



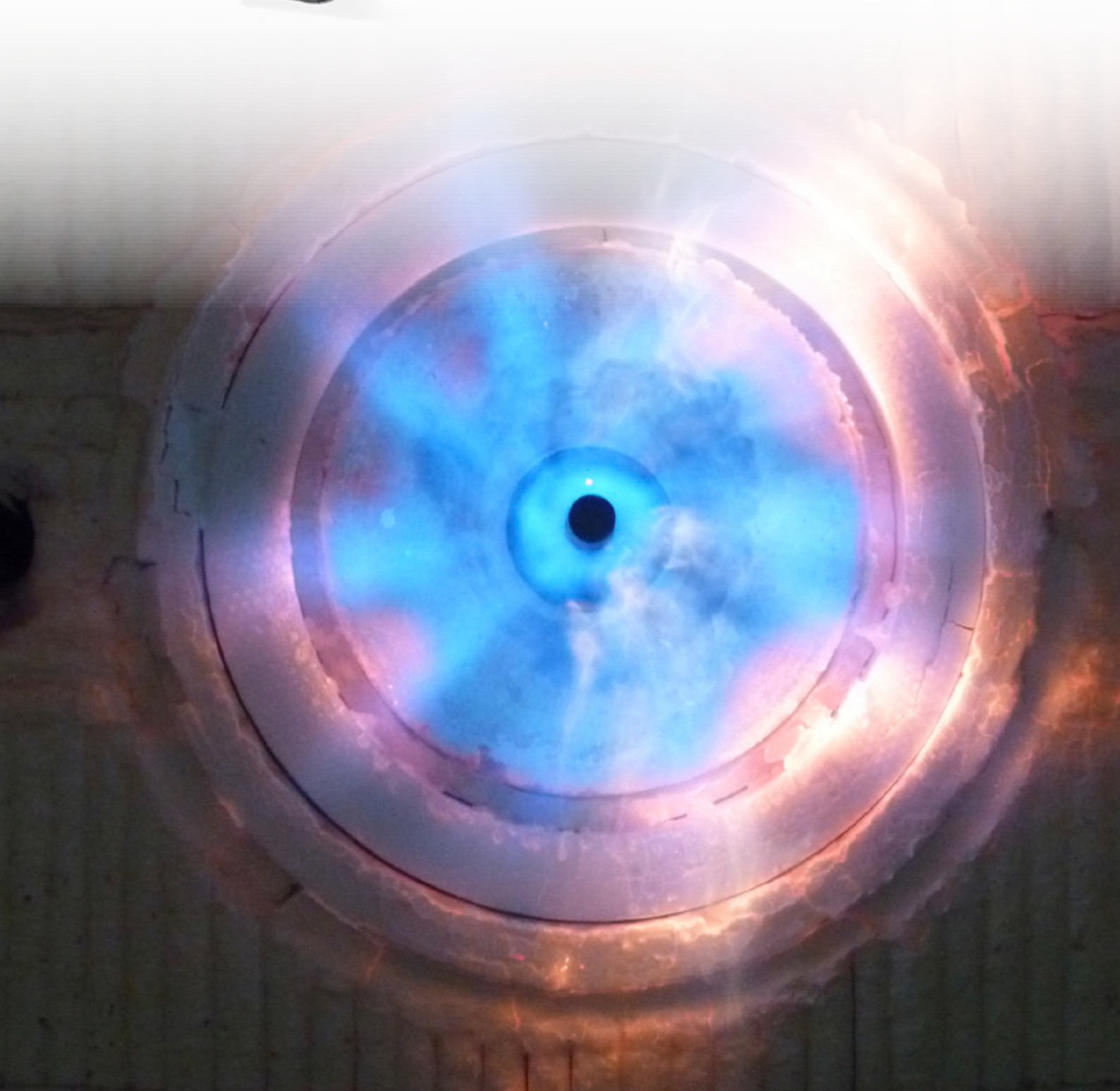
Price list 2019

Valid from 1 January 2019 · GB

ECHPSE

krom
schroder

MAXON





Dear Customer,

This price list gives you an overview of our time-tested and new products. You can see the most important changes in the following table:

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This price list contains only a selection of our product range. If you cannot find the desired product, please get in touch with your sales contact. Furthermore, our extensive service remains at your disposal.

Yours sincerely,
Elster GmbH



P.S.: the price list is also available in the "Docuthek".
Go to www.docuthek.com and click on Thermal Solutions – Products.
As a Registered user, you can then choose the document type "Price list".
You can conveniently access all Technical Information bulletins and brochures in the Docuthek via links in the PDF file of this price list.



Product finder "ProFi" can be found on the Internet at www.adlatus.org. You can search for products by order number or type designation. There is a detailed description and a dimensional drawing for each product.



Spare parts can be found on the Internet at www.partdetective.de



Dynamic flow rate curves for Kromschroder burners can be found at www.gasburners.info

At www.adlatus.org, you can find further useful tools for your daily work, e.g. converters for converting standard units, programs for determining orifices, burner lengths and the cooling air required to prevent switched off burners from overheating. Plus other apps. There is no need to register.

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Nominal diameters for internal threads

DN	Connection
6	Rp 1/8
8	Rp 1/4
10	Rp 3/8
15	Rp 1/2
20	Rp 3/4
25	Rp 1
32	Rp 1 ¼
40	Rp 1 ½
50	Rp 2
65	Rp 2 ½

Type code

The type code is an extract from our wide range of versions. Accordingly, not all variants and prices are listed.

Pressures

Pursuant to standards EN 334/14382, EN 88-1 and DVGW G 491, p_e and p_a are no longer used for the inlet and outlet pressures. These are now indicated by p_u and p_d , respectively.

Burner capacities

Capacities in kW refer to the lower heating value H_u and capacities in BTU/h refer to the higher heating value H_o (gross calorific value).

To:
FAX

One copy of the operating instructions for our equipment is supplied with each item. Additional copies may be obtained at an additional cost. All brochures and operating instructions can also be found on our website.

From:

Company

Name

Street

Postcode/
town

Tel.

Fax

E-mail

Ordering Technical Documentation

Technical Information bulletins

Operating instructions

Docuthek

All technical documents such as brochures, operating instructions, technical information bulletins, technical papers, animated descriptions of functions, operating characteristic diagrams and flow rate curves for burners, 2D and 3D CAD drawings, certificates and much more can be found in our document library (Docuthek) at:

www.docuthek.com

Other documents

- ☐ Price list
- ☐ Seminars at the Kromschroder Training Centre (GER)
www.kromschroeder.de/en/courses/

Sales organization worldwide



Current addresses are available on the Internet at
www.thermalsolutions.honeywell.com – Contact us
Representations in other countries on request.



Small-quantity surcharge

For net order values less than EUR 200, we apply a processing flat fee.

Designation	Order no.	€/item
Net order value less than EUR 200	 surcharge	61.00

Technical
Information AKT

Manual valves AKT

Type code

AKT	Manual valve
6-250/200	Nominal size
R	Rp internal thread
F	Flange to ISO 7005
50	p _u max. 5 bar
160	p _u max. 16 bar
B	Housing: brass
S	Housing: steel
M	Housing: stainless steel, suitable for biogas
G	GJS 400 housing, ball: steel
G1	Two-part housing, GJS 400, ball: steel
K	Short length

Manual shut-off valves, for gas, air and water, EU certified.

Designation	Order no.	€/item
With internal thread, p_u max. 5 bar, brass housing, gas temperature -20 to +60°C		
AKT 6R50B	03152270	14.70
AKT 10R50B	03152271	15.60
AKT 15R50B	03152272	17.70
AKT 20R50B	03152273	25.20
AKT 25R50B	03152274	37.80
AKT 32R50B	03152275	58.70
AKT 40R50B	03152276	80.40
AKT 50R50B	03152277	130.10
With internal thread, p_u max. 16 bar, cast steel housing, stainless steel ball, gas temperature -20 to +60°C		
AKT 15R160S	03152351	65.30
AKT 20R160S	03152352	84.80
AKT 25R160S	03152353	110.20
AKT 32R160S	03152354	217.90
AKT 40R160S	03152355	255.60
AKT 50R160S	03152356	339.30
With internal thread, p_u max. 16 bar, stainless steel housing and ball, gas temperature -20 to +60°C		
AKT 15R160M	03152357	119.20
AKT 20R160M	03152358	149.00
AKT 25R160M	03152359	173.40
AKT 32R160M	03152360	221.90
AKT 40R160M	03152361	272.20
AKT 50R160M	03152362	365.50
With flanged connection, p_u max. 16 bar, high temperature resistant up to 4 bar, spheroidal graphite cast iron GJS 400 housing, ball made of chromium-plated steel S45C, gas temperature -20 to +60°C		
AKT 25F160GK	03152344	195.80
AKT 32F160G	03152345	234.00
AKT 40F160G	03152346	279.60
AKT 50F160G	03152347	368.80
AKT 65F160G	03152348	508.90
AKT 80F160G	03152349	616.90
AKT 100F160G	03152350	840.70
With flanged connection, p_u max. 16 bar, spheroidal graphite cast iron GJS 400 housing, ball made of chromium-plated steel S45C, gas temperature -20 to +60°C		
AKT 125F160G1	03152317	1,698.30
AKT 150F160G1	03152318	2,445.80
AKT 200F160G1	03152319	3,862.30
AKT 250/200F160G1	03152320	5,769.70

AKT..B



AKT..S, AKT..M



AKT..G



AKT..G1



1 ASV

**Locking device for manual valves AKT****Type code**

ASV	Locking device
6/10	For AKT 6 or AKT 10
15/20	For AKT 15 or AKT 20
25/32	For AKT 25 or AKT 32
40/50	For AKT 40 or AKT 50
25-200	For AKT 25-200
R50B	Manual valve type
F160G	Manual valve type
F160G1	Manual valve type

Lockable in open and closed position, can be retrofitted (padlock not supplied).

Designation	Order no.	€/item
For AKT..R50B and AKT..R..TAS		
ASV 6/10R50B	03151181	5.10
ASV 15/20R50B	03151182	5.90
ASV 25/32R50B	03151183	6.50
ASV 40/50R50B	03151184	7.50
For AKT..F160G, AKT..F160G1 and AKT..F50TAS		
ASV 25F160GK	03152501	30.40
ASV 32F160G	03152502	30.40
ASV 40F160G	03152503	30.40
ASV 50F160G	03152504	30.40
ASV 65F160G	03152505	32.80
ASV 80F160G	03152506	32.80
ASV 100F160G	03152507	32.80
ASV 125F160G1	03152508	50.70
ASV 150F160G1	03152509	50.70
ASV 200F160G1	03152510	50.70
Other locking devices or limit switches	on request	

AKT..R..TAS

AKT..F..TAS


Manual valves with thermal equipment trip AKT..TAS

Type code

AKT	Manual valve
6-250/200	Nominal size
R	Rp internal thread
F	Flange to ISO 7005
10	p_u max. 1 bar in the case of high thermal stress, otherwise max. 5 bar
50	p_u max. 5 bar*
TAS	Thermal equipment trip

Technical
Information TAS,
AKT..TAS

TAS, cf. page 156

Manual shut-off valves for gas, with automatically closing safety device, resistant to high temperatures (HTR), trip temperature 95°C (±5K), DVGW tested and registered. AKT..TAS can be used pursuant to the German Firing System Directive and TRGI 86/96. Use high temperature resistant flange seals WL-HT on the inlet side.

Designation	Order no.	€/item
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With internal thread, p_u max. 1 bar

AKT 15R10TAS	03152363	33.70
AKT 20R10TAS	03152364	41.60
AKT 25R10TAS	03152365	51.30

With internal thread, p_u max. 5 bar

AKT 32R50TAS	03152377	255.60
AKT 40R50TAS	03152378	287.10
AKT 50R50TAS	03152379	348.80

With flanged connection, p_u max. 5 bar*

AKT 25F50TAS	03152296	469.20
AKT 32F50TAS	03152297	556.10
AKT 40F50TAS	03152298	586.40
AKT 50F50TAS	03152299	613.60
AKT 65F50TAS	03152300	2,434.70
AKT 80F50TAS	03152301	2,874.70
AKT 100F50TAS	03152302	4,397.60
AKT 125F50TAS	03152303	5,404.20
AKT 150F50TAS	03152304	6,159.20

* If the TAS installation set (available on request) is being used, the thermal equipment trips AKT..F..TAS meet the high thermal capacity requirements for inlet pressures of up to a max. of 16 bar.

Flange seals for AKT..TAS and EKO

Resistant to high temperatures, rubber seal made of NBR 50219.0, support ring made of ST 37, galvanized and chromated with graphite coating on both sides and with red high temperature resistance label (HTR), seal material DVGW tested and registered.

Designation	Order no.	€/item
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Flange seal WL-HT DN 25	03352221	83.30
Flange seal WL-HT DN 32	03352222	88.30
Flange seal WL-HT DN 40	03352223	91.90
Flange seal WL-HT DN 50	03352224	100.90
Flange seal WL-HT DN 65	03352225	106.60
Flange seal WL-HT DN 80	03352226	114.40
Flange seal WL-HT DN 100	03352227	131.50
Flange seal WL-HT DN 125	03352228	145.20
Flange seal WL-HT DN 150	03352229	154.70
Flange seal WL-HT DN 200	03352230	172.20

GFK..R

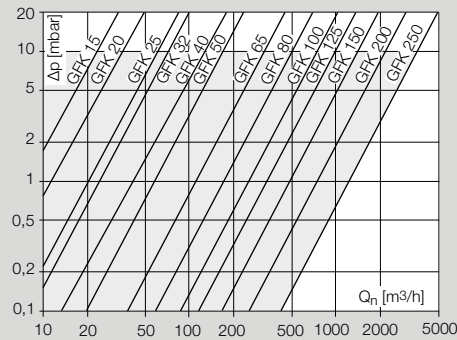


GFK..F



Gas filters GFK

Technical
Information GFK



Natural gas

GFK

Type code

GFK	Gas filter
15-250	Nominal size
R	Rp internal thread
F	Flange to ISO 7005
10	p_u max. 1 bar
40	p_u max. 4 bar
60	p_u max. 6 bar
-3	Screw plug at the inlet and outlet
-6	Pressure test point at the inlet and outlet

Gas filters with polypropylene fleece filter pads (50 µm as standard) for cleaning gas and air, EU certified.

Designation	Order no.	€/item
With internal thread, p_u max. 1 bar		
GFK 15R10-6	81935190	58.20
GFK 20R10-6	81936190	59.20
GFK 25R10-6	81937190	91.80
GFK 32R10-6	81938190	95.20
GFK 40R10-6	81939190	139.30
GFK 50R10-6	81940090	146.30
GFK 65R10-6	81941090	254.10
With flanged connection, p_u max. 1 bar		
GFK 40F10-6	81940190	244.50
GFK 50F10-6	81941190	262.40
GFK 65F10-6	81942190	316.40
GFK 80F10-6	81943190	471.20
GFK 100F10-6	81944190	621.80
GFK 125F10-3	81945010	2,076.80
GFK 150F10-3	81946010	2,209.90
GFK 200F10-3	81949010	3,220.50
GFK 250F10-3	81950010	3,672.40
With internal thread, p_u max. 4 bar		
GFK 15R40-6	81935200	86.80
GFK 20R40-6	81936200	88.60
GFK 25R40-6	81937200	116.60
GFK 32R40-6	81938200	121.30
GFK 40R40-6	81939200	170.50
GFK 50R40-6	81940200	214.50
GFK 65R40-6	81941200	318.70
With flanged connection, p_u max. 4 bar		
GFK 125F40-3	81945100	2,131.20
GFK 150F40-3	81946100	2,236.70
With flanged connection, p_u max. 6 bar		
GFK 40F60-6	81940103	281.80
GFK 50F60-6	81941103	298.10
GFK 65F60-6	81942103	353.20
GFK 80F60-6	81943103	523.70
GFK 100F60-6	81944103	674.50

Designation	Order no.	€/item
Pressure test nipple loosely enclosed		
Test nipple G 1/8 aluminium + AFM /B	75444352	7.50

Gas filter spare parts

Filter pads with a separation rate of 50 µm

Designation	Order no.	€/item
Spare parts set GFK 15/20, 10 x pads, 10 x O-rings	71935010	56.00
Spare parts set GFK 25/32, 10 x pads, 10 x O-rings	71937010	92.20
Spare parts set GFK 40/50, 5 x pads, 5 x O-rings	71939010	83.40
Spare parts set GFK 65, 1 x pad, 1 x O-ring	74923284	21.10
Spare parts set GFK 80, 1 x pad, 1 x O-ring	74923285	28.80
Spare parts set GFK 100, 1 x pad, 1 x O-ring	74923286	34.00
Filter pad GFK 125	35448581	73.20
O-ring 308 x 8 for GFK 125/150	03110013	20.80
Filter pad GFK 150	35448583	80.10
O-ring 308 x 8 for GFK 125/150	03110013	20.80
Filter pad GFK 200/250	35448584	172.60
O-ring 430 x 8 for GFK 200/250	03109164	34.10

Filter pads with special separation rate of 10 µm for

GFK 15-100 on request

Pressure regulators for gas

Spring-loaded pressure regulators with pressure compensation diaphragm and zero shut-off to maintain the set outlet pressure p_d constant despite changing gas flow rates.

valVario pressure regulators,
cf. page 30

Type	Connection	p_u max. [mbar]	Gas type	p_d [mbar]
J78R	thread	100	gas/air	6–55
60DJ	thread	100	gas/air	35–90
GDJ 15R04	thread	400	gas/air	2–55
GDJ 20R04	thread	400	gas/air	5–160
GDJ 25R04	thread	400	gas/air	5–160
GDJ 40R04	thread	400	gas/air	5–160
GDJ 50R04	thread	400	gas/air	5–100
VGBF 40F05	Flange	500	gas/air	5–350
VGBF 50F05	Flange	500	gas/air	5–350
VGBF 65F05	Flange	500	gas/air	5–160
VGBF 80F05	Flange	500	gas/air	5–350
VGBF 100F05	Flange	500	gas/air	5–350
VGBF 150F05	Flange	500	gas/air	5–160
VGBF 25R10	thread	1000	gas	5–350
VGBF 40..10	thread/ flange	1000	gas	5–350
VGBF 50..10	Flange	1000	gas	5–350
VGBF 80F10	Flange	1000	gas	5–350
VGBF 100F10	Flange	1000	gas	5–350
VGBF 150F10	Flange	1000	gas	5–160
VGBF 15R40	thread	4000	gas	5–350
VGBF 25R40	thread	4000	gas	5–350
VGBF 40..40	thread/ flange	4000	gas	5–350
VGBF 50..40	Flange	4000	gas	5–350
VGBF 80F40	Flange	4000	gas	5–350
VGBF 100F40	Flange	4000	gas	5–350

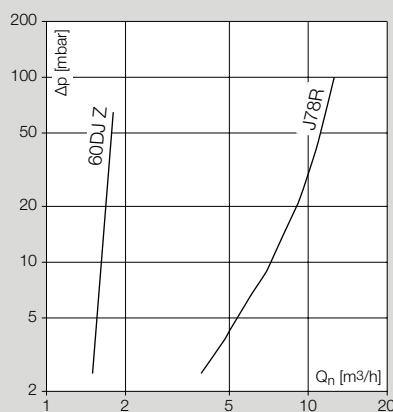
J78R



60DJ



Pressure regulators for gas J78R, 60DJ



Natural gas

J78R, 60DJ

J78R: DN 15, outlet pressure p_d 15–23 mbar as standard (factory setting: 20 mbar), with screw plug at the inlet; 60DJ: DN 8, outlet pressure p_d 35–90 mbar as standard (factory setting: 80 mbar); J78R and 60DJ: for gas, p_u max. 100 mbar, EU certified.

Designation	Order no.	€/item
J78R 1	03155003	54.30
60DJ Z	03155300	49.40
Setting at factory of other outlet pressures	surcharge	39.80

Technical
Information J78R,
60DJ Z

Springs for other
outlet pressures,
cf. page 13

Pressure regulators for air J78R 1-L, 60DJ L

J78R: DN 15, outlet pressure p_d 15-23 mbar as standard, with screw plug at the inlet;
60DJ: DN 8, outlet pressure p_d 35-90 mbar as standard; J78R and 60DJ: with special diaphragms for air operation (without approval).

Designation	Order no.	€/item
J78R 1-L	03155026	59.20
60DJ LZ	03155301	54.30

Springs for outlet pressure adjustment

on pressure regulators, packed in bags, with additional label for changed outlet pressure. If the springs are used for circulation pressure control and relief regulators VAR, the actual outlet pressure ranges deviate slightly from the specified values.

Designation	Order no.	€/item
J78R		
Spring 6-9 mbar, green/red	03089041	8.10
Spring 9-17 mbar, yellow	03089042	8.10
Spring 15-23 mbar, black	03089043	8.10
Spring 22-31 mbar, orange	03089044	8.10
Spring 31-42 mbar, brown	03089045	8.10
Spring 42-55 mbar, l-green/l-blue	03089047	8.10

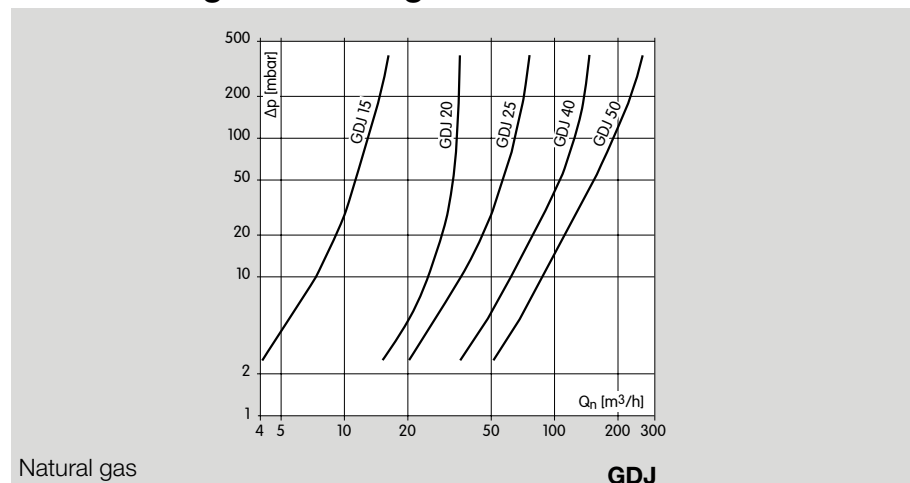
GDJ 15



GDJ 20-50



Pressure regulators for gas GDJ



Natural gas

GDJ

[Technical Information GDJ](#)

Springs for other outlet pressures, cf. page 14

Type code

GDJ	Pressure regulator for gas
15-50	Nominal size
R	Rp internal thread
04	p_d max. 400 mbar
-0	No pressure test point
-4	Pressure test point at the inlet
L	Only for air (without approval)
Z	Special outlet pressure range

Outlet pressure p_d 12.5-25 mbar as standard (DN 15: 16-28 mbar) (factory setting: 20 mbar), with safety diaphragm, therefore no purge line required, for gas, EU certified.

Designation	Order no.	€/item
GDJ 15R04-0	03155021	98.90
GDJ 20R04-0	03155022	115.40
GDJ 25R04-0	03155023	120.30
GDJ 40R04-0	03155024	217.50
GDJ 50R04-0	03155025	313.50
Pressure test point at the inlet possible		
Setting at factory of other outlet pressures, GDJ..Z	surcharge	39.80

Pressure regulators for air GDJ..L

Outlet pressure p_d 12.5-25 mbar as standard (DN 15: 16-28 mbar) with changing air flow rate, with special diaphragms for air operation (without approval).

Designation	Order no.	€/item
GDJ 15R04-OL	03155031	109.40
GDJ 20R04-OL	03155032	127.90
GDJ 25R04-OL	03155033	134.40
GDJ 40R04-OL	03155034	239.00
GDJ 50R04-OL	03155035	344.60

Springs for outlet pressure adjustment

on pressure regulators, packed in bags, with additional label for changed outlet pressure. If the springs are used for circulation pressure control and relief regulators VAR, the actual outlet pressure ranges deviate slightly from the specified values.

Designation	Order no.	€/item
GDJ 15		
Spring 2-16 mbar, yellow	03089075	8.10
Spring 10-20 mbar, black	03089076	8.10
Spring 16-28 mbar, orange	03089077	8.10
Spring 22-40 mbar, brown	03089078	8.10
Spring 40-55 mbar, l-green/l-blue	03089079	8.10
GDJ 20, GDJ 25		
Spring 5-15 mbar, d-green/l-blue	03089121	10.90
Spring 12.5-25 mbar, black	03089122	10.90
Spring 22.5-35 mbar, d-green/brown	03089123	10.90
Spring 30-50 mbar, d-green/orange	03089124	15.30
Spring 45-65 mbar, black/l-green	03089125	15.30
Spring 60-80 mbar, red/orange	03089126	15.30
Spring 75-100 mbar, pink/gold	03089127	25.90
Spring 100-160 mbar, yellow/orange	03089128	29.90
GDJ 40		
Spring 5-15 mbar, black/l-blue	03089129	15.30
Spring 12.5-25 mbar, black/l-green	03089130	15.30
Spring 22.5-35 mbar, silver/orange	03089131	15.30
Spring 30-50 mbar, black/brown	03089132	24.70
Spring 45-65 mbar, red/gold	03089133	24.70
Spring 60-80 mbar, black/orange	03089134	24.70
Spring 75-100 mbar, pink/silver	03089135	28.50
Spring 100-160 mbar, grey/gold	03089136	50.10
GDJ 50		
Spring 5-15 mbar, white/brown	03089137	20.70
Spring 12.5-25 mbar, white/d-blue	03089138	20.70
Spring 22.5-35 mbar, white/d-green	03089139	20.70
Spring 30-50 mbar, white/red	03089140	43.90
Spring 45-65 mbar, white/orange	03089141	43.90
Spring 60-80 mbar, d-blue/grey	03089142	43.90
Spring 75-100 mbar, grey/gold	03089143	50.10

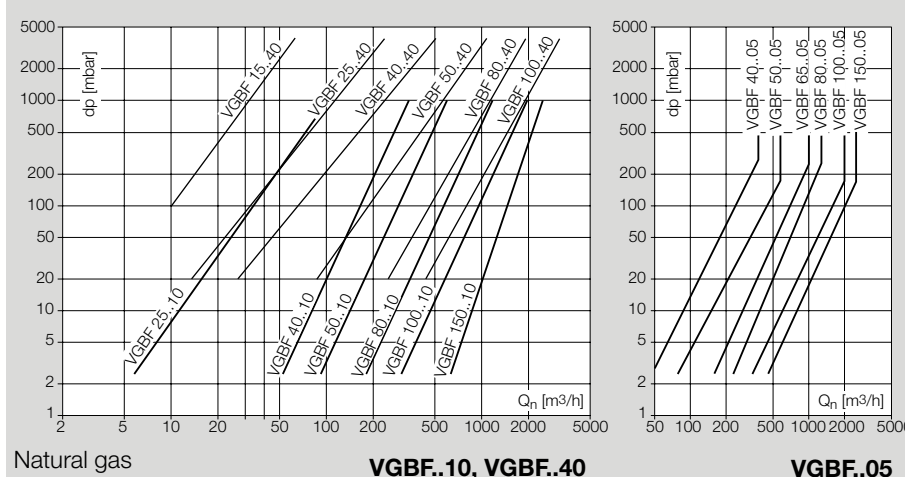
Technical
Information VGBF

Springs for other
outlet pressures,
cf. page 16

2



Pressure regulators for gas VGBF



Natural gas

VGBF..10, VGBF..40

VGBF..05

Type code

VGBF	Pressure regulator for gas
15-150	Nominal size
R	Rp internal thread
F	Flange to ISO 7005
05	p _u max. 500 mbar
10	p _u max. 1 bar
40	p _u max. 4 bar
-1	Screw plug at the inlet
-3	Screw plug at the inlet and outlet
V	Viton equipment for gas or air (without approval)
Z	Special outlet pressure range

Outlet pressure p_d 10-30 mbar as standard (factory setting: 20 mbar), with safety diaphragm, therefore no purge line required, for gas, EU certified.

Designation	Order no.	€/item
With flanged connection, p_u max. 500 mbar		
VGBF 40F05-3	86047220	595.40
VGBF 50F05-3	86048220	681.10
VGBF 65F05-3	86049220	1,085.90
VGBF 80F05-3	86050220	1,468.10
VGBF 100F05-3	86051220	2,361.90
VGBF 150F05-3	86053220	5,366.20
With internal thread, p_u max. 1 bar		
VGBF 25R10-1	86046210	469.30
VGBF 40R10-3	86047410	583.10
With flanged connection, p_u max. 1 bar		
VGBF 40F10-3	86047210	779.40
VGBF 50F10-3	86048210	909.30
VGBF 80F10-3	86050210	1,883.80
VGBF 100F10-3	86051210	2,788.20
VGBF 150F10-3	86053210	6,248.80
Damping valve VGBF /B	74924681	116.70
With internal thread, p_u max. 4 bar		
VGBF 15R40-1	86044010	524.00
VGBF 25R40-1	86046010	537.40
VGBF 40R40-3	86047110	662.40
With flanged connection, p_u max. 4 bar, including damp- ing valve for impulse line		
VGBF 40F40-3	86047010	842.90
VGBF 50F40-3	86048010	1,005.10
VGBF 80F40-3	86050010	1,942.40
VGBF 100F40-3	86051010	2,915.30
Setting at factory of other outlet pressures, VGBF 15-65..Z	surcharge	113.20
Setting at factory of other outlet pressures, VGBF 80-150..Z	surcharge	212.30

VGBF..V**Pressure regulators VGBF..V**

For gas or air, outlet pressure p_d 10-30 mbar as standard (factory setting: 20 mbar) with changing flow rate, wetted rubber parts made of Viton (without approval).

Designation	Order no.	€/item
VGBF 40F05-3V	86047222	718.90
VGBF 50F05-3V	86048222	823.50
VGBF 65F05-3V	86049222	1,352.10
VGBF 80F05-3V	86050222	1,765.80
VGBF 100F05-3V	86051222	2,736.00
VGBF 150F05-3V	86053222	6,232.10

Adapters for length compensation when replacing GBF by VGBF..05 or when replacing GI..F by GIK..F

Designation	Order no.	€/item
Adapter set VGBF 40F05 /B	74921153	107.50
Adapter set VGBF 50F05 /B	74921154	131.70
Adapter set VGBF 65F05 /B	74921155	134.70
Adapter set VGBF 80F05 /B	74921156	236.40
Adapter set VGBF 100F05 /B	74921157	969.20
Adapter set VGBF 150F05 /B	74921158	653.00

Springs for outlet pressure adjustment

on pressure regulators, packed in bags, with additional label for changed outlet pressure. If the springs are used for circulation pressure control and relief regulators VAR, the actual outlet pressure ranges deviate slightly from the specified values.

Designation	Order no.	€/item
VGBF 15		
Spring 5-12.5 mbar, -	75421911	11.80
Spring 10-30 mbar, red	75421921	13.50
Spring 25-45 mbar, yellow	75421931	15.30
Spring 40-60 mbar, green	75421941	15.30
Spring 55-75 mbar, blue	75421951	24.70
Spring 70-90 mbar, black	75442046	24.70
Spring 85-105 mbar, white	75442047	24.70
Spring 100-160 mbar, black/red	75442048	27.20
Spring 150-230 mbar, black/yellow	75442049	29.60
Spring 220-350 mbar, black/green	75442050	32.20
VGBF 25, VGBF 40 (VAR 25, VAR 40)		
Spring 5-12.5 mbar, -	75421961	15.30
Spring 10-30 mbar, red	75421971	15.30
Spring 25-45 mbar, yellow	75421980	22.10
Spring 40-60 mbar, green	75421990	22.10
Spring 55-75 mbar, blue	75422000	22.10
Spring 70-90 mbar, black	75422010	22.10
Spring 85-105 mbar, white	75422020	22.10
Spring 100-160 mbar, black/red	75438978	29.60
Spring 150-230 mbar, black/yellow	75438979	29.60
Spring 220-350 mbar, black/green	75438980	40.40
VGBF 50 (VAR 50)		
Spring 5-12.5 mbar, -	75422031	20.70
Spring 10-30 mbar, red	75422041	20.70
Spring 25-45 mbar, yellow	75422051	24.90
Spring 40-60 mbar, green	75422061	24.90
Spring 55-75 mbar, blue	75422071	24.90
Spring 70-90 mbar, black	75422081	24.90
Spring 85-105 mbar, white	75422091	24.90
Spring 100-160 mbar, black/red	75438981	40.40
Spring 150-230 mbar, black/yellow	75438982	40.40
Spring 220-350 mbar, black/green	75438983	40.40

Designation	Order no.	€/item
VGBF 65 (VAR 65)		
Spring 5-12.5 mbar, -	75426160	36.50
Spring 10-30 mbar, red	75426170	36.50
Spring 25-45 mbar, yellow	75426180	36.50
Spring 40-60 mbar, green	75426190	40.40
Spring 55-75 mbar, blue	75426200	44.70
Spring 70-90 mbar, black	75426210	44.70
Spring 85-105 mbar, white	75426220	44.70
Spring 100-160 mbar, black/red	75446329	75.10
VGBF 80 (VAR 80)		
Spring 5-12.5 mbar, -	75426230	44.70
Spring 10-30 mbar, red	75426240	44.70
Spring 25-45 mbar, yellow	75426250	44.70
Spring 40-60 mbar, green	75426260	44.70
Spring 55-75 mbar, blue	75426270	44.70
Spring 70-90 mbar, black	75426280	44.70
Spring 85-105 mbar, white	75426290	44.70
Spring 100-160 mbar, black/red	75438984	75.10
Spring 150-230 mbar, black/yellow	75438985	91.70
Spring 220-350 mbar, black/green	75438986	91.70
VGBF 100 (VAR 100)		
Spring 5-12.5 mbar, -	75426310	51.70
Spring 10-30 mbar, red	75426320	51.70
Spring 25-45 mbar, yellow	75426330	53.90
Spring 40-60 mbar, green	75426340	56.20
Spring 55-75 mbar, blue	75426350	56.20
Spring 70-90 mbar, black	75426360	56.20
Spring 85-105 mbar, white	75426370	56.20
Spring 100-160 mbar, black/red	75438987	83.40
Spring 150-230 mbar, black/yellow	75438988	101.60
Spring 220-350 mbar, black/green	75438989	121.40
VGBF 150		
Spring 5-12.5 mbar, -	75426450	52.90
Spring 10-30 mbar, red	75426460	52.90
Spring 25-40 mbar, yellow	75426470	52.90
Spring 40-60 mbar, green	75426480	63.40
Spring 55-75 mbar, blue	75426490	91.70
Spring 70-90 mbar, black	75426500	91.70
Spring 85-105 mbar, white	75426510	91.70
Spring 100-160 mbar, black/red	75438990	176.20

JSAV 25



JSAV 40R

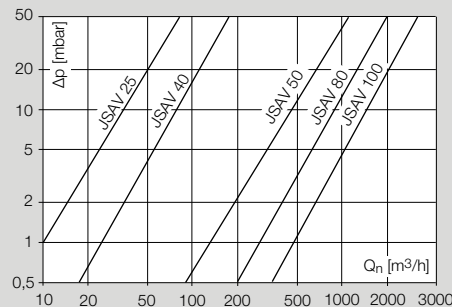


JSAV 50-100F



Safety shut-off valves JSAV

Technical
Information JSAV



Natural gas

JSAV

Type code

JSAV	Safety shut-off valve
25-100	Nominal size
R	Rp internal thread
F	Flange to ISO 7005
40	p_{du} max. 4 bar
50	p_{du} max. 5 bar
/1	Over-pressure shut-off p_{do}
/2	Over-pressure and under-pressure shut-off p_{do}/p_{du}
-0	No pressure test point
-3	Screw plug at the inlet and outlet
Z	Special adjusting range

Safety shut-off valves for securing all downstream fittings against excess or insufficient gas pressure, with safety device, therefore no purge line required (only DN 25 and 40), for gas, lower trip pressure p_{du} standard adjusting range: 8-16 mbar (factory setting: 10 mbar), upper trip pressure p_{do} : 100-210 mbar on JSAV 25-40 (factory setting: 120 mbar) or 60-170 mbar on JSAV 50-100 (factory setting: 120 mbar), EU certified.

