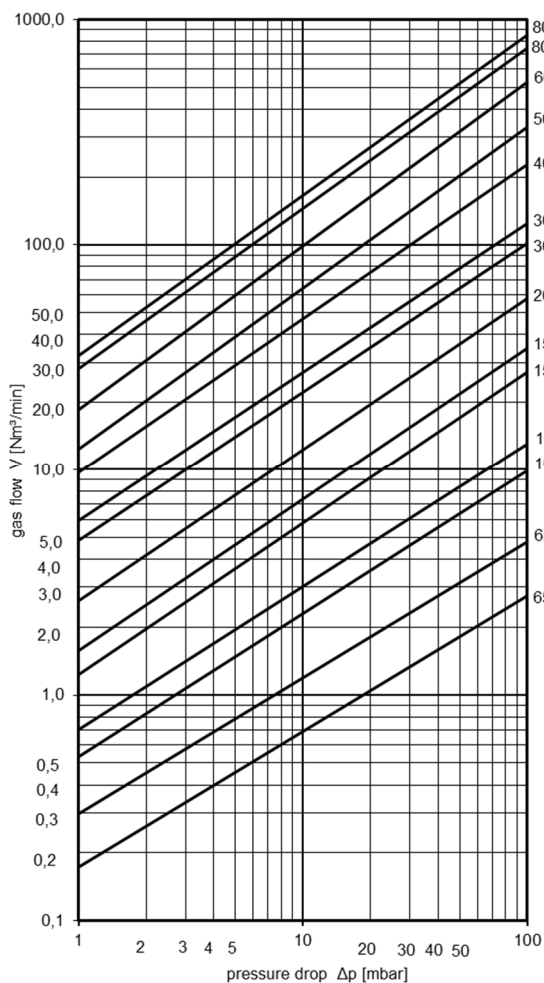
KITO® EFA-Def0-IIA-.../...-1.2**KITO® EFA-Def0-IIA-.../...-1.2-T (-TT)****Design**

	standard	optionally
housing	cast steel 1.0619	stainless cast steel 1.4408
gasket	HD 3822	PTFE
KITO®-flame arrester element	completely interchangeable	
KITO®-casing	steel (galvanized to NG 400)	stainless steel mat. no. 1.4571 or 1.4581
KITO®-grid	stainless steel mat. no. 1.4310	stainless steel mat. no. 1.4571
bolts / nuts	galvanized steel	A2
temperature sensor		PT 100, connection 3/8", 1.4571
flange connection	EN 1092-1 type B1	ASME B16.5 Class 150 RF

Performance curves

Flow capacity V based on air of a density $\rho = 1.29 \text{ kg/m}^3$ at $T = 273 \text{ K}$ and atmospheric pressure $p = 1.013 \text{ mbar}$. For other gases the flow can be approximately calculated by

$$\dot{V} = \dot{V}_b \cdot \sqrt{\frac{\rho_b}{1.29}} \quad \text{or} \quad \dot{V}_b = \dot{V} \cdot \sqrt{\frac{1.29}{\rho_b}}$$



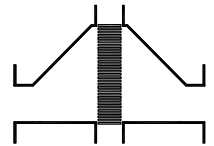
page 2 of 2

Type sheet

Bi-directional in-line deflagration flame arrester, short-time burning proof

KITO® EFA-Def0-IIA-.../...-X10

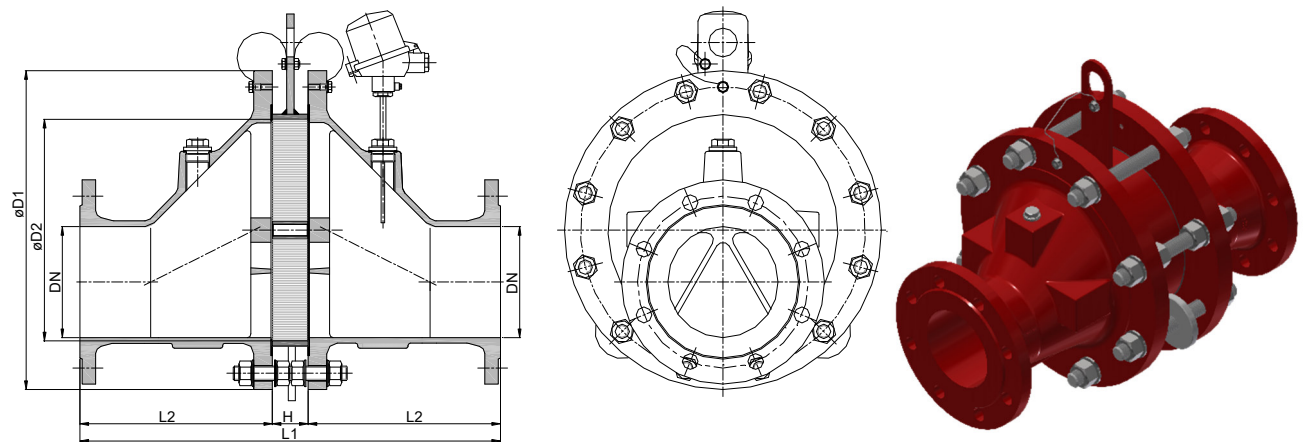
KITO® EFA-Def0-IIA-.../...-X10-T (-TT)



Application

For installation into pipes to the protection of vessels and components against deflagration of flammable liquids and gases. Approved for all substances of explosion groups IIA1 to IIA with a maximum experimental safe gap (MESG) > 0.9 mm. Bi-directionally working in pipes, whereby an operating pressure of 1.5 bar abs. up to NG 65, $p_{max} = 1.2$ bar abs. from NG 100 and an operating temperature of 100 °C must not be exceeded. The distance between a potential ignition source and the flame arrester must not exceed 50 times the inner pipe diameter. The installation of the deflagration flame arrester into horizontal and vertical pipes is permissible. When equipped with one or two temperature sensors, the devices are protected under atmospheric conditions against a short time burning by a burning time $t_{BT} = 1.0$ min. If only one temperature sensor, then it is to be placed on the device side where a burning could be expected.

Dimension (mm)



NG	DN		D1	D2	L1	H	L2	p_{max}	kg
	DIN	ASME							
65	25 PN 40	1"	155	70	290	50	120	1.5	12
	32 PN 40	1 1/4"							13
100	40 PN 40	1 1/2"	220	106	340	50	145	1.2	24
	50 PN 16	2"							26
150	50 PN 16	2"	285	159	400	50	175	1.2	41
	65 PN 16	2 1/2"							42
	80 PN 16	3"							44
	80 PN 16	3"							61
200	100 PN 16	4"	340	206	450	50	200	1.2	62
	100 PN 16	4"							101
300	125 PN 16	5"	445	308	590	50	270	1.2	107
	150 PN 16	6"							110
	150 PN 16	6"							163
400	200 PN 10	8"	565	388	672	42	315	1.2	179
	200 PN 10	8"							243
500	250 PN 10	10"	670	485	802	42	380	1.2	253
	250 PN 10	10"							345
600	300 PN 10	12"	780	584	942	42	450	1.2	361
	300 PN 10	12"							

Weight refers to the standard design

Example for order

KITO® EFA-Def0-IIA-100/40-1,2-X10-T

(Design NG 100 with flange connection DN 40 PN 40 and a temperature sensor)

Type examination certificate to EN ISO 16852 and CE-marking in accordance to ATEX-Directive 2014/34/EU