Designation	Order no.	€/item
With internal thread, with over-pressure shut-off		
JSAV 25R40/1-0	86361010	256.60
JSAV 40R40/1-3	86362010	443.00
With internal thread, with under- and over-pressure shut-off		
JSAV 25R40/2-0	86361050	296.80
JSAV 40R40/2-3	86362050	483.20
With flanged connection, with over-pressure shut-off		
JSAV 40F40/1-3	86362020	610.70
JSAV 50F50/1-0	03151134	894.20
JSAV 80F50/1-0	03151135	1,416.20
JSAV 100F50/1-0	03151136	1,682.60
With flanged connection, with under- and over-pressure shut-off		
JSAV 40F40/2-3	86362060	651.10
Reset lever for JSAV 50-100 /B	03151140	39.60
Switch for remote indication JSAV 50-100 /B	03151185	216.00
Setting at factory of other trip pressures, JSAV..Z	surcharge	77.90

Springs for pressure adjustment on JSAV

packed in bags, with additional label for changed trip pressure

Designation	Order no.	€/item
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Springs for lower trip pressure p_{du}

JSAV 25 and 40

Spring 8-16 mbar, l-blue	03089082	26.70
Spring 16-60 mbar, brown	03089083	26.70
Spring 60-150 mbar, violet	03089084	26.70

Springs for upper trip pressure p_{do}

JSAV 25 and 40

Spring 18-60 mbar, black	03089068	7.40
Spring 50-80 mbar, orange	03089069	7.40
Spring 60-110 mbar, red	03089070	10.90
Spring 100-210 mbar, d-green	03089071	10.90
Spring 200-350 mbar, yellow	03089072	14.50
Spring 280-500 mbar, white	03089073	17.60

JSAV 50-100

Spring 35-70 mbar, l-blue	03089063	10.90
Spring 60-170 mbar, red/brown	03089064	15.00
Spring 120-220 mbar, violet	03089065	15.00
Spring 190-400 mbar, orange/yellow	03089066	20.40
Spring 300-550 mbar, orange/green	03089067	21.00

VSBV


Relief valve VSBV

Relief valve for eliminating short-term pressure surges or preventing pressure increases due to gas creeps, for gas, DN 25, Rp internal thread, p_u max. 4 bar, pressure test point at the inlet, standard adjusting range: 70 – 170 mbar (factory setting: 100 mbar), EU certified.

Designation	Order no.	€/item
VSBV 25R40-4	84583010	395.50

Setting at factory of other opening pressures, VSBV..Z surcharge 77.20

[Technical
Information
VSBV 25](#)

Exhausts ABG,
cf. page 159

Springs for pressure adjustment on VSBV 25

packed in bags, with additional label for changed opening pressure

Designation	Order no.	€/item
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Spring 20-40 mbar, red	75441805	10.10
Spring 35-50 mbar, yellow	75441806	15.90
Spring 45-75 mbar, green	75441807	15.90
Spring 70-170 mbar, blue	75441808	17.60
Spring 165-330 mbar, black	75441809	20.40
Spring 320-500 mbar, white	75441810	21.80

VAR..R



VAR..F



Circulation pressure control and relief regulators VAR

Type code

VAR	Circulation pressure control and relief regulator
25-100	Nominal sizes
R	Rp internal thread
F	Flange to ISO 7005
05	p_U max. 500 mbar
-1	Opening pressure p_d 10-150 mbar
-2	Opening pressure p_d 151-340 mbar
Z	Special adjusting range

Technical
Information VAR

Circulation pressure control and relief regulators for maintaining constant pressures in gas appliances, for preventing inadmissibly high pressures, for relieving brief pressure surges, for compensating for pressure fluctuations occurring on compressors or fans. The regulators comply with the requirements of EN 88, Class A, Group 2.

Different opening pressures p_d are achieved by using different springs. Please quote the required opening pressure p_d in your order.

Designation	Order no.	€/item
-------------	-----------	--------

Opening pressure p_d 10-150 mbar, default setting

90 mbar

VAR 25R05-1	86054010	795.10
VAR 40R05-1	86054020	878.90
VAR 40F05-1	86054030	1,090.30
VAR 50F05-1	86054040	1,288.80
VAR 65F05-1	86054100	1,713.30
VAR 80F05-1	86054060	2,459.20
VAR 100F05-1	86054070	3,557.70

Opening pressure p_d 151-340 mbar, default setting

200 mbar

VAR 25R05-2	86054011	910.20
VAR 40R05-2	86054021	1,001.60
VAR 40F05-2	86054031	1,205.00
VAR 50F05-2	86054041	1,411.40
VAR 80F05-2	86054061	2,685.30
VAR 100F05-2	86054071	3,714.80

Setting at factory of other opening pressures, VAR 25-65..Z	surcharge	113.20
Setting at factory of other opening pressures, VAR 80-100..Z	surcharge	212.30

Springs for outlet pressure adjustment

VAR springs are the same as for VGBF with slightly different outlet pressure ranges.

Springs for VGBF
(VAR),
cf. page 16

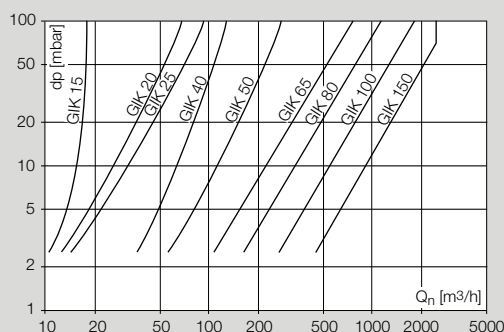


Air/gas ratio controls GIK, GIK..B

[Technical
Information GIK](#)

Adapters for length
compensation,
cf. page 16

2



Natural gas

GIK

Type code

GIK	Air/gas ratio control
15-150	Nominal size
R	Rp internal thread
F	Flange to ISO 7005
02	p _u max. 200 mbar
-5	Pressure test point at the outlet
-6	Pressure test point at the inlet and outlet
L	Only for air (without approval)
B	With bypass screw (GIK 15-25: 1.5 mm; GIK 40-50: 5 mm)

Air/gas ratio controls to maintain a constant gas/air ratio of 1:1, max. $\Delta p = 100$ mbar,
EU certified.

Designation	Order no.	€/item
For continuous control, with internal thread		
GIK 15R02-5	03155170	149.20
GIK 20R02-5	03155122	157.70
GIK 25R02-5	03155134	175.30
GIK 40R02-5	03155146	263.40
GIK 50R02-5	03155158	344.60
For continuous control, with flanged connection		
GIK 65F02-6	85092220	1,229.40
GIK 80F02-6	85093220	1,552.30
GIK 100F02-6	85094220	2,458.70
GIK 150F02-6	85095220	5,761.50
For High/Low/Off control, with internal thread, bypass		
GIK 15R02-5B	03155171	149.20
GIK 20R02-5B	03155123	157.70
GIK 25R02-5B	03155135	175.30
GIK 40R02-5B	03155147	263.40
GIK 50R02-5B	03155159	344.60

GIK..R..L**GIK..F..L****Air/air ratio controls GIK..L, GIK..LB**

Air/air ratio controls to maintain a constant air/air ratio of 1:1, with special diaphragms for air operation (without approval).

Designation	Order no.	€/item
For continuous control, with internal thread		
GIK 15R02-5L	03155173	174.10
GIK 20R02-5L	03155125	183.80
GIK 25R02-5L	03155137	203.00
GIK 40R02-5L	03155149	304.00
GIK 50R02-5L	03155161	404.40
For continuous control, with flanged connection		
GIK 65F02-6L	85092221	1,355.80
GIK 80F02-6L	85093221	1,734.30
GIK 100F02-6L	85094221	2,671.60
GIK 150F02-6L	85095221	5,911.30
For High/Low/Off control, with internal thread, bypass		
GIK 15R02-5LB	03155174	174.10
GIK 20R02-5LB	03155126	183.80
GIK 25R02-5LB	03155138	203.00
GIK 40R02-5LB	03155150	304.00
GIK 50R02-5LB	03155162	404.40

Accessories

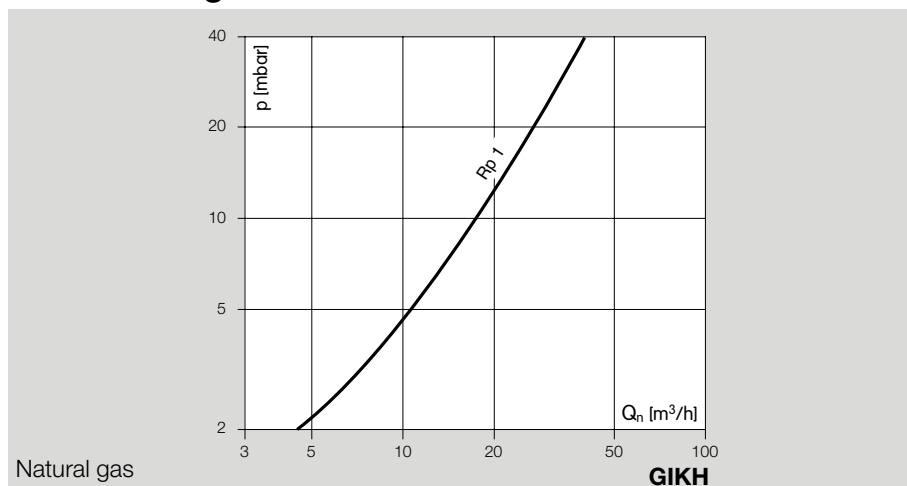
Designation	Order no.	€/item
Conversion kit with variable restrictor GIK 15-50 /B	03351040	61.20
Conversion kit with variable restrictor GIK 65-150 /B	74910779	43.90
Conversion kit zero pressure GIK 15-50 /B	03351039	19.20
Conversion kit zero pressure GIK 65-150 /B	74910853	19.20
Bypass GIK 15-25, diameter to order /B	74919820	26.90
Bypass GIK 40-50, diameter to order /B	74919821	30.20
Bypass GIK 15-25, variable /B	74919806	47.30

valVario pressure regulators, cf. page 30

Adapters for length compensation, cf. page 16



Variable air/gas ratio controls GIKH



Type code

GIKH	Variable air/gas ratio control
25	Nominal size
R	Rp internal thread
02	p _U max. 200 mbar
-5	Pressure test point at the outlet
L	Only for air (without approval)
B	With bypass screw

Air/gas ratio controls to maintain a constant gas/air ratio of approx. 4:1 on systems using preheated air, max. $\Delta p = 100$ mbar, EU certified.

Designation	Order no.	€/item
For continuous control, for gas		
GIKH 25R02-5	03155191	938.80
For High/Low/Off control, bypass 1.5 mm, for gas		
GIKH 25R02-5B	03155192	938.80
For continuous control, for air		
GIKH 25R02-5L	03155193	1,072.00

Accessories

Designation	Order no.	€/item
Bypass GIK 15-25, diameter to order /B	74919820	26.90
Bypass GIK 15-25, variable /B	74919806	47.30

Solenoid and motorized valves

Type	Gas type	State when de-energized	Stages	p _u max. [mbar]	Other
VAS	gas/air	closed	1	500	
VGP	gas/air	closed	1	150/200	
VG	gas/air	closed	1	100-1800	
VAN	gas/air	open	1	500	
VK	gas/air	closed	1 or 2	230-8000	also in ex-proof version
VR	Air	closed	1	150	Cold air

[Technical
Information VAS,
VCS](#)

NPT and ANSI
versions of
solenoid valves,
cf. T-products
price list

VAS 1-3../N



VAS 1-2../L



VAS 6-9../N



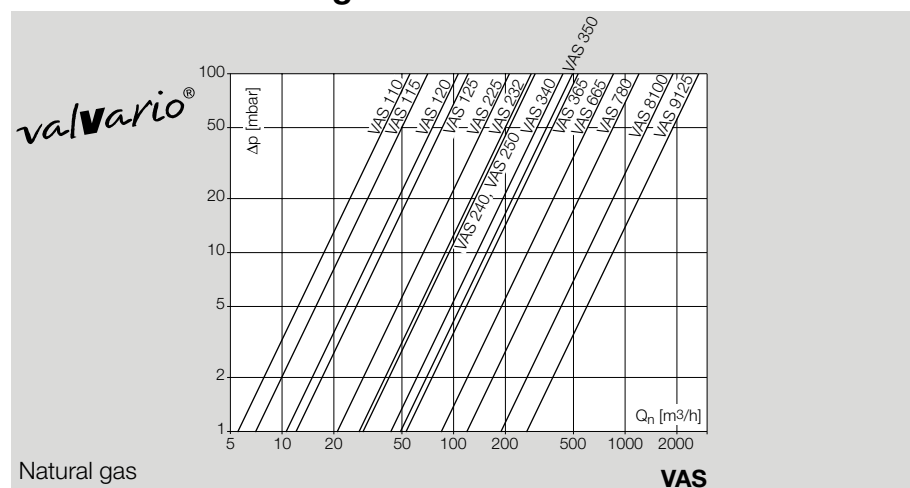
VAS 6-9../N../PP



SIL

PL

Solenoid valves for gas VAS



Type code

VAS	Solenoid valve for gas
1-9	Sizes
10-125	Inlet and outlet flange nominal size
R	Rp internal thread
F	Flange to ISO 7005
05	p _U max. 500 mbar
/N	Quick opening, quick closing
/L	Slow opening, quick closing
W	Mains voltage 230 V AC, 50/60 Hz
Q	Mains voltage 120 V AC, 50/60 Hz
K	Mains voltage 24 V DC
A	Mains voltage 120-230 V AC, 50/60 Hz
S	With POC/CPS and visual position indicator
G	With POC/CPS for 24 V and visual position indicator
R	Viewing side: right
L	Viewing side: left
3	Electrical connection via cable gland
B	Basic
E	Prepared for adapter plates
/P	Accessory, right, inlet: screw plug
/M	Accessory, right, inlet: pressure test point
/1	Accessory, right, inlet: pressure switch DG 17/VC
/2	Accessory, right, inlet: pressure switch DG 40/VC
/3	Accessory, right, inlet: pressure switch DG 110/VC
/4	Accessory, right, inlet: pressure switch DG 300/VC
P	Accessory, right, outlet: screw plug
M	Accessory, right, outlet: pressure test point
1	Accessory, right, outlet: pressure switch DG 17/VC
2	Accessory, right, outlet: pressure switch DG 40/VC
3	Accessory, right, outlet: pressure switch DG 110/VC
4	Accessory, right, outlet: pressure switch DG 300/VC

The same accessories can be selected for the left- or right-hand side.

Class A gas safety valves to EN 161 for automatic shut-off, closed when de-energized, for gas and air, p_U max. 500 mbar, with pilot lamp and flow adjustment, IP 65, EU certified, FM and CSA approved, certified for systems up to SIL 3 and PL e.

Designation	Order no.	€/item
Quick opening, with threaded connection, for 230 V AC		
VAS 110R/NW	88000002	200.00
VAS 115R/NW	88000003	200.00
VAS 120R/NW	88000004	237.20
VAS 125R/NW	88000005	247.20
VAS 225R/NW	88000022	326.00
VAS 232R/NW	88000023	326.00
VAS 240R/NW	88000024	336.00
VAS 250R/NW	88000025	336.00
VAS 340R/NW	88000042	453.60
VAS 350R/NW	88000043	453.60
VAS 365R/NW	88000044	484.20

Designation	Order no.	€/item
Quick opening, with flanged connection, for 230 V AC		
VAS 240F/NW	88004432	528.20
VAS 350F/NW	88004433	676.40
VAS 665F05NW3E/PP/PP	88202654	1,108.70
VAS 780F05NW3E/PP/PP	88202673	1,653.20
VAS 8100F05NW3E/PP/PP	88202675	2,171.40
VAS 9125F05NA3E/PP/PP	88202677	3,348.90
Quick opening, flanged connection, for 230 V AC, basic		
VAS 665F05NW3B/PP/PP	88202653	924.60
VAS 780F05NW3B/PP/PP	88202683	1,469.10
VAS 8100F05NW3B/PP/PP	88202684	1,987.30
VAS 9125F05NA3B/PP/PP	88202685	3,164.80
Slow opening, with threaded connection, for 230 V AC		
VAS 110R/LW	88000007	256.30
VAS 115R/LW	88000008	256.30
VAS 120R/LW	88000009	293.50
VAS 125R/LW	88000010	303.50
VAS 225R/LW	88000027	382.30
VAS 232R/LW	88000028	382.30
VAS 240R/LW	88000029	392.30
VAS 250R/LW	88000030	392.30
VAS 340R/LW	88000046	509.90
VAS 350R/LW	88000047	509.90
VAS 365R/LW	88000048	540.50
Slow opening, with flanged connection, for 230 V AC		
VAS 240F/LW	88004434	584.50
VAS 350F/LW	88004435	732.70
VAS 665F05LW3E/PP/PP	88202689	1,197.00
VAS 780F05LW3E/PP/PP	88202690	1,741.50
VAS 8100F05LW3E/PP/PP	88202691	2,259.70
Slow opening, flanged connection, for 230 V AC, basic		
VAS 665F05LW3B/PP/PP	88202695	1,012.90
VAS 780F05LW3B/PP/PP	88202696	1,557.40
VAS 8100F05LW3B/PP/PP	88202697	2,075.60
Quick opening, with threaded connection, for 120 V AC		
VAS 110R/NQ	88000012	200.00
VAS 115R/NQ	88000013	200.00
VAS 120R/NQ	88000014	237.20
VAS 125R/NQ	88000015	247.20
VAS 225R/NQ	88000032	326.00
VAS 232R/NQ	88000033	326.00
VAS 240R/NQ	88000034	336.00
VAS 250R/NQ	88000035	336.00
VAS 340R/NQ	88000050	453.60
VAS 350R/NQ	88000051	453.60
VAS 365R/NQ	88000052	484.20
Quick opening, with flanged connection, for 120 V AC		
VAS 240F/NQ	88004436	528.20
VAS 350F/NQ	88004437	676.40
VAS 665F05NQ3E/PP/PP	88202701	1,108.70
VAS 780F05NQ3E/PP/PP	88202702	1,653.20
VAS 8100F05NQ3E/PP/PP	88202703	2,171.40
VAS 9125F05NA3E/PP/PP	88202677	3,348.90
Quick opening, flanged connection, for 120 V AC, basic		
VAS 665F05NQ3B/PP/PP	88202706	924.60
VAS 780F05NQ3B/PP/PP	88202707	1,469.10
VAS 8100F05NQ3B/PP/PP	88202709	1,987.30
VAS 9125F05NA3B/PP/PP	88202685	3,164.80
Slow opening, with threaded connection, for 120 V AC		
VAS 110R/LQ	88000017	256.30
VAS 115R/LQ	88000018	256.30
VAS 120R/LQ	88000019	293.50
VAS 125R/LQ	88000020	303.50
VAS 225R/LQ	88000037	382.30
VAS 232R/LQ	88000038	382.30
VAS 240R/LQ	88000039	392.30
VAS 250R/LQ	88000040	392.30
VAS 340R/LQ	88000054	509.90
VAS 350R/LQ	88000055	509.90
VAS 365R/LQ	88000056	540.50

Designation	Order no.	€/item
Slow opening, with flanged connection, for 120 V AC		
VAS 240F/LQ	88004438	584.50
VAS 350F/LQ	88004439	732.70
VAS 665F05LQ3E/PP/PP	88202713	1,197.00
VAS 780F05LQ3E/PP/PP	88202714	1,741.50
VAS 8100F05LQ3E/PP/PP	88202715	2,259.70
Slow opening, flanged connection, for 120 V AC, basic		
VAS 665F05LQ3B/PP/PP	88202719	1,012.90
VAS 780F05LQ3B/PP/PP	88202720	1,557.40
VAS 8100F05LQ3B/PP/PP	88202721	2,075.60

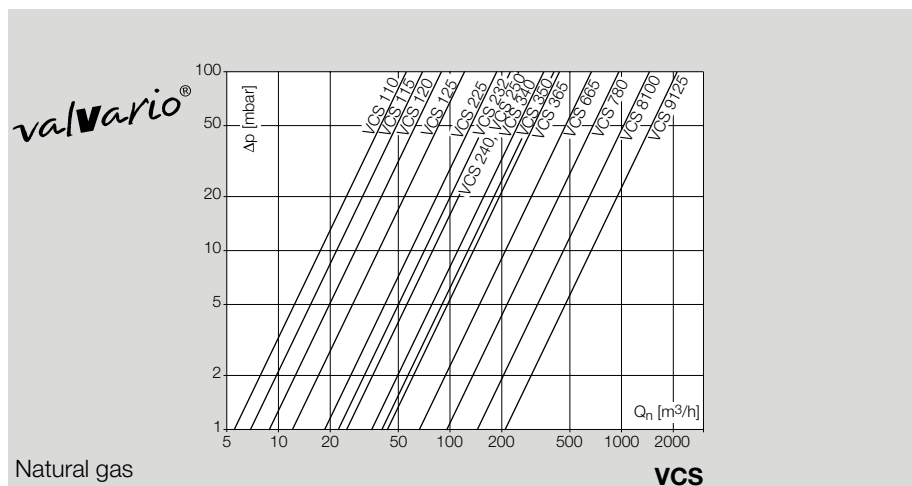
VCS..B



VCS..E



Double solenoid valves VCS



Natural gas

VCS

Technical
Information VAS,
VCS

Type code

VCS	Double solenoid valve
1-3, 6-9	Sizes
E	EU certified
10-125	Inlet and outlet flange nominal size
R	Rp internal thread
F	Flange to ISO 7005
05	p _U max. 500 mbar
L	Valve 1 slow opening, quick closing
N	Valve 1 quick opening, quick closing, with flow adjustment
L	Valve 2 slow opening, quick closing
N	Valve 2 quick opening, quick closing, with flow adjustment
W	Mains voltage 230 V AC, 50/60 Hz
Q	Mains voltage 120 V AC, 50/60 Hz
K	Mains voltage 24 V DC
A	Mains voltage 120-230 V AC, 50/60 Hz
S	With POC/CPS and visual position indicator
G	With POC/CPS for 24 V and visual position indicator
R	Viewing side: right
L	Viewing side: left
3	Electrical connection via cable gland
B	Basic
E	Prepared for adapter plates
/P	Accessory, right, inlet: screw plug
/M	Accessory, right, inlet: pressure test point
P	Accessory, right, interspace 1: screw plug
M	Accessory, right, interspace 1: pressure test point
P	Accessory, right, interspace 2: screw plug
M	Accessory, right, interspace 2: pressure test point
P	Accessory, right, outlet: screw plug
M	Accessory, right, outlet: pressure test point

The same accessories can be selected for the left- or right-hand side.

Class A gas safety valves to EN 161 for automatic shut-off, closed when de-energized, for gas and air, p_U max. 500 mbar, with pilot lamp, IP 65, EU certified, FM and CSA approved, certified for systems up to SIL 3 and PL e.

Designation	Order no.	€/item
Quick opening, threaded connection, for 230 V AC		
VCS 1E10R/10R05NNWR3/PPPP/PPPP	88100097	427.80
VCS 1E15R/15R05NNWR3/PPPP/PPPP	88100065	427.80
VCS 1E20R/20R05NNWR3/PPPP/PPPP	88100098	465.00
VCS 1E25R/25R05NNWR3/PPPP/PPPP	88100099	475.00
VCS 2E40R/40R05NNWR3/PPPP/PPPP	88100100	651.30
VCS 3E50R/50R05NNWR3/PPPP/PPPP	88100101	899.00
Quick opening, flanged connection, for 230 V AC, basic		
VCS 2E40F/40F05NNWR3/PPPP/PPPP	88100102	843.50
VCS 3E50F/50F05NNWR3/PPPP/PPPP	88100103	1,121.80
VCS 665F05NNWR3B/PPPP/PPPP	88202726	1,840.10
VCS 780F05NNWR3B/PPPP/PPPP	88202727	2,797.10
VCS 8100F05NNWR3B/PPPP/PPPP	88202728	3,797.70
VCS 9125F05NNWR3B/PPPP/PPPP	88202729	6,021.00

Designation	Order no.	€/item
Quick opening, flanged connection, for 230 V AC, accessories can be connected to the space between valves		
VCS 665F05NNWR3E/PPPP/PPPP	88202734	2,024.20
VCS 780F05NNWR3E/PPPP/PPPP	88202735	2,981.20
VCS 8100F05NNWR3E/PPPP/PPPP	88202736	3,981.80
VCS 9125F05NNAR3E/PPPP/PPPP	88202737	6,205.10
Slow opening, threaded connection, for 230 V AC		
VCS 1E10R/10R05NLWR3/PPPP/PPPP	88100104	484.10
VCS 1E15R/15R05NLWR3/PPPP/PPPP	88100105	484.10
VCS 1E20R/20R05NLWR3/PPPP/PPPP	88100106	521.30
VCS 1E25R/25R05NLWR3/PPPP/PPPP	88100107	531.30
VCS 2E40R/40R05NLWR3/PPPP/PPPP	88100108	707.60
VCS 3E50R/50R05NLWR3/PPPP/PPPP	88100109	955.30
Slow opening, flanged connection, for 230 V AC, basic		
VCS 2E40F/40F05NLWR3/PPPP/PPPP	88100110	899.80
VCS 3E50F/50F05NLWR3/PPPP/PPPP	88100296	1,178.10
VCS 665F05NLWR3B/PPPP/PPPP	88202741	1,928.40
VCS 780F05NLWR3B/PPPP/PPPP	88202742	2,885.40
VCS 8100F05NLWR3B/PPPP/PPPP	88202743	3,886.00
Slow opening, flanged connection, for 230 V AC, accessories can be connected to the space between valves		
VCS 665F05NLWR3E/PPPP/PPPP	88202749	2,112.50
VCS 780F05NLWR3E/PPPP/PPPP	88202750	3,069.50
VCS 8100F05NLWR3E/PPPP/PPPP	88202751	4,070.10
Quick opening, threaded connection, for 120 V AC		
VCS 1E10R/10R05NNQR3/PPPP/PPPP	88100111	427.80
VCS 1E15R/15R05NNQR3/PPPP/PPPP	88100112	427.80
VCS 1E20R/20R05NNQR3/PPPP/PPPP	88100113	465.00
VCS 1E25R/25R05NNQR3/PPPP/PPPP	88100114	475.00
VCS 2E40R/40R05NNQR3/PPPP/PPPP	88100115	651.30
VCS 3E50R/50R05NNQR3/PPPP/PPPP	88100116	899.00
Quick opening, flanged connection, for 120 V AC, basic		
VCS 2E40F/40F05NNQR3/PPPP/PPPP	88100117	843.50
VCS 3E50F/50F05NNQR3/PPPP/PPPP	88100118	1,121.80
VCS 665F05NNQR3B/PPPP/PPPP	88202755	1,840.10
VCS 780F05NNQR3B/PPPP/PPPP	88202756	2,797.10
VCS 8100F05NNQR3B/PPPP/PPPP	88202757	3,797.70
VCS 9125F05NNAR3B/PPPP/PPPP	88202729	6,021.00
Quick opening, flanged connection, for 120 V AC, accessories can be connected to the space between valves		
VCS 665F05NNQR3E/PPPP/PPPP	88202761	2,024.20
VCS 780F05NNQR3E/PPPP/PPPP	88202762	2,981.20
VCS 8100F05NNQR3E/PPPP/PPPP	88202763	3,981.80
VCS 9125F05NNAR3E/PPPP/PPPP	88202737	6,205.10
Slow opening, threaded connection, for 120 V AC		
VCS 1E10R/10R05NLQR3/PPPP/PPPP	88100119	484.10
VCS 1E15R/15R05NLQR3/PPPP/PPPP	88100120	484.10
VCS 1E20R/20R05NLQR3/PPPP/PPPP	88100130	521.30
VCS 1E25R/25R05NLQR3/PPPP/PPPP	88100131	531.30
VCS 2E40R/40R05NLQR3/PPPP/PPPP	88100132	707.60
VCS 3E50R/50R05NLQR3/PPPP/PPPP	88100133	955.30
Slow opening, flanged connection, for 120 V AC, basic		
VCS 2E40F/40F05NLQR3/PPPP/PPPP	88100134	899.80
VCS 3E50F/50F05NLQR3/PPPP/PPPP	88100135	1,178.10
VCS 665F05NLQR3B/PPPP/PPPP	88202767	1,928.40
VCS 780F05NLQR3B/PPPP/PPPP	88202768	2,885.40
VCS 8100F05NLQR3B/PPPP/PPPP	88202769	3,886.00
Slow opening, flanged connection, for 120 V AC, accessories can be connected to the space between valves		
VCS 665F05NLQR3E/PPPP/PPPP	88202773	2,112.50
VCS 780F05NLQR3E/PPPP/PPPP	88202774	3,069.50
VCS 8100F05NLQR3E/PPPP/PPPP	88202775	4,070.10

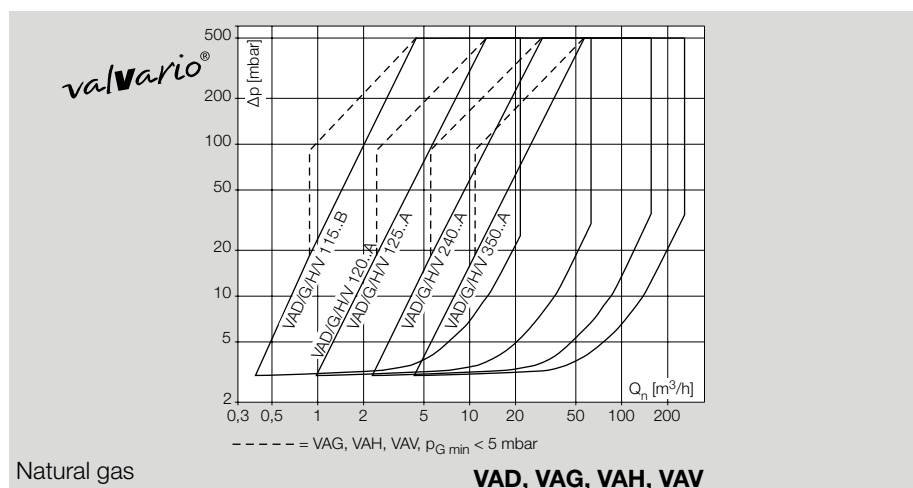
VAD, VAG, VAV



VAH



Pressure regulators with solenoid valve VAD, VAG, VAH, VAV



Type code

VAD	Pressure regulator with solenoid valve
VAG	Air/gas ratio control with solenoid valve
VAH	Flow rate regulator with solenoid valve
VAV	Variable air/gas ratio control with solenoid valve
1-3	Sizes
15-50	Inlet and outlet flange nominal size
R	Rp internal thread
/N	Quick opening, quick closing
W	Mains voltage 230 V AC, 50/60 Hz
Q	Mains voltage 120 V AC, 50/60 Hz
K	Mains voltage 24 V DC
SR	Closed position switch with visual position indicator, right
SL	Closed position switch with visual position indicator, left
GR	Closed position switch for 24 V and visual position indicator, right
GL	Closed position switch for 24 V and visual position indicator, left
-25	Outlet pressure p_d for VAD: 2.5–25 mbar
-50	Outlet pressure p_d for VAD: 20–50 mbar
-100	Outlet pressure p_d for VAD: 35–100 mbar
A	Standard valve seat
B	Reduced valve seat
E	VAG: connection for air control pressure: compression fitting
K	VAG, VAV: connection for air control pressure: plastic hose coupling
N	VAG: zero governor

Class A pressure regulator to EN 88 with integrated Class A safety valve to EN 161 and EN 13611 for safeguarding and control of the gas pressure in gas inlet and burner lines, for gas and air, p_d max. 500 mbar, with pilot lamp, IP 65, with M20 cable gland supplied loose, EU certified, VAD, VAG: ANSI/CSA approved, VAD, VAG, VAV: AGA approved, VAD, VAG, VAH: FM approved, VAD, VAG, VAV: UL listed, VAD, VAG, VAH, VAV: certified for systems up to SIL 3 and PL e.