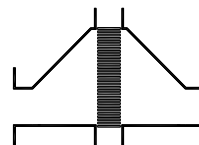
page 1 of 2

**KITO**

Armaturen GmbH

Type sheet

Bi-directional in-line deflagration flame arrester, short-time burning proof

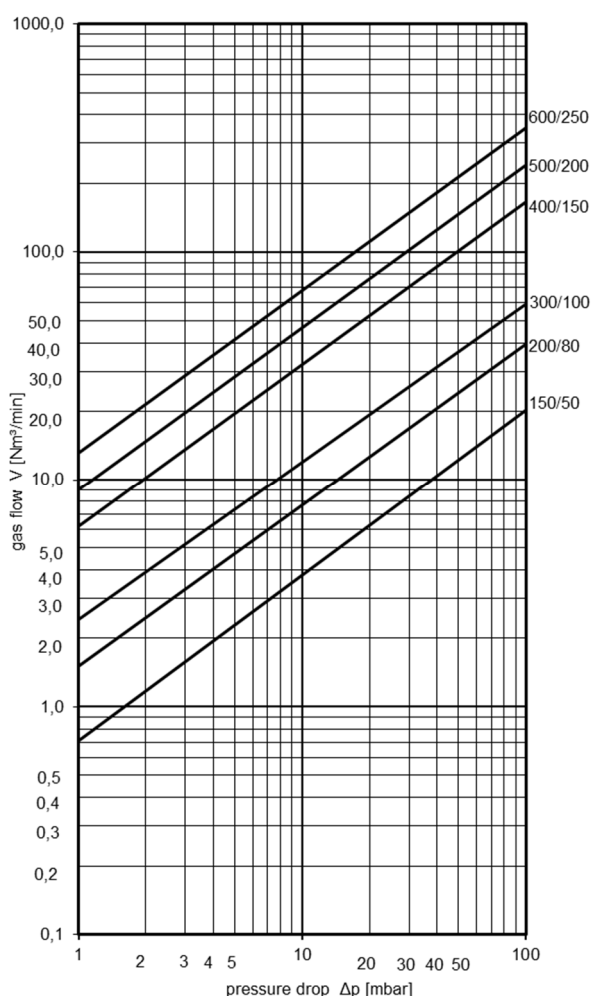
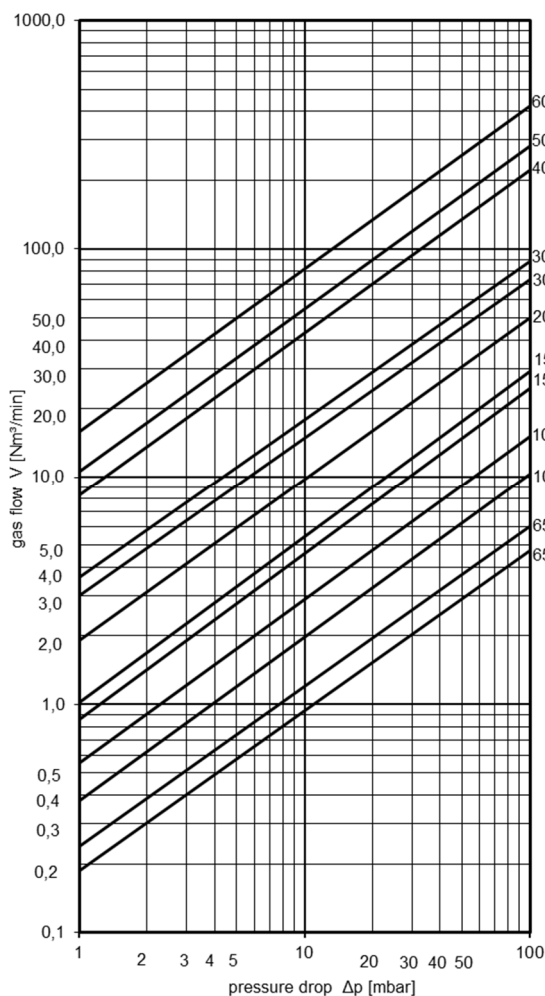
KITO® EFA-Def0-IIA-.../.....-X10**KITO® EFA-Def0-IIA-.../.....-X10-T (-TT)****Design**

	standard	optionally
housing	cast steel 1.0619	stainless cast steel 1.4408
gasket	HD 3822	PTFE
KITO®-flame arrester element	completely interchangeable	
KITO®-casing	steel (galvanized to NG 400)	stainless steel mat. no. 1.4571 or 1.4581
KITO®-grid	stainless steel mat. no. 1.4310	stainless steel mat. no. 1.4571
bolts / nuts	galvanized steel	A2
temperature sensor		PT 100, connection 3/8", 1.4571
flange connection	EN 1092-1 type B1	ASME B16.5 Class 150 RF

Performance curves

Flow capacity V based on air of a density $\rho = 1.29 \text{ kg/m}^3$ at $T = 273 \text{ K}$ and atmospheric pressure $p = 1.013 \text{ mbar}$. For other gases the flow can be approximately calculated by

$$\dot{V} = \dot{V}_b \cdot \sqrt{\frac{\rho_b}{1.29}} \quad \text{or} \quad \dot{V}_b = \dot{V} \cdot \sqrt{\frac{1.29}{\rho_b}}$$

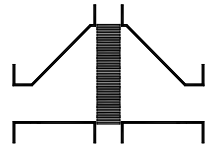


Type sheet

Bi-directional in-line deflagration flame arrester, short-time burning proof

KITO® EFA-Def0-IIA-.../...-X16

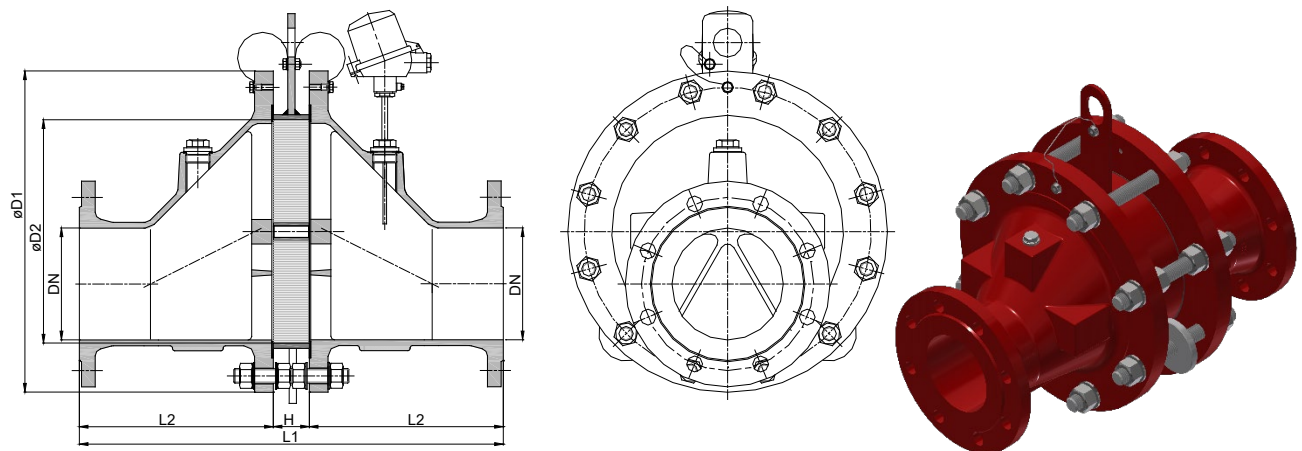
KITO® EFA-Def0-IIA-.../...-X16-T (-TT)



Application

For installation into pipes to the protection of vessels and components against deflagration of flammable liquids and gases. Approved for all substances of explosion groups IIA1 to IIA with a maximum experimental safe gap (MESG) > 0.9 mm. Bi-directionally working in pipes, whereby an operating pressure of 1.1 bar abs. and an operating temperature of 160 °C must not be exceeded. The distance between a potential ignition source and the flame arrester must not exceed 50 times the inner pipe diameter. The installation of the deflagration flame arrester into horizontal and vertical pipes is permissible. When equipped with one or two temperature sensors, the devices are protected under atmospheric conditions against a short time burning by a burning time $t_{BT} = 1.0$ min. If only one temperature sensor, then it is to be placed on the device side where a burning could be expected.

Dimension (mm)



NG	DN		D1	D2	L1	H	L2	kg
	DIN	ASME						
65	25 PN 40	1"	155	70	290	50	120	11
	32 PN 40	1 1/4"						12
100	40 PN 40	1 1/2"	220	106	340	50	145	24
	50 PN 16	2"						26,5
150	50 PN 16	2"	285	159	400	50	175	26
	65 PN 16	2 1/2"						42
	80 PN 16	3"						44
200	80 PN 16	3"	340	206	450	50	200	
	100 PN 16	4"						
300	100 PN 16	4"	445	308	590	50	270	
	125 PN 16	5"						
	150 PN 16	6"						110
400	150 PN 16	6"	565	388	672	42	315	153
	200 PN 10	8"						172
500	200 PN 10	8"	670	485	802	42	380	243
	250 PN 10	10"						253
600	250 PN 10	10"	780	584	942	42	450	344
	300 PN 10	12"						360

Weight refers to the standard design

Example for order

KITO® EFA-Def0-IIA-100/40-X16-T

(Design NG 100 with flange connection DN 40 PN 40 and a temperature sensor)

Type examination certificate to EN ISO 16852 and CE-marking in accordance to ATEX-Directive 2014/34/EU

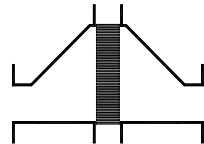
page 1 of 2

**KITO**

Armaturen GmbH

Type sheet

Bi-directional in-line deflagration flame arrester, short-time burning proof

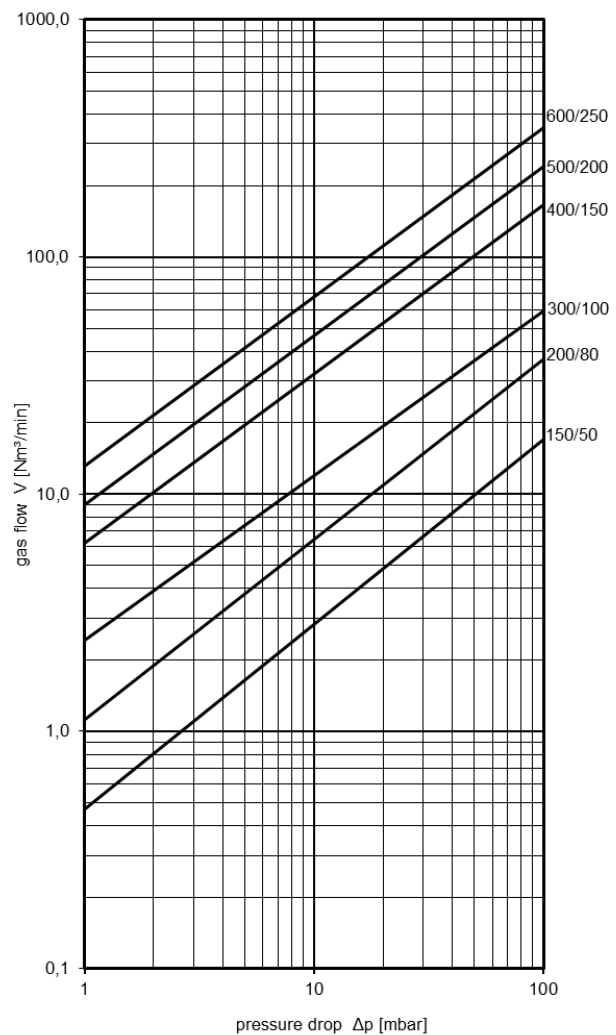
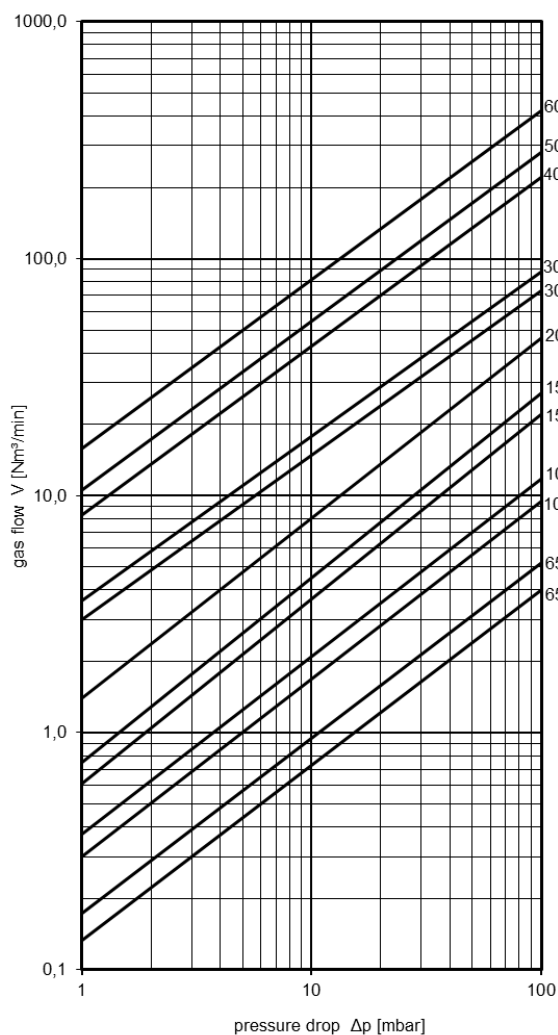
KITO® EFA-Def0-IIA-.../.....-X16**KITO® EFA-Def0-IIA-.../.....-X16-T (-TT)****Design**

	standard	optionally
housing	cast steel 1.0619	stainless cast steel 1.4408
gasket	HD 3822	PTFE
KITO®-flame arrester element	completely interchangeable	
KITO®-casing	stainless steel mat. no. 1.4571 or 1.4581	
KITO®-grid	stainless steel mat. no. 1.4571	
bolts / nuts	A2	
temperature sensor		PT 100, connection 3/8", 1.4571
flange connection	EN 1092-1 type B1	ASME B16.5 Class 150 RF

Performance curves

Flow capacity V based on air of a density $\rho = 1.29 \text{ kg/m}^3$ at $T = 273 \text{ K}$ and atmospheric pressure $p = 1.013 \text{ mbar}$. For other gases the flow can be approximately calculated by

$$\dot{V} = \dot{V}_b \cdot \sqrt{\frac{\rho_b}{1.29}} \quad \text{or} \quad \dot{V}_b = \dot{V} \cdot \sqrt{\frac{1.29}{\rho_b}}$$

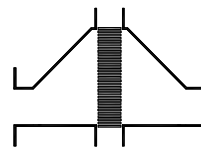


Type sheet

Bi-directional in-line deflagration flame arrester, short-time burning proof

KITO® EFA-Def0-IIA-.../...-1.6

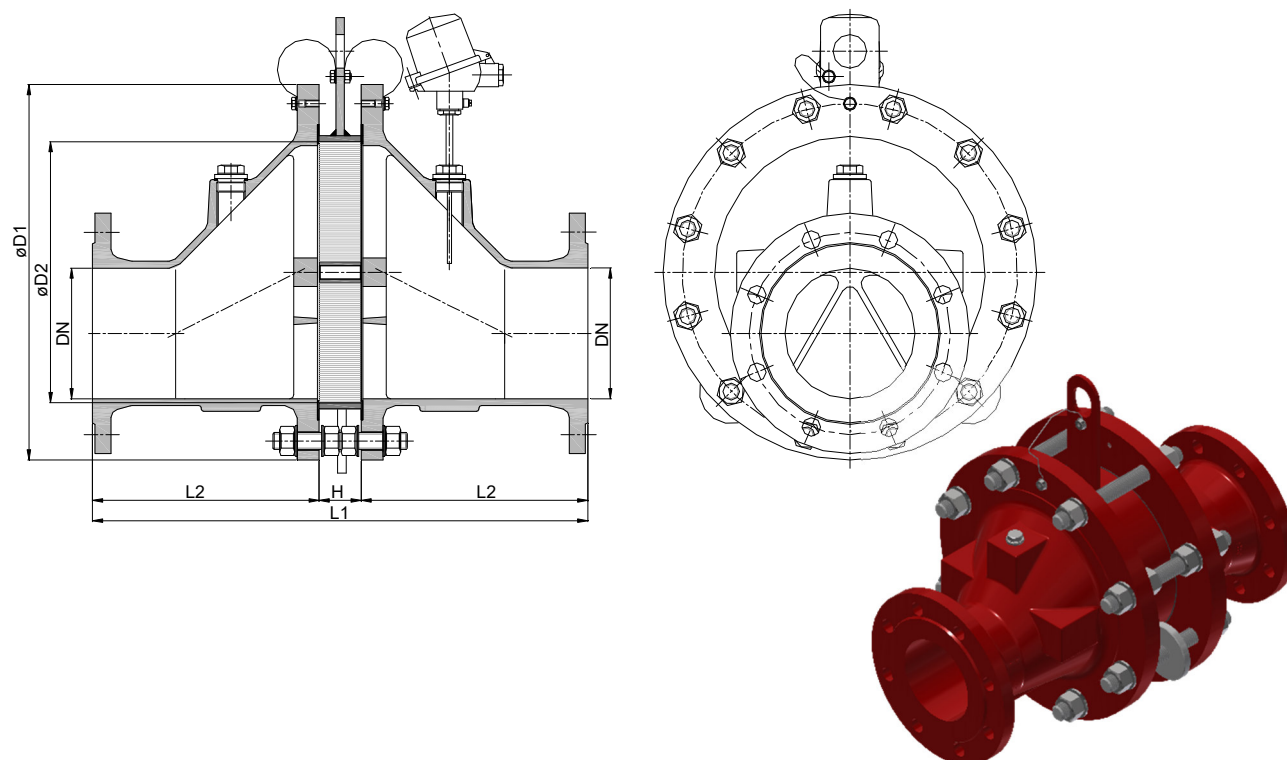
KITO® EFA-Def0-IIA-.../...-1.6-T (-TT)



Application

For installation into pipes to the protection of vessels and components against deflagration of flammable liquids and gases. Approved for all substances of explosion groups IIA1 to IIA with a maximum experimental safe gap (MESG) > 0.9 mm. Bi-directionally working in pipes, whereby an operating pressure of 1.6 bar abs. and an operating temperature of 60 °C must not be exceeded. The distance between a potential ignition source and the flame arrester must not exceed 50 times the inner pipe diameter. The installation of the deflagration flame arrester into horizontal and vertical pipes is permissible. When equipped with one or two temperature sensors, the devices are protected under atmospheric conditions against a short time burning by a burning time $t_{BT} = 1.0$ min. If only one temperature sensor, then it is to be placed on the device side where a burning could be expected.