Designation	Order no.	€/item
Pressure regulator, p_d 35–100 mbar, for 230 V AC		
VAD 115R/NW-100B	88000262	312.60
VAD 120R/NW-100A	88000266	349.80
VAD 125R/NW-100A	88000265	359.80
VAD 240R/NW-100A	88000267	508.00
VAD 350R/NW-100A	88000270	672.20
Pressure regulator, p_d 35–100 mbar, for 120 V AC		
VAD 115R/NQ-100B	88000279	312.60
VAD 120R/NQ-100A	88000280	349.80
VAD 125R/NQ-100A	88000281	359.80
VAD 240R/NQ-100A	88000282	508.00
VAD 350R/NQ-100A	88000285	672.20

Technical
Information VAD,
VAG, VAV, VAH

Versions,
cf. page 31

Accessories,
cf. page 36

Designation	Order no.	€/item
Air/gas ratio control, for 230 V AC		
VAG 115R/NWBE	88000141	335.60
VAG 120R/NWAE	88000272	372.80
VAG 125R/NWAE	88000273	382.80
VAG 240R/NWAE	88000274	531.00
VAG 350R/NWAE	88000277	695.20
Air/gas ratio control, for 120 V AC		
VAG 115R/NQBE	88000287	335.60
VAG 120R/NQAE	88000288	372.80
VAG 125R/NQAE	88000289	382.80
VAG 240R/NQAE	88000290	531.00
VAG 350R/NQAE	88000293	695.20
Flow rate regulator, for 230 V AC		
VAH 115R/NWBE	88020263	746.90
VAH 120R/NWAE	88020783	784.10
VAH 125R/NWAE	88020580	794.10
VAH 240R/NWAE	88020266	942.30
VAH 350R/NWAE	88020267	1,106.50
Flow rate regulator, for 120 V AC		
VAH 115R/NQBE	88020784	746.90
VAH 120R/NQAE	88020785	784.10
VAH 125R/NQAE	88020786	794.10
VAH 240R/NQAE	88020787	942.30
VAH 350R/NQAE	88020788	1,106.50
Variable air/gas ratio control, for 230 V AC		
VAV 115R/NWBK	88005508	441.70
VAV 120R/NWAK	88005514	478.90
VAV 125R/NWAK	88004706	488.90
VAV 240R/NWAK	88005515	637.10
VAV 350R/NWAK	88005516	801.30
Variable air/gas ratio control, for 120 V AC		
VAV 115R/NQBK	88006607	441.70
VAV 120R/NQAK	88006722	478.90
VAV 125R/NQAK	88006608	488.90
VAV 240R/NQAK	88006609	637.10
VAV 350R/NQAK	88006633	801.30

VAS..SR

VAS, VCS, VAD, VAG, VAH, VAV versions

Designation	Order no.	€/item
Proof of closure switch (POC) or closed position switch (CPS), fitted		
VAS 1..S with POC, VAD/G/V 1..S with CPS	surcharge	121.20
VAS 1..G with POC, VAD/G/V 1..G with CPS for 24 V DC	surcharge	135.20
VAS 2–9..S with POC, VAD/G/V 2–3..S with CPS	surcharge	144.00
VAS 2–9..G with POC, VAD/G/V 2–3..G with CPS for 24 V DC	surcharge	157.80
Proof of closure switch VCS, fitted to both valves		
VCS 6–9..S with proof of closure switch	surcharge	288.00
VCS 6–9..G with proof of closure switch for 24 V DC	surcharge	315.60
Valve for 24 V DC		
VAS/VAD/VAG/VAV..K for 24 V DC	no surcharge	
Electrical connection		
1 M20 cable gland for valve without POC/CPS	no surcharge	
2 M20 cable glands for valve with POC/CPS	no surcharge	
Fitting an M20 cable gland, sizes 1–3	surcharge	6.30
Sizes 1–3		
Plug with socket for valve	surcharge	28.20
Plug with socket for 2 valves	surcharge	46.10
Plug with socket for POC/CPS	surcharge	32.70
Fitting a plug	surcharge	10.20
Sizes 6–9		
Plug with socket for valve	surcharge	38.40
Plug with socket for 2 valves	surcharge	56.30
Plug with socket for POC/CPS	surcharge	43.00

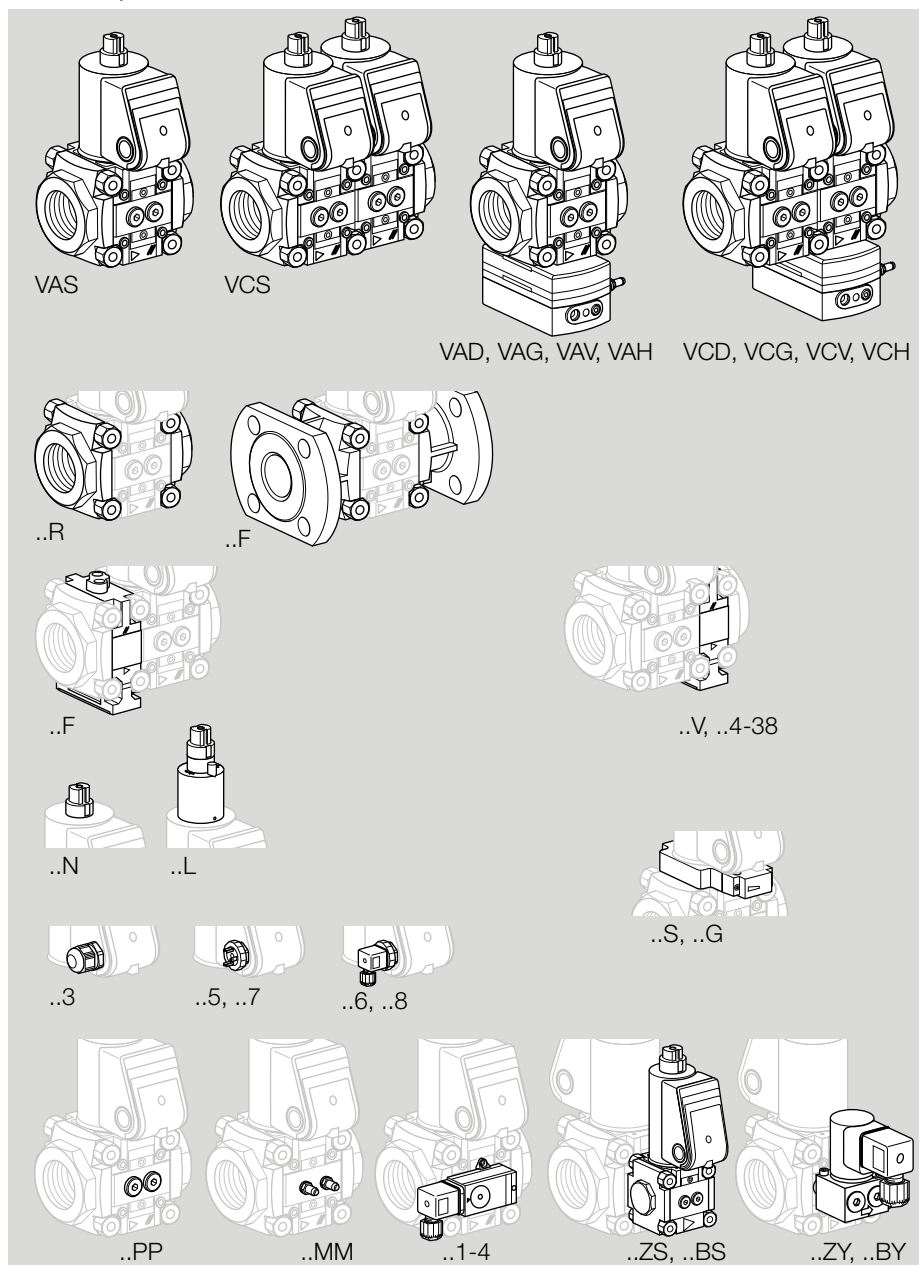
Examples of valVario system configurations

Type code

VAS	Solenoid valve for gas
VAD	Pressure regulator with solenoid valve
VAG	Air/gas ratio control with solenoid valve
VAV	Variable air/gas ratio control with solenoid valve
VAH	Flow rate regulator with solenoid valve
VCS	Double solenoid valve
VCD	Pressure regulator with two solenoid valves
VCG	Air/gas ratio control with two solenoid valves
VCV	Variable air/gas ratio control with two solenoid valves
VCH	Flow rate regulator with two solenoid valves
1-3	Sizes
E	EU certified
10-65	Inlet flange nominal size
R	Rp internal thread
F	Flange to ISO 7005
10-65	Outlet flange nominal size
R	Rp internal thread
F	Flange to ISO 7005
05	p_u max. 500 mbar
F	Filter module
N	Valve 1 quick opening, quick closing
L	Valve 1 slow opening, quick closing
D-25	Valve 1 with pressure regulator, outlet pressure: 2.5-25 mbar
D-50	Valve 1 with pressure regulator, outlet pressure: 20-50 mbar
D-100	Valve 1 with pressure regulator, outlet pressure: 35-100 mbar
GE	Valve 1 with air/gas ratio control, connection for air control pressure: compression fitting
GK	Valve 1 with air/gas ratio control, connection for air control pressure: plastic hose coupling
GA	Valve 1 with air/gas ratio control, connection set for air control pressure p_{sa} : NPT 1/4 adapter, 2 pressure test points p_d and p_{sa}
GN	Valve 1 with zero governor
VK	Valve 1 with variable air/gas ratio control, connection for air control pressure: plastic hose coupling
HE	Valve 1 with flow rate regulator, connection for air control pressure: compression fitting
HA	Valve 1 with flow rate regulator, connection set for air control pressure p_{sa} : NPT 1/4 adapter, 2 pressure test points p_d and p_{sa}
The type of valve for valve 2 can be selected as for valve 1.	
V	Fine-adjusting valve
4-38	Measuring orifice diameter [mm]
W	Mains voltage 230 V AC, 50/60 Hz
Q	Mains voltage 120 V AC, 50/60 Hz
K	Mains voltage 24 V DC
S	With POC/CPS and visual position indicator
G	With POC/CPS for 24 V and visual position indicator
R	Flow from left to right
L	Flow from right to left
3	Electrical connection: M20 cable gland
5	Electrical connection: plug without socket
6	Electrical connection: plug with socket
7	Electrical connection: plug for 2 valves and POC/CPS without socket
8	Electrical connection: plug for 2 valves and POC/CPS with socket
PP	Valve 1: accessories on viewing side: 2 screw plugs
MM	Valve 1: accessories on viewing side: 2 pressure test points
1-4	Valve 1: accessories on viewing side: pressure switch DG..VC
	Valve 2: accessories on viewing side: as for valve 1
ZY	Valve 1: accessories at rear: pilot gas valve VBY
ZS	Valve 1: accessories at rear: pilot gas valve VAS 1
PP	Valve 1: accessories at rear: 2 screw plugs
MM	Valve 1: accessories at rear: 2 pressure test points
BY	Valve 1: accessories at rear: bypass valve VBY
BS	Valve 1: accessories at rear: bypass valve VAS 1
1-4	Valve 1: accessories at rear: pressure switch DG..VC
	Valve 2: accessories at rear: as for valve 1

The following example systems indicate the variety of combinations offered by valVario.

VAx 1-3, VCx 1-3

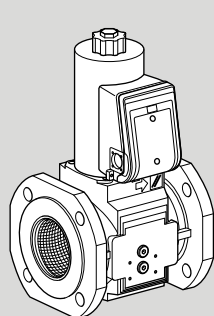


VAS 6–9, VCS 6–9**Type code**

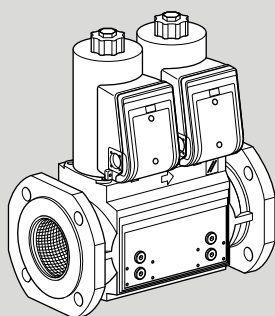
VAS	Solenoid valve for gas
VCS	Double solenoid valve
6-9	Sizes
40-125	
F	Flange to ISO 7005
05	p_u max. 500 mbar
N	Valve 1 quick opening, quick closing
L	Valve 1 slow opening, quick closing
L	Valve 2 slow opening, quick closing
N	Valve 2 quick opening, quick closing, with flow adjustment
W	Mains voltage 230 V AC, 50/60 Hz
Q	Mains voltage 120 V AC, 50/60 Hz
K	Mains voltage 24 V DC
S	With POC/CPS and visual position indicator
G	With POC/CPS for 24 V and visual position indicator
R	Viewing side: right
L	Viewing side: left
3	Electrical connection: M20 cable gland
5	Electrical connection: plug without socket
6	Electrical connection: plug with socket
7	Electrical connection: plug for 2 valves and POC/CPS without socket
8	Electrical connection: plug for 2 valves and POC/CPS with socket
B	Basic
E	Prepared for adapter plates
P	Accessory, right, inlet: screw plug
M	Accessory, right, inlet: pressure test point
1-4	Accessories, right, inlet: pressure switch DG..VC
P	Accessory, right, interspace 1: screw plug
M	Accessory, right, interspace 1: pressure test point
1-4	Accessories, right, interspace 1: pressure switch DG..VC
P	Accessory, right, interspace 2: screw plug
M	Accessory, right, interspace 2: pressure test point
Z	Accessories, right, interspace 2: pilot gas valve VAS 1
B	Accessories, right, interspace 2: bypass valve VAS 1
E	Accessories, right, interspace 2: prepared for Rp 1 vent line
1-4	Accessories, right, interspace 2: pressure switch DG..VC
P	Accessory, right, outlet: screw plug
M	Accessory, right, outlet: pressure test point
1-4	Accessories, right, outlet: pressure switch DG..VC

The same accessories can be selected for the left- or right-hand side.

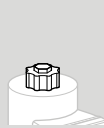
VAS 6-9, VCS 6-9



VAS



VCS



..N



..L



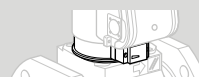
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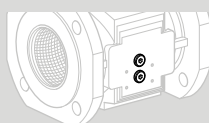
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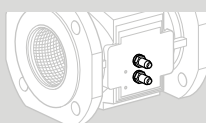
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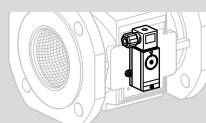
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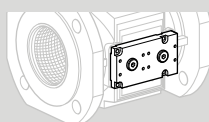
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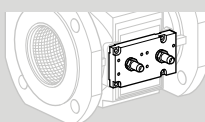
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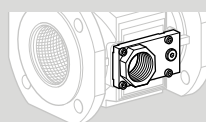
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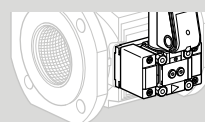
..E/PP



..E/MM



..E/E



..E/B, ..E/Z

Accessories for retrofitting to valVario controls

DG..VC



Gas pressure switches DG..C for valVario

Gas pressure switches for monitoring the inlet or outlet pressure, can be attached at the right- or left-hand side, screws and O-rings included, EU certified.

Type code DG..VC,
cf. page 73

Designation	Order no.	€/item
DG 17VC1-6W /B	75455241	81.00
DG 40VC1-6W /B	75455243	81.00
DG 110VC1-6W /B	75455245	81.00
DG 300VC1-6W /B	75455246	81.00
With gold-plated contacts, for 5-250 V		
DG 17VC1-6WG /B	75455247	89.50
DG 40VC1-6WG /B	75455249	89.50
DG 110VC1-6WG /B	75455251	89.50
DG 300VC1-6WG /B	75455252	89.50
Attachment of a pressure switch for gas DG..VC	surcharge	4.00

VAS + DG..VC



VBY 8



Bypass or pilot gas valves VBY for valVario size 1

Type code

VBY	Gas valve
8	Nominal size
I	For internal gas pick-up as bypass valve
R	For external gas pick-up as pilot gas valve
Q	Mains voltage 120 V AC, 50/60 Hz
K	Mains voltage 24 V DC
W	Mains voltage 230 V AC, 50/60 Hz
6L	Electrical connection via plug and socket with LED
-R	Attachment side of main valve: to the right
-L	Attachment side of main valve: to the left
B	Enclosed (separate packing unit)
05	Nozzle: 0.5 mm
D	With flow adjustment

Class A gas safety valve to EN 161 for automatic shut-off, closed when de-energized, for gas and air, p_u max. 500 mbar, IP 54, EU certified.

Designation	Order no.	€/item
Bypass valve for 230 V AC		
VBY 8IW6L-RBD	74337977	145.80
VBY 8IW6L-LBD	74337983	145.80
VBY 8IW6L-RB05	74338428	145.80
VBY 8IW6L-LB05	74338434	145.80
Pilot gas valve for 230 V AC		
VBY 8RW6L-RBD	74337978	145.80
VBY 8RW6L-LBD	74337984	145.80
VBY 8RW6L-RB05	74338429	145.80
VBY 8RW6L-LB05	74338435	145.80
Bypass valve for 120 V AC		
VBY 8IQ6L-RBD	74337979	145.80
VBY 8IQ6L-LBD	74337985	145.80
VBY 8IQ6L-RB05	74338430	145.80
VBY 8IQ6L-LB05	74338436	145.80
Pilot gas valve for 120 V AC		
VBY 8RQ6L-RBD	74337980	145.80
VBY 8RQ6L-LBD	74337986	145.80
VBY 8RQ6L-RB05	74338431	145.80
VBY 8RQ6L-LB05	74338437	145.80
Attachment of bypass or pilot gas valve VBY	surcharge	4.00



Bypass or pilot gas valves VAS 1 attached to valVario 1 – 3

Class A gas safety valves to EN 161 for automatic shut-off, closed when de-energized, for gas and air, p_u max. 500 mbar, with pilot lamp, IP 65, M20 cable gland, 10 mm bypass nozzle, the connection parts are included in the delivery, EU certified, FM and CSA approved, UL listed.

[Technical Information VAS, VCS](#)

Designation	Order no.	€/item
Bypass valve for size 1 for 230 V AC		
VAS 1-0/NW	88001064	218.20
Bypass valve for size 2 or 3 for 230 V AC		
VAS 1-0/NW	88003427	218.20
Bypass valve for size 1 for 120 V AC		
VAS 1-0/NQ	88009053	218.20
Bypass valve for size 2 or 3 for 120 V AC		
VAS 1-0/NQ	88009054	218.20
Pilot gas valve DN 15 for size 1 for 230 V AC		
VAS 1-0/15R/NW	88000386	219.00
Pilot gas valve DN 15 for size 2 or 3 for 230 V AC		
VAS 1-0/15R/NW	88000771	219.00
Pilot gas valve DN 15 for size 1 for 120 V AC		
VAS 1-0/15R/NQ	88004171	219.00
Pilot gas valve DN 15 for size 2 or 3 for 120 V AC		
VAS 1-0/15R/NQ	88004173	219.00
Attachment of bypass valve VAS 1	surcharge	15.50



Bypass or pilot gas valves VAS 1 attached to valVario 6 – 9

Class A gas safety valves to EN 161 for automatic shut-off, closed when de-energized, for gas and air, p_u max. 500 mbar, with pilot lamp, IP 65, M20 cable gland, the connection parts are included in the delivery, EU certified, FM and CSA approved, UL listed.

Designation	Order no.	€/item
Bypass valve for size 6 – 9 for 230 V AC, attachment at the left-hand side		
VAS 1W0/NW	88006685	289.10
Bypass valve for size 6 – 9 for 230 V AC, attachment at the right-hand side		
VAS 1W0/NW	88007076	289.10
Bypass valve for size 6 – 9 for 120 V AC, attachment at the left-hand side		
VAS 1W0/NQ	88007077	289.10
Bypass valve for size 6 – 9 for 120 V AC, attachment at the right-hand side		
VAS 1W0/NQ	88009152	289.10
Pilot gas valve DN 25 for size 6 – 9 for 230 V AC, attachment at the left-hand side		
VAS 1W0/W25R/NW	88005625	289.10
Pilot gas valve DN 25 for size 6 – 9 for 230 V AC, attachment at the right-hand side		
VAS 1W0/W25R/NW	88005621	289.10
Pilot gas valve DN 25 for size 6 – 9 for 120 V AC, attachment at the left-hand side		
VAS 1W0/W25R/NQ	88026376	289.10
Pilot gas valve DN 25 for size 6 – 9 for 120 V AC, attachment at the right-hand side		
VAS 1W0/W25R/NQ	88009153	289.10

TC 1V



Tightness controls TC 1V for valVario

Type code

TC	Tightness control
1V	For attachment to valVario
05	p_u max. 500 mbar
W	Mains voltage 230 V AC, 50/60 Hz
Q	Mains voltage 120 V AC, 50/60 Hz
K	Mains voltage 24 V DC
/W	Control voltage: 230 V AC, 50/60 Hz
/Q	Control voltage: 120 V AC, 50/60 Hz
/K	Control voltage: 24 V DC

[Technical
Information TC](#)

Other tightness
controls,
cf. page 49

Tightness controls for checking two safety valves before and/or after burner run, with adjustable measurement time (5-30 s) for adjustment to different test volumes, leakage rates and inlet pressures, EU certified.

Can be directly flange-mounted to valVario controls. The power supply to the valves must be wired via a single plug. Wiring is to be undertaken by the customer.

Designation	Order no.	€/item
Control voltage = mains voltage		
TC 1V05W/W	84765541	560.10
TC 1V05Q/Q	84765543	560.10
TC 1V05K/K	84765545	560.10
Control voltage: 24 V DC		
TC 1V05W/K	84765542	560.10
TC 1V05Q/K	84765544	560.10

Accessories

Designation	Order no.	€/item
Standard socket, 3+PE, black /B	74916715	6.60
Valve connection cable TC /B	74960689	25.60



Fine-adjusting valves VMV

[Technical
Information VMV](#)

Type code

VMV	Fine-adjusting valve
1-2	Sizes
10-50	Inlet and outlet flange nominal size
R	Rp internal thread
05	p _u max. 500 mbar
P	Screw plugs

For fine adjustment of gas and air flow rates.

Designation	Order no.	€/item
VMV 110R05P	88012996	105.30
VMV 115R05P	88012861	105.30
VMV 120R05P	88012997	142.50
VMV 125R05P	88012862	152.50
VMV 240R05P	88012860	218.50
VMV 250R05P	88012999	218.50
VMV 340R05P	88033179	237.00
VMV 350R05P	88033180	237.00
VMV 365R05P	88033181	267.60
Gas control line VAH 1 /B	74924458	51.50
Gas control line VAH 2 /B	74924459	55.10
Gas control line VAH 3 /B	74926055	96.90



Filter modules VMF

[Technical
Information VMF](#)

Type code

VMF	Filter module
1-2	Sizes
-05	p _u max. 500 mbar
M	Test nipple

Designation	Order no.	€/item
VMF 1-05M	88013005	68.50
VMF 2-05M	88013006	87.90
VMF 3-05M	88033178	137.20



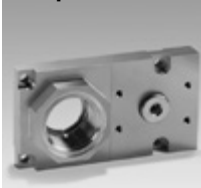
Measuring orifices VMO

[Technical
Information VMO](#)

Type code

VMO	Measuring orifice
1-2	Sizes
10-50	Inlet and outlet flange nominal size
R	Rp internal thread
05	p _u max. 500 mbar
M	Test nipple
04-38	Orifice diameter in mm

Designation	Order no.	€/item
VMO 110R05M06	88013000	79.20
VMO 115R05M06	88013001	79.20
VMO 120R05M12	88013002	116.40
VMO 125R05M20	88013003	126.40
VMO 240R05M32	88012863	144.60
VMO 250R05M38	88013004	144.60
VMO 350R05M38	88033172	234.50
VMO 350R05M42	88033173	234.50
VMO 365R05M42	88033174	265.10
VMO 365R05M46	88033175	265.10
VMO 365R05M50	88033176	265.10
VMO 365R05M54	88033177	265.10

Attachm. block**FLV..R****FLV..F****Adapter****Other accessories for valVario**

/B = enclosed

Designation	Order no.	€/item
Pressure gauge block		
Attachment block Rp 1/4 VA 1-3 /B	74922228	96.90
Test nipple		
Test nipple G 1/4 P aluminium + Viton /B	74923390	9.10
Attachment of two pressure test nipples	surcharge	4.00
Threaded flanges, size 1		
FLV 1-0 /B	74921469	7.40
FLV 110R /B	74921504	8.30
FLV 115R /B	74921505	8.30
FLV 120R /B	74922229	27.60
FLV 125R /B	74922230	32.80
Screw set VA 1/B	74921992	9.20
Size 2		
FLV 225R /B	74922231	27.60
FLV 232R /B	74922232	27.60
FLV 240R /B	74922233	32.80
FLV 250R /B	74922234	32.80
FLV 240F /B	74922826	132.90
Screw set VA 2 /B	74921993	25.30
Size 3		
FLV 340R /B	74922235	32.80
FLV 350R /B	74922236	32.80
FLV 365R /B	74922237	48.70
FLV 350F /B	74922828	148.80
Screw set VA 3 /B	74921994	31.90
Adapters for length compensation when replacing VG or VK by VAS 6-9		
Length compensation VAS 6 /B	74923271	204.80
Length compensation VAS 7 /B	74923272	324.80
Length compensation VAS 8 /B	74923273	424.60
Length compensation VAS 9 /B	74923274	485.30
Adapter plates for VAS and VCS 6-9 with accessory connection		
Measuring adapter VA 6-9 /B	74923021	95.00
Measuring adapter VA 6-9T /B	74923022	95.00
Bypass adapter VA 6-9 /B	74923023	99.60
Relief line adapter 1 1/2" NPT VA 6-9 /B	74923024	141.10
Relief line adapter Rp 1" VA 6-9 /B	74923025	141.10
Coupler plug with socket		
Plug, 2+PE, with socket VAS 1-3 /B	74922393	29.30
Plug, 3+PE, with socket VCS 1 /B	74922394	47.90
Plug, 3+PE, with socket VCS 2-3 /B	74922395	47.90
Plug, 3-pin (POC), with socket VA 1-3 /B	74922396	34.00
Plug, 2+PE, with socket VAS 6-9 /B	74922971	29.30
Plug, 3+PE, with socket VCS 6-9 /B	74922972	47.90
Plug, 3-pin (POC), with socket VAS 6-9 /B	74922973	34.00
Plug, 3-pin (POC), with socket VCS 6-9 /B	74922974	34.00
Flange set for MODULINE		
Flange set VA 1/LFC 1	74922171	130.20
Flange set VA 2/LFC 2	74922172	176.40

Cable gland

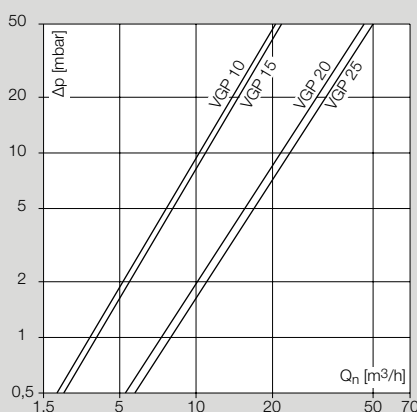
Assembling 2 units to form a system

Designation	Order no.	€/item
Size 1		
Seal set VA 1 /B	74921988	16.20
Cable gland set VA 1 /B	74921985	14.70
Assembly	surcharge	15.50
Size 2		
Seal set VA 2 /B	74921989	24.60
Cable gland set VA 2 /B	74921986	17.20
Assembly	surcharge	18.80
Size 3		
Seal set VA 3 /B	74921990	32.80
Cable gland set VA 3 /B	74921987	18.40
Assembly	surcharge	23.50

VGP

Solenoid valves for gas VGP

[Technical
Information VGP](#)


Type code

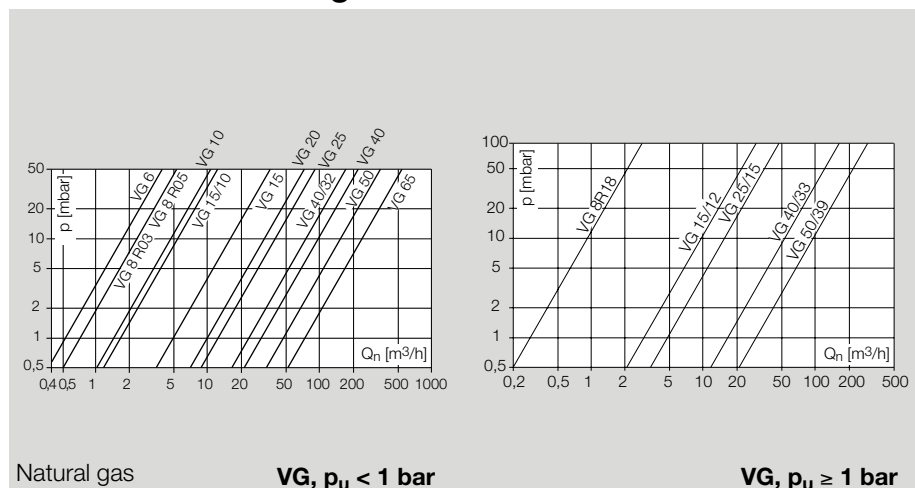
VGP	Solenoid valve for gas
10-25	Nominal size
R	Rp internal thread
01	p _u max. 150 mbar
02	p _u max. 200 mbar
W	Mains voltage 230 V AC, 50/60 Hz
Q	Mains voltage 120 V AC, 50/60 Hz
6	Connection via rectifier adapter and standard socket

Class A gas safety valves to EN 161 for automatic shut-off, closed when de-energized, quick opening, quick closing, for gas and air, with socket, EU certified.

Designation	Order no.	€/item
For 230 V AC		
VGP 10R02W6	85293104	117.00
VGP 15R02W6	85294101	117.00
VGP 20R01W6	85295300	156.70
VGP 25R01W6	85296300	156.70
For 120 V AC		
VGP 10R02Q6	85293300	117.00
VGP 15R02Q6	85294300	117.00
VGP 20R01Q6	85295700	156.70
VGP 25R01Q6	85296201	156.70

Solenoid valves for gas VG

Technical
Information VG



VG



Solenoid valves for gas VG 6-15/10

Type code

VG	Solenoid valve for gas
6-15/10	Nominal size
K	Double-cone olive for 8 mm tube loosely enclosed
R	Rp internal thread
01	p_u max. 100 mbar
03	p_u max. 360 mbar
05	p_u max. 500 mbar
18	p_u max. 1.8 bar
T	Mains voltage 220/240 V AC, 50/60 Hz
Q	Mains voltage 120 V AC, 50/60 Hz
K	Mains voltage 24 V DC
6	Connection via 3-pin standard plug and socket
G	Low-noise

Class A gas safety valves to EN 161 for automatic shut-off, closed when de-energized, for gas and air, EU certified.

Designation	Order no.	€/item
Quick opening, with double-cone olive, for 220/240 V AC		
VG 6K03T6G	85229011	97.50
VG 6K05T6	85228010	97.50
Quick opening, with threaded connection, for 220/240 V AC		
VG 6R05T6	85230010	97.50
VG 8R03T6G	85231710	97.50
VG 8R05T6	85231010	97.50
VG 8R18T6	85232010	144.60
VG 10R01T6	85233010	123.60
VG 15/10R01T6G	85234510	147.20
VG 15/10R01T6	85234010	147.20
Quick opening, with double-cone olive, for 120 V AC		
VG 6K03Q6G	85229040	97.50
VG 6K05Q6	85228040	97.50
Quick opening, with threaded connection, for 120 V AC		
VG 6R05Q6	85230040	97.50
VG 8R03Q6G	85231740	97.50
VG 8R05Q6	85231050	97.50
VG 8R18Q6	85232040	144.60
VG 10R01Q6	85233040	123.60
VG 15/10R01Q6G	85234540	147.20
VG 15/10R01Q6	85234040	147.20
Gas restrictor orifice d = 0.55 for VG 8	74452748	28.70

VG..R..N

VG..R..N

VG..F..N

VG..R..L

VG..R..L

VG..F..L


Solenoid valves for gas VG 10/15-65

Type code

VG	Solenoid valve for gas
10/15-65	Nominal size
R	Rp internal thread
F	Flange to ISO 7005
02	p _u max. 200 mbar
03	p _u max. 360 mbar
10	p _u max. 1 bar
18	p _u max. 1.8 bar
L	Slow opening, quick closing
N	Quick opening, quick closing
T	Mains voltage 220/240 V AC, 50/60 Hz
K	Mains voltage 120 V AC, 50/60 Hz
Q	Mains voltage 24 V DC
3	Terminal connection box, IP 54
1	Screw plug at the inlet
3	Screw plug at the inlet and outlet
D	With flow adjustment
M	Suitable for biogas
V	Viton valve disc seal
Z	With rolling diaphragm

Class A gas safety valves to EN 161 for automatic shut-off, closed when de-energized, for gas and air, EU certified.