Dimension (mm)



NG	DN		D1	D2	L1	H	L2	kg
	DIN	ASME						
100	40 PN 40	1 1/2"	220	106	340	50	145	24
	50 PN 16	2"						26
150	50 PN 16	2"	285	159	400	50	175	41
	65 PN 16	2 1/2"						43
	80 PN 16	3"						45
200	80 PN 16	3"	340	206	450	50	200	62
	100 PN 16	4"						63

Weight refers to the standard design

Example for order

KITO® EFA-Def0-IIA-100/40-1.6-T

(Design NG 100 with flange connection DN 40 PN 40 and a temperature sensor)

Type examination certificate to EN ISO 16852 and CE-marking in accordance to ATEX-Directive 2014/34/EU

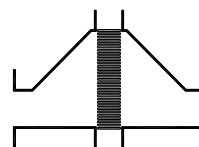
page 1 of 2

**KITO**

Armaturen GmbH

Type sheet

Bi-directional in-line deflagration flame arrester, short-time burning proof

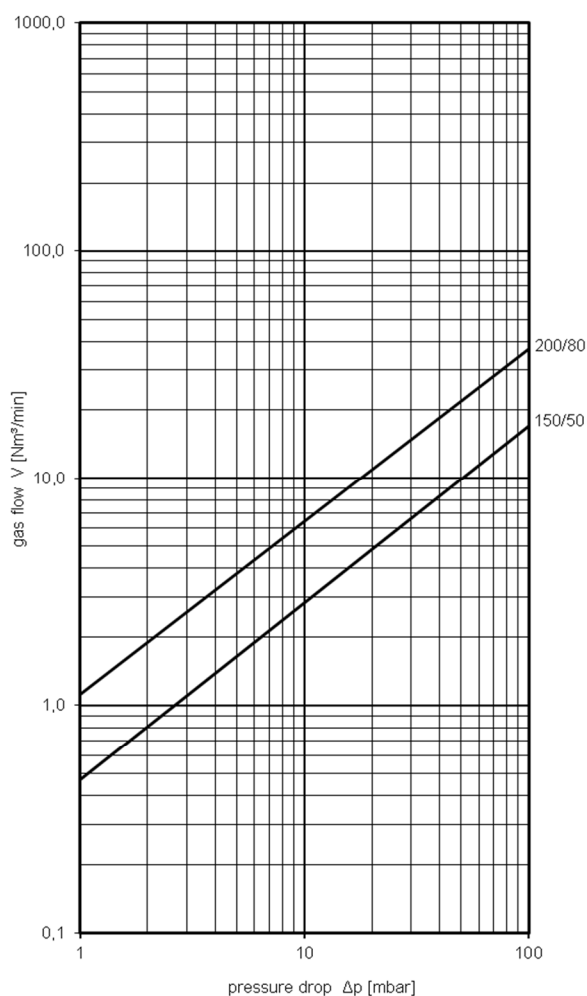
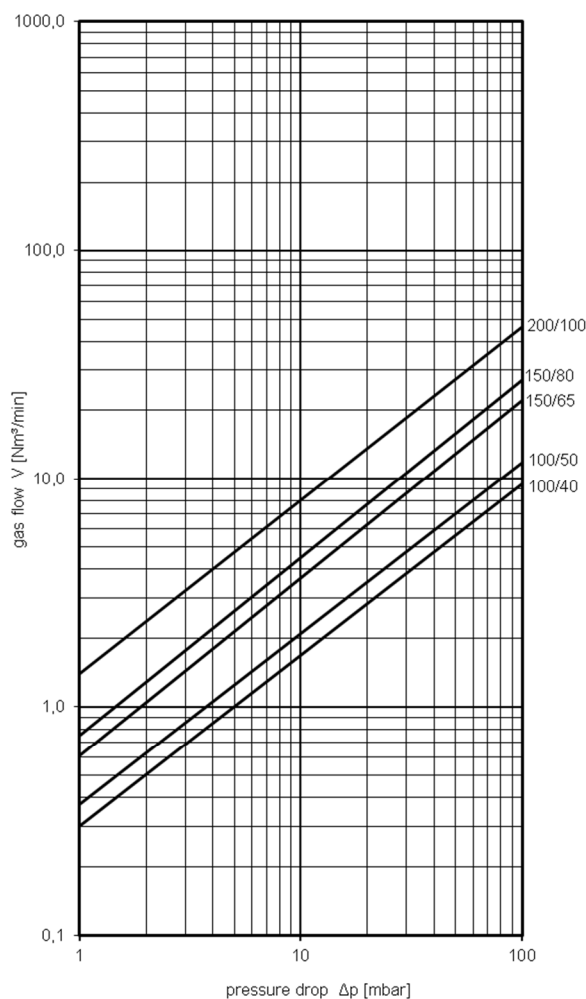
KITO® EFA-Def0-IIA-.../...-1.6**KITO® EFA-Def0-IIA-.../...-1.6-T (-TT)****Design**

	standard	optionally
housing	cast steel 1.0619	stainless cast steel 1.4408
gasket	HD 3822	PTFE
KITO®-flame arrester element	completely interchangeable	
KITO®-casing	galvanized steel	stainless steel mat. no. 1.4571
KITO®-grid	stainless steel mat. no. 1.4310	stainless steel mat. no. 1.4571
bolts / nuts	galvanized steel	A2
temperature sensor		PT 100, connection 3/8", 1.4571
flange connection	EN 1092-1 type B1	ASME B16.5 Class 150 RF

Performance curves

Flow capacity V based on air of a density $\rho = 1.29 \text{ kg/m}^3$ at $T = 273 \text{ K}$ and atmospheric pressure $p = 1.013 \text{ mbar}$. For other gases the flow can be approximately calculated by

$$\dot{V} = \dot{V}_b \cdot \sqrt{\frac{\rho_b}{1.29}} \quad \text{or} \quad \dot{V}_b = \dot{V} \cdot \sqrt{\frac{1.29}{\rho_b}}$$

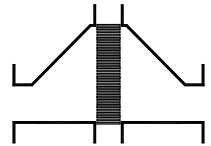


Type sheet

Bi-directional in-line deflagration flame arrester, short-time burning proof

KITO® EFA-Def0-IIA-.../...-1,6-X18

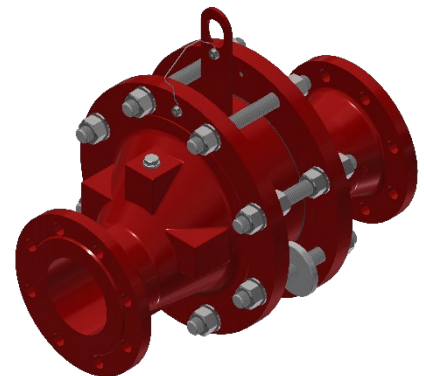
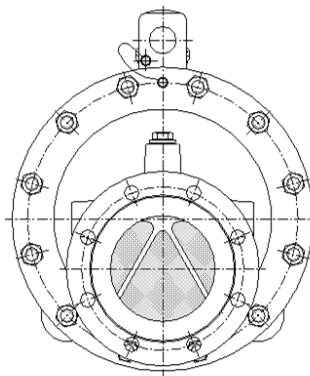
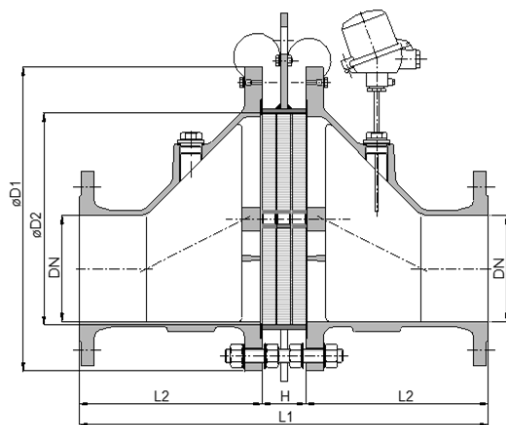
KITO® EFA-Def0-IIA-.../...-1,6-X18-T (-TT)



Application

For installation into pipes to the protection of vessels and components against deflagration of flammable liquids and gases. Approved for all substances of explosion groups IIA1 to IIA with a maximum experimental safe gap (MESG) > 0.9 mm. Bi-directionally working in pipes, whereby an operating pressure of 1.6 bar abs. and an operating temperature of 180 °C must not be exceeded. The distance between a potential ignition source and the flame arrester must not exceed 50 times the inner pipe diameter. The installation of the deflagration flame arrester into horizontal and vertical pipes is permissible. When equipped with one or two temperature sensors, the devices are protected under atmospheric conditions against a short time burning by a burning time $t_{BT} = 1.0$ min. If only one temperature sensor, then it is to be placed on the device side where a burning could be expected.

Dimension (mm)



NG	DN		D1	D2	L1	H	L2	kg
	DIN	ASME						
65	25 PN 40	1"	155	70	282	42	120	12
	32 PN 40	1 1/4"						13
100	40 PN 40	1 1/2"	220	106	332	42	145	23
	50 PN 16	2"						25
150	50 PN 16	2"	285	159	392	42	175	41
	65 PN 16	2 1/2"						42
	80 PN 16	3"						44
200	80 PN 16	3"	340	206	464	64	200	64
	100 PN 16	4"						65
300	100 PN 16	4"	445	308	604	64	270	114
	125 PN 16	5"						120
	150 PN 16	6"						123

Weight refers to the standard design

Example for order

KITO® EFA-Def0-IIA-100/40-1,6-X18-T

(Design NG 100 with flange connection DN 40 PN 40 and a temperature sensor)

Type examination certificate to EN ISO 16852 and CE-marking in accordance to ATEX-Directive 2014/34/EU

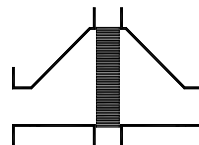
page 1 of 2

**KITO**

Armaturen GmbH

Type sheet

Bi-directional in-line deflagration flame arrester, short-time burning proof

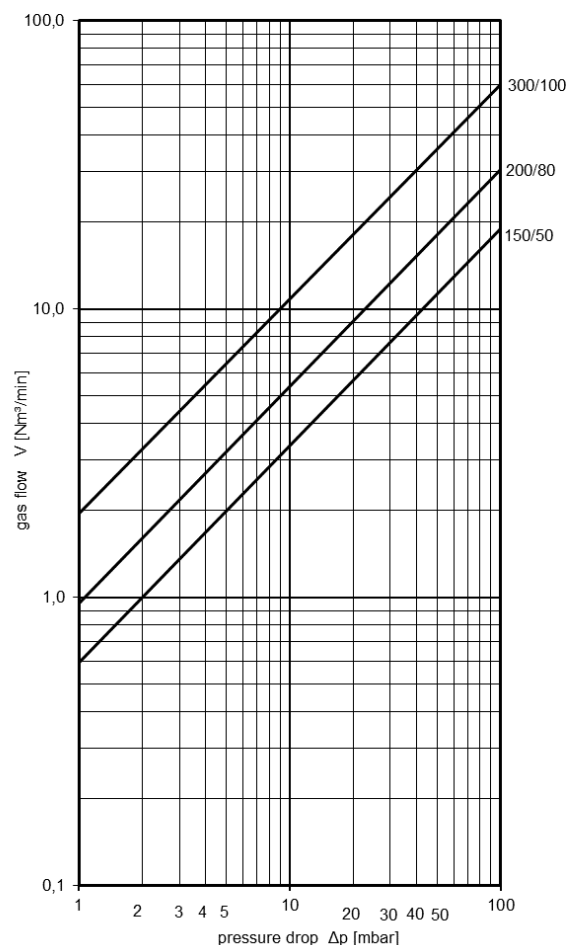
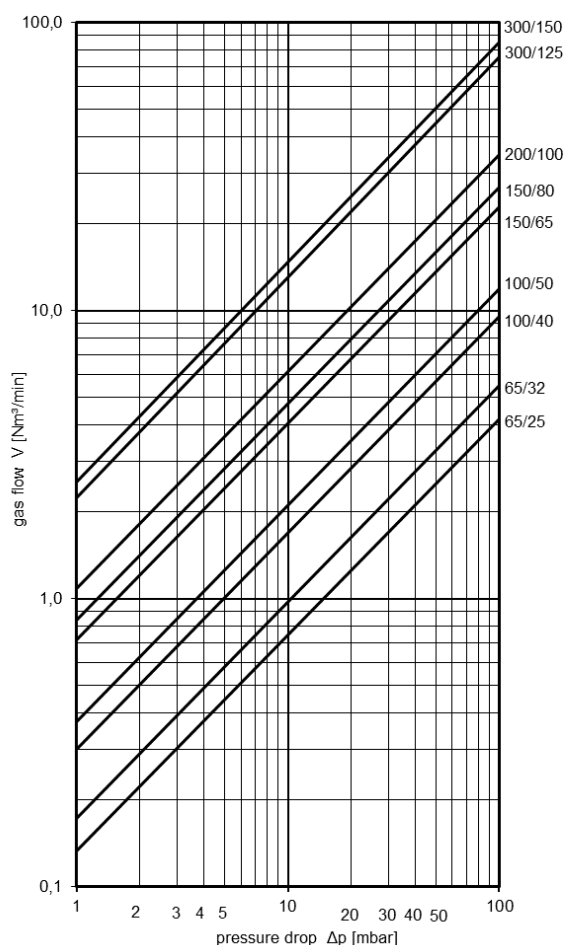
KITO® EFA-Def0-IIA-.../...-1,6-X18**KITO® EFA-Def0-IIA-.../...-1,6-X18-T (-TT)****Design**

	standard	optionally
housing	cast steel 1.0619	stainless cast steel 1.4408
gasket	HD 3822	PTFE
KITO®-flame arrester element	completely interchangeable	
KITO®-casing	stainless steel mat. no. 1.4571 or 1.4581	
KITO®-grid	stainless steel mat. no. 1.4571	
bolts / nuts	A2	
temperature sensor		PT 100, connection 3/8", 1.4571
flange connection	EN 1092-1 type B1	ASME B16.5 Class 150 RF

Performance curves

Flow capacity V based on air of a density $\rho = 1.29 \text{ kg/m}^3$ at $T = 273 \text{ K}$ and atmospheric pressure $p = 1.013 \text{ mbar}$. For other gases the flow can be approximately calculated by

$$\dot{V} = \dot{V}_b \cdot \sqrt{\frac{\rho_b}{1.29}} \quad \text{or} \quad \dot{V}_b = \dot{V} \cdot \sqrt{\frac{1.29}{\rho_b}}$$

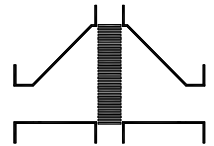


Type sheet

Bi-directional in-line deflagration flame arrester, short-time burning proof

KITO® EFA-Def0-IIB3-.../...-1.2

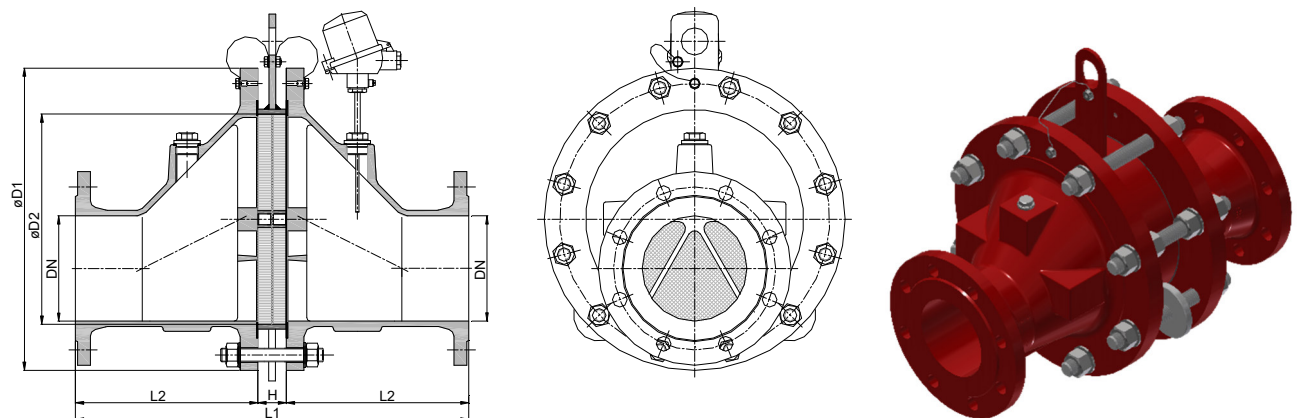
KITO® EFA-Def0-IIB3-.../...-1.2-T (-TT)



Application

For installation into pipes to the protection of vessels and components against deflagration of flammable liquids and gases. Approved for all substances of explosion groups IIA1 to IIB3 with a maximum experimental safe gap (MESG) ≥ 0.65 mm. Bi-directionally working in pipes, whereby an operating pressure of 1.2 bar abs. and an operating temperature of 60 °C must not be exceeded. The distance between a potential ignition source and the flame arrester must not exceed 50 times the inner pipe diameter. The installation of the deflagration flame arrester into horizontal and vertical pipes is permissible. When equipped with one or two temperature sensors, the devices are protected under atmospheric conditions against a short time burning by a burning time $t_{BT} = 1.0$ min. If only one temperature sensor, then it is to be placed on the device side where a burning could be expected.