Designation	Order no.	€/item
p_u max. 1000 mbar, quick opening, with threaded connection, for 220/240 V AC		
VG 40/33R10NT33	85260110	731.30
VG 50/39R10NT33	85261110	921.70
p_u max. 1000 mbar, quick opening, with flanged connection, for 220/240 V AC		
VG 40/33F10NT33	85260160	926.30
VG 50/39F10NT33	85261160	1,157.80
p_u max. 1800 mbar, quick opening, with threaded connection, for 220/240 V AC		
VG 15/12R18NT31	85265010	301.70
VG 25/15R18NT31	85266010	404.40
Valves with rolling diaphragm for highly contaminated gases		
Quick opening, for 220/240 V AC		
VG 15R03NT31DMVZ	85213040	381.20
VG 20R03NT31DMVZ	85214070	434.50
VG 25R03NT31DMVZ	85215070	470.60
VG 40/32R02NT31DMVZ	85208200	487.10
VG 40R03NT33DMVZ	85256860	803.90
VG 50R03NT33DMVZ	85257860	963.30
VG 50F03NT33DMVZ	85257870	1,199.60
VG 65F02NT33DMVZ	85272880	1,350.20
Slow opening, for 220/240 V AC		
VG 15R03LT31DMVZ	85213090	439.30
VG 20R03LT31DMVZ	85214090	492.70
VG 25R03LT31DMVZ	85215090	528.70
VG 40/32R02LT31DMVZ	85208250	545.10
VG 40R03LT33DMVZ	85256863	893.80
VG 50R03LT33DMVZ	85257863	1,053.00
VG 50F03LT33DMVZ	85257873	1,289.40
VG 65F02LT33DMVZ	85272980	1,444.70
p_u max. 1000 mbar, quick opening, with threaded connection, for 120 V AC		
VG 40/33R10NQ33	85260200	731.30
VG 50/39R10NQ33	85261400	921.70
p_u max. 1000 mbar, quick opening, with flanged connection, for 120 V AC		
VG 40/33F10NQ33	85260250	926.30
VG 50/39F10NQ33	85261450	1,157.80

Designation	Order no.	€/item
p_u max. 1800 mbar, quick opening, with threaded connection, for 120 V AC		
VG 15/12R18NQ31	85265500	301.70
VG 25/15R18NQ31	85266500	404.40
Valves with rolling diaphragm for highly contaminated gases		
Quick opening, for 120 V AC		
VG 15R03NQ31DMVZ	85213041	381.20
VG 20R03NQ31DMVZ	85214071	434.50
VG 25R03NQ31DMVZ	85215071	470.60
VG 40/32R02NQ31DMVZ	85208202	487.10
VG 40R03NQ33DMVZ	85256861	803.90
VG 50R03NQ33DMVZ	85257861	963.30
VG 50F03NQ33DMVZ	85257871	1,199.60
VG 65F02NQ33DMVZ	85272882	1,350.20
Slow opening, for 120 V AC		
VG 15R03LQ31DMVZ	85213091	439.30
VG 20R03LQ31DMVZ	85214091	492.70
VG 25R03LQ31DMVZ	85215091	528.70
VG 40/32R02LQ31DMVZ	85208252	545.10
VG 40R03LQ33DMVZ	85256864	893.80
VG 50R03LQ33DMVZ	85257864	1,053.00
VG 50F03LQ33DMVZ	85257874	1,289.40
VG 65F02LQ33DMVZ	85272981	1,444.70

VG versions

Designation	Order no.	€/item
Solenoid valve for 24 V DC		
DN 6-DN 40/32	surcharge	32.10
DN 40-DN 50	surcharge	32.80
DN 65	surcharge	46.40

Accessories

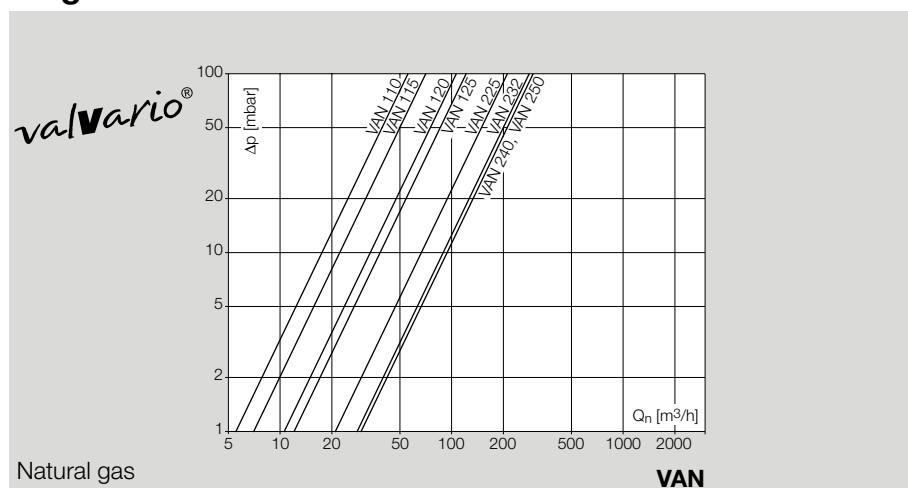
Designation	Order no.	€/item
Coupler plug with socket and LED		
Plug + LED VG 15-40/32 230/115V /B	74923085	61.00
Plug + LED VG 40-65 230/115V /B	74923086	61.00
Plug + LED VG 15-40/32 24V /B	74923087	61.00
Plug + LED VG 40-65 24V /B	74923088	61.00



Magnetic relief valves VAN

[Technical
Information VAN](#)

Exhausts ABG,
cf. page 159



Type code

VAN	Magnetic relief valve
1-2	Sizes
10-50	Inlet and outlet flange nominal size
R	Rp internal thread
/N	Quick opening, quick closing
W	Mains voltage 230 V AC, 50/60 Hz
Q	Mains voltage 120 V AC, 50/60 Hz
K	Mains voltage 24 V DC
S	Closed position switch with visual position indicator
G	Closed position switch for 24 V with visual position indicator
R	Viewing side: right
L	Viewing side: left

For blowing off gas from relief lines, open when de-energized, for gas and air, p_u max.
500 mbar, Class C to EN 161, with Viton seal, EU certified.

Designation	Order no.	€/item
For 230 V AC		
VAN 115R/NW	88012134	342.80
VAN 120R/NW	88012135	380.00
VAN 125R/NW	88012136	390.00
VAN 240R/NW	88012137	478.80
VAN 250R/NW	88012452	478.80
With closed position switch, for 230 V AC		
VAN 115R/NWSR	88012158	464.00
VAN 120R/NWSR	88012159	501.20
VAN 125R/NWSR	88012160	511.20
VAN 240R/NWSR	88012161	622.80
VAN 250R/NWSR	88012453	622.80
For 120 V AC		
VAN 115R/NQ	88012138	342.80
VAN 120R/NQ	88012139	380.00
VAN 125R/NQ	88012140	390.00
VAN 240R/NQ	88012141	478.80
VAN 250R/NQ	88012454	478.80
With closed position switch, for 120 V AC		
VAN 115R/NQSR	88012162	464.00
VAN 120R/NQSR	88012163	501.20
VAN 125R/NQSR	88012164	511.20
VAN 240R/NQSR	88012165	622.80
VAN 250R/NQSR	88012455	622.80

VK..R

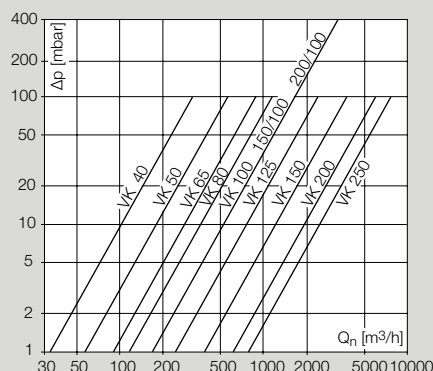


VK..F



Motorized valves for gas VK

Technical
Information VK



Natural gas

VK

Type code

VK	Motorized valve for gas
40-250	Nominal size
R	Rp internal thread
F	Flange to ISO 7005
02	p _U max. 230 mbar
04	p _U max. 400 mbar
05	p _U max. 500 mbar
06	p _U max. 600 mbar
10	p _U max. 1 bar
15	p _U max. 1.5 bar
20	p _U max. 2 bar
24	p _U max. 2.4 bar
31	p _U max. 3.1 bar
40	p _U max. 4 bar
60	p _U max. 6 bar
80	p _U max. 8 bar
Z	2-stage
T5	Mains voltage 220/240 V AC, 50 Hz
T5/K	Mains voltage 220 V AC, 50 Hz / 24 V DC
W5	Mains voltage 230 V AC, 50 Hz
Q6	Mains voltage 120 V AC, 60 Hz
W6	Mains voltage 230 V AC, 60 Hz
M	Mains voltage 110 V AC, 50/60 Hz
X	Explosion-proof version, IP 65
H	For higher inlet pressures
A	Valve housing made of AISi
G	Valve housing made of GGG 50 complying with TRD 412 and GUV
4	Terminal connection box, IP 65
6	Connection box with 4-pin standard socket, IP 54
6L	Connection box with 4-pin standard socket, with lamp, IP 54
9	Metal terminal connection box, IP 54
3	Screw plugs at the inlet and outlet
D	With flow adjustment
S	With closed position switch
V	With Viton valve disc seal
F	With viewing window

Class A gas safety valves to EN 161 for automatic shut-off, closed when de-energized, slow opening, quick closing, for gas and air, EU certified.

Designation	Order no.	€/item
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Motorized valves VK..A, one-stage, AISi housing, with threaded connection

VK 40R10T5A93D	85311010	1,185.40
VK 40R40T5A93D	85311012	1,257.10
VK 50R10T5A93D	85311030	1,263.30
VK 50R40T5A93D	85311032	1,335.00
VK 65R10T5A93D	85311120	1,318.70
VK 65R31T5A93D	85311122	1,390.40

Designation	Order no.	€/item
Motorized valves VK..A, one-stage, AISi housing, with flanged connection		
VK 40F10T5A93D	85311020	1,323.90
VK 40F40T5A93D	85311022	1,395.20
VK 50F10T5A93D	85311040	1,374.00
VK 50F40T5A93D	85311042	1,445.40
VK 65F10T5A93D	85311050	1,408.50
VK 65F31T5A93D	85311052	1,480.00
VK 80F10T5A93D	85311060	1,501.30
VK 80F24T5A93D	85311062	1,572.80
VK 100F10T5A93D	85311070	2,018.20
VK 125F10T5HA93	85311200	3,521.50
VK 150F10T5HA93	85311300	4,433.30
VK 200F10T5HA93	85311400	8,900.00
VK 250F05T5HA93	85311150	12,338.80
Motorized valves for gas VK..HG, one-stage (for higher inlet pressures), GGG housing		
VK 50F80T5HG93D	85317020	2,059.50
VK 65F80T5HG93D	85317030	2,412.00
VK 80F60T5HG93D	85317040	2,504.70
VK 100F40T5HG93D	85317050	2,905.10
VK 125F20T5HG93	85317060	4,429.40
VK 150F15T5HG93	85317070	5,694.50
VK 150/100F40T5HG93	85317090	5,993.80
VK 200F10T5HG93	85317080	11,249.10
VK 200/100F40T5HG93	85317100	11,762.70
Motorized valves for gas VK..S with closed position switch fitted at the factory		
With 1 switch	surcharge	140.60
With 2 switches	surcharge	263.60
Closed position switch for one-stage VK valves, for retrofitting		
Closed position switch VK..S /B	74911637	129.00
2 closed position switches VK..S2 /B	74960023	248.70
Closed position switch VK..HS /B	74918705	129.00
2 closed position switches VK..HS2 /B	74919317	248.70
Switch box with holding relay for manual restart, SK HR-T: 220/240 V AC, SK HR-N: 100/120 V AC		
SK HR-T	84408017	355.80
SK HR-N	84408018	355.80
VK with Viton valve disc seal		
VK 40-80..V	surcharge	19.80
VK 100-150..V	surcharge	72.20
VK 200..V	surcharge	109.70
Other accessories		
VK..T5/K, motorized valve with 24 V holding voltage	surcharge	290.70
Motorized valve with socket	surcharge	34.80
Motorized valve with socket and LED	surcharge	64.00
Motorized valves for gas VK..ZAS, two-stage, AISi housing		
VK 40R10ZT5A93DS	85313010	1,641.10
VK 40R40ZT5A93DS	85313012	1,712.80
VK 50R10ZT5A93DS	85313030	1,718.90
VK 50R40ZT5A93DS	85313032	1,790.60
VK 65R10ZT5A93DS	85313120	1,774.30
VK 40F10ZT5A93DS	85313020	1,779.60
VK 40F40ZT5A93DS	85313022	1,850.90
VK 50F10ZT5A93DS	85313040	1,829.60
VK 50F40ZT5A93DS	85313042	1,901.10
VK 65F10ZT5A93DS	85313050	1,864.20
VK 65F31ZT5A93DS	85313052	1,935.60
VK 80F10ZT5A93DS	85313060	1,956.90
VK 80F24ZT5A93DS	85313062	2,028.60
VK 100F10ZT5A93DS	85313070	2,474.00
VK 125F06ZT5A93S	85313080	3,668.70
VK 150F04ZT5A93S	85313090	4,580.70
VK 200F02ZT5A93S	85313100	9,047.50

Designation	Order no.	€/item
Motorized valves for gas VK..ZGS, two-stage, GGG housing		
VK 50F40ZT5G93DS	85316100	2,145.70
VK 65F31ZT5G93DS	85316200	2,498.20
VK 80F24ZT5G93DS	85316300	2,591.10
VK 100F10ZT5G93DS	85316400	3,052.40
VK 125F06ZT5G93S	85316500	4,362.40
VK 150F04ZT5G93S	85316600	5,627.50

Motorized valves for gas VK..X, explosion-proof, one-stage

For automatic shut-off, closed when de-energized, slow opening, quick closing, for gas and air, Class A to EN 161, EU certified, with explosion-proof drive version (IECEx), Ex e o IIC T5 Gb, for Zone 1 and 2 hazardous areas, not for mines susceptible to fire damp.

Designation	Order no.	€/item
AlSi housing		
VK 40R10W5XA43D	85311014	2,069.00
VK 50R10W5XA43D	85311034	2,146.80
VK 65R10W5XA43D	85311124	2,202.30
VK 40F10W5XA43D	85311024	2,207.30
VK 50F10W5XA43D	85311044	2,257.50
VK 65F10W5XA43D	85311054	2,292.10
VK 80F10W5XA43D	85311066	2,384.90
VK 100F10W5XA43D	85311075	2,901.70
VK 125F06W5XA43	85311093	4,096.70
VK 150F04W5XA43	85311104	5,008.40
VK 200F02W5XA43	85311086	9,475.30
GGG housing		
VK 50F40W5XG43D	85314111	2,573.60
VK 65F31W5XG43D	85314211	2,926.20
VK 80F24W5XG43D	85314311	3,019.00
VK 100F10W5XG43D	85314410	3,480.20
VK 125F06W5XG43	85314510	4,790.30
VK 150F04W5XG43	85314610	6,055.20
VK 200F02W5XG43	85314620	11,824.40

Motorized valves VK..HX on request

VK..R..X



VK..F..X



TC 1C, TC 2



TC 3



Tightness controls TC 1C, TC 2, TC 3

Type code

TC	Tightness control
1C	For attachment to CG
2	For quick opening individual valves
3	For quick or slow opening individual valves
R	Rp internal thread
N	NPT internal thread
05	p ₀ max. 500 mbar
W	Mains voltage 230 V AC, 50/60 Hz
Q	Mains voltage 120 V AC, 50/60 Hz
K	Mains voltage 24 V DC
/W	Control voltage: 230 V AC, 50/60 Hz
/Q	Control voltage: 120 V AC, 50/60 Hz
/K	Control voltage: 24 V DC

Technical Information TC

Tightness control TC 1V for attachment to valVario controls, cf. page 38

Tightness controls for checking two safety valves before and/or after burner run, with adjustable measurement time (5-30 s) for adjustment to different test volumes, leakage rates and inlet pressures, EU certified. An adapter plate is supplied for mounting the TC 2 to a gas solenoid valve. TC 3 with integrated auxiliary valves.

Designation	Order no.	€/item
For attachment to CG		
TC 1C05W/W	84765552	560.10
TC 1C05Q/Q	84765554	560.10
TC 1C05K/K	84765556	560.10
TC 1C05W/K	84765553	560.10
TC 1C05Q/K	84765555	560.10
For quick opening individual valves		
TC 2R05W/W	84765631	639.30
TC 2R05Q/Q	84765633	639.30
TC 2R05K/K	84765635	639.30
TC 2R05W/K	84765632	639.30
TC 2R05Q/K	84765634	639.30
For quick or slow opening individual valves		
TC 3R05W/W	84765716	998.20
TC 3R05Q/Q	84765713	998.20
TC 3R05K/K	84765715	998.20
TC 3R05W/K	84765712	998.20
TC 3R05Q/K	84765714	998.20

Accessories

Designation	Order no.	€/item
Standard socket, 3+PE, black /B	74916715	6.60
Valve connection cable TC /B	74960689	25.60

TC 410



Tightness controls TC 410

Type code

TC	Tightness control
4	In control cabinet
1	Testing before or after burner run
0	External pressure switch required
-1	Test period: 10-60 s
-10	Test period: 100-600 s
T	Mains voltage 220/240 V AC, 50/60 Hz
K	Mains voltage 24 V DC
N	Mains voltage 110/120 V AC, 50/60 Hz

Technical Information TC

Can only be used as a spare part in the jurisdiction of the European Union

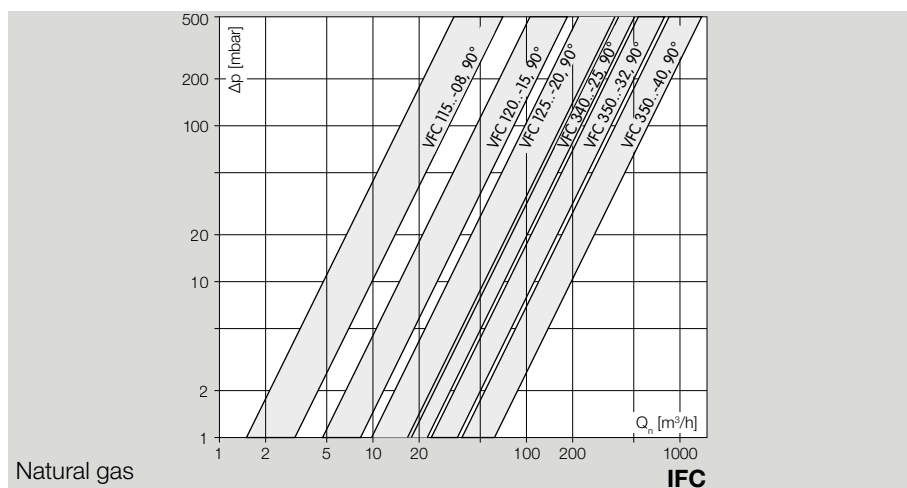
Tightness controls for checking two safety valves before or after burner run, with adjustable test period for adjustment to different test volumes, leakage rates and inlet pressures, for quick opening individual valves, connection of an external pressure switch for any inlet pressures, EU certified.

Designation	Order no.	€/item
Test period: 10-60 s		
TC 410-1T	84765810	482.40
TC 410-1N	84765830	482.40
TC 410-1K	84765850	482.40
Test period: 100-600 s		
TC 410-10T	84765820	482.40
TC 410-10N	84765840	482.40
TC 410-10K	84765860	482.40



Linear flow controls with actuator IFC

Technical
Information IFC



Type code

IFC	Linear flow control with actuator
1, 3	Sizes
10-50	Inlet flange nominal size
/10-50	Outlet flange nominal size
R	Rp internal thread
05	p _u max. 500 mbar
-08, -15, -20, -25, -32, -40	Cylinder
P	Accessory, right, inlet: screw plug
M	Accessory, right, inlet: pressure test point
1	Accessory, right, inlet: pressure switch DG 17/VC
2	Accessory, right, inlet: pressure switch DG 40/VC
3	Accessory, right, inlet: pressure switch DG 110/VC
4	Accessory, right, inlet: pressure switch DG 300/VC
P	Accessory, right, outlet: screw plug
M	Accessory, right, outlet: pressure test point
1	Accessory, right, outlet: pressure switch DG 17/VC
2	Accessory, right, outlet: pressure switch DG 40/VC
3	Accessory, right, outlet: pressure switch DG 110/VC
4	Accessory, right, outlet: pressure switch DG 300/VC
P, M, 1, 2, 3, 4	The same accessories can be selected for the left- or right-hand side.
/20	Actuator IC 20
/40	Actuator IC 40
07-60	Running time in s/90°
W	Mains voltage 230 V AC, 50/60 Hz
Q	Mains voltage 120 V AC, 50/60 Hz
A	Mains voltage 100-230 V AC, 50/60 Hz
2	Torque 2.5 Nm
3	Torque 3 Nm
T	Three-point step control
D	Digital input
E	Controlled by continuous signal
A	4-20 mA analogue input
R10	With 1000 Ω feedback potentiometer
P	Parameter set No.
-I	Cable glands on the inlet side (no specification: on the outlet side)

Linear flow controls for control of continuously regulated burner processes, linear ratio of input signal to flow rate, control ratio 25:1, for gas and air, with actuator IC 20 or IC 40, EU certified.

Designation	Order no.	€/item
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For 230 V AC

Cylinder 08, three-point step control

IFC 110/10R05-08PPPP/20-60W3T	88300516	721.50
IFC 115/15R05-08PPPP/20-60W3T	88300570	721.50
IFC 120/20R05-08PPPP/20-60W3T	88300571	758.70
IFC 125/25R05-08PPPP/20-60W3T	88300572	768.70

Designation	Order no.	€/item
Cylinder 15, three-point step control		
IFC 110/10R05-15PPPP/20-60W3T	88300573	721.50
IFC 115/15R05-15PPPP/20-60W3T	88300574	721.50
IFC 120/20R05-15PPPP/20-60W3T	88300575	758.70
IFC 125/25R05-15PPPP/20-60W3T	88300576	768.70
Cylinder 20, three-point step control		
IFC 110/10R05-20PPPP/20-60W3T	88300517	721.50
IFC 115/15R05-20PPPP/20-60W3T	88300567	721.50
IFC 120/20R05-20PPPP/20-60W3T	88300568	758.70
IFC 125/25R05-20PPPP/20-60W3T	88300569	768.70
Cylinder 25, three-point step control		
IFC 340/40R05-25PPPP/20-60W3T	88302528	975.10
IFC 350/50R05-25PPPP/20-60W3T	88302529	975.10
IFC 365/65R05-25PPPP/20-60W3T	88302530	1,005.70
Cylinder 32, three-point step control		
IFC 340/40R05-32PPPP/20-60W3T	88302531	975.10
IFC 350/50R05-32PPPP/20-60W3T	88302532	975.10
IFC 365/65R05-32PPPP/20-60W3T	88302533	1,005.70
Cylinder 40, three-point step control		
IFC 340/40R05-40PPPP/20-60W3T	88302534	975.10
IFC 350/50R05-40PPPP/20-60W3T	88302535	975.10
IFC 365/65R05-40PPPP/20-60W3T	88302536	1,005.70
Cylinder 08, controlled by continuous signal		
IFC 110/10R05-08PPPP/20-60W3E	88300577	1,096.60
IFC 115/15R05-08PPPP/20-60W3E	88300578	1,096.60
IFC 120/20R05-08PPPP/20-60W3E	88300579	1,133.80
IFC 125/25R05-08PPPP/20-60W3E	88300580	1,143.80
Cylinder 15, controlled by continuous signal		
IFC 110/10R05-15PPPP/20-60W3E	88300581	1,096.60
IFC 115/15R05-15PPPP/20-60W3E	88300582	1,096.60
IFC 120/20R05-15PPPP/20-60W3E	88300583	1,133.80
IFC 125/25R05-15PPPP/20-60W3E	88300584	1,143.80
Cylinder 20, controlled by continuous signal		
IFC 110/10R05-20PPPP/20-60W3E	88300585	1,096.60
IFC 115/15R05-20PPPP/20-60W3E	88300586	1,096.60
IFC 120/20R05-20PPPP/20-60W3E	88300587	1,133.80
IFC 125/25R05-20PPPP/20-60W3E	88300588	1,143.80
Cylinder 25, controlled by continuous signal		
IFC 340/40R05-25PPPP/20-60W3E	88302537	1,350.20
IFC 350/50R05-25PPPP/20-60W3E	88302538	1,350.20
IFC 365/65R05-25PPPP/20-60W3E	88302539	1,380.80
Cylinder 32, controlled by continuous signal		
IFC 340/40R05-32PPPP/20-60W3E	88302540	1,350.20
IFC 350/50R05-32PPPP/20-60W3E	88302541	1,350.20
IFC 365/65R05-32PPPP/20-60W3E	88302542	1,380.80
Cylinder 40, controlled by continuous signal		
IFC 340/40R05-40PPPP/20-60W3E	88302543	1,350.20
IFC 350/50R05-40PPPP/20-60W3E	88302544	1,350.20
IFC 365/65R05-40PPPP/20-60W3E	88302545	1,380.80
For 120 V AC		
Cylinder 08, three-point step control		
IFC 110/10R05-08PPPP/20-60Q3T	88301905	721.50
IFC 115/15R05-08PPPP/20-60Q3T	88301906	721.50
IFC 120/20R05-08PPPP/20-60Q3T	88301907	758.70
IFC 125/25R05-08PPPP/20-60Q3T	88301908	768.70
Cylinder 15, three-point step control		
IFC 110/10R05-15PPPP/20-60Q3T	88301909	721.50
IFC 115/15R05-15PPPP/20-60Q3T	88301910	721.50
IFC 120/20R05-15PPPP/20-60Q3T	88301911	758.70
IFC 125/25R05-15PPPP/20-60Q3T	88301912	768.70
Cylinder 20, three-point step control		
IFC 110/10R05-20PPPP/20-60Q3T	88301913	721.50
IFC 115/15R05-20PPPP/20-60Q3T	88301914	721.50
IFC 120/20R05-20PPPP/20-60Q3T	88301915	758.70
IFC 125/25R05-20PPPP/20-60Q3T	88301916	768.70
Cylinder 25, three-point step control		
IFC 340/40R05-25PPPP/20-60Q3T	88302546	975.10
IFC 350/50R05-25PPPP/20-60Q3T	88302547	975.10
IFC 365/65R05-25PPPP/20-60Q3T	88302548	1,005.70

Designation	Order no.	€/item
Cylinder 32, three-point step control		
IFC 340/40R05-32PPPP/20-60Q3T	88302549	975.10
IFC 350/50R05-32PPPP/20-60Q3T	88302550	975.10
IFC 365/65R05-32PPPP/20-60Q3T	88302551	1,005.70
Cylinder 40, three-point step control		
IFC 340/40R05-40PPPP/20-60Q3T	88302552	975.10
IFC 350/50R05-40PPPP/20-60Q3T	88302553	975.10
IFC 365/65R05-40PPPP/20-60Q3T	88302554	1,005.70
Cylinder 08, controlled by continuous signal		
IFC 110/10R05-08PPPP/20-60Q3E	88301917	1,096.60
IFC 115/15R05-08PPPP/20-60Q3E	88301918	1,096.60
IFC 120/20R05-08PPPP/20-60Q3E	88301919	1,133.80
IFC 125/25R05-08PPPP/20-60Q3E	88301920	1,143.80
Cylinder 15, controlled by continuous signal		
IFC 110/10R05-15PPPP/20-60Q3E	88302450	1,096.60
IFC 115/15R05-15PPPP/20-60Q3E	88301921	1,096.60
IFC 120/20R05-15PPPP/20-60Q3E	88301922	1,133.80
IFC 125/25R05-15PPPP/20-60Q3E	88301923	1,143.80
Cylinder 20, controlled by continuous signal		
IFC 110/10R05-20PPPP/20-60Q3E	88301924	1,096.60
IFC 115/15R05-20PPPP/20-60Q3E	88301925	1,096.60
IFC 120/20R05-20PPPP/20-60Q3E	88301926	1,133.80
IFC 125/25R05-20PPPP/20-60Q3E	88300619	1,143.80
Cylinder 25, controlled by continuous signal		
IFC 340/40R05-25PPPP/20-60Q3E	88302555	1,350.20
IFC 350/50R05-25PPPP/20-60Q3E	88302556	1,350.20
IFC 365/65R05-25PPPP/20-60Q3E	88302557	1,380.80
Cylinder 32, controlled by continuous signal		
IFC 340/40R05-32PPPP/20-60Q3E	88302558	1,350.20
IFC 350/50R05-32PPPP/20-60Q3E	88302559	1,350.20
IFC 365/65R05-32PPPP/20-60Q3E	88302560	1,380.80
Cylinder 40, controlled by continuous signal		
IFC 340/40R05-40PPPP/20-60Q3E	88302561	1,350.20
IFC 350/50R05-40PPPP/20-60Q3E	88302562	1,350.20
IFC 365/65R05-40PPPP/20-60Q3E	88302563	1,380.80
Versions		
Actuator with different running time	no surcharge	

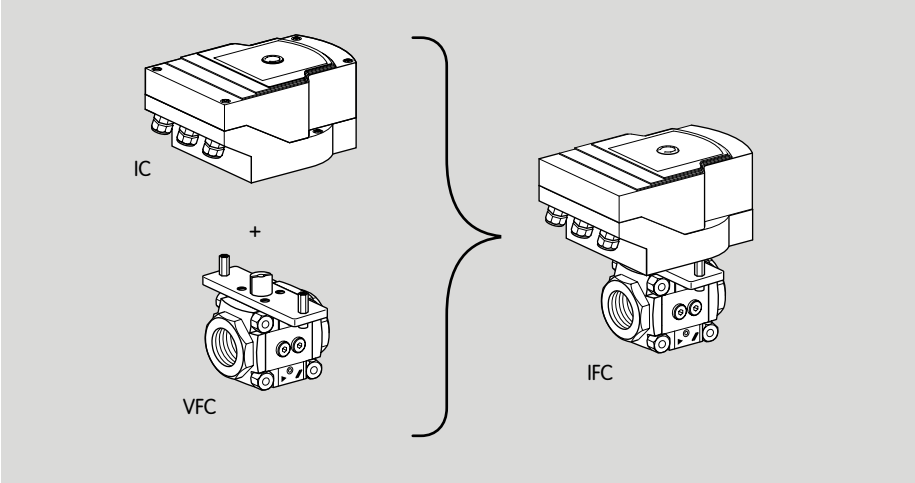
Accessories

Designation	Order no.	€/item
Feedback potentiometer for IC 20		
Potentiometer IC 20 1000 Ohm /B	74921144	58.80
Fastening set		
Fastening set IC-BVG/BVA/BVH/LFC /B	74921082	7.40
Opto-adapter for IC 40		
PCO 200 including BCSoft CD-ROM	74960625	477.50
PCO 300 including BCSoft CD-ROM	74960617	711.90

Other valVario
accessories,
cf. page 40

Linear flow controls with actuator IFC

Actuators IC 20/
IC 40,
cf. page 62



Linear flow control VFC and actuator IC 20 or IC 40 can be delivered ready assembled as linear flow control with actuator IFC, see previous page. If the required combination is not available there, you can combine a VFC with any IC 20 or IC 40. Add the price of the linear flow control, the actuator and assembly in order to determine the total price.

Designation	Order no.	€/item
Assembly	surcharge	8.40



Linear flow controls VFC

Flow rate, see IFC,
cf. page 51

Type code

VFC	Linear flow control
1, 3	Sizes
10-65	Inlet flange nominal size
/10-/65	Outlet flange nominal size
R	Rp internal thread
05-	p _u max. 500 mbar
08-40	Cylinder
P	Accessory, right, inlet: screw plug
M	Accessory, right, inlet: pressure test point
1	Accessory, right, inlet: pressure switch DG 17/VC
2	Accessory, right, inlet: pressure switch DG 40/VC
3	Accessory, right, inlet: pressure switch DG 110/VC
4	Accessory, right, inlet: pressure switch DG 300/VC
P	Accessory, right, outlet: screw plug
M	Accessory, right, outlet: pressure test point
1	Accessory, right, outlet: pressure switch DG 17/VC
2	Accessory, right, outlet: pressure switch DG 40/VC
3	Accessory, right, outlet: pressure switch DG 110/VC
4	Accessory, right, outlet: pressure switch DG 300/VC
P, M, 1, 2, 3, 4	The same accessories can be selected for the left- or right-hand side.

Linear flow controls for controlling continuously regulated burner processes, linear ratio between input signal and flow rate, control ratio 25:1, for gas and air, for mounting onto actuator IC 20 or IC 40, EU certified.

Designation	Order no.	€/item
Cylinder 08		
VFC 110/10R05-08PPPP	88300201	388.60
VFC 115/15R05-08PPPP	88300202	388.60
VFC 120/20R05-08PPPP	88300203	425.80
VFC 125/25R05-08PPPP	88300204	435.80
Cylinder 15		
VFC 110/10R05-15PPPP	88300206	388.60
VFC 115/15R05-15PPPP	88300207	388.60
VFC 120/20R05-15PPPP	88300208	425.80
VFC 125/25R05-15PPPP	88300209	435.80
Cylinder 20		
VFC 110/10R05-20PPPP	88300211	388.60
VFC 115/15R05-20PPPP	88300212	388.60
VFC 120/20R05-20PPPP	88300213	425.80
VFC 125/25R05-20PPPP	88300214	435.80
Cylinder 25		
VFC 340/40R05-25PPPP	88302505	642.20
VFC 350/50R05-25PPPP	88302506	642.20
VFC 365/65R05-25PPPP	88302507	672.80
Cylinder 32		
VFC 340/40R05-32PPPP	88302508	642.20
VFC 350/50R05-32PPPP	88302509	642.20
VFC 365/65R05-32PPPP	88302510	672.80
Cylinder 40		
VFC 340/40R05-40PPPP	88302511	642.20
VFC 350/50R05-40PPPP	88302512	642.20
VFC 365/65R05-40PPPP	88302513	672.80



Actuators IC 30

Type code

IC 30	Actuator
30, 60	Running time in s/90°
K	Mains voltage 24 V DC
3	Torque 3 Nm
T	Three-point step control
R10	With 1000 Ω feedback potentiometer

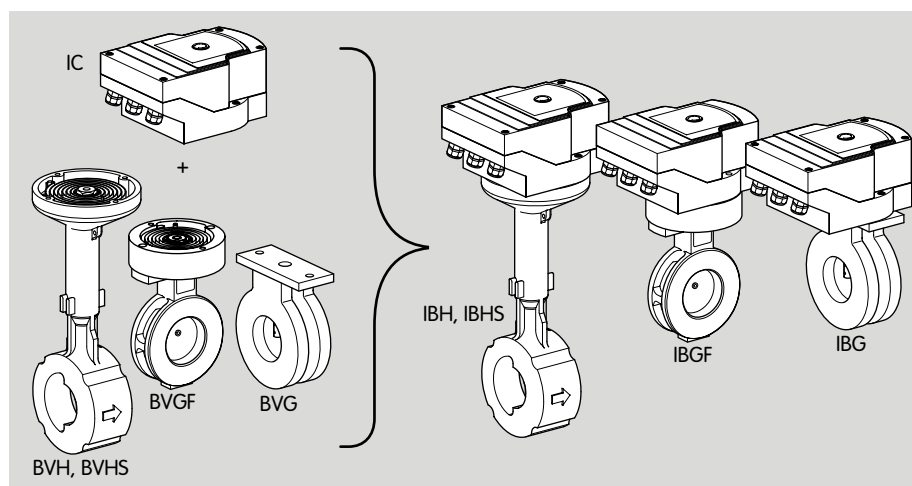
Reversible gear motor to transmit rotary movements between 0 and 90°, for mounting directly onto linear flow controls VFC using a fastening set (cf. Accessories), position feedback via externally readable position indicator, infinitely adjustable position switches and feedback potentiometer (optional), mains voltage: 24 V DC, running time: 30 or 60 s, controlled by three-point step signal, enclosure IP 65.