Dimension (mm)



NG	DN		D1	D2	L1	H	L2	kg
	DIN	ASME						
65	25 PN 40	1"	155	70	290	50	120	12
	32 PN 40	1 1/4"						13
100	40 PN 40	1 1/2"	220	106	340	50	145	24
	50 PN 16	2"						26
150	50 PN 16	2"	285	159	392	42	175	41
	65 PN 16	2 1/2"						42
	80 PN 16	3"						44
200	80 PN 16	3"	340	206	442	42	200	61
	100 PN 16	4"						62
300	100 PN 16	4"	445	308	582	42	270	100
	125 PN 16	5"						106
	150 PN 16	6"						109
400	150 PN 16	6"	565	388	672	42	315	162
	200 PN 10	8"						178
500	200 PN 10	8"	670	485	802	42	380	244
	250 PN 10	10"						262
600	250 PN 10	10"	780	584	942	42	450	344
	300 PN 10	12"						360
800	350 PN 10	14"	1015	810	1350	110	620	
	400 PN 10	16"						

Weight refers to the standard design

Example for order

KITO® EFA-Def0-IIB3-100/40-1.2-T

(Design NG 100 with flange connection DN 40 PN 40 and a temperature sensor)

Type examination certificate to EN ISO 16852 and CE-marking in accordance to ATEX-Directive 2014/34/EU

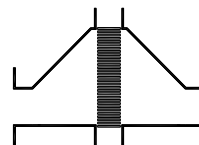
page 1 of 2

**KITO**

Armaturen GmbH

Type sheet

Bi-directional in-line deflagration flame arrester, short-time burning proof

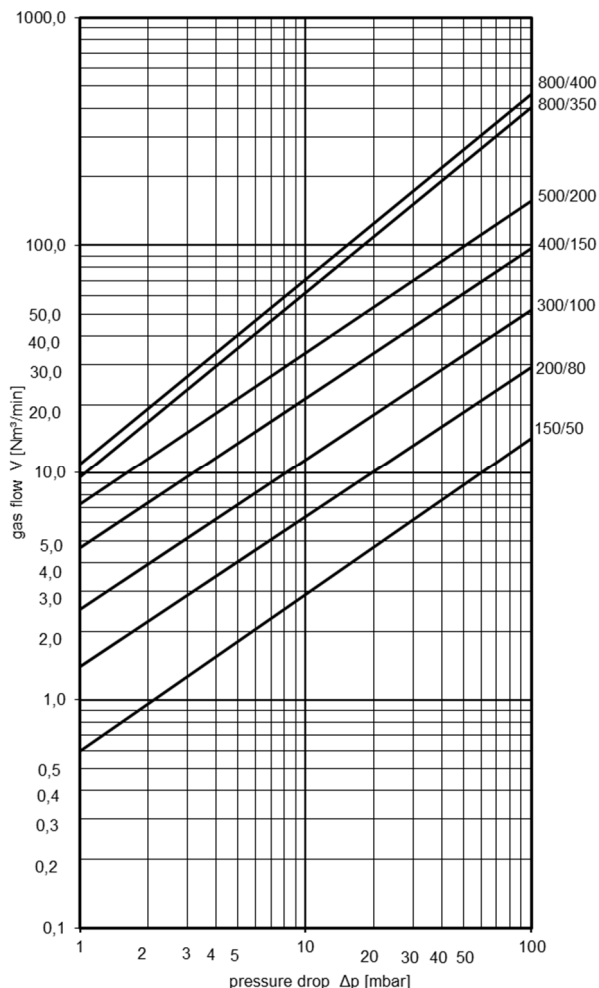
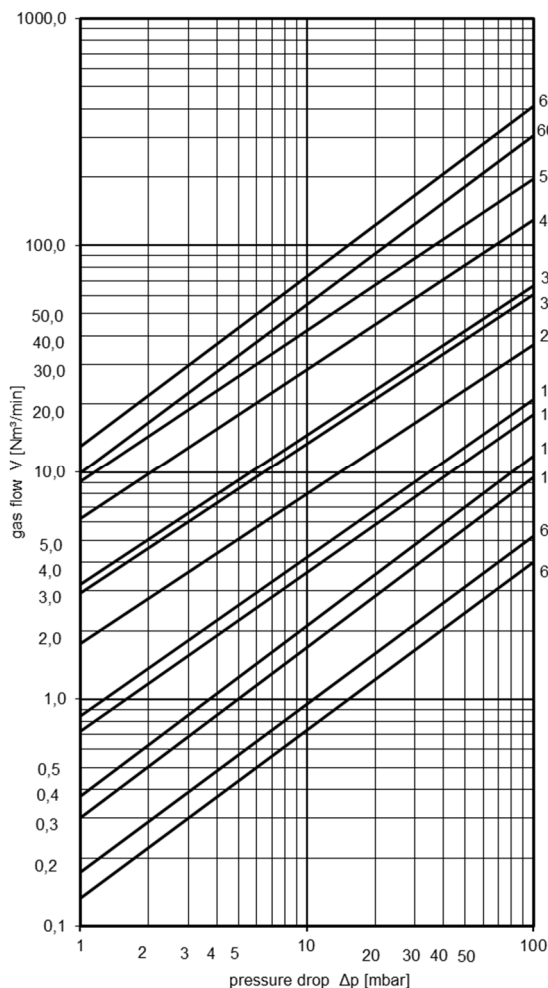
KITO® EFA-Def0-IIB3-.../...-1.2**KITO® EFA-Def0-IIB3-.../...-1.2-T (-TT)****Design**

	standard	optionally
housing	cast steel 1.0619	stainless cast steel 1.4408
gasket	HD 3822	PTFE
KITO®-flame arrester element	completely interchangeable	
KITO®-casing	steel (galvanized to NG 400)	stainless steel mat. no. 1.4571 or 1.4581
KITO®-grid	stainless steel mat. no. 1.4310	stainless steel mat. no. 1.4571
bolts / nuts	galvanized steel	A2
temperature sensor		PT 100, connection 3/8", 1.4571
flange connection	EN 1092-1 type B1	ASME B16.5 Class 150 RF

Performance curves

Flow capacity V based on air of a density $\rho = 1.29 \text{ kg/m}^3$ at $T = 273 \text{ K}$ and atmospheric pressure $p = 1.013 \text{ mbar}$. For other gases the flow can be approximately calculated by

$$\dot{V} = \dot{V}_b \cdot \sqrt{\frac{\rho_b}{1.29}} \quad \text{or} \quad \dot{V}_b = \dot{V} \cdot \sqrt{\frac{1.29}{\rho_b}}$$

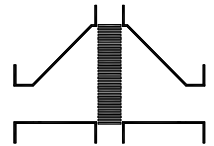


Type sheet

Bi-directional in-line deflagration flame arrester, short-time burning proof

KITO® EFA-Def0-IIB3-.../...-1.2-X10

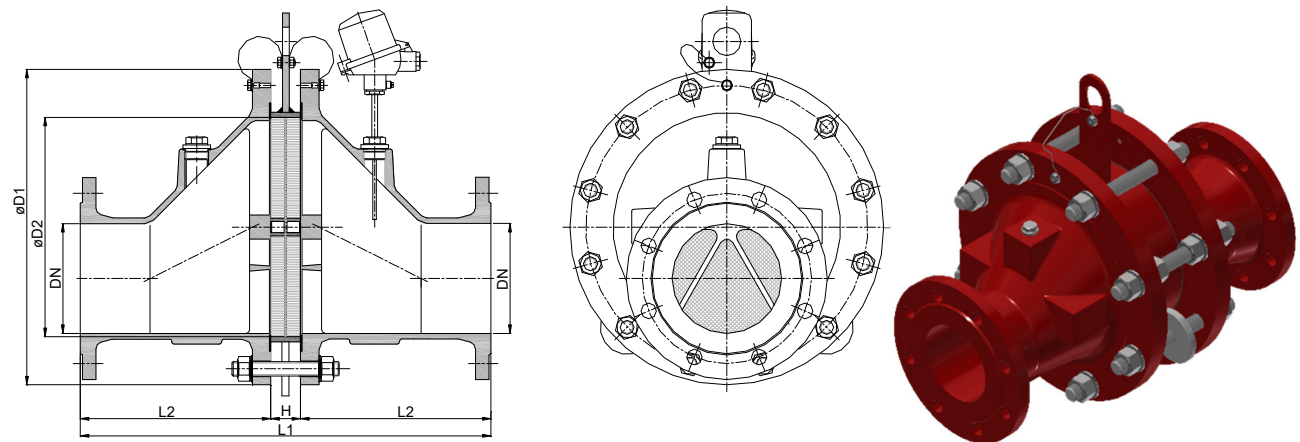
KITO® EFA-Def0-IIB3-.../...-1.2-X10-T (-TT)



Application

For installation into pipes to the protection of vessels and components against deflagration of flammable liquids and gases. Approved for all substances of explosion groups IIA1 to IIB3 with a maximum experimental safe gap (MESG) ≥ 0.65 mm. Bi-directionally working in pipes, whereby an operating pressure of 1.2 bar abs. and an operating temperature of 100 °C must not be exceeded. The distance between a potential ignition source and the flame arrester must not exceed 50 times the inner pipe diameter. The installation of the deflagration flame arrester into horizontal and vertical pipes is permissible. When equipped with one or two temperature sensors, the devices are protected under atmospheric conditions against a short time burning by a burning time $t_{BT} = 1.0$ min. If only one temperature sensor, then it is to be placed on the device side where a burning could be expected.

Dimension (mm)



NG	DN		D1	D2	L1	H	L2	kg
	DIN	ASME						
65	25 PN 40	1"	155	70	282	42	120	12
	32 PN 40	1 1/4"						13
100	40 PN 40	1 1/2"	220	106	332	42	145	23
	50 PN 16	2"						25
150	50 PN 16	2"	285	159	392	42	175	41
	65 PN 16	2 1/2"						42
	80 PN 16	3"						44
200	80 PN 16	3"	340	206	464	64	200	64
	100 PN 16	4"						65
300	100 PN 16	4"	445	308	604	64	270	107
	125 PN 16	5"						113
	150 PN 16	6"						116
400	150 PN 16	6"	565	388	716	86	315	186
	200 PN 10	8"						202
500	200 PN 10	8"	670	485	846	86	380	277
	250 PN 10	10"						296
600	250 PN 10	10"	780	584	986	86	450	393
	300 PN 10	12"						409

Weight refers to the standard design

Example for order

KITO® EFA-Def0-IIB3-100/40-1.2-X10-T

(Design NG 100 with flange connection DN 40 PN 40 and a temperature sensor)

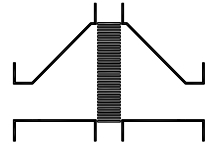
Type examination certificate to EN ISO 16852 and CE-marking in accordance to ATEX-Directive 2014/34/EU

**KITO**

Armaturen GmbH

Type sheet

Bi-directional in-line deflagration flame arrester, short-time burning proof

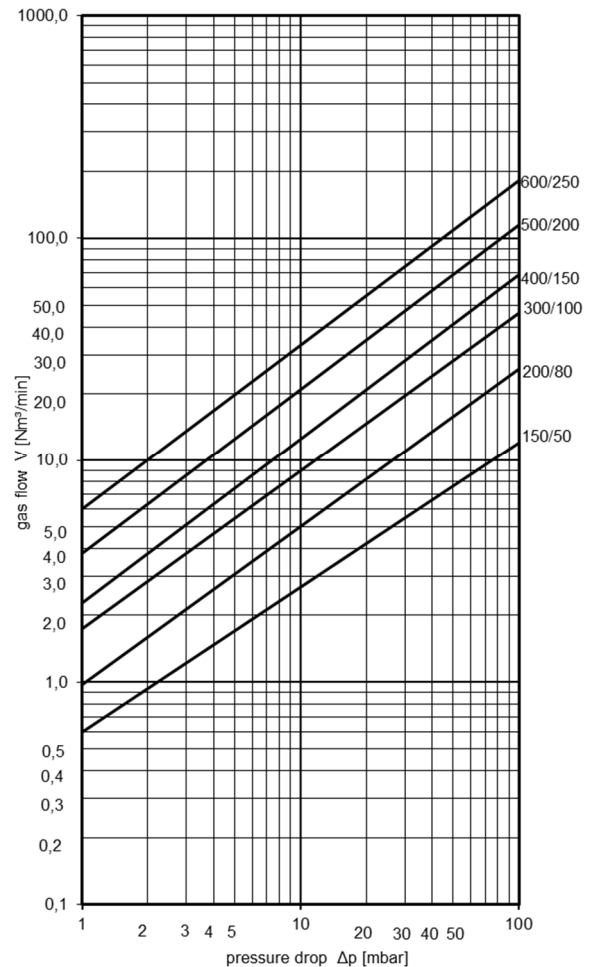
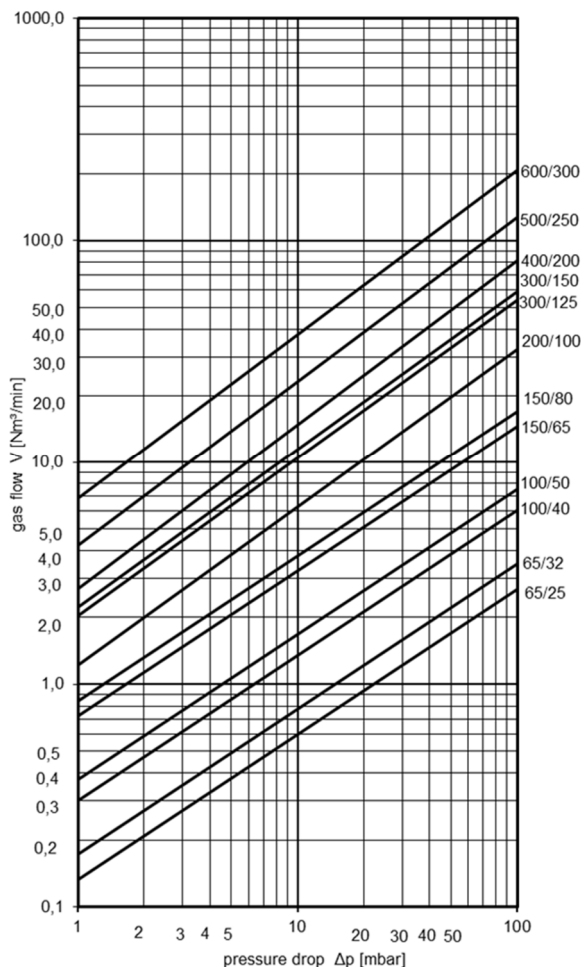
KITO® EFA-Def0-IIB3-.../...-1.2-X10**KITO® EFA-Def0-IIB3-.../...-1.2-X10-T (-TT)****Design**

	standard	optionally
housing	cast steel 1.0619	stainless cast steel 1.4408
gasket	HD 3822	PTFE
KITO®-flame arrester element	completely interchangeable	
KITO®-casing	steel (galvanized to NG 400)	stainless steel mat. no. 1.4571 or 1.4581
KITO®-grid	stainless steel mat. no. 1.4310	stainless steel mat. no. 1.4571
bolts / nuts	galvanized steel	A2
temperature sensor		PT 100, connection 3/8", 1.4571
flange connection	EN 1092-1 type B1	ASME B16.5 Class 150 RF

Performance curves

Flow capacity V based on air of a density $\rho = 1.29 \text{ kg/m}^3$ at $T = 273 \text{ K}$ and atmospheric pressure $p = 1.013 \text{ mbar}$. For other gases the flow can be approximately calculated by

$$\dot{V} = \dot{V}_b \cdot \sqrt{\frac{\rho_b}{1.29}} \quad \text{or} \quad \dot{V}_b = \dot{V} \cdot \sqrt{\frac{1.29}{\rho_b}}$$