Designation	Order no.	€/item
IC 30-30K3T	03149351	823.10
IC 30-30K3TR10	03149352	870.70
IC 30-60K3T	03149353	823.10
IC 30-60K3TR10	03149354	870.70

Accessories

Designation	Order no.	€/item
Adapter set IC 30/VFC /B	74340194	28.20
Adapter set IC 30 on BVA/G /B	74924996	89.90

Butterfly valves with actuator IBG, IBGF, IBA, IBAF, IBH, IBHS



Butterfly valves BVG, BVGF, BVA, BVAF, BVH or BVHS and actuators IC 20 or IC 40 can be delivered ready assembled as butterfly valves with actuator IBG, IBGF, IBA, IBAF, IBH or IBHS.

On the following pages, you will find the butterfly valves and actuators. Add the price of the butterfly valve, the actuator and assembly in order to determine the total price.

Designation	Order no.	€/item
Assembly	surcharge	8.40

Butterfly valves BVG, BVGF, BVA, BVAF

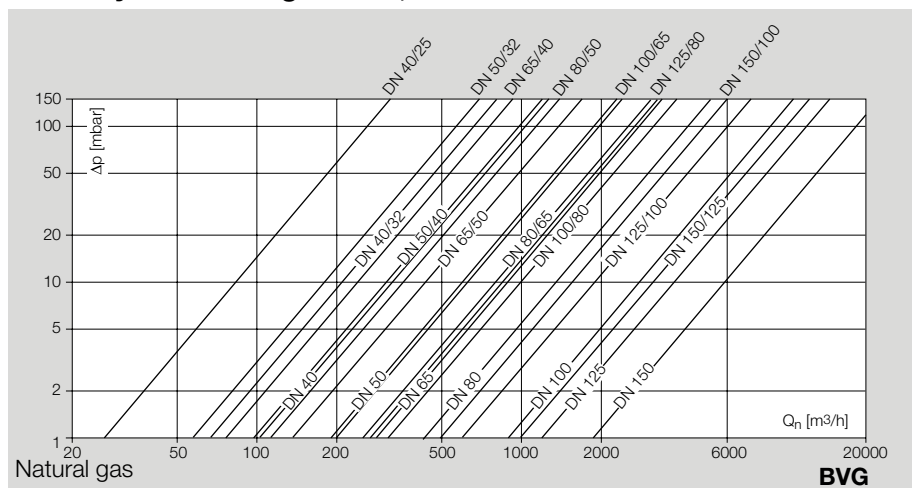
Type code

BVG	Butterfly valve for gas
BVA	Butterfly valve for air
F	Clearance-free
40-150	Nominal size
/25-/125	Reduced to nominal size
Z	For fitting between two EN flanges
05	p_u max. 500 mbar, Δp max. 150 mbar
H	With manual adjustment
F	With free shaft end
V	With square shaft

[Technical
Information BV...
IB..](#)

BVG**BVGF****Butterfly valves for gas BVG, BVGF**

Accessories,
cf. page 63



Butterfly valves for continuous control of a gas flow rate in a ratio of 10:1, medium temperature -20 to +60°C, for mounting directly onto the actuators IC 20 or IC 40 using a fastening set (cf. Accessories), EU certified, BVGF also with spring for clearance-free adjustment, suitable for biogas.

Designation	Order no.	€/item
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BVG**With full bore = nominal size**

BVG 40Z05	88300120	190.30
BVG 50Z05	88300121	202.30
BVG 65Z05	88300122	217.50
BVG 80Z05	88300123	249.10
BVG 100Z05	88300124	269.90
BVG 125Z05	88300125	301.30
BVG 150Z05	88300126	345.50

With 1 x reduced bore

BVG 40/32Z05	88300127	263.70
BVG 50/40Z05	88300128	279.80
BVG 65/50Z05	88300129	295.80
BVG 80/65Z05	88300130	329.90
BVG 100/80Z05	88300131	360.90
BVG 125/100Z05	88300132	401.30
BVG 150/125Z05	88300133	464.30

With 2 x reduced bore

BVG 40/25Z05	88300134	263.70
BVG 50/32Z05	88300135	279.80
BVG 65/40Z05	88300136	295.80
BVG 80/50Z05	88300137	329.90
BVG 100/65Z05	88300138	360.90
BVG 125/80Z05	88300139	401.30
BVG 150/100Z05	88300140	464.30

BVGF**With full bore = nominal size**

BVGF 40Z05	88300001	342.90
BVGF 50Z05	88300002	354.90
BVGF 65Z05	88300003	370.10
BVGF 80Z05	88300004	401.70
BVGF 100Z05	88300005	422.50
BVGF 125Z05	88300006	453.90
BVGF 150Z05	88300007	498.10

With 1 x reduced bore

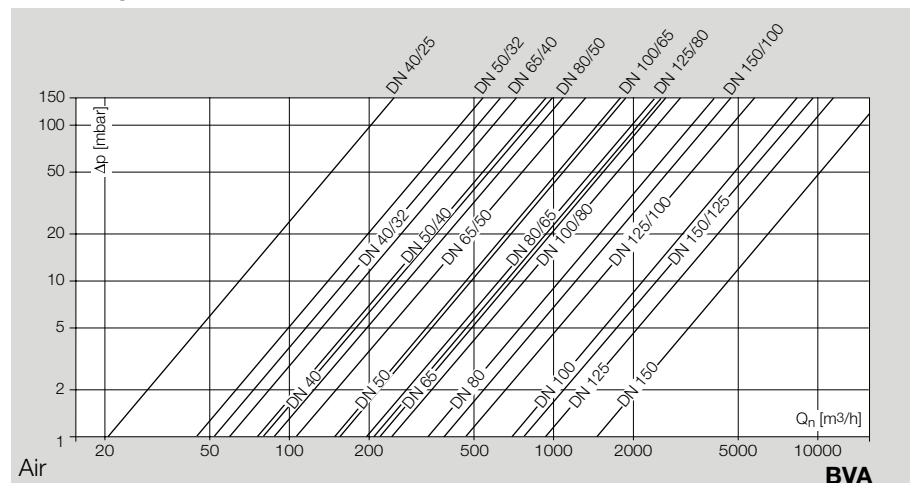
BVGF 40/32Z05	88300008	416.30
BVGF 50/40Z05	88300009	432.40
BVGF 65/50Z05	88300010	448.40
BVGF 80/65Z05	88300011	482.50
BVGF 100/80Z05	88300012	513.50
BVGF 125/100Z05	88300013	553.90
BVGF 150/125Z05	88300014	616.90

Designation	Order no.	€/item
With 2 x reduced bore		
BVGF 40/25Z05	88300015	416.30
BVGF 50/32Z05	88300016	432.40
BVGF 65/40Z05	88300017	448.40
BVGF 80/50Z05	88300018	482.50
BVGF 100/65Z05	88300019	513.50
BVGF 125/80Z05	88300020	553.90
BVGF 150/100Z05	88300021	616.90

BVA

BVAF


Butterfly valves for air BVA, BVAF



Accessories,
cf. page 63

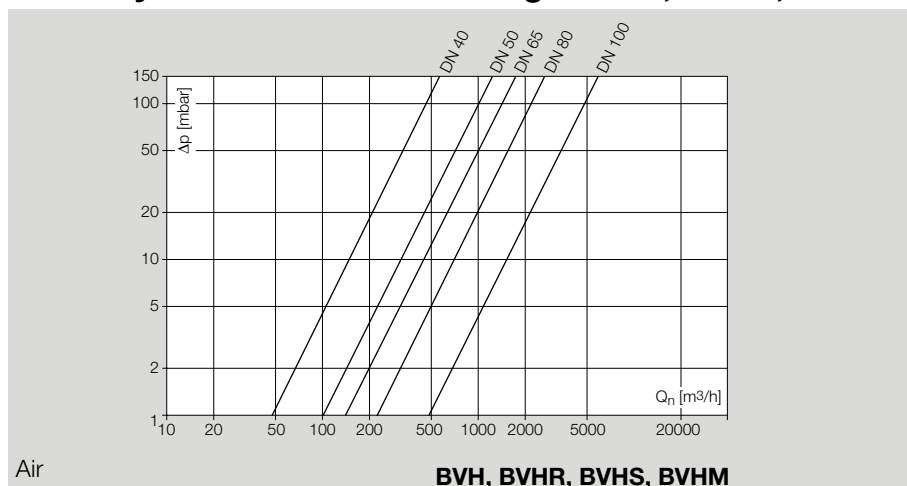
Butterfly valves for continuous control of an air flow rate in a ratio of 10:1, for mounting directly onto the actuators IC 20 or IC 40 using a fastening set (cf. Accessories), medium temperature -20 to +60°C, BVAF also with spring for clearance-free adjustment.

Designation	Order no.	€/item
BVA		
With full bore = nominal size		
BVA 40Z05	88300099	123.90
BVA 50Z05	88300100	135.90
BVA 65Z05	88300101	151.10
BVA 80Z05	88300102	182.70
BVA 100Z05	88300103	203.50
BVA 125Z05	88300104	234.90
BVA 150Z05	88300105	279.10
With 1 x reduced bore		
BVA 40/32Z05	88300106	197.30
BVA 50/40Z05	88300107	213.40
BVA 65/50Z05	88300108	229.40
BVA 80/65Z05	88300109	263.50
BVA 100/80Z05	88300110	294.50
BVA 125/100Z05	88300111	334.90
BVA 150/125Z05	88300112	397.90
With 2 x reduced bore		
BVA 40/25Z05	88300113	197.30
BVA 50/32Z05	88300114	213.40
BVA 65/40Z05	88300115	229.40
BVA 80/50Z05	88300116	263.50
BVA 100/65Z05	88300117	294.50
BVA 125/80Z05	88300118	334.90
BVA 150/100Z05	88300119	397.90
BVAF		
With full bore = nominal size		
BVAF 40Z05	88300022	276.50
BVAF 50Z05	88300023	288.50
BVAF 65Z05	88300024	303.70
BVAF 80Z05	88300025	335.30
BVAF 100Z05	88300026	356.10
BVAF 125Z05	88300027	387.50
BVAF 150Z05	88300028	431.70

Designation	Order no.	€/item
With 1 x reduced bore		
BVAF 40/32Z05	88300029	349.90
BVAF 50/40Z05	88300030	366.00
BVAF 65/50Z05	88300031	382.00
BVAF 80/65Z05	88300032	416.10
BVAF 100/80Z05	88300033	447.10
BVAF 125/100Z05	88300034	487.50
BVAF 150/125Z05	88300035	550.50
With 2 x reduced bore		
BVAF 40/25Z05	88300036	349.90
BVAF 50/32Z05	88300037	366.00
BVAF 65/40Z05	88300038	382.00
BVAF 80/50Z05	88300039	416.10
BVAF 100/65Z05	88300040	447.10
BVAF 125/80Z05	88300041	487.50
BVAF 150/100Z05	88300042	550.50
Versions		
Butterfly valves with square shaft	surcharge	64.60
Butterfly valves with free shaft end	surcharge	64.60
Butterfly valves with manual adjustment	surcharge	57.30

BVH, BVHS


Butterfly valves for air and flue gas BVH, BVHS, BVHR



Air

BVH, BVHR, BVHS, BVHM

Type code

BVH	Butterfly valve for air and flue gas
BVHS	Like BVH, but with additional emergency closing function
BVHR	Like BVH, for medium temperatures of up to 550°C
40-100	Nominal size
Z	For fitting between two EN flanges
01	p _u max. 150 mbar
A	With stop

Butterfly valves for continuous or staged control of an air or flue gas flow rate in a ratio of 10:1; in conjunction with the stop bar, the TWINDISC valve disc ensures very low leakage rates; for mounting directly onto the actuators IC 20 or IC 40 using a fastening set (cf. Accessories), medium temperature -20 to +450°C, BVHR up to 550°C; heat deflectors must be used for medium temperatures of 250°C and higher.

Designation	Order no.	€/item
For mounting directly onto the actuators IC 20 or IC 40		
BVH 40Z01A	88300156	269.40
BVH 50Z01A	88300157	286.90
BVH 65Z01A	88300158	319.80
BVH 80Z01A	88300159	350.80
BVH 100Z01A	88300160	449.60
With emergency closing function, for mounting directly onto the actuator IC 40S		
BVHS 40Z01A	88300166	312.90
BVHS 50Z01A	88300167	330.40
BVHS 65Z01A	88300168	363.30
BVHS 80Z01A	88300169	394.30
BVHS 100Z01A	88300170	493.10
For mounting directly onto the actuators IC 20 or IC 40, up to 550°C		
BVHR 40Z01A	88302697	433.90
BVHR 50Z01A	88302698	451.40
BVHR 65Z01A	88302692	484.30
BVHR 80Z01A	88302699	515.30
BVHR 100Z01A	88302693	614.10

Technical
Information BV...
IB..

Accessories,
cf. page 63

IC 20



Actuators IC 20

Type code

IC 20	Actuator
07-60	Running time in s/90°
W	Mains voltage 230 V AC, 50/60 Hz
Q	Mains voltage 120 V AC, 50/60 Hz
2	Torque 2.5 Nm
3	Torque 3 Nm
E	Controlled by continuous signal
T	Three-point step control
R10	With 1000 Ω feedback potentiometer

Technical
Information IC 20,
IC 50

Accessories,
cf. page 63

Reversible gear motor to transmit rotary movements between 0 and 90°, for mounting directly onto the butterfly valves BVG, BVA, BVH using a fastening set (cf. Accessories), position feedback via externally readable position indicator, infinitely adjustable position switches and feedback potentiometer (optional with IC 20), feedback with IC 20..E via 4 – 20 mA signal, Automatic/Manual mode changeover, running time: 7.5-60 s, controlled by three-point step signal or continuous signal, enclosure IP 65, CSA approved.

Designation	Order no.	€/item
Three-point step control		
For 230 V AC		
IC 20-07W2T	88300058	324.50
IC 20-15W3T	88300059	324.50
IC 20-30W3T	88300060	324.50
IC 20-60W3T	88300061	324.50
For 120 V AC		
IC 20-07Q2T	88300062	324.50
IC 20-15Q3T	88300063	324.50
IC 20-30Q3T	88300064	324.50
IC 20-60Q3T	88300065	324.50
With 1000 Ω feedback potentiometer		
For 230 V AC		
IC 20-07W2TR10	88300066	404.20
IC 20-15W3TR10	88300067	404.20
IC 20-30W3TR10	88300068	404.20
IC 20-60W3TR10	88300069	404.20
For 120 V AC		
IC 20-07Q2TR10	88300070	404.20
IC 20-15Q3TR10	88300071	404.20
IC 20-30Q3TR10	88300072	404.20
IC 20-60Q3TR10	88300073	404.20
Controlled by continuous signal		
For 230 V AC		
IC 20-07W2E	88300074	699.60
IC 20-15W3E	88300075	699.60
IC 20-30W3E	88300076	699.60
IC 20-60W3E	88300077	699.60
For 120 V AC		
IC 20-07Q2E	88300078	699.60
IC 20-15Q3E	88300079	699.60
IC 20-30Q3E	88300080	699.60
IC 20-60Q3E	88300081	699.60

IC 40



Actuators IC 40

Type code

IC 40	Actuator
S	Emergency closing function
A	Mains voltage 100–230 V AC, 50/60 Hz
2	Torque 2.5 Nm
3	Torque 3 Nm
A	4–20 mA analogue input
D	Digital input
R10	With 1000 Ω feedback potentiometer

Technical
Information IC 20,
IC 40

Reversible gear motor to transmit rotary movements between 0 and 90°, for mounting directly onto the butterfly valves BVG, BVA, BVH, BVHS using a fastening set (cf. Accessories), position feedback via externally readable position indicator and feedback potentiometer (optional), running time (4.5–76.5 s), Manual mode, different operating modes (two-point control, three-point step, continuous control, multiple stages) can be programmed via an optical interface, integrated diagnostic system, two digital control inputs (24 V DC or 100–230 V AC), two digital outputs (relay change-over contact). A PC with the BCSofT software and an opto-adapter are required for setting work and for adapting the unit to the process. The emergency closing function closes the valve if the voltage fails, enclosure IP 65, CSA approved.

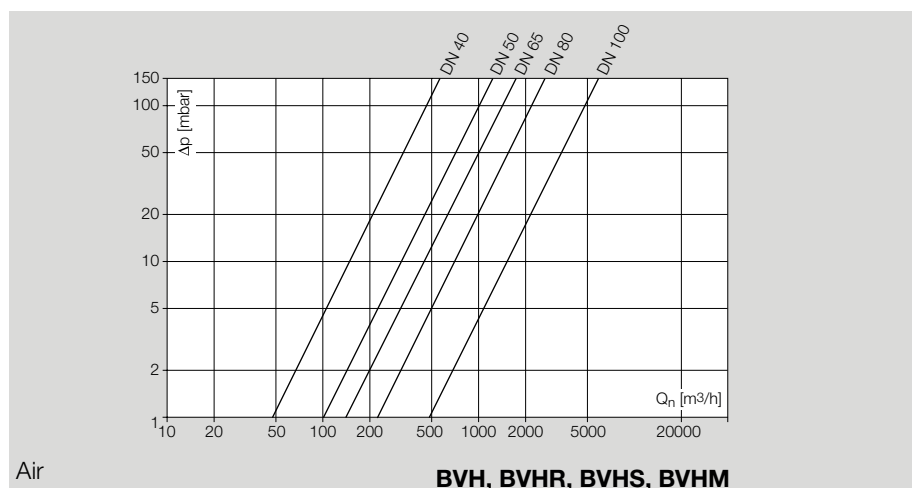
Designation	Order no.	€/item
Digital input		
IC 40A2D	88300085	584.50
IC 40A2DR10	88300084	664.20
4–20 mA analogue input		
IC 40A2A	88300087	642.10
IC 40A2AR10	88300090	721.80
Emergency closing function, digital input		
IC 40SA3D	88300091	710.20
IC 40SA3DR10	88300095	789.90
Emergency closing function, 4 – 20 mA analogue input		
IC 40SA3A	88300093	767.80
IC 40SA3AR10	88300097	847.50

Accessories

Designation	Order no.	€/item
Feedback potentiometer for IC 20		
Potentiometer IC 20 1000 Ohm /B	74921144	58.80
Fastening set		
Fastening set IC-BVG/BVA/BVH/LFC /B	74921082	7.40
Heat deflectors for BVH		
Heat deflectors /B	74921670	59.40
Adapter sets		
Attachment set IC 20/IC 40 single application /B	74921671	65.90
Adapter set for mounting IC 20/IC 40 onto DKG/DKL /B	74921672	83.00
Adapter set for mounting IC 20/IC 40 onto LFC /B	74923919	179.40
Adapter set BVA/BVG with square shaft /B	74921674	60.40
Adapter set BVA/BVG with free shaft end /B	74921676	60.40
Adapter set BVA/BVG with manual adjustment /B	74921678	56.00
Opto-adapter for IC 40		
PCO 200 including BCSofT CD-ROM	74960625	477.50
PCO 300 including BCSofT CD-ROM	74960617	711.90



Butterfly valves for air and flue gas BVHM with solenoid actuator MB



Type code

BVHM	Butterfly valve for air and flue gas
40-100	Nominal size
Z	For fitting between two EN flanges
01	p_u max. 150 mbar
A	With stop

MB	Solenoid actuator
7	Actuator size 7 for DN 40-100
N	Quick opening, quick closing
R	Slow opening, slow closing
L	Slow opening, quick closing
W	Mains voltage 230 V AC, 50/60 Hz
Q	Mains voltage 120 V AC, 50/60 Hz
K	Mains voltage 24 V DC
3	Terminal connection box, IP 65
6	Connection box with 3-pin standard socket, IP 65

Butterfly valves with solenoid actuator for staged control of industrial burners in cold- or hot-air operating mode up to 450°C, p_u max. 150 mbar, with spring-loaded valve disc and position indicator. Butterfly valve and actuator are supplied as separate components, separate fastening set required.

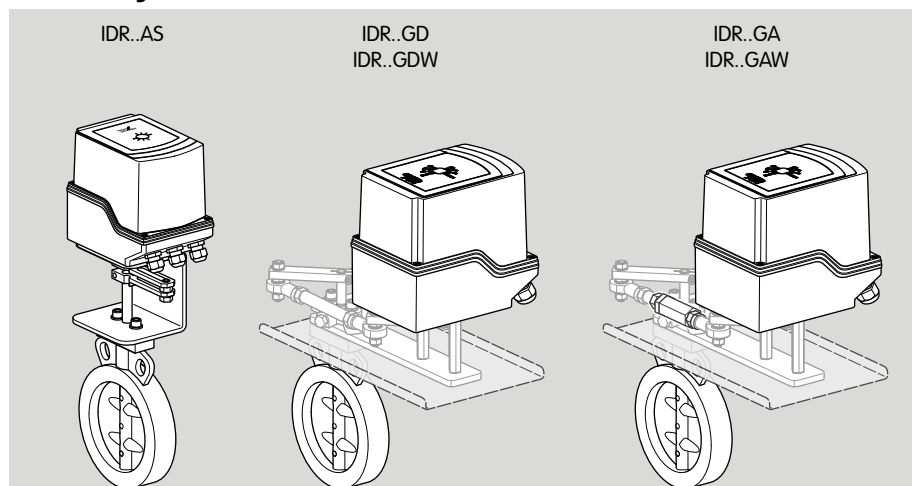
Designation	Order no.	€/item
Butterfly valves		
BVHM 40Z01A	88300161	269.40
BVHM 50Z01A	88300162	286.90
BVHM 65Z01A	88300163	319.80
BVHM 80Z01A	88300164	350.80
BVHM 100Z01A	88300165	449.60
Solenoid actuators		
For 230 V AC		
MB 7NW3	74923034	550.60
MB 7RW3	74923040	676.10
MB 7LW3	74923046	676.10
For 120 V AC		
MB 7NQ3	74923036	550.60
MB 7RQ3	74923042	676.10
MB 7LQ3	74923048	676.10
Versions		
Solenoid actuator for 24 V DC	no surcharge	
Solenoid actuator with standard socket	surcharge	38.40

Accessories

Designation	Order no.	€/item
Fastening set MB /B	74922222	32.90
Heat deflectors /B	74921670	59.40

Technical
 Information BVG,
 BVGF, BVA, BVAF,
 BVH, BVHS,
 BVHM/MB 7

Butterfly valves with actuator IDR



Type code

IDR	Butterfly valves with actuator
..	
AU	Attachment set for axial mounting, electr. connection above the pipe
AS	Attachment set for axial mounting, electr. connection to the side of the pipe
GD	Attachment set with linkage for valve with disc clearance
GDW	Attachment set with linkage and heat deflector for valve with disc clearance
GA	Attachment set with linkage for valve with stop bar
GAW	Attachment set with linkage and heat deflector for valve with stop bar

Butterfly valve DKR 15-300..F with free shaft end and actuator IC 50 can be delivered ready assembled as butterfly valve with actuator IDR. In the case of axial mounting, the actuator can be turned 90°.

On the following pages, you will find the butterfly valves and actuators. Add the price of the butterfly valve, an optional heat deflector, the actuator and assembly in order to determine the total price. The assembly price includes the relevant attachment set.

Designation	Order no.	€/item
Assembly with axial attachment set	surcharge	258.90
Assembly with attachment set with linkage	surcharge	324.80
Assembly with attachment set with linkage and shock suppressor	surcharge	643.60

Butterfly valves DKR

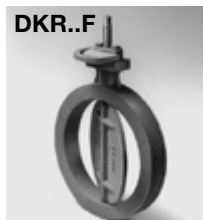
Type code

DKR	Butterfly valve for air and flue gas
15-500	Nominal size
Z	For fitting between two DIN flanges
03	p_u max. 300 mbar
H	With manual adjustment
F	With free shaft end
100, 350, 450, 650	Temperature range [°C]
D	With disc clearance
A	With stop bar

Technical
Information DKR

Actuators IC 50,
cf. page 68

DKR..F



Butterfly valves for air and flue gas DKR..F

With free shaft end, for actuator IC 50, for higher temperatures, for fitting between two flanges to DIN 2633, PN 16.

Attachment sets
for DKR and IC 50,
cf. page 69

Designation	Order no.	€/item
Temperature range up to 100°C		
DKR 15Z03F100D	03149200	158.90
DKR 20Z03F100D	03149203	160.80
DKR 25Z03F100D	03149206	179.00
DKR 32Z03F100D	03149210	190.40
DKR 40Z03F100D	03149214	192.40
DKR 50Z03F100D	03149218	202.20
DKR 65Z03F100D	03149222	220.80
DKR 80Z03F100D	03149226	229.00
DKR 100Z03F100D	03149230	250.70
DKR 125Z03F100D	03149234	337.70
DKR 150Z03F100D	03149238	394.50
DKR 200Z03F100D	03149242	529.90
DKR 250Z03F100D	03149246	952.80
DKR 300Z03F100D	03149250	1,339.60
DKR 350Z03F100D	03149254	1,979.10
DKR 400Z03F100D	03149258	2,254.80
DKR 450Z03F100D	03149262	2,871.80
DKR 500Z03F100D	03149266	2,995.50
Temperature range up to 450°C		
DKR 15Z03F450D	03149202	195.60
DKR 20Z03F450D	03149205	197.50
DKR 25Z03F450D	03149208	217.20
DKR 32Z03F450D	03149212	225.60
DKR 40Z03F450D	03149216	248.90
DKR 50Z03F450D	03149220	269.00
DKR 65Z03F450D	03149224	287.40
DKR 80Z03F450D	03149228	302.60
DKR 100Z03F450D	03149232	319.20
DKR 125Z03F450D	03149236	406.10
DKR 150Z03F450D	03149240	511.50
DKR 200Z03F450D	03149244	837.40
DKR 250Z03F450D	03149248	1,170.00
DKR 300Z03F450D	03149252	1,581.30
DKR 350Z03F450D	03149256	2,238.50
DKR 400Z03F450D	03149260	2,582.60
DKR 450Z03F450D	03149264	3,160.80
DKR 500Z03F450D	03149268	3,433.50

Temperature ranges above 450°C on request
Butterfly valves DKR with stop bar on request

DKR..H

Butterfly valves for air and flue gas DKR..H

With manual adjustment, p_u max. 300 mbar, with disc clearance.

Designation	Order no.	€/item
Temperature range up to 100°C		
DKR 15Z03H100D	72702010	122.10
DKR 20Z03H100D	72702020	123.90
DKR 25Z03H100D	72702030	127.00
DKR 32Z03H100D	72702040	135.30
DKR 40Z03H100D	72702050	140.50
DKR 50Z03H100D	72702060	150.60
DKR 65Z03H100D	72702070	173.90
DKR 80Z03H100D	72702080	182.40
DKR 100Z03H100D	72702090	199.00
DKR 125Z03H100D	72702100	252.40
DKR 150Z03H100D	72702110	307.90
DKR 200Z03H100D	72702130	451.40
DKR 250Z03H100D	72702140	799.00
DKR 300Z03H100D	72702150	1,211.80
DKR 350Z03H100D	72702160	1,755.20
DKR 400Z03H100D	72702170	2,022.50
DKR 450Z03H100D	72702180	2,637.60
DKR 500Z03H100D	72702190	2,763.20
Temperature range up to 450°C		
DKR 15Z03H450D	72701210	158.90
DKR 20Z03H450D	72701220	160.80
DKR 25Z03H450D	72701230	164.00
DKR 32Z03H450D	72701240	173.90
DKR 40Z03H450D	72701250	195.60
DKR 50Z03H450D	72701260	217.20
DKR 65Z03H450D	72701270	239.00
DKR 80Z03H450D	72701280	252.40
DKR 100Z03H450D	72701290	270.90
DKR 125Z03H450D	72701300	320.90
DKR 150Z03H450D	72701310	426.40
DKR 200Z03H450D	72701330	760.70
DKR 250Z03H450D	72701340	1,013.10
DKR 300Z03H450D	72701350	1,422.80
DKR 350Z03H450D	72701360	1,987.50
DKR 400Z03H450D	72701370	2,353.40
DKR 450Z03H450D	72701380	2,928.50
DKR 500Z03H450D	72701390	3,202.60

Temperature ranges above 450°C on request

Butterfly valves DKR with stop bar on request

IC 50



Actuators IC 50

Type code

IC 50	Actuator
03-60	Running time in s/90°
W	Mains voltage 230 V AC, 50/60 Hz
Q	Mains voltage 120 V AC, 50/60 Hz
H	Mains voltage 24 V AC, 50/60 Hz
3-30	Torque [Nm]
E	Controlled by continuous signal
T	Three-point step control
R10	With 1000 Ω feedback potentiometer

Technical
Information IC 20,
IC 50

Reversible gear motors to transmit rotary movements between 0 and 90°, for actuation of gas and air valves, with voltage-free limit switches, Automatic/Manual mode changeover and externally readable position indicator, running time: 3.7-60 s, CSA approved.

Designation	Order no.	€/item
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For 230 V AC

Controlled by three-point step signal

IC 50-03W3TR10	74215211	732.10
IC 50-07W7TR10	74215212	732.10
IC 50-15W15TR10	74215213	732.10
IC 50-30W20TR10	74215214	732.10
IC 50-60W30TR10	74215215	732.10

Controlled by continuous signal

IC 50-03W3E	74215226	1,054.10
IC 50-07W7E	74215227	1,054.10
IC 50-15W15E	74215228	1,054.10
IC 50-30W20E	74215229	1,054.10
IC 50-60W30E	74215230	1,054.10

For 120 V AC

Controlled by three-point step signal

IC 50-03Q3TR10	74215216	732.10
IC 50-07Q7TR10	74215217	732.10
IC 50-15Q15TR10	74215218	732.10
IC 50-30Q20TR10	74215219	732.10
IC 50-60Q30TR10	74215220	732.10

Controlled by continuous signal

IC 50-03Q3E	74215231	1,054.10
IC 50-07Q7E	74215232	1,054.10
IC 50-15Q15E	74215233	1,054.10
IC 50-30Q20E	74215234	1,054.10
IC 50-60Q30E	74215235	1,054.10

Versions

Mains voltage 24 V AC, 50/60 Hz no surcharge

Accessories

Designation	Order no.	€/item
Wall mounting bracket IC 50 /B	74924791	57.30
Adapter set IC 50 on BVA/G /B	74926243	260.50

IDR..AU

IDR..GD

IDR..GA


Attachment sets for butterfly valves DK and actuator IC 50

Designation	Order no.	€/item
For DKR, axial, enclosed		
IC50-DKR Axial DN 15-20 /B	74924940	212.40
IC50-DKR Axial DN 25-32 /B	74924941	212.40
IC50-DKR Axial DN 40-50 /B	74924942	212.40
IC50-DKR Axial DN 65-125 /B	74924943	212.40
IC50-DKR Axial DN 150-250 /B	74924944	212.40
IC50-DKR Axial DN 300 /B	74924945	212.40
IC50-DKR Axial DN 350 /B	74924946	212.40
IC50-DKR Axial DN 400-500 /B	74924947	212.40
For DKR..D, with linkage, enclosed		
IC50-DKR DN 15-20 with linkage / B	74924948	281.30
IC50-DKR DN 25-32 with linkage / B	74924949	281.30
IC50-DKR DN 40-50 with linkage / B	74924950	281.30
IC50-DKR DN 65-100 with linkage / B	74924951	281.30
IC50-DKR DN 125 with linkage / B	74924952	281.30
IC50-DKR DN 150-250 with linkage / B	74924953	281.30
IC50-DKR DN 300 with linkage / B	74924954	281.30
IC50-DKR DN 350 with linkage / B	74924955	281.30
IC50-DKR DN 400-500 with linkage / B	74924956	308.40
For DKR..A, with linkage and shock suppressor, enclosed		
IC50-DKR DN 25-32 with shock suppressor /B	74924958	611.60
IC50-DKR DN 40-50 with shock suppressor /B	74924959	611.60
IC50-DKR DN 65-100 with shock suppressor /B	74924960	611.60
IC50-DKR DN 125 with shock suppressor /B	74924961	611.60
IC50-DKR DN 150-250 with shock suppressor /B	74924962	611.60
IC50-DKR DN 300 with shock suppressor /B	74924963	611.60
IC50-DKR DN 350 with shock suppressor /B	74924964	611.60
IC50-DKR DN 400-500 with shock suppressor /B	74924965	640.10

Heat deflectors for DKR

Designation	Order no.	€/item
Heat deflector DN 15-20 /B	74924966	112.50
Heat deflector DN 25-32 /B	74924967	112.50
Heat deflector DN 40-50 /B	74924968	112.50
Heat deflector DN 65-100 /B	74924969	112.50
Heat deflector DN 125 /B	74924970	112.50
Heat deflector DN 150-250 /B	74924971	112.50
Heat deflector DN 300 /B	74924972	112.50
Heat deflector DN 350 /B	74924973	112.50
Heat deflector DN 400-500 /B	74924974	112.50

BV


Eclipse – Butterfly valves BV

Butterfly valves to control air and gas flow to all types of combustion systems, DN 15–100, full or reduced bore, with disc clearance or with stop, BSP or NPT threaded connection, with manual adjustment or lever, or as BV-Pak with mounted actuator.