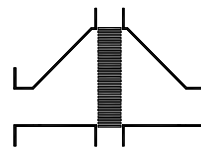


Type sheet

Bi-directional in-line deflagration flame arrester, short-time burning proof

KITO® EFA-Def0-IIC-.../...-1.2

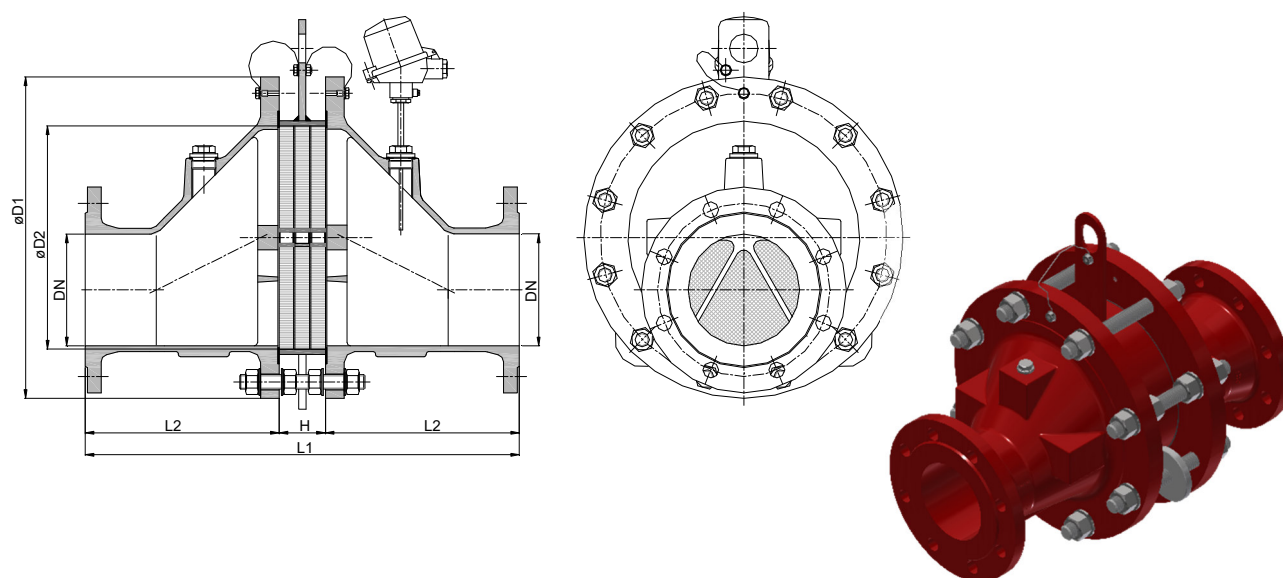
KITO® EFA-Def0-IIC-.../...-1.2-T (-TT)



Application

For installation into pipes to the protection of vessels and components against deflagration of flammable liquids and gases. Approved for all substances of explosion groups IIA1 to IIC with a maximum experimental safe gap (MESG) < 0.5 mm. Bi-directionally working in pipes, whereby an operating pressure of 1.2 bar abs. and an operating temperature of 60 °C must not be exceeded. The distance between a potential ignition source and the flame arrester must not exceed 30 times the inner pipe diameter. The installation of the deflagration flame arrester into horizontal and vertical pipes is permissible. When equipped with one or two temperature sensors, the devices are protected under atmospheric conditions against a short time burning by a burning time $t_{BT} = 1.0$ min. If only one temperature sensor, then it is to be placed on the device side where a burning could be expected.

Dimension (mm)



NG	DN		D1	D2	L1	H	L2	kg
	DIN	ASME						
100	40 PN 40	1 1/2"	220	106	332	42	145	24
	50 PN 16	2"						26
150	50 PN 16	2"	285	159	392	42	175	42
	65 PN 16	2 1/2"						43
200	80 PN 16	3"	340	206	464	64	200	45
	100 PN 16	4"						69
300	100 PN 16	4"	445	308	604	64	270	70
	125 PN 16	5"						114
400	150 PN 16	6"	565	388	694	64	315	120
	200 PN 10	8"						123
500	200 PN 10	8"	670	485	824	64	380	186
	250 PN 10	10"						202
								279
								297

Weight refers to the standard design

Example for order

KITO® EFA-Def0-IIC-100/40-1,2-T

(Design NG 100 with flange connection DN 40 PN 40 and a temperature sensor)

Type examination certificate to EN ISO 16852 and CE-marking in accordance to ATEX-Directive 2014/34/EU

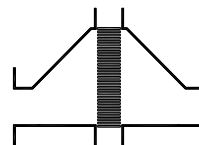
page 1 of 2

**KITO**

Armaturen GmbH

Type sheet

Bi-directional in-line deflagration flame arrester, short-time burning proof

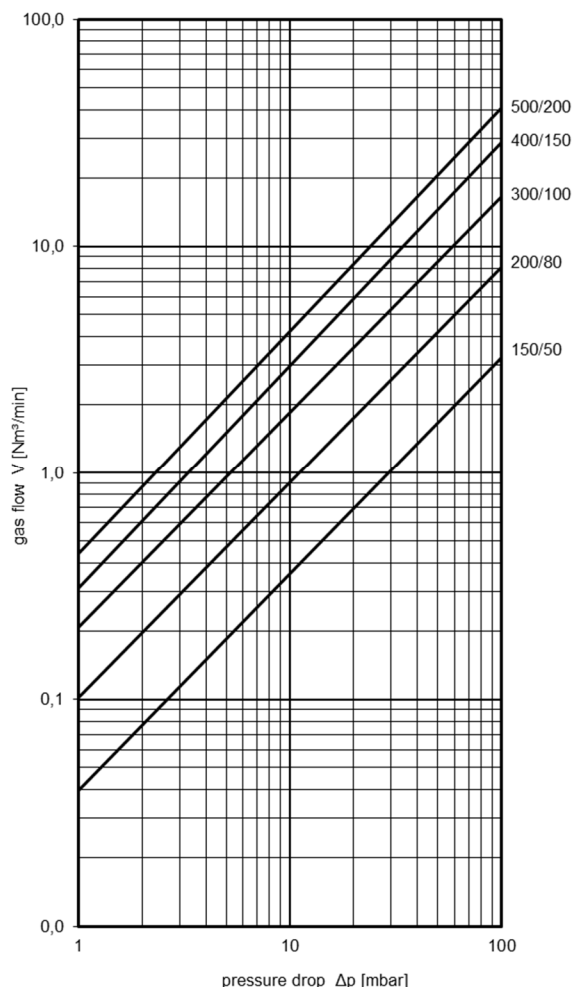
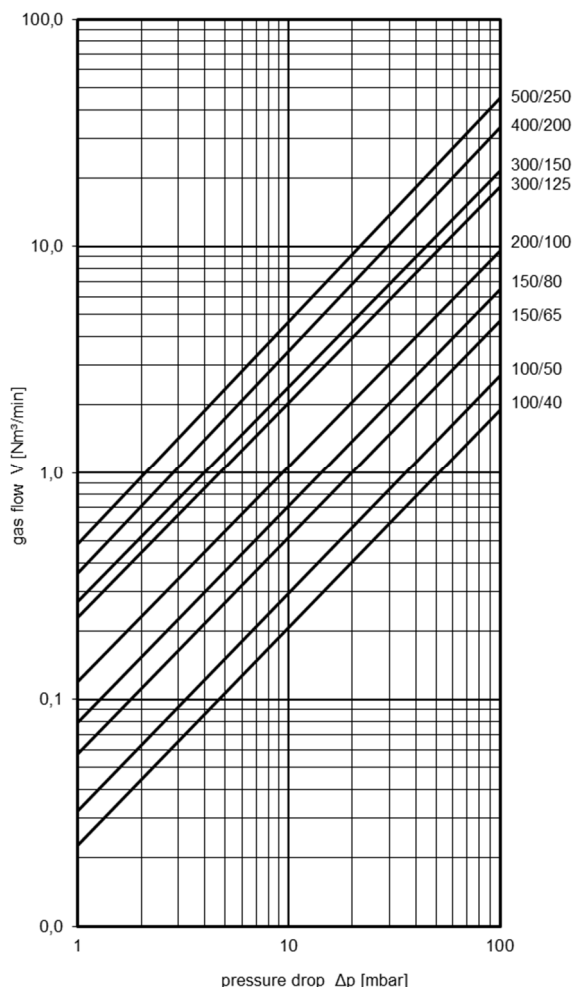
KITO® EFA-Def0-IIC-.../...-1.2**KITO® EFA-Def0-IIC-.../...-1.2-T (-TT)****Design**

	standard	optionally
housing	cast steel 1.0619	stainless cast steel 1.4408
gasket	HD 3822	PTFE
KITO®-flame arrester element	completely interchangeable	
KITO®-casing	steel (galvanized to NG 400)	stainless steel mat. no. 1.4571 or 1.4581
KITO®-grid	stainless steel mat. no. 1.4310	stainless steel mat. no. 1.4571
bolts / nuts	galvanized steel	A2
temperature sensor		PT 100, connection 3/8", 1.4571
flange connection	EN 1092-1 type B1	ASME B16.5 Class 150 RF

Performance curves

Flow capacity V based on air of a density $\rho = 1.29 \text{ kg/m}^3$ at $T = 273 \text{ K}$ and atmospheric pressure $p = 1.013 \text{ mbar}$. For other gases the flow can be approximately calculated by

$$\dot{V} = \dot{V}_b \cdot \sqrt{\frac{\rho_b}{1.29}} \quad \text{or} \quad \dot{V}_b = \dot{V} \cdot \sqrt{\frac{1.29}{\rho_b}}$$



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