Designation	Order no.	€/item
BVM	on request	
BV-Pak	on request	

BV-Pak


VR..R..N



VR..F..N



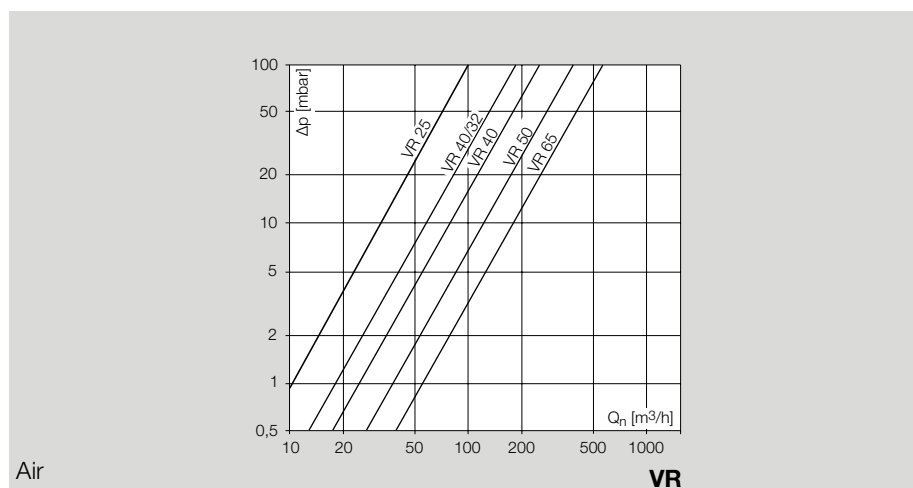
VR..R..R



VR..F..R



Solenoid valves for air VR



Type code

VR	Solenoid valve for air
25-65	Nominal size
R	Rp internal thread
F	Flange to ISO 7005
01	p _u max. 150 mbar
R	Slow opening, slow closing
N	Quick opening, quick closing
L	Slow opening, quick closing
T	Mains voltage 220/240 V AC, 50/60 Hz
Q	Mains voltage 120 V AC, 50/60 Hz
K	Mains voltage 24 V DC
3	Terminal connection box, IP 54
6	Connection box with 3-pin standard socket, IP 54
6L	Connection box with 3-pin standard socket, with lamp, IP 54
1	Screw plug at the inlet
3	Screw plug at the inlet and outlet
D	With flow adjustment

Solenoid valves for air for staged control of industrial burners in cold-air operating mode.

Designation	Order no.	€/item
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For cold air, quick opening, quick closing, for

220/240 V AC

VR 40R01NT33D	85247400	394.40
VR 50R01NT33D	85248400	472.20
VR 65R01NT33D	85249400	715.90
VR 40F01NT33D	85247450	531.70
VR 50F01NT33D	85248450	613.90
VR 65F01NT33D	85249450	912.90

For cold air, slow opening, slow closing, for

220/240 V AC

VR 25R01RT31D	85279010	289.50
VR 40/32R01RT31D	85250010	328.80
VR 40R01RT33D	85247100	482.30
VR 50R01RT33D	85248100	560.20
VR 65R01RT33D	85249100	808.40
VR 40F01RT33D	85247150	619.70
VR 50F01RT33D	85248150	701.90
VR 65F01RT33D	85249150	1,005.50

For cold air, slow opening, quick closing, for

220/240 V AC

VR 40R01LT33D	85247700	482.30
VR 50R01LT33D	85248700	560.20
VR 65R01LT33D	85249700	808.40

For cold air, quick opening, quick closing, for 120 V AC

VR 40R01NQ33D	85247520	394.40
VR 50R01NQ33D	85248530	472.20
VR 65R01NQ33D	85249530	715.90
VR 40F01NQ33D	85247570	531.70
VR 50F01NQ33D	85248580	613.90
VR 65F01NQ33D	85249580	912.90

Designation	Order no.	€/item
For cold air, slow opening, slow closing, for 120 V AC		
VR 25R01RQ31D	85279300	289.50
VR 40/32R01RQ31D	85250300	328.80
VR 40R01RQ33D	85247170	482.30
VR 50R01RQ33D	85248270	560.20
VR 65R01RQ33D	85249220	808.40
Bypass orifice	surcharge	39.10

VR versions

Designation	Order no.	€/item
Solenoid valve with socket and LED	surcharge	55.20
Solenoid valve for 24 V DC		
DN 6 to DN 50	surcharge	32.10
DN 65	surcharge	46.40



Pressure switches for gas DG

Diaphragm pressure switches with micro switch (silicone-free) for monitoring gas pressures on industrial installations and heating systems, for gas, air and flue gas, also for biogas, DG..H/N with manual reset if the pressure rises above or falls below a switching point, for 24-250 V, with gold contacts also for 5-250 V, enclosure IP 54 (IP 65). EU certified pursuant to the Gas Appliances Regulation and to DIN EN ISO 13849. As special-design pressure switches as defined by VdTÜV Code of Practice "Druck 100/1" (Pressure 100/1), they are suitable for applications in firing installations for steam and hot-water generators in accordance with TRD 604, Para. 3.6.4, as well as class "S" pursuant to EN 1854. The units are certified up to and including PL e in accordance with DIN EN ISO 13849 and up to and including SIL 3 in accordance with DIN EN 61508. The suitability for certain applications can only be evaluated by taking into account the relevant safety-related complete system with regard to the requirements of DIN EN 61508 or DIN EN ISO 13849.

All pressure switches DG..G with gold contacts can be used with an isolating amplifier in Zone 1 and 2 hazardous areas.

The pressure compensation holes of series DG..U, B, H, N, I have a defined ignition protection in terms of the safety measure for enclosed break devices for Group IIA gases and vapours. They can therefore be operated on pipes with Zone 2 explosive atmospheres.

Type	Connection	Adjustment	El. connection	Contact
DG..C	pos. pressure (gas/air)	fixed	socket	NO/change-over
DG..VC	pos. pressure (gas/air)	hand wheel	socket	NO/change-over
DG..B	pos. pressure (gas/air)	hand wheel	terminals/socket	change-over
DG..U	pos. pressure (gas/air) neg. pressure (air)	hand wheel	terminals/socket	change-over
DG..H/N	pos. pressure (gas/air) neg. pressure (air)	hand wheel	terminals/socket	change-over
DG..I	neg. pressure (gas/air)	hand wheel	terminals/socket	change-over

Pressure switches for oxygen and ammonia DG..S

Diaphragm pressure switches with micro switch for monitoring oxygen and ammonia pressures (not suitable for natural gas, other media on request), for positive pressure, diaphragm material: IIR, with CE marking, not EC type-tested, without Class "S".

Type	Connection	Adjustment	El. connection	Contact
DG..S	pos. pressure (O ₂ /NH ₃)	hand wheel	terminals/socket	change-over

[Technical Information DG](#)



Pressure switches for gas DG..C

Type code

DG	Pressure switch for gas
15	Adjusting range 3-15 mbar
17	Adjusting range 2-17 mbar
30	Adjusting range 8-30 mbar
35	Adjusting range 5-35 mbar
40	Adjusting range 5-40 mbar
45	Adjusting range 10-45 mbar
60	Adjusting range 10-60 mbar
110	Adjusting range 33-110 mbar
150	Adjusting range 40-150 mbar
250	Adjusting range 70-250 mbar
300	Adjusting range 100-300 mbar
360	Adjusting range 100-360 mbar
500	Adjusting range 150-500 mbar
/60	2 nd adjusting range 10-60 mbar
/150	2 nd adjusting range 40-150 mbar
/300	2 nd adjusting range 100-300 mbar
V	Switching point adjustable on hand wheel
C	EU version, switches with falling pressure
1	Connection for valVario at the bottom, pressure tap on the plug side
4	2 x Rp 1/4 internal thread, pressure test point
5	Rp 1/4 internal thread
6	R 1/8 external thread
8	R 1/4 external thread
9	Connection for valVario controls at the bottom, pressure tap on the side opposite to the plug
D	Sealant
-5	4-pin plug, without socket
-6	4-pin plug, with socket
S	NO contact
W	Change-over contact
G	With gold-plated contacts

Technical
Information DG..C

Pressure switches
for valVario,
cf. page 36

Gas: p_U max. 600 mbar, ambient temperature -10 to +70°C.

Designation	Order no.	€/item
Fixed setting, with NO contact, R 1/4 external thread connection		
DG 15C8D-5S	84448151	54.30
DG 35C8D-5S	84448351	54.30
DG 110C8D-5S	84448551	54.30
DG 250C8D-5S	84448651	54.30
DG 360C8D-5S	84448751	54.30
With hand wheel for continuous adjustment, with change-over contact, R 1/4 external thread connection		
DG 17VC8D-5W	84448050	62.50
DG 30VC8D-5W	84448250	62.50
DG 40VC8D-5W	84448870	62.50
DG 45VC8D-5W	84448850	62.50
DG 60VC8D-5W	84448270	62.50
DG 110VC8D-5W	84448450	62.50
DG 150VC8D-5W	84448470	62.50
DG 300VC8D-5W	84448950	62.50
DG 500VC8D-5W	84448570	62.50
With hand wheel for continuous adjustment, with change-over contact, Rp 1/4 internal thread connection		
DG 17VC5-5W	84448010	62.50
DG 30VC5-5W	84448210	62.50
DG 40VC5-5W	84448830	62.50
DG 45VC5-5W	84448810	62.50
DG 60VC5-5W	84448230	62.50
DG 110VC5-5W	84448410	62.50
DG 150VC5-5W	84448430	62.50
DG 300VC5-5W	84448920	62.50
DG 500VC5-5W	84448530	62.50

Designation	Order no.	€/item
With hand wheel for continuous adjustment, with change-over contact, 2 x Rp 1/4 internal thread connection and pressure test point		
DG 17VC4-5W	84448060	71.40
DG 30VC4-5W	84448260	71.40
DG 40VC4-5W	84448880	71.40
DG 45VC4-5W	84448860	71.40
DG 60VC4-5W	84448280	71.40
DG 110VC4-5W	84448460	71.40
DG 150VC4-5W	84448480	71.40
DG 300VC4-5W	84448970	71.40
DG 500VC4-5W	84448582	71.40

Double pressure switch DG..C with two adjusting ranges

Designation	Order no.	€/item
DG 60/60VC4-6W	84448930	173.80
DG 150/150VC4-6W	84448931	173.80
DG 300/300VC4-6W	84448932	173.80
DG 60/150VC4-6W	84448933	173.80
DG 60/300VC4-6W	84448934	173.80
DG 150/300VC4-6W	84448935	173.80

[Technical Information DG..C](#)





Pressure switches for gas DG..U, DG..H, DG..N, DG..B, DG..I, DG..S

Type code

DG	Pressure switch for gas
1,5	Negative pressure adjusting range -1.5 – -0.5/+0.5 – +3 mbar
6	Adjusting range 0.4 – 6 mbar
10	Adjusting range 1 – 10 mbar
12	Negative pressure adjusting range -12 – -1/+1 – +7 mbar
18	Negative pressure adjusting range -2 – -18 mbar
30	Adjusting range 2.5 – 30 mbar
50	Adjusting range 2.5 – 50 mbar
120	Negative pressure adjusting range -10 – -120 mbar
150	Adjusting range 30 – 150 mbar
400	Adjusting range 50 – 400 mbar
450	Negative pressure adjusting range -80 – -450 mbar
500	Adjusting range 100 – 500 mbar
B	Switches with rising positive pressure
BN	Switches with falling positive pressure
U	Switches with rising positive pressure (gas/air), negative pressure (air), differential pressure (air-air)
UN	Switches with falling positive pressure (gas/air), negative pressure (air), differential pressure (air-air)
H	Switches and locks off with rising pressure
N	Switches and locks off with falling pressure
I	Negative pressure for gas
S	Positive pressure for oxygen and ammonia
G	With gold-plated contacts
-3	Electrical connection via screw terminals
-4	Electrical connection via screw terminals, IP 65
-5	Electrical connection via 4-pin plug, without socket
-6	Electrical connection via 4-pin plug, with socket
-9	Electrical connection via 4-pin plug, with socket, IP 65
K2	Red/green pilot LED for 24 V DC/AC
T	Blue pilot lamp for 230 V AC
T2	Red/green pilot LED for 230 V AC
N	Blue pilot lamp for 120 V AC
A	External adjustment

Technical
Information DG

Accessories,
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p_u max. 600 mbar, ambient temperature -15 to +80°C (DG..H/N: -15 to +60°C).

Pressure switches with enclosure IP 65 have gold contacts (12-250 V), cover with three screws and filter with splash guard in the breathing orifice.

Designation	Order no.	€/item
For positive pressure (gas, air), negative pressure (air) and differential pressure (air/air)		
DG 6U-3	84447250	71.90
DG 10U-3	84447300	71.90
DG 30U-3	84447290	71.90
DG 50U-3	84447350	71.90
DG 150U-3	84447500	71.90
DG 400U-3	84447595	71.90
DG 500U-3	84447550	71.90
For voltages 12-250 V with gold-plated contacts		
DG 6UG-3	84447270	80.80
DG 10UG-3	84447320	80.80
DG 30UG-3	84447292	80.80
DG 50UG-3	84447370	80.80
DG 150UG-3	84447520	80.80
DG 400UG-3	84447596	80.80
DG 500UG-3	84447570	80.80
For voltages 12-250 V with gold-plated contacts, enclosure IP 65		
DG 6UG-4	84447000	92.90
DG 10UG-4	84447010	92.90
DG 30UG-4	84447015	92.90
DG 50UG-4	84447020	92.90
DG 150UG-4	84447030	92.90
DG 400UG-4	84447597	92.90
DG 500UG-4	84447040	92.90

Designation	Order no.	€/item
With fitted standard socket		
DG 6U-6	84447251	91.40
DG 10U-6	84447301	91.40
DG 30U-6	84447291	91.40
DG 50U-6	84447351	91.40
DG 150U-6	84447501	91.40
DG 400U-6	84447598	91.40
DG 500U-6	84447551	91.40
With manual reset, DG..H switches and locks off with rising pressure		
DG 10H-3	84447600	86.70
DG 50H-3	84447620	86.70
DG 150H-3	84447640	86.70
DG 500H-3	84447660	86.70
With manual reset, DG..N switches and locks off with falling pressure		
DG 10N-3	84447700	86.70
DG 50N-3	84447720	86.70
DG 150N-3	84447740	86.70
DG 500N-3	84447760	86.70
For positive pressure		
DG 6B-3	84447100	68.80
DG 10B-3	84447150	68.80
DG 50B-3	84447200	68.80
DG 150B-3	84447400	68.80
DG 400B-3	84447591	68.80
DG 500B-3	84447450	68.80
For voltages 12-250 V with gold-plated contacts		
DG 6BG-3	84447120	77.50
DG 10BG-3	84447170	77.50
DG 50BG-3	84447220	77.50
DG 150BG-3	84447420	77.50
DG 400BG-3	84447592	77.50
DG 500BG-3	84447470	77.50
With fitted standard socket		
DG 6B-6	84447101	88.20
DG 10B-6	84447151	88.20
DG 50B-6	84447201	88.20
DG 150B-6	84447401	88.20
DG 400B-6	84447593	88.20
DG 500B-6	84447451	88.20

Gas vacuum sensors DG..I

For negative pressure (gas, air), positive pressure (air) and differential pressure (air/air).

Designation	Order no.	€/item
DG 1,5I-3	84447090	108.10
DG 12I-3	84447080	108.10
DG 18I-3	84447050	108.10
DG 120I-3	84447060	108.10
DG 450I-3	84447070	108.10
For voltages 12-250 V with gold-plated contacts		
DG 1,5IG-3	84447091	116.80
DG 12IG-3	84447081	116.80
DG 18IG-3	84447051	116.80
DG 120IG-3	84447061	116.80
DG 450IG-3	84447071	116.80
For voltages 12-250 V with gold-plated contacts, IP 65		
DG 1,5IG-4	84447092	129.40
DG 12IG-4	84447082	129.40
DG 18IG-4	84447052	129.40
DG 120IG-4	84447062	129.40
DG 450IG-4	84447072	129.40

Pressure switches for oxygen and ammonia DG..S

Diaphragm pressure switches with micro switch for monitoring oxygen and ammonia pressures (not suitable for natural gas, other media on request), for positive pressure, diaphragm material: IIR, with CE marking, not EC type-tested, without Class "S".

Designation	Order no.	€/item
DG 6S-3	84447140	86.70
DG 10S-3	84447190	86.70
DG 50S-3	84447240	86.70
DG 150S-3	84447440	86.70
DG 500S-3	84447490	86.70

Pressure switches for air DL

Type code

DL	Pressure switch for air
1	Adjusting range 0.2–1 mbar (DL..E only)
1,5	Adjusting range -0.5–+1.5 mbar (DL..A only)
2	Adjusting range 0.2–2 mbar (DL..E, DL..EH only)
3	Adjusting range 0.2–3 mbar (DL..A, DL..K only)
3	Adjusting range 0.3–3 mbar (DL..E only)
3,3	Adjusting range 0.2–3.3 mbar (DL..K only)
3,5	Adjusting range 0.3–3.5 mbar (DL..K only)
4	Adjusting range 0.5–4 mbar (DL..E, DL..EH only)
4,5	Adjusting range 0.3–5 mbar (DL..K only)
5	Adjusting range 0.4–5 mbar (DL..A, DL..K only)
5,1	Adjusting range 1.0–5.1 mbar (DL..K only)
8	Adjusting range 0.5–8 mbar (DL..K only)
10	Adjusting range 1.0–10 mbar (DL..E, DL..A, DL..K only)
11	Adjusting range 1.0–11 mbar (DL..K only)
14	Adjusting range 3–14 mbar (DL..E only)
16	Adjusting range 4–16 mbar (DL..K only)
24	Adjusting range 2–24 mbar (DL..K only)
30	Adjusting range 2.5–30 mbar (DL..A, DL..K only)
35	Adjusting range 12–35 mbar (DL..E only)
40	Adjusting range 5–40 mbar (DL..K only)
50	Adjusting range 2.5–50 mbar (DL..A, DL..K only)
150	Adjusting range 30–150 mbar (DL..A, DL..K only)
E	With flat plugs, tube connection, adjusting screw, -15 – +85°C
EH	With flat plugs, tube connection, adjusting screw, -40 – +110°C
A	With screw terminals, Rp 1/4, tube connection, hand wheel, -15 – +80°C
K	With tube connection, hand wheel, -15 – +80°C
H	Switches and locks off with rising pressure
N	Switches and locks off with falling pressure
G	With gold contacts
-1	AMP plug connection (DL..E, DL..K only) (UR recognized)
-3	Electrical connection via screw terminals (DL..A, DL..K only) (UL listed)
-4	Electrical connection via screw terminals, IP 65 (DL..A, DL..K only)
-5	Electrical connection via 4-pin plug, without socket (DL 3/5/10/50/150A/K only)
-6	Electrical connection via 4-pin plug, with socket (DL 3/5/10/50/150A/K only)
-9	Electrical connection via 4-pin plug, with socket, IP 65 (DL 3/5/10/50/150A/K only)
K2	Red/green pilot LED for 24 V DC/AC (DL..A, DL..K only)
T	Blue pilot lamp for 230 V AC (DL..A, DL..K only)
T2	Red/green pilot LED for 230 V AC (DL..A, DL..K only)
N	Blue pilot lamp for 120 V AC (DL..A, DL..K only)
P	With test tapping point (DL 5-150E, DL..K only)
1	With 1 test key (DL 5-150A only)
2	With 2 test keys (DL 5-150A only)
A	External adjustment (DL 3/5/10/50/150A/K only)
W	Z-angle bracket

Technical
Information DL

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cf. page 83

Diaphragm pressure switches with micro switch for monitoring air and flue gas pressures on industrial and commercial installations and heating systems, for positive pressure, negative pressure and differential pressure, enclosure: DL..A, DL..K: IP 54 (IP 65), DL..E: IP 00/21/42/44, depending on the installation (cf. Accessories), EU certified. The pressure switches marked with an * in the following table are silicone-free. They are special-design pressure switches as defined by VdTÜV Code of Practice "Druck 100/1" (Pressure 100/1) and are suitable for applications in firing installations for steam and hot-water generators in accordance with TRD 604, Para. 3.6.4.

Type	Connection	Adjustment	El. connection	p _u max. [mbar]
DL 2E; 4E; 14E; 35E	tube	screw	flat plugs	50
DL 2EH; 4EH	tube	screw	flat plugs	15
DL 1E; 3E	tube	screw	flat plugs	50*
DL 5E; 10E; 50E	tube	screw	flat plugs	300*
DL 1,5A	tube/thread	hand wheel	terminals	50*
DL 3A	tube/thread	hand wheel	terminals	50*
DL 5A; 10A; 50A; 150A	tube/thread	hand wheel	terminals	300*
DL 3,5K; 4,5K; 8K; 11K; 16K; 24K; 40K	tube	hand wheel	terminals/flat plugs	50
DL 3K	tube	hand wheel	terminals	50*
DL 5K; 10K; 50K; 150K	tube	hand wheel	terminals	300*

DL 3-150A

Pressure switches for air DL..A

Switching point adjustable on hand wheel, Rp 1/4 connections for positive pressure and tube connections for positive pressure and negative pressure, silicone-free.

Designation	Order no.	€/item
DL 1,5A-3	84444411	94.20
DL 3A-3	84444400	78.80
DL 3AG-3	84444450	87.50

Rp 1/4 connections for positive pressure, Rp 1/8 for negative pressure

DL 3A-3Z	84444402	80.80
DL 3AG-3Z	84444451	88.70

DL..A..1

Pressure switches for air DL..A with test key

The test key acts on positive pressure and positive differential pressures. Models with two test keys are available for negative pressure and negative differential pressures, Rp 1/4 connections for positive pressure, Rp 1/8 for negative pressure and tube connections for positive pressure and negative pressure, silicone-free.

Designation	Order no.	€/item
With one test key for positive pressure		
DL 5A-31	84444470	71.20
DL 10A-31	84444480	71.20
DL 50A-31	84444490	71.20
DL 150A-31	84444880	71.20

For voltages 12-250 V with gold-plated contacts

DL 5AG-31	84444471	79.70
DL 10AG-31	84444481	79.70
DL 50AG-31	84444491	79.70
DL 150AG-31	84444881	79.70

With two test keys for negative pressure and differential pressure

DL 5A-32	84444475	77.50
DL 10A-32	84444485	77.50
DL 50A-32	84444495	77.50
DL 150A-32	84444885	77.50

For voltages 12-250 V with gold-plated contacts

DL 5AG-32	84444476	86.00
DL 10AG-32	84444486	86.00
DL 50AG-32	84444496	86.00
DL 150AG-32	84444886	86.00

DL 3,5–40K**Pressure switches for air DL 3,3–40K**

Diaphragm pressure switches with micro switch, particularly high contact reliability using a completely tempered diaphragm system and low gas release housing parts, tube and electrical connections accessible from one side, particularly easy to install, switching point adjustable on hand wheel.

[Technical Information DL..K](#)

Designation	Order no.	€/item
With screw terminals		
DL 3,3K-3	84444625	53.50
DL 3,5K-3	84444630	53.50
DL 4,5K-3	84444730	53.50
DL 8K-3	84444740	53.50
DL 11K-3	84444826	53.50
DL 16K-3	84444780	53.50
DL 24K-3	84444640	53.50
DL 40K-3	84444790	53.50

With screw terminals, for voltages 12-250 V with gold-plated contacts

DL 3,3KG-3	84444626	61.80
DL 3,5KG-3	84444631	61.80
DL 4,5KG-3	84444732	61.80
DL 8KG-3	84444742	61.80
DL 11KG-3	84444827	61.80
DL 16KG-3	84444781	61.80
DL 24KG-3	84444641	61.80
DL 40KG-3	84444791	61.80

DL..K-1 with AMP flat plugs on request

DL..K-3W**Pressure switches for air DL 3–150K**

Switching point adjustable on hand wheel, with tube connections, electrical connection via screw terminals, silicone-free.

[Technical Information DL..K](#)

Designation	Order no.	€/item
With angle bracket		
DL 3K-3W	84444600	71.20
DL 5K-3W	84444700	65.00
DL 10K-3W	84444800	65.00
DL 50K-3W	84444810	65.00
DL 150K-3W	84444890	65.00
Without angle bracket		
DL 3K-3	84444608	67.30
DL 5K-3	84444709	61.30
DL 10K-3	84444807	61.30
DL 50K-3	84444816	61.30
DL 150K-3	84444892	61.30
With angle bracket, for 12-250 V with gold-plated contacts, with drilling template and retaining screws, with tube set		
DL 3KG-3WZ	84444603	96.10
DL 5KG-3WZ	84444604	89.80
DL 10KG-3WZ	84444605	89.80
DL 50KG-3WZ	84444606	89.80

DL..H switches and locks off with rising pressure, with manual reset

Designation	Order no.	€/item
Rp 1/4, with screw terminals, with one test key for positive pressure		
DL 10AH-31	84444430	79.50
DL 50AH-31	84444431	79.50
DL 150AH-31	84444432	79.50
Rp 1/4, with socket, with one test key for positive pressure		
DL 10AH-61	84444521	98.10
DL 50AH-61	84444522	98.10
DL 150AH-61	84444523	98.10
With screw terminals		
DL 10KH-3	84444433	74.60
DL 50KH-3	84444434	74.60
DL 150KH-3	84444435	74.60
With socket, with angle bracket		
DL 10KH-6W	84444524	96.70
DL 50KH-6W	84444525	96.70
DL 150KH-6W	84444526	96.70

DL..N switches and locks off with falling pressure, with manual reset

Designation	Order no.	€/item
Rp 1/4, with screw terminals, with one test key for positive pressure		
DL 10AN-31	84444440	79.50
DL 50AN-31	84444441	79.50
DL 150AN-31	84444442	79.50
Rp 1/4, with socket, with one test key for positive pressure		
DL 10AN-61	84444530	98.10
DL 50AN-61	84444531	98.10
DL 150AN-61	84444532	98.10
With screw terminals		
DL 10KN-3	84444443	74.60
DL 50KN-3	84444444	74.60
DL 150KN-3	84444445	74.60
With socket, with angle bracket		
DL 10KN-6W	84444533	96.70
DL 50KN-6W	84444534	96.70
DL 150KN-6W	84444535	96.70

DL 1–50E**Pressure switches for air DL 1–50E**

With tube connections, adjustable switching point, 6.3 mm flat plug connection, silicone-free.

Designation	Order no.	€/item
DL 1E-1	84444010	57.30
DL 3E-1	84444210	51.70
DL 5E-1	84444250	51.70
DL 10E-1	84444270	51.70
DL 50E-1	84444280	51.70

For voltages 12-250 V with gold-plated contacts

DL 1EG-1	84444110	65.80
DL 3EG-1	84444310	60.30
DL 5EG-1	84444350	60.30
DL 10EG-1	84444370	60.30
DL 50EG-1	84444380	60.30

Versions

DL 5/10/50E-1P with test tapping point surcharge **14.60**

On request, pressure switches for air DL 5/10/50E may also be supplied with opposing connections.

DL 2–35E**Pressure switches for air DL 2–35E**

With tube connections, adjustable switching point, 6.3 mm flat plug connection, particularly high contact reliability using a completely tempered diaphragm system and low gas release housing parts, tube and electrical connections accessible from one side, particularly easy to install, also for clip-on assembly.

Designation	Order no.	€/item
DL 2E-1	84444150	42.50
DL 4E-1	84444180	42.50
DL 14E-1	84444351	42.50
DL 35E-1	84444190	42.50

For voltages 12-250 V with gold-plated contacts

DL 2EG-1	84444151	51.00
DL 4EG-1	84444181	51.00
DL 14EG-1	84444352	51.00
DL 35EG-1	84444191	51.00

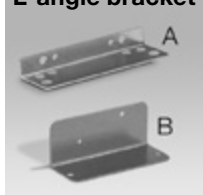
U-angle bracket



Z-angle bracket



L-angle bracket



Coupler plug set



Lamp set



Ext. adjustment



Connecting set



PIA

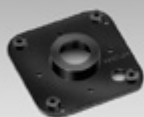


Accessories for DG, DL

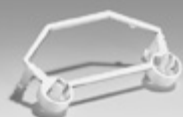
On pressure switches with standard coupler plug and pilot lamp, the switching contact can only be used as NO or NC contact. If the change-over function is needed, the standard socket with 2 LEDs, Order no. 74916200, must be used.

Designation	Order no.	€/item
Fastening set with screws, U-shape bracket		
U-angle bracket DG..B, DG..U, DG..I	74915387	4.20
U-angle bracket DG..U, B, H, N; DL 1,5-150A, DL 3-150K, DL 1-50E	74916185	4.50
U-angle bracket DL 1,5-150A; DL 3K; DL 1-3E	74916161	4.20
Fastening set with screws, Z-shape bracket		
Z-angle bracket DL 1,5-150A; DL 3K; DL 1-3E	74913661	4.00
Z-angle bracket DL 5-50E, 5-150K	74916158	4.00
Z-angle bracket DL 2/4/14/35E, 3,5/4,5/8/16/24/40K	74919824	4.00
Fastening set with screws, L-shape bracket		
L-angle bracket DL 2/4/14/35E; 3,5/4,5/8/16/24/40K (A)	74919825	3.90
L-angle bracket DL 2/4/14/35E; 3,5/4,5/8/16/24/40K (B)	74921466	3.60
Standard connection sets		
Standard coupler plug set DG	74915388	16.00
Standard coupler plug set DL..A, DL..K	74916159	16.00
Standard socket, 3+PE, grey /B	74916716	6.30
Standard socket, 3+PE, black /B	74916715	6.60
Standard socket with 2 LEDs (12-250 V AC/DC)	74916200	79.80
Standard coupler plug DG	74920412	9.50
Pilot lamp sets (not for DG..C or DL..E)		
Pilot lamp set 220/240 V AC red	74920429	5.80
Pilot lamp set 110/120 V AC red	74920430	5.70
Pilot lamp set 220/240 V AC blue	74916122	5.80
Pilot lamp set 110/120 V AC blue	74916121	5.70
LED set 24 V DC/AC red/green	74921089	6.20
LED set 230 V AC red/green	74923275	7.60
Connecting set for use as minimum/maximum switch (double pressure switch)		
Connecting set DG..U, DG..T	74912250	3.90
Cover with external adjustment		
External adjustment DG..U/B/I, DL 3/5/10/50/150A/K	74916155	9.00
Cover IP 65 with pressure equalization element		
Cover IP 65 with pressure equalization element	74923391	12.50
Test key (PIA), restrictor orifice		
PIA R/Rp 1/4	74329466	48.40
Restrictor orifice for DG R/Rp 1/4, 0.3 mm nozzle	75441317	23.20
Restrictor orifice for DG R/Rp 1/4, 0.2 mm nozzle	75456321	23.20
Scale mark for DG, DL..A, DL..K, set of five in bag		
Colour coordination set DG blue, 5 pieces	74921726	3.90
Colour coordination set DG yellow, 5 pieces	74921727	3.90
Filter set DG for 1/8" vacuum connection with highly contaminated ambient air, set of five in bag		
Filter pad set DG R 1/8, 5 pieces	74916199	3.20

Fastening adapt.



Securing clip



Securing clip



IP 42 + IP 44



M16 – M20



PG 11 – M16



Tube set



Accessories for DG, DL

Designation	Order no.	€/item
Fastening material for DL		
Motor flange adapter		
Motor flange adapter for DL 5/10/50E	74916149	4.20
Motor flange adapter for DL 1-3E, 3-150A, 3-5K	74916157	4.20
Motor flange adapter for DL 5/10/50/150K	74916156	4.20
Motor flange adapter for DL 2/4/14/35E; 3,5/4,5/8/16/24/40K	74920415	4.20
Securing clip S for DL 2/4/14/35E	34335764	1.40
For attachment to the side of the pressure port		
Securing clip D white for DL 2/4/14/35E	74921513	4.00
For attachment to the three other sides		
Securing clip D blue for DL 2/4/14/35E	74921512	4.00
Miscellaneous parts		
Cover plate spare parts set DL/DG	74924464	8.20
Screw plug R 1/4	03552302	1.70
Seal 1/4", 13x18, 1x1.5	03720763	1.60
Grommet DL 1/3/5/10/50E, IP 42	34328197	2.20
Grommet DL 1/3/5/10/50E, IP 44	34330703	2.90
Grommet DL 2/4/14/35E, IP 44	34919801	1.30
Adapter for line entrance M16 to M20 (5 ea.)	74921725	15.60
Cable gland M16 with adapter from PG 11	74921152	7.50
Tube sets (for air only)		
With 2 m PVC tube, 2 duct connection flanges with screws, R 1/4 and R 1/8 connecting nipples for DG and DL		
Tube set DG, DL (only for air)	74912952	22.50
With 2 m PVC tube, 2 duct connection flanges with screws		
Tube set DL (without connecting nipple)	74915366	12.90
With 2 m PVC tube, 2 duct connection flanges with screws, 2 x 90 mm extensions, 2 angle connectors		
Tube set DL with angle connector and extension	74919272	18.80
3/2-way valve for checking the air pressure switch break contact		
3/2-way solenoid valve	59900310	135.20
Socket, 2+PE, design B	59002520	6.60
Calibration report for pressure switch		
Required information:		
- Installation position (vertical, horizontal or upside down)		
- Switching point (On or Off)		
- Set value (see pressure ranges for different types)		
Switching point calibration report for pressure switch	without No.	59.40
Weather protection cover		
Weather protection cover for DG..U/B/I (restricted installation position)	on request	

Control valves RVS, RV

Type code

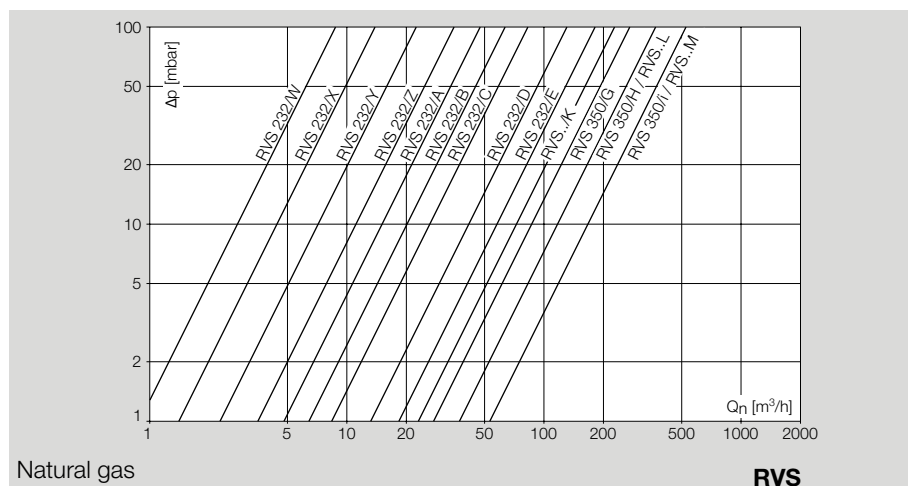
RVS	Control valve with solenoid valve
RV	Control valve
2	Size 2
3	Size 3
40-100	DN 40-100
/A-/Z	Valve seats A-Z
ML	MODULINE system
F	Flange to ISO 7005
01	p _u max. 150 mbar
02	p _u max. 200 mbar
03	p _u max. 360 mbar
05	p _u max. 500 mbar
10	p _u max. 1000 mbar
W	Mains voltage 230 V AC, 50/60 Hz
Q	Mains voltage 120 V AC, 50/60 Hz
30	30 s running time
60	60 s running time
S1	Three-point step control
E	Continuous control
-3	Solenoid valve terminal connection box

Technical
Information RV,
RVS

Connection flanges
and accessories,
cf. page 89



Control valves with solenoid valve RVS



Control valves with integrated safety shut-off valve for control of continuously regulated burner processes, linear ratio of input signal to flow rate, control ratio 100:1, for gas and air, EU certified.

Designation	Order no.	€/item
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MODULINE system, controlled by three-point step signal

RVS 2/WML10W60S1-3	86060000	1,360.40
RVS 2/XML10W60S1-3	86060001	1,360.40
RVS 2/YML10W60S1-3	86060002	1,360.40
RVS 2/ZML10W60S1-3	86060003	1,360.40
RVS 2/AML10W60S1-3	86060004	1,360.40
RVS 2/BML10W60S1-3	86060005	1,360.40
RVS 2/CML05W60S1-3	86060006	1,360.40
RVS 2/EML02W60S1-3	86060008	1,360.40
RVS 3/GML05W60S1-3	86060100	2,076.80
RVS 3/HML03W60S1-3	86060101	2,076.80
RVS 3/IML02W60S1-3	86060102	2,076.80

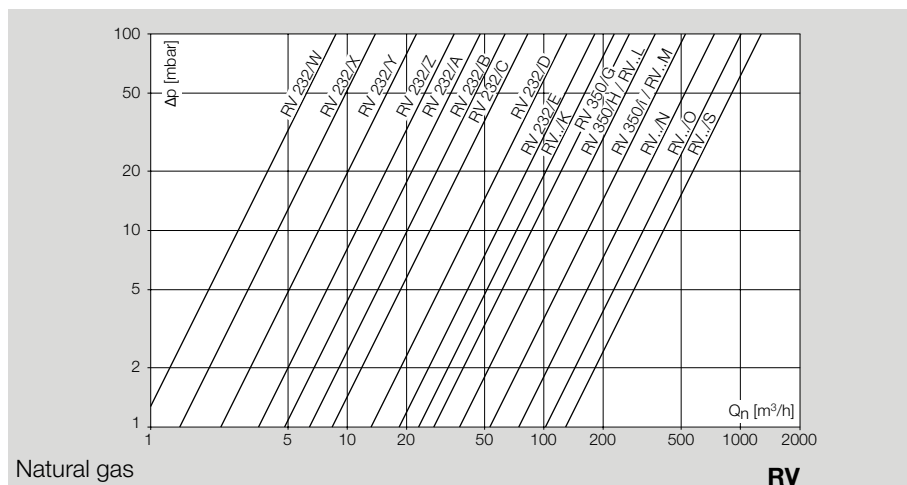
With flanged connection, controlled by three-point step signal

RVS 40/KF05W60S1-3	86060200	2,315.50
RVS 40/LF03W60S1-3	86060201	2,315.50
RVS 50/KF05W60S1-3	86060250	2,410.60
RVS 50/LF03W60S1-3	86060251	2,410.60
RVS 50/MF02W60S1-3	86060252	2,410.60
RVS 65/LF03W60S1-3	86060300	2,584.60
RVS 65/MF02W60S1-3	86060301	2,584.60

Designation	Order no.	€/item
MODULINE system, controlled by continuous signal		
RVS 2/WML10W60E-3	86060050	1,716.10
RVS 2/XML10W60E-3	86060051	1,716.10
RVS 2/YML10W60E-3	86060052	1,716.10
RVS 2/ZML10W60E-3	86060053	1,716.10
RVS 2/AML10W60E-3	86060054	1,716.10
RVS 2/BML10W60E-3	86060055	1,716.10
RVS 2/CML05W60E-3	86060056	1,716.10
RVS 2/DML03W60E-3	86060057	1,716.10
RVS 2/EML02W60E-3	86060058	1,716.10
RVS 3/GML05W60E-3	86060150	2,432.60
RVS 3/HML03W60E-3	86060151	2,432.60
RVS 3/IML02W60E-3	86060152	2,432.60
With flanged connection, controlled by continuous signal		
RVS 40/KF05W60E-3	86060210	2,671.30
RVS 40/LF03W60E-3	86060211	2,671.30
RVS 50/KF05W60E-3	86060260	2,766.30
RVS 50/LF03W60E-3	86060261	2,766.30
RVS 50/MF02W60E-3	86060262	2,766.30
RVS 65/LF03W60E-3	86060310	2,940.40
RVS 65/MF02W60E-3	86060311	2,940.40



Control valves RV



Control valves for control of continuously regulated burner processes, linear ratio of input signal to flow rate, control ratio 100:1, for gas and air, EU certified.

Designation	Order no.	€/item
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MODULINE system, controlled by three-point step signal

RV 2/WML10W60S1	86060500	1,072.40
RV 2/XML10W60S1	86060501	1,072.40
RV 2/YML10W60S1	86060502	1,072.40
RV 2/ZML10W60S1	86060503	1,072.40
RV 2/AML10W60S1	86060504	1,072.40
RV 2/BML10W60S1	86060505	1,072.40
RV 2/CML10W60S1	86060506	1,072.40
RV 2/DML10W60S1	86060507	1,072.40
RV 2/EML05W60S1	86060508	1,072.40
RV 3/GML10W60S1	86060600	1,510.70
RV 3/HML05W60S1	86060601	1,510.70
RV 3/IML03W60S1	86060602	1,510.70

With flanged connection, controlled by three-point step signal

RV 40/KF10W60S1	86060700	1,730.10
RV 40/LF05W60S1	86060701	1,730.10
RV 50/KF10W60S1	86060750	1,786.30
RV 50/LF05W60S1	86060751	1,786.30
RV 50/MF03W60S1	86060752	1,786.30
RV 65/LF05W60S1	86060800	1,972.60
RV 65/MF03W60S1	86060801	1,972.60
RV 65/NF02W60S1	86060802	1,972.60
RV 80/MF03W60S1	86060850	2,229.20
RV 80/NF02W60S1	86060851	2,229.20
RV 80/OF02W60S1	86060852	2,229.20
RV 100/NF02W60S1	86060900	2,833.20
RV 100/OF02W60S1	86060901	2,833.20
RV 100/SF01W60S1	86060902	2,833.20

MODULINE system, controlled by continuous signal

RV 2/WML10W60E	86060550	1,428.20
RV 2/XML10W60E	86060551	1,428.20
RV 2/YML10W60E	86060552	1,428.20
RV 2/ZML10W60E	86060553	1,428.20
RV 2/AML10W60E	86060554	1,428.20
RV 2/BML10W60E	86060555	1,428.20
RV 2/CML10W60E	86060556	1,428.20
RV 2/DML10W60E	86060557	1,428.20
RV 2/EML05W60E	86060558	1,428.20
RV 3/GML10W60E	86060650	1,866.50
RV 3/HML05W60E	86060651	1,866.50
RV 3/IML03W60E	86060652	1,866.50

Designation	Order no.	€/item
With flanged connection, controlled by continuous signal		
RV 40/KF10W60E	86060710	2,085.90
RV 40/LF05W60E	86060711	2,085.90
RV 50/KF10W60E	86060760	2,142.00
RV 50/LF05W60E	86060761	2,142.00
RV 50/MF03W60E	86060762	2,142.00
RV 65/LF05W60E	86060810	2,328.40
RV 65/MF03W60E	86060811	2,328.40
RV 65/NF02W60E	86060812	2,328.40
RV 80/MF03W60E	86060860	2,585.10
RV 80/NF02W60E	86060861	2,585.10
RV 80/OF02W60E	86060862	2,585.10
RV 100/NF02W60E	86060910	3,189.00
RV 100/OF02W60E	86060911	3,189.00
RV 100/SF01W60E	86060912	3,189.00

Versions

Designation	Order no.	€/item
Mains voltage 120 V AC, 50/60 Hz	no surcharge	

RV poti



Current sensor



Additional equipment (not for RV..E)

For control valves with solenoid valve RVS and control valves RV.
/E = fitted, /B = enclosed

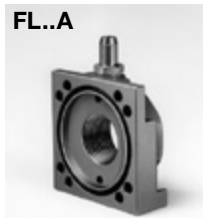
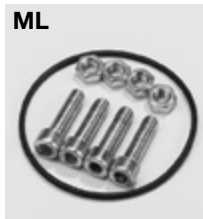
Designation	Order no.	€/item
Potentiometer, enclosed		
RP RV 150 Ohm /B	74926119	68.70
RP RV 1000 Ohm /B	74926121	66.40
RP RV 2x1000 Ohm /B	74926123	98.80
Current sensor, enclosed		
RS RV 4-20 mA /B	74926117	181.30
Potentiometer, fitted		
RP RV 150 Ohm /E	74926118	94.20
RP RV 1000 Ohm /E	74926120	94.20
RP RV 2x1000 Ohm /E	74926122	124.30
Current sensor, fitted		
RS RV 4-20 mA /E	74926116	206.50

Cam disk

For mechanical air-gas combined control.

Designation	Order no.	€/item
LKS 3.1	15600010	951.00
Flexible connection		
FLEX 400	59101420	190.00
FLEX 750	59101450	230.80
FLEX 980	59104690	238.70
FLEX 2000	59101500	273.60
Other lengths on request.		

FL..ES

FL..A

ML


MODULINE connection flanges and accessories

/E = fitted, /B = enclosed

Designation	Order no.	€/item
Connection flanges, inlet		
FL 225RP1-E /E	23032040	56.80
FL 240RP1.1/2-E /E	23032050	56.80
FL 340RP1.1/2-E /E	23033050	100.10
FL 350RP2-E /E	23033060	102.70
FL 225RP1-E /B	23002040	59.90
FL 240RP1.1/2-E /B	23002050	59.90
FL 340RP1.1/2-E /B	23003050	105.40
FL 350RP2-E /B	23003060	108.20
Connection flanges, inlet, with strainer		
FL 225RP1-ES /E	23032240	63.70
FL 240RP1.1/2-ES /E	23032250	63.70
FL 340RP1.1/2-ES /E	23033250	109.90
FL 350RP2-ES /E	23033260	109.90
FL 225RP1-ES /B	23002240	62.30
FL 240RP1.1/2-ES /B	23002250	67.10
FL 340RP1.1/2-ES /B	23003250	115.80
FL 350RP2-ES /B	23003260	115.80
Connection flanges, outlet		
FL 225RP1-A /E	23032140	56.80
FL 240RP1.1/2-A /E	23032150	56.80
FL 340RP1.1/2-A /E	23033150	102.70
FL 350RP2-A /E	23033160	102.70
FL 225RP1-A /B	23002140	59.90
FL 240RP1.1/2-A /B	23002150	59.90
FL 340RP1.1/2-A /B	23003150	108.20
FL 350RP2-A /B	23003160	108.20

Automatic burner control units

Burner control units for multiple burner applications with central fan.

Type designation	Continuous operation	Air control	Ignition type	Max. signal line length	Behaviour in the event of flame failure	Gas valve outputs
IFD 244	yes	no	direct	75 m	restart	1
IFD 244..I	yes	no	direct	1 m	restart	1
IFD 258	yes	no	direct	75 m	switchable	1
IFD 258..I	yes	no	direct	1 m	switchable	1
BCU 400	yes	optional	direct/pilot	5/50 m	programmable	2
BCU 400 NextGen	yes	optional	direct/pilot	5/100 m	programmable	4
BCU 56x	yes	optional	direct	100 m	programmable	3
BCU 580	yes	optional	gas pilot	100 m	programmable	4
PFU	yes	optional	direct/pilot	100 m	programmable	2

Burner control units BCU 370, BCU 570

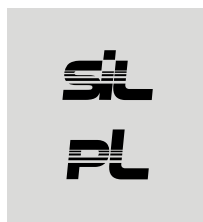
Burner control unit for modulating single or forced draught burners.

Type designation	Continuous operation	Air control	Ignition type	Max. signal line length	Behaviour in the event of flame failure	Gas valve outputs
BCU 370	yes	yes	direct/pilot	1/50 m	programmable	3
BCU 570	yes	yes	direct/pilot	100 m	programmable	4

Protective system control FCU 500

For monitoring and controlling central safety functions in multiple burner systems on industrial furnaces

- Gas pressure monitoring
- Air pressure monitoring
- Pre-purge
- Tightness test or proof of closure function (optional)
- Temperature monitoring (optional)
- Fieldbus connection (optional)



Protective system control FCU 500

Type code

FCU	Protective system control
500	Series 500
Q	Mains voltage 120 V AC, 50/60 Hz
W	Mains voltage 230 V AC, 50/60 Hz
C0	No valve proving system
C1	Valve proving system
F0	No capacity control
F1	Modulating with IC interface
F2	Modulating with RBW interface
H0	No temperature monitoring
H1	With temperature monitoring
K0	No connection plugs
K1	Connection plugs with screw terminals
K2	Connection plugs with spring force terminals
-E	Individual packaging

Technical
Information
FCU 500

For monitoring and controlling central safety functions in multiple burner systems on industrial furnaces, checking of the valves and system for tightness using a valve proving system, safe recording of the furnace chamber temperature on high temperature equipment by a temperature monitor or temperature limiter, long service life due to replaceable power module for fail-safe outputs, can be programmed according to customer requirements, EU certified, FM and EAC approved, certified for systems up to SIL 3 (compliant with PL e), FCU..H0: CSA approved.

Designation	Order no.	€/item
For staged control		
FCU 500WC0F0H0K1-E	88621025	1,283.00
Versions		
Valve proving system		
FCU 500..C1	surcharge	418.10
Capacity control		
FCU 500..F1	surcharge	143.30
FCU 500..F2	surcharge	143.30
Temperature monitoring		
FCU 500..H1	surcharge	597.30
Connection plugs		
FCU 500..K1 with connection plugs with screw terminals	surcharge	35.40
FCU 500..K2 with connection plugs with spring force terminals ...	surcharge	47.40

Accessories for FCU 500

Designation	Order no.	€/item
Connection plugs with screw terminals		
Connection plugs FCU 500+BCU 56x/580..K1	74923998	52.70
Connection plugs with spring force terminals		
Connection plugs FCU 500+BCU 56x/580..K2	74924000	65.90

Other accessories,
cf. page 103

Automatic burner control units for continuous operation IFD 244, IFD 258

Type code

IFD	Automatic burner control unit for continuous operation
2	Series 200
4	Ionization control
5	Ionization or UV control
4	Restart in the event of flame failure
8	Immediate fault lock-out or restart, switchable
-3	Safety time on start-up: 3 s
-5	Safety time on start-up: 5 s
-10	Safety time on start-up: 10 s
/1	Safety time operation: 1 s
W	Mains voltage 230 V AC, 50/60 Hz
Q	Mains voltage 120 V AC, 50/60 Hz
Y	Mains voltage 200 V AC, 50/60 Hz
P	Mains voltage 100 V AC, 50/60 Hz
I	Integrated electronic ignition

Automatic burner control units for monitoring and control of gas burners, approved for continuous operation, 1 valve connection, IP 54, EU certified, AGA, FM, CSA and EAC approved.

IFD 244



Automatic burner control units IFD 244

Ionization control, 230 V AC, for grounded mains.

Designation	Order no.	€/item
IFD 244-3/1W	84621025	312.70
IFD 244-5/1W	84621045	312.70
IFD 244-10/1W	84621065	312.70
With integrated electronic ignition		
IFD 244-3/1WI	84621026	400.20
IFD 244-5/1WI	84621046	400.20
IFD 244-10/1WI	84621066	400.20

[Technical Information](#)
[IFD 244](#)

IFD 258



Automatic burner control units IFD 258

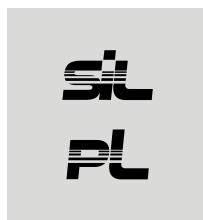
In conjunction with UV sensor UVS, only intermittent operation available, single-electrode operation possible.

Designation	Order no.	€/item
230 V AC, for grounded and ungrounded mains		
IFD 258-3/1W	84621610	363.40
IFD 258-5/1W	84621630	363.40
IFD 258-10/1W	84621650	363.40
120 V AC, for grounded and ungrounded mains		
IFD 258-3/1Q	84621410	363.40
IFD 258-5/1Q	84621430	363.40
IFD 258-10/1Q	84621450	363.40

[Technical Information](#)
[IFD 258](#)

UV sensors,
cf. page 141

IFD 258 also available in 100 V AC or 200 V AC version no surcharge



Burner control units BCU 400

Technical
Information BCU 4

Type code

BCU	Burner control unit
4	Series 400
40	Basic version
60	Standard version
65	Extended air control
80	Version for pilot and main burners
-3	1 st safety time on start-up: 3 s
-5	1 st safety time on start-up: 5 s
-10	1 st safety time on start-up: 10 s
/3	2 nd safety time on start-up: 3 s
/5	2 nd safety time on start-up: 5 s
/1	Safety time operation: 1 s
/2	Safety time operation: 2 s
L	Air valve control
R	Mains voltage 115 V AC, 50/60 Hz, for grounded and ungrounded mains
W	Mains voltage 230 V AC, 50/60 Hz, for grounded and ungrounded mains
1	Ignition transformer TZI 5-15/100
2	Ignition transformer TZI 7-25/20
3	Ignition transformer TZI 7,5-12/100
8	Ignition transformer TZI 7,5-20/33
GB	Front film in English with additional stickers in D, F, I, NL, E
P	Integrated industrial chassis plug, 16-pin*
D2/D3	Digital input for high temperature operation
S2-4	Number of start-up attempts, burner/pilot
/2-4	Number of start-up attempts, main burner
A	Air flow monitoring
U	Configured and prepared for UVC 1
C	With circuit board for signal distribution
B1	PROFIBUS DP interface
/1	Integrated Variosub PROFIBUS DP chassis socket, 9-pin**
E1	Voltage for valves and ignition transformer via L1

For controlling, igniting and monitoring impulse-controlled, modulating-controlled or stage-controlled gas burners, for continuous operation (in conjunction with UV sensor UVS, only intermittent operation available).

The burner control unit BCU® unites the functionally interrelated components of automatic burner control unit, ignition transformer, Automatic/Manual mode changeover switch and display of operating and fault statuses in a compact metal housing. It is used near the burner to be monitored. Display of the program status, unit parameters and flame signal. Diagnosis and adjustment of unit parameters via an optical interface, BCU 460/465/480 with Manual mode, BCU..L with air valve control, BCU..B1/1 with PROFIBUS DP interface, BCU 46x/480..D2/D3 with digital input for high temperature operation, can be programmed according to customer requirements, EU certified, AGA, FM, CSA and EAC approved, certified for systems up to SIL 3 (compliant with PL e).

Designation	Order no.	€/item
For directly ignited burners of unlimited capacity		
BCU 460-3/1W1GBE1	88610893	995.50
BCU 460-3/1W3GBE1	88610894	1,014.30
BCU 460-5/1W1GBE1	88610895	995.50
BCU 460-5/1W3GBE1	88610896	1,014.30
For directly ignited burners of unlimited capacity, with air valve control		
BCU 460-3/1LW1GBE1	88610897	1,062.30
BCU 460-3/1LW3GBE1	88610898	1,081.10
BCU 460-5/1LW1GBE1	88610899	1,062.30
BCU 460-5/1LW3GBE1	88610900	1,081.10
With extended air control		
BCU 465-3/1LW1GBACE1	88610901	1,218.60
BCU 465-3/1LW3GBACE1	88610902	1,237.40
BCU 465-5/1LW1GBACE1	88610903	1,218.60
BCU 465-5/1LW3GBACE1	88610904	1,237.40
For pilot and main burners of unlimited capacity, both burners can be monitored independently, with air valve control		
BCU 480-5/3/1LW1GBE1	88610905	1,226.40
BCU 480-5/3/1LW3GBE1	88610906	1,245.20
BCU 480-10/3/1LW1GBE1	88610907	1,226.40
BCU 480-10/3/1LW3GBE1	88610908	1,245.20

Designation	Order no.	€/item
Versions		
BCU..R, mains voltage 115 V AC, 50/60 Hz	no surcharge	
BCU..P with 16-pin industrial chassis plug	surcharge	73.60
BCU..D2/D3 with digital input		
for high temperature operation	surcharge	99.30
BCU..U configured for continuous operation using UVC 1	surcharge	49.80
BCU..C with circuit board for signal distribution	surcharge	49.80
BCU..B1/1 with PROFIBUS DP interface and		
9-pin Variosub PROFIBUS DP chassis socket	surcharge	213.80

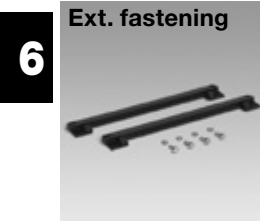
* Corresponding line socket must be ordered separately, cf. Accessories
** Corresponding line plug must be ordered separately, cf. Accessories



Accessories for BCU 400

Designation	Order no.	€/item
Line socket for BCU..P, 16-pin	74919469	39.70
External securing bar for BCU 400	74960414	29.80
Fastening set BCU 400	74960422	30.60
Variosub PROFIBUS DP line plug for BCU 400..B1/1, 9-pin	74960431	77.90

Other accessories,
cf. page 103



BCU 400

BCM


Burner control units BCU 400 – Next Generation

Available soon

For controlling, igniting and monitoring impulse-controlled, modulating-controlled or stage-controlled gas burners. The burner control unit BCU® unites the functionally interrelated components of automatic burner control unit, ignition transformer, Automatic/Manual mode changeover and display of operating and fault statuses in a compact metal housing. It is used near the burner to be monitored. Display of the program status, unit parameters and flame signal. Diagnosis and adjustment of unit parameters via an optical interface. BCU 46x/480..Dx for high temperature operation. EU certified; certified for intermittent operation, continuous operation and for systems up to SIL 3 (compliant with PL e). Further approvals (FM, CSA, AGA and EAC) in preparation.

New additional functions:

- 4-digit 7-segment display
- Parameter Chip Card for easy replacement
- Additional valve outputs
- Capacity control optimized for high numbers of operating cycles.
- Power module with wear parts can be replaced.
- Air valve control with semi-conductor output (BCU 46x/480..F3).
- High temperature operation with menox® functionality.
- Valve proving system (BCU 4xx..C1).
- Failsafe bus communication within the protective system (FCU 500 – BCU 4xx) in preparation.
- Optional inputs.

Bus module BCM 400 for BCU 4xx

Bus module BCM 400 for connecting BCU 4xx units to an automation system. Start, reset and capacity adjustment can be controlled using the fieldbus. The current program status, the signal status of the inputs and outputs (BCU) as well as the flame signal and statistical data can be read via the fieldbus. Bus modules are available for PROFIBUS, PROFINET and Ethernet/IP. Parallel operation is possible.

BCU 500



Burner control units BCU 560, BCU 565, BCU 580

Type code

BCU	Burner control unit
5	Series 500
60	Standard version
65	Extended air control
80	Version for pilot and main burners
Q	Mains voltage 120 V AC, 50/60 Hz
W	Mains voltage 230 V AC, 50/60 Hz
C0	No valve proving system
C1	Valve proving system
F0	No capacity control
F1	Modulating with IC interface
F2	Modulating with RBW interface
F3	Air valve control
U0	Ionization or UV control in case of operation with gas
D0	No high temperature operation
D1	High temperature operation
K0	No connection plugs
K1	Connection plugs with screw terminals
K2	Connection plugs with spring force terminals
-E	Individual packaging

Technical
Information
BCU 560, 565

For controlling, igniting and monitoring impulse-controlled, modulating-controlled or stage-controlled gas burners, for continuous operation (in conjunction with UV sensor UVS, only intermittent operation available).

The burner control unit BCU® unites the functionally interrelated components of automatic burner control unit, Manual/Automatic mode changeover and display of operating and fault statuses in a compact plastic housing for mounting on a DIN rail in a control cabinet. Display of the program status, unit parameters and flame signal. Diagnosis and adjustment of unit parameters via an optical interface, BCU 56x/580 with Manual mode, BCU..F1-F3 with capacity control, BCU 56x/580..D1 with digital input for high temperature operation, BCU 56x/580..C1 with valve proving system, can be programmed according to customer requirements, EU certified, AGA, FM, CSA and EAC approved, certified for systems up to SIL 3 (compliant with PL e).

Designation	Order no.	€/item
For directly ignited burners of unlimited capacity		
BCU 560WC0F0U0D0K1-E	88670029	495.10
For directly ignited burners of unlimited capacity, with capacity control		
BCU 560WC0F3U0D0K1-E	88670187	561.60
With extended air control		
BCU 565WC0F3U0D0K1-E	88670185	665.60
For pilot and main burners of unlimited capacity, both burners can be monitored independently, with capacity control		
BCU 580WC0F1U0D0K1-E	88670186	798.60
Versions		
Valve proving system		
BCU 5..C1	surcharge	257.10
Capacity control		
BCU 5..F1	surcharge	143.30
BCU 5..F2	surcharge	143.30
BCU 5..F3	surcharge	66.50
High temperature operation		
BCU 5..D1	surcharge	97.00
BCU 5..D2	surcharge	145.40
Connection plugs		
BCU 5..K1	surcharge	35.40
BCU 5..K2	surcharge	47.40

Accessories for BCU 500

Designation	Order no.	€/item
Connection plugs with screw terminals		
Connection plugs FCU 500+BCU 56x/580..K1	74923998	52.70
Connection plugs with spring force terminals		
Connection plugs FCU 500+BCU 56x/580..K2	74924000	65.90

Other accessories,
cf. page 103

PFU



Burner control units PFU 700

Type code

PFU	Burner control unit
7	Series 700
60	Standard version
80	Version for pilot and main burners
L	Air valve control
T	Mains voltage 220/240 V AC, 50/60 Hz, for grounded and ungrounded mains
N	Mains voltage 110/120 V AC, 50/60 Hz, for grounded and ungrounded mains
D	Digital input for high temperature operation
U	Configured and prepared for UVC 1
K1	Replacement for PFS/PFD
K2	Replacement for PFU 778/798

Technical
Information PFU 7

19" rack-mounted burner control unit, for controlling, igniting and monitoring impulse-controlled, modulating-controlled or stage-controlled gas burners, for continuous operation (in conjunction with UV sensor UVS, only intermittent operation available). Display of the program status, unit parameters and flame signal; Manual mode for burner adjustment and for diagnostic purposes; visualization and adaptation to the specific application via the PC programming and diagnostic software BCSoft. Optionally available with air valve control and PROFIBUS DP connection via fieldbus interface PFA, FM, EAC and AGA approved, certified for systems up to SIL 3 (compliant with PL e).

Designation	Order no.	€/item
For directly ignited burners		
Safety time on start-up: 3 s		
PFU 760LT	88650016	509.00
Safety time on start-up: 5 s		
PFU 760LT	88650011	509.00
For directly ignited burners, with digital input for high temperature operation		
Safety time on start-up: 3 s		
PFU 760LTD	88650377	610.20
Safety time on start-up: 5 s		
PFU 760LTD	88650378	610.20
For directly ignited burners, with multi-flame control		
Safety time on start-up: 3 s		
PFU 760LT	88650135	509.00
Safety time on start-up: 5 s		
PFU 760LT	88650136	509.00
For pilot and main burners of unlimited capacity		
1 st safety time on start-up: 5 s,		
2 nd safety time on start-up: 3 s		
PFU 780LT	88650133	676.40
1 st safety time on start-up: 10 s,		
2 nd safety time on start-up: 3 s		
PFU 780LT	88650134	676.40
For pilot and main burners of unlimited capacity, with digital input for high temperature operation		
1 st safety time on start-up: 5 s,		
2 nd safety time on start-up: 3 s		
PFU 780LTD	88650379	777.60
1 st safety time on start-up: 10 s,		
2 nd safety time on start-up: 3 s		
PFU 780LTD	88650380	777.60

Designation	Order no.	€/item
Versions		
PFU..N, mains voltage 110–120 V AC, 50/60 Hz	no surcharge	
PFU..U configured and prepared for		
continuous operation using UVC 1	no surcharge	
PFU without air valve control	reduction	68.10

PFU 760/780 as replacement for PFS/PFD/PFU

Replacement for PFS/PFD

Pre-set at the factory for adjustment to the product which is to be replaced.

Please quote the order number, mains voltage, the settings of switches S1–S5 and the position of potentiometer P1 when ordering.

Replacement for PFU

Pre-set at the factory for adjustment to the product which is to be replaced.

Please quote the order number and device parameters when ordering.

A separate opto-adapter and the BCSOFT PC software are required to configure the PFU 760/780. The mains voltage is not adjustable.

Old	New	Application
PFS/PFD 778..S	PFU 760..K1	Direct ignition, no air valve control
PFS/PFD 778..M	PFU 760..K1	Direct ignition, programmable multi-flame control
PFS/PFD 778..L	PFU 760..L..K1	Direct ignition, air valve control
PFS/PFD 778..D	PFU 760..L..K1	Direct ignition, air valve control, programmable multi-flame control
PFU 778	PFU 760..L..K2	Direct ignition, air valve control
PFU 798	PFU 780..L..K2	Pilot/main burner, air valve control


BGT

Module subrack BGT S-9U/1 for PFU 760, PFU 780

consisting of:

module subrack, printed-circuit board with rear terminal strip, function-tested, standard documentation, guide rails, without partial front plates, screw terminals at the rear.

Slots 1 – 9 for PFU 760 or PFU 780, slot 10 for PFP 700

Designation	Order no.	€/item
BGT S-9U/1	84402281	796.20
Other versions	on request	


PFR 704

Relay module PFR 704

For signal decoupling, controlled by 24 V DC/AC, 110/120 V AC or 220/240 V AC, with 4 independent relays.

Designation	Order no.	€/item
PFR 704T/N/K/H	84373510	256.00

PFP 700

Power supply PFP 700

For supplying the control inputs of burner control units PFU, output rating: 24 V DC, 600 mA, mains voltage switchable from 110/120 V AC to 220/240 V AC, 50/60 Hz.

Designation	Order no.	€/item
PFP 700T/N	84366510	477.10

PFA

Fieldbus interface PFA
Type code

PFA	Fieldbus interface
7	Series 700
00	Standard version
10	Version for pilot and main burners
T	Mains voltage 220/240 V AC, 50/60 Hz
N	Mains voltage 110/120 V AC, 50/60 Hz

Technical
Information PFA,
BGT

For interworking of burner control units PFU to PROFIBUS DP. With the PFA 700 in module subrack BGT SA-9U/1-DP700, a maximum of nine burner control units PFU 760 can be controlled via the PROFIBUS DP, while with the PFA 710 in module subrack BGT SA-8U/1-DP710 the maximum is eight burner control units PFU 780.

The fieldbus interface PFA 700/710, together with the module subrack BGT, complies with the Low Voltage Directive (2006/95/EC) and the EMC Directive (2004/108/EC). It includes an integrated power supply for the bus interface and the inputs of the burner control units as well as code switches for addressing.

Designation	Order no.	€/item
Standard version		
PFA 700T	84395111	1,132.80
PFA 700N	84395112	1,132.80
Version for pilot and main burners		
PFA 710T	84395113	1,302.80
PFA 710N	84395114	1,302.80
Replacement for PFA 700A (84395100)*		
PFA 700T with PROFIBUS plug	84395101	1,132.80
PFA 700N with PROFIBUS plug	84395102	1,132.80

* For replacing the PFA 700A (84395100) in existing systems with BGT SA-9U/1DP (84402283), the enclosed PROFIBUS plug with protective circuit must be used.

Accessories for PFA

Designation	Order no.	€/item
PROFIBUS plug with protective circuit	74960621	112.20

Other accessories,
cf. page 103

BGT

Module subrack BGT SA for PFA 700/PFU 760 and PFA 710/PFU 780

consisting of:

module subrack, printed-circuit board with rear terminal strip, function-tested, standard documentation, guide rails, without partial front plates, screw terminals at the rear, relays and screw terminals for four free inputs and four free outputs, connection to PROFIBUS DP with D-Sub socket.

BGT SA-9: slot 1 for PFA 700, slots 2-10 for PFU 760,

BGT SA-8: slot 1 for PFA 710, slots 2-9 for PFU 780

Designation	Order no.	€/item
BGT SA-9U/1 DP700	84402291	814.00
BGT SA-8U/1 DP710	84402292	814.00

MPT 700

Impulse system MPT 700

For all gas-fired heat-treatment furnaces where recirculation of the furnace atmosphere ensures a constant temperature distribution, thereby allowing shorter heating-up periods. For converting a controller signal to switch-on/switch-off times for gas burners in the case of intermittent operation, linear response between actuating signal and burner capacity, control of up to 8 burners, various operating modes, single- and two-zone operation, mains voltage: 110-240 V AC, 50/60 Hz.

Designation	Order no.	€/item
MPT 700A	84395050	2,343.00

[Brochure MPT 700](#)

BGT

Module subrack BGT SM-8U/1/1 for MPT 700 and PFU 760, PFU 780

consisting of:

module subrack, printed-circuit board with rear terminal strip, function-tested, standard documentation, guide rails, without partial front plates, screw terminals at the rear, single-zone operation for MPT 700 operating modes 1-4, two-zone operation for MPT 700 operating modes 1-4, but max. 4 burners per zone.

Slot 1 for MPT 700, slots 2 – 9 for PFU 760 or PFU 780, slot 10 for PFP 700

Designation	Order no.	€/item
BGT SM-8U/1/1	84402282	918.10
Other versions	on request	

Accessories for 19" boards

Designation	Order no.	€/item
Rack-mounted fan modules		
19" rack-mounted fan module 3U/84HP, 115 V AC	04065415	758.90
19" rack-mounted fan module 3U/84HP, 230 V AC	04065416	516.60
For PFx 7xx		
Socket connector E, 48-pin solder tag connection	04120148	29.70
Socket connector E, 48-pin wire-wrap connection	04120158	34.80
For MPT 700		
Socket connector F, 48-pin solder tag connection	04120143	29.70
Socket connector F, 48-pin wire-wrap connection	04120142	34.80

Customized 19" module subrack 3U/84HP for PFU, PFF, PFR, PFP and MPT 700

Module subrack for Kromschroder process firing systems of the series 700 (PFU, PFF, PFR, PFP and MPT 700), consisting of: module subrack, customized wiring (wire wrap) with rear terminal strip, function check, customer-specific documentation, guide rails and where necessary partial front plates, also in wall-mounted housing for electronics.



Burner control units BCU 370

Type code

BCU	Burner control unit
370	Series 370
Q	Mains voltage 120 V AC, 50/60 Hz
W	Mains voltage 230 V AC, 50/60 Hz
—	Without ignition
I1	Electronic ignition, single-pole
I2	Electronic ignition, double-pole
I3	Electronic ignition, double-pole with neutral conductor
F	Fan control
E	Valve control
U0	Ionization control (continuous op.) or UV control (intermittent op. with UVS)
U1	UV control (continuous operation with UVC 1)
D1	DGmax. monitoring
D3	Integrated tightness control
B1	PROFIBUS DP interface
-3	Three-point step control via PROFIBUS DP

Technical
Information
BCU 370

Accessories,
cf. page 103

For controlling, igniting and monitoring industrial forced draught burners of unlimited capacity in intermittent or continuous operation (in conjunction with UV sensor UVS, only intermittent operation available) for applications pursuant to EN 676.

It can be used for directly ignited forced draught burners or forced draught burners ignited with a gas pilot. Programmable via an optical interface and the PC software BCSOft, with optional quick start without pre-purge, display of the program status, unit parameters and flame signal, integrated Manual mode for manual burner start, BCU 370..

D3 with tightness control function, BCU 370..B1 with PROFIBUS DP interface, can be programmed according to customer requirements, EU certified, AGA, FM, CSA (USA, Canada) and EAC approved, UL listed.

Designation	Order no.	€/item
Without ignition; DGmax. monitoring		
BCU 370WFEU0D1	88600015	595.50
Without ignition; integrated tightness control		
BCU 370WFEU0D3	88600023	862.70
Electronic ignition, single-pole*; DGmax. monitoring		
BCU 370WI1FEU0D1	88600001	687.10
Electronic ignition, single-pole*; integrated tightness control		
BCU 370WI1FEU0D3	88600206	954.30
Versions		
BCU 370..B1 with PROFIBUS DP interface, connection in the lower section of the housing	surcharge	216.90
BCU 370..B1-3 with three-point step control via PROFIBUS DP	surcharge	372.70

* Note the cable length and ignition energy (cf. Technical Information)

BCU 570**Burner control units BCU 570****Type code**

BCU	Burner control unit
570	Series 570
Q	Mains voltage 120 V AC, 50/60 Hz
W	Mains voltage 230 V AC, 50/60 Hz
C0	No valve proving system
C1	Valve proving system
F1	Modulating with IC interface
F2	Modulating with RBW interface
U0	Ionization or UV control in case of operation with gas
K0	No connection plugs
K1	Connection plugs with screw terminals
K2	Connection plugs with spring force terminals
-E	Individual packaging

For controlling, igniting and monitoring single or forced draught burners of unlimited capacity in continuous operation (in conjunction with UV sensor UVS, only intermittent operation available) for applications pursuant to EN 746-2. For directly ignited burners or burners ignited with a gas pilot, programmable via an optical interface and PC software BCSOFT, performs central safety functions such as pressure monitoring, valve check, pre-purge and control of an actuator, for mounting on a DIN rail in a control cabinet, can be programmed according to customer requirements, AGA, FM, CSA and EAC approved, UL listed, EU certified, certified for systems up to SIL 3 (compliant with PL e).

Designation	Order no.	€/item
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For 230 V AC, modulating with IC interface, connection plugs with screw terminals

BCU 570WC0F1U0K1-E	88660053	868.00
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For 230 V AC, modulating with RBW interface, connection plugs with spring force terminals

BCU 570WC0F2U0K1-E	88660059	868.00
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Versions

BCU 570..C1 with valve proving system	surcharge	257.10
BCU 570..K1 with connection plugs with screw terminals	surcharge	35.40
BCU 570..K2 with connection plugs with spring force terminals	surcharge	47.40

Accessories for BCU 500

Designation	Order no.	€/item
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Connection plugs with screw terminals

Connection plugs BCU 570..K1	74923997	46.10
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Connection plugs with spring force terminals

Connection plugs BCU 570..K2	74923999	59.30
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OCU**Operator-control unit OCU for FCU/BCU 5xx**

Operator-control unit OCU for connection to a unit of the FCU/BCU 5xx product series. Display of device status in plain text, language can be changed, display of process values, statistics and unit parameters, control and adjustment of connected butterfly valves in Manual mode, for mounting on a control cabinet door, enclosure IP 65, designed for 23 mm holes in a 30 mm mounting grid, connection to control unit via 4-pin control line, cable lengths up to 10 m, suitable plugs supplied with OCU.

Designation	Order no.	€/item
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Switchable display: D, GB, F, NL, I, E

OCU 500-1	84327030	234.20
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Switchable display: GB, DK, S, N, TR, P

OCU 500-2	84327031	234.20
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Switchable display: GB, USA, E, P (BR), F

OCU 500-3	84327032	234.20
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Switchable display: GB, RUS, PL, HR, RO, CZ

OCU 500-4	84327033	234.20
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BCM 500

Bus module BCM 500 for FCU/BCU 5xx

Bus module BCM 500 for connection of FCU/BCU 5xx units to an automation system, start, reset and capacity adjustment can be controlled using the fieldbus. The current program status, the signal status of the inputs and outputs (FCU/BCU) as well as the flame signal and statistical data can be read via the fieldbus.

Designation	Order no.	€/item
For Profinet		
BCM 500S0B2/3-3	74960663	229.60
For Modbus TCP		
BCM 500S0B4/3-3	74960688	229.60

PCO 200

Opto-adapter for devices with optical interface

Opto-adapter for the diagnosis and parameterization of BCU, PFU and FCU as well as IC 40. Adapter with magnet holder for connecting to the device interface. PCO 200 with USB 2.0 interface. Cable length 3 m. PCO 300 with Bluetooth interface. Software: for Windows 98 and higher, overview of the process values, setting and documentation for the unit parameters, reading out of statistical data, line recorder function.

Designation	Order no.	€/item
PCO 200 including BCSOft CD-ROM	74960625	477.50
PCO 300 including BCSOft CD-ROM	74960617	711.90

PCO 300

Accessories for automatic burner control units

Designation	Order no.	€/item
Surge voltage protector 500 V	74960444	15.70
Diode GP10Y, 1 A, 1600 V	74960443	12.30

High-voltage cable

Designation	Order no.	€/m
High-voltage cable FZLK 1/7, -5 to +80°C	04250409	3.90
High-voltage cable FZLSi 1/7, -50 to +180°C	04250410	8.90



Combustion management system SLATE™

With the revolutionary integration of configurable safety and programmable logic, SLATE™ is easily customized for virtually any application in any industry, in less time and with far less complexity. The universal I/O scheme lets you choose how to use each module, and the customizable touch screen display or PC web browser (optimized for Chrome) allows you to easily change the end user experience. Burner management, steam generation, kilns and furnaces, commercial and industrial boilers, make-up air heating as well as applications in process heating are ideal areas of application for SLATE™.

CE marking pursuant to:

- EN 298 for burner control units in continuous operation
- EN 12067-2 for electronic gas/air ratio control systems
- EN 1854 for automatic valve proving systems
- SIL 3 compatible
- CSA/FM approved, UL listed (USA/Canada)
- IP 00/NEMA 1 enclosure (cabinet installation)

Ambient temperature: -10 to +60°C, max. humidity: 90% RH, operating mode: automatic, valve proving system: integrated, supply voltage: 24 V DC/24 – 264 V AC

Easy installation, efficient operation and fast maintenance due to:

- DIN rail mounting (modular platform)
 - On-board communications capabilities (Ethernet, Modbus RS485/TCP, BACnet)
 - Intuitive diagnostics (touch display, PC or smart phone via web browser)
 - Optimized energy efficiency (O₂ trim, VFD control)
 - On-board system guides
 - Plain-text status displays
 - Plug-and-play replacement (configurable modular concept)
 - Easy data backup (USB flash drive, SD cards)
 - Compatible with all current Honeywell C70xx series optical flame detectors and flame rods when selecting the correct flame amplifier module
- Each SLATE SLATE™ system requires a multi-voltage (24 V DC/24 V – 264 V AC) base module (R8001A1001), which is mounted directly on the DIN rail.
- Up to 12 SLATE™ modules can be connected to a single base module.
 - Each of the plug-in modules uses its own DIN rail mounting sub-base (R8001S9001).
- SLATE™ online configurator (English website):
<https://combustion.honeywell.com/slate/>
- Simplifies selection of modules and system design.
 - Provides download options for SLATE AX programming software, firmware upgrades and more.
 - Pre-configuration files are available for download to emulate the most commonly used burner control units.

Designation	Order no.	on request
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SLATE configurable safety modules

Base module	R8001A1001/U
Burner control module (add sub-base)	R8001B2001/U
Fuel/air ratio module (add sub-base)	R8001C6001/U
Limit control module (add sub-base)	R8001L8001/U

SLATE flame amplifier modules

IR Ampli-Check flame amplifier module (add sub-base)	R8001F1041/U
UV Shutter-Check flame amplifier module (add sub-base)	R8001S1051/U
UV Ampli-Check flame amplifier module (add sub-base)	R8001S1071/U
Rectification Ampli-Check flame amplifier module (add sub-base)	R8001V1031/U

SLATE programmable logic modules

Digital I/O module (add sub-base)	R8001D4001/U
Annunciator module (add sub-base)	R8001N7001/U
Analogue I/O module (add sub-base)	R8001U3001/U

SLATE additional modules

Web-based colour touch screen display	R8001K5001/U
DIN rail mounting sub-base (one per module needed)	R8001S9001/U
SLATE extension cable	50096820-001/U
SLATE connector kit	32008001-002/U

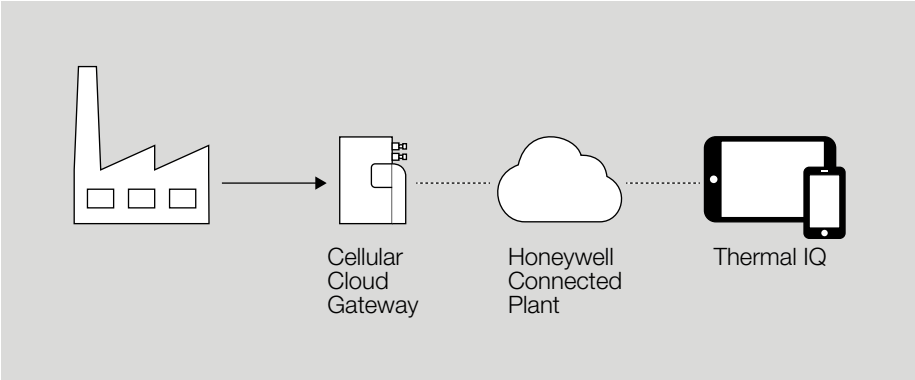
SLATE actuators (angle of rotation: 0 – 90°)

Actuator, 450 steps, 30 s runtime, 5.5 Nm, IP 40	R8001M1050/U
Actuator, 450 steps, 30 s runtime, 17 Nm, IP 40	R8001M1150/U
Actuator, 900 steps, 15 s runtime, 5.5 Nm, IP 66	R8001M4050/U
Actuator, 900 steps, 15 s runtime, 17 Nm, IP 66	R8001M4150/U
Actuator with 33 or 101 Nm	on request

Designation	Order no.	on request
SLATE PC software		
SLATE AX PC software, based on Niagara AX		on request
Flame rods and UV flame detectors		on request



Remote monitoring solution Thermal IQ™



Honeywell Thermal IQ for the remote monitoring of thermoprocessing equipment safely connects the system to the cloud and makes data pertaining to the thermoprocessing equipment available at any time and place and on every mobile terminal device. Enables proactive reaction to process faults leading to unplanned production downtime and loss in sales. Information about critical system conditions before they lead to a system failure. Remote diagnostics using a mobile device for a root cause analysis of faults in the thermoprocessing equipment.

The transfer of data over a cellular gateway to a secure cloud platform and push notifications to an authorized user via app allow further system details, status information and current system parameters to be retrieved. Thermal IQ unburdens employees in the areas of production and equipment maintenance.

- Thermal IQ Operate
- Remote display of process factors from the thermoprocessing equipment
 - Push notification in the event of system faults

- Thermal IQ Operate Advanced
- Remote display of process factors from the thermoprocessing equipment
 - Push notification in the event of system faults
 - Provision of basic analysis indicators

Designation	Order no.
Hardware	
Cellular gateway for control cabinet installation incl. SIM	on request
Monthly licensing fees	
Thermal IQ Operate	on request
Thermal IQ Operate Advanced	on request



Control units and control cabinets BS for burner control

consisting of:

sheet steel switch box RAL 7035, IP 54
with the following functions as an option

- Gas inlet section control
- Tightness test control
- Pre-purge control
- Protective system control FCU
- Burner control using IFS/IFD/BCU/PFU
- Cyclical control
- Control (temperature, pressure...)

Documentation in German/English, other languages on request

Please send for a quotation.



All-purpose control and switching systems

In cabinet design or fitted, for all areas of industrial and commercial furnace engineering, heating, air conditioning and ventilation, mechanical engineering, the chemical industry, process engineering and environmental protection. Conventional or 19" industrial control systems. Consultancy, planning and detailed customer-specific documentation: various functions and equipment configurations, top quality standard through the use of high-grade products, meticulous finishing and testing. To order complete with installation and commissioning.

7a Direct fired furnace burners

Kromschröder – Burners

Type code

BIO, ZIO	Burner for gas
BIOA	Burner for gas, with aluminium housing
BIOW, ZIOW	Burner for gas, with ceramic fibre insulation (RCF)
BIC, ZIC	Burner for gas, with connection for ceramic tube
BICA	Burner for gas, with aluminium housing and connection for ceramic tube
BICW, ZICW	Burner for gas, with ceramic fibre insulation (RCF)
50-200	Burner size
R	Cold air
K	Flat flame
H	Hot air/high furnace temperature
L	For high excess air and a large ignition range
M	For menox low NOx operation
B	Natural gas
D	Coke oven gas, town gas
G	Propane, propane/butane, butane
M	Propane, propane/butane, butane (with mixer)
L	Low calorific value gas
F	Biogas
L	Torch
R	Reduced capacity
-X	X mm length of steel tube as of furnace flange (L1)
/X	X mm distance from furnace flange to front edge of burner head (L2)
-(X)	Burner head identifier
A-Z	Construction stage
B	With purge air bore holes
R	For annular excess air burner housing
H	High temperature version

Robust design for applications in industry, directly ignited, ionization control, high turn-down. Burner lengths to order in 100 mm increments. Flexibility through the use of BIO(A) burners in burner blocks and BIC(A) burners in combination with silicon carbide ceramic tubes. Upgrading from BIO(A) to BIC(A) is possible.

Max. capacities of burners BIO, BIOA, BIOW, ZIO, ZIOW

Type	kW	Type	kW
BIO 50	40	BIO(W) 125	320
BIO(A) 65	90	BIO(W) 140	450
BIO(W) 80	150	ZIO(W) 165	630
BIO(W) 100	230	ZIO(W) 200	1000



Kromschröder – Burners BIO

Cast steel housing in combination with stainless steel burner tube. With pressure test points for gas and air pressure. Gas flow rate can be adjusted using a restrictor (except burner size 50). The following prices are valid for the shortest versions; prices for other lengths/gas types on request.

Designation	Order no.	€/item
BIO 50RB-50/35-(39)D	84015511	1,206.50
BIO 50HB-100/35-(37)D	84015510	1,206.50
BIO 50KB-40/35-(34)D	84015416	1,206.50
BIO 65RB-50/35-(37)E	84014118	1,306.80
BIO 65HB-100/35-(34)E	84014014	1,306.80
BIO 65KB-50/35-(46)E	84014116	1,306.80
BIO 80RB-50/35-(6)E	84021017	1,446.30
BIO 80HB-100/35-(16)F	84021014	1,446.30
BIO 80KB-50/35-(8)E	84021016	1,446.30
BIO 100RB-50/35-(109)E	84012219	1,645.90
BIO 100HB-100/35-(37)E	84012014	1,645.90
BIO 100KB-50/35-(41)E	84012116	1,645.90
BIO 125RB-50/35-(15)E	84023017	2,427.80
BIO 125HB-100/35-(2)E	84023014	2,427.80
BIO 125KB-50/35-(20)E	84023019	2,427.80
BIO 140RB-50/35-(47)E	84008018	3,242.90
BIO 140HB-100/35-(26)E	84008014	3,242.90
BIO 140KB-50/35-(66)E	84008015	3,242.90

Technical
Information BIO,
BIOA, BIOW, ZIO,
ZIOW



BIOA

Kromschröder – Burners BIOA

Aluminium housing in combination with stainless steel burner tube. With pressure test points for gas and air pressure. The following prices are valid for the shortest versions; prices for other lengths/gas types on request.

Designation	Order no.	€/item
BIOA 65RB-50/35-(37)D	84022511	1,097.00
BIOA 65HB-100/35-(34)D	84022510	1,097.00

Technical
Information BIO,
BIOA, BIOW, ZIO,
ZIOW



ZIO 165

Kromschröder – Burners ZIO

Sheet steel housing in combination with stainless steel burner tube. With pressure test points for gas and air pressure. The following prices are valid for the shortest versions; prices for other lengths/gas types on request.

Designation	Order no.	€/item
ZIO 165RB-50/35-(17)D	84246117	4,000.40
ZIO 165HB-100/35-(18)D	84246114	4,000.40
ZIO 165KB-50/35-(25)D	84246116	4,000.40
ZIO 200RB-50/35-(20)D	84277017	6,037.90
ZIO 200HB-100/35-(21)D	84277014	6,037.90
ZIO 200KB-50/35-(34)D	84277016	6,037.90

Technical
Information BIO,
BIOA, BIOW, ZIO,
ZIOW

Kromschröder – Burners BIO, ZIO with integrated torch

Burners BIO, ZIO ignited by integrated torch instead of spark electrode. Separate gas and air connections for torch, capacity P = 1.5 kW.

[Technical Information BIO, BIOA, BIOW, ZIO, ZIOW](#)

Designation	Order no.	€/item
BIO		
BIO 80RBL-50/35-(11)E	84021010	1,662.30
BIO 80HBL-100/35-(34)F	84021011	1,662.30
BIO 100RBL-50/35-(11)E	84012310	1,893.60
BIO 100HBL-100/35-(49)E	84012011	1,893.60
BIO 100KBL-50/35-(52)E	84012012	1,893.60
BIO 125RBL-50/35-(17)E	84023010	2,791.90
BIO 125HBL-100/35-(9)E	84023011	2,791.90
BIO 125KBL-50/35-(21)E	84023110	2,791.90
BIO 140RBL-50/35-(54)E	84008011	3,728.20
BIO 140HBL-100/35-(44)E	84008010	3,728.20
BIO 140KBL-50/35-(67)E	84008215	3,728.20
ZIO		
ZIO 165RBL-50/35-(20)D	84246012	4,600.30
ZIO 165HBL-100/35-(24)D	84246011	4,600.30
ZIO 200RBL-50/35-(25)D	84277067	6,943.20
ZIO 200HBL-100/35-(23)D	84277064	6,943.20
ZIO 200KBL-50/35-(38)D	84277116	6,943.20

BIOW, ZIOW**Kromschröder – Burners BIOW, ZIOW, high temperature version**

Sheet steel housing with internal insulation, electrodes with air connection, burner head made of heat-resistant steel, stainless steel burner tube, can be used with air preheat temperatures of up to 600°C.

[Technical Information BIO, BIOA, BIOW, ZIO, ZIOW](#)

Designation	Order no.	€/item
Surcharges compared to corresponding BIO and ZIO burners		
BIOW 65..(..E)H	surcharge	1,084.10
BIOW 80..(..E)H	surcharge	1,190.50
BIOW 100..(..E)H	surcharge	1,315.20
BIOW 125..(..E)H	surcharge	1,710.90
BIOW 140..(..E)H	surcharge	1,945.50
ZIOW 165..(..E)H	surcharge	2,193.80
ZIOW 200..(..E)H	surcharge	2,441.00

Kromschröder – Flame tubes FPT

For protection of the flame from cooling (recommended at flow velocities of > 15 m/s).
BR = burner size, the first number indicates the diameter D of the flame tube, the second its length and the third the length of the slot. If the flame tube is open at the front, only the diameter and length are specified. Versions for BR 165 and 200 on request.

Technical
Information BIO,
BIOA, BIOW, ZIO,
ZIOW

Designation	Order no.	€/item
Lateral opening		
FPT BR 50-100/500/300/50	74214537	688.40
FPT BR 65-100/950/500/50	74214540	870.90
FPT BR 80-125/1300/700/50	74214544	1,035.10
FPT BR 100-150/1300/900/100	74214648	1,285.50
FPT BR 125-195/1350/1000/100	74215111	1,343.00
FPT BR 140-220/1650/1100/100	74215112	1,577.90
Front opening		
FPT BR 50-100/500	74214536	559.90
FPT BR 65-100/500	74214538	559.90
FPT BR 80-125/600	74339596	622.20
FPT BR 100-150/700	74214565	746.20
FPT BR 125-195/950	74214569	945.90
FPT BR 140-220/1150	74214337	1,110.00
Surcharge per 100 mm for		
FPT BR 50-100/..	surcharge	40.50
FPT BR 65-100/..	surcharge	40.50
FPT BR 80-125/..	surcharge	40.50
FPT BR 100-150/..	surcharge	71.00
FPT BR 125-195/..	surcharge	71.00
FPT BR 140-220/..	surcharge	71.00
FPT BR..A with flue gas measurement	surcharge	644.00

Max. capacities of burners BIC, BICA, BICW, ZIC, ZICW

Type	Ceramic tube	kW	Type	Ceramic tube	kW
BIC 50	B020	15	BIC(W) 100	A082	180
BIC 50	B028	30	BIC(W) 125	B066	200
BIC 50	A035	35	BIC(W) 125	B075	230
BIC(A) 65	B033	50	BIC(W) 125	A100	260
BIC(A) 65	B040	60	BIC(W) 140	B070	270
BIC(A) 65	A048	70	BIC(W) 140	B085	320
BIC(W) 80	B040	90	BIC(W) 140	A120	360
BIC(W) 80	B050	105	ZIC(W) 165	A154	630
BIC(W) 80	A064	120	ZIC(W) 165	B120	550*
BIC(W) 100	B050	130	ZIC(W) 200	A180	1000
BIC(W) 100	B065	160	ZIC(W) 200	B145	880*

* ZIC..HB for cold air only

BIC**Kromschröder – Burners BIC**

Cast steel housing, designed for the connection of ceramic burner tubes made of silicon carbide. With pressure test points for gas and air pressure. Gas flow rate can be adjusted using a restrictor (except burner size 50). The total burner length and maximum capacity are derived from the burner in combination with the ceramic tube. The following prices are valid for the shortest versions; prices for other lengths/gas types on request.

Designation	Order no.	€/item
BIC 50HB-0/35-(37)D	84030110	1,206.50
BIC 50HB-0/135-(37)D	84030114	1,206.50
BIC 50RB-0/35-(39)D	84030111	1,206.50
BIC 65RB-0/35-(37)E	84031011	1,306.80
BIC 65HB-0/35-(34)E	84031013	1,306.80
BIC 80RB-0/35-(6)E	84032011	1,446.30
BIC 80HB-0/35-(16)F	84032010	1,446.30
BIC 100RB-0/35-(109)E	84033219	1,645.90
BIC 100HB-0/35-(37)E	84033010	1,645.90
BIC 125RB-0/35-(15)E	84034014	2,427.80
BIC 125HB-0/35-(2)E	84034010	2,427.80
BIC 140RB-0/35-(47)E	84035037	3,242.90
BIC 140HB-0/35-(26)E	84035034	3,242.90

[Technical Information BIC, BICA, BICW, ZIC, ZICW](#)

BICA**Kromschröder – Burners BICA**

Aluminium housing, designed for the connection of ceramic burner tubes made of silicon carbide. With pressure test points for gas and air pressure. The total burner length and maximum capacity are derived from the burner in combination with the ceramic tube. The following prices are valid for the shortest versions; prices for other lengths/gas types on request.

Designation	Order no.	€/item
BICA 65RB-0/35-(37)D	84022011	1,097.00
BICA 65HB-0/35-(34)D	84022010	1,097.00

[Technical Information BIC, BICA, BICW, ZIC, ZICW](#)

ZIC**Kromschröder – Burners ZIC**

Sheet steel housing, designed for the connection of ceramic burner tubes made of silicon carbide. With pressure test points for gas and air pressure. Gas flow rate can be adjusted using a restrictor (except burner size 50). The total burner length and maximum capacity are derived from the burner in combination with the ceramic tube. The following prices are valid for the shortest versions; prices for other lengths/gas types on request.

Designation	Order no.	€/item
ZIC 165RB-0/35-(17)D	84246516	4,000.40
ZIC 165HB-0/35-(18)D	84246518	4,000.40
ZIC 200RB-0/35-(20)D	84277612	6,037.90
ZIC 200HB-0/35-(21)D	84277610	6,037.90

Technical
Information BIC,
BICA, BICW, ZIC,
ZICW

BIC..L**Kromschröder – Burners BIC, ZIC with integrated torch**

Burners BIC, ZIC ignited by integrated torch instead of spark electrode. Separate gas and air connections for torch, capacity P = 1.5 kW.

Designation	Order no.	€/item
BIC		
BIC 80RBL-0/35-(11)E	84032111	1,662.30
BIC 80HBL-0/35-(34)F	84032113	1,662.30
BIC 100RBL-0/35-(111)E	84033310	1,893.60
BIC 100HBL-0/35-(49)E	84033112	1,893.60
BIC 125RBL-0/35-(17)E	84034015	2,792.00
BIC 125HBL-0/35-(9)E	84034011	2,792.00
BIC 140RBL-0/35-(54)E	84035012	3,728.20
BIC 140HBL-0/35-(44)E	84035010	3,728.20
ZIC		
ZIC 165RBL-0/35-(20)D	84246517	4,600.30
ZIC 165HBL-0/35-(24)D	84246519	4,600.30
ZIC 200RBL-0/35-(25)D	84277613	6,943.50
ZIC 200HBL-0/35-(23)D	84277611	6,943.50

Technical
Information BIC,
BICA, BICW, ZIC,
ZICW

BICW, ZICW**Kromschröder – Burners BICW, ZICW, high temperature version**

Sheet steel housing with internal insulation, designed for the connection of ceramic burner tubes made of silicon carbide, electrodes with air connection, burner head made of heat-resistant steel, can be used with air preheat temperatures of up to 600°C.

Designation	Order no.	€/item
Surcharges compared to corresponding BIC and ZIC burners		
BICW 65..(..)E)H	surcharge	1,033.00
BICW 80..(..)E)H	surcharge	1,112.60
BICW 100..(..)E)H	surcharge	1,229.10
BICW 125..(..)E)H	surcharge	1,599.00
BICW 140..(..)E)H	surcharge	1,818.10
ZICW 165..(..)E)H	surcharge	2,050.20
ZICW 200..(..)E)H	surcharge	2,281.20

Technical
Information BIC,
BICA, BICW, ZIC,
ZICW

**Kromschroder – Ceramic tube sets TSC****Type code**

TSC	Ceramic tube set
50-200	Burner size
A	Cylindrical shape
B	Tapered shape
020-180	Outlet diameter [mm]
200-300	Length [mm]
/35-/135	Distance from furnace flange to front edge of burner baffle plate [mm]
Si	Silicon-infiltrated SiC
1500	Up to 1500°C

Technical
Information BIC,
BICA, BICW, ZIC,
ZICW

Ceramic burner tubes made of silicon carbide for attachment to BIC, ZIC and BICA burners. With burner tube seal. Other versions on request.

Designation	Order no.	€/item
TSC 50B020-300/135-Si-1500 Z	74919643	261.60
TSC 50B028-300/35-Si-1500	74921577	261.60
TSC 50A035-300/35-Si-1500	74921315	261.60
TSC 65B033-200/35-Si-1500	74917103	211.80
TSC 65B040-200/35-Si-1500	74917104	211.80
TSC 65A048-200/35-Si-1500	74921396	211.80
TSC 65B033-300/35-Si-1500	74918139	302.60
TSC 65B040-300/35-Si-1500	74918138	302.60
TSC 65A048-300/35-Si-1500	74918137	302.60
TSC 80B040-300/35-Si-1500	74924412	396.00
TSC 80B050-300/35-Si-1500	74924419	396.00
TSC 80A064-300/35-Si-1500	74924420	396.00
TSC 100B050-300/35-Si-1500	74918151	424.90
TSC 100B065-300/35-Si-1500	74918152	424.90
TSC 100A082-300/35-Si-1500	74918140	424.90
TSC 125B066-300/35-Si-1500	74922856	568.70
TSC 125B075-300/35-Si-1500	74922857	568.70
TSC 125A100-300/35-Si-1500	74922858	568.70
TSC 140B070-300/35-Si-1500	74918257	712.10
TSC 140B085-300/35-Si-1500	74916387	712.10
TSC 140A120-300/35-Si-1500	74916540	712.10
TSC 165B120-300/35-Si-1500	74924478	1,017.20
TSC 165A154-300/35-Si-1500	74923221	1,017.20
TSC 200B145-300/35-Si-1500	74924479	1,164.20
TSC 200A180-300/35-Si-1500	74923222	1,164.20

L-shaped TSC on request



Kromschröder – menox® burners BIC

Burners with extremely low NOx values, in conjunction with special burner control, capacities of 35 – 360 kW.

[Technical
Information BIC..M](#)

Designation	Order no.	€/item
BIC 65, rated capacity 35 kW in flame mode		
BIC 65MB-0/35-(104)E	84031410	1,690.60
TSC 65M035-300/35-Si-1500	74924399	302.60
BIC 80		
BIC 80MB-0/35-(57)E	84032410	1,885.10
Rated capacity 75 kW in flame mode		
TSC 80M075-300/35-Si-1500	74924400	396.00
Rated capacity 110 kW in flame mode		
TSC 80M110-300/35-Si-1500	74924534	396.00
BIC 100, rated capacity 180 kW in flame mode		
BIC 100MB-0/35-(118)E	84033610	2,152.10
TSC 100M180-300/35-Si-1500	74924547	424.90
BIC 125, rated capacity 260 kW in flame mode		
BIC 125MB-0/35-(26)E	84034310	3,027.20
TSC 125M260-300/35-Si-1500	74924401	568.70
BIC 140, rated capacity 360 kW in flame mode		
BIC 140MB-0/35-(75)E	84035410	4,305.90
TSC 140M360-300/35-Si-1500	74924562	712.10

Other lengths and types of gas on request



Kromschroder – Annular excess air burners

Type code

RSG	Annular excess air burner housing
100/140/200	Annular excess air burner housing size
65/100/140	Burner size
0-150	Annular excess air burner housing extension

Technical
Information BIC..R.
RSG

Annular excess air burner with two air connections for the exact setting of flame temperatures using lambda values up to 40. Consists of one burner BIC or BICA, one annular excess air burner housing RSG and two ceramic tubes TSC. Capacity data and type code of the primary burner correspond to that of the BIC(A) burners.

The following combinations are possible:

Designation	Order no.	€/item
RSG 100/65		
Overall length 250 mm		
RSG 100/65-0	74917146	354.20
BIC 65/50HBR-100/235-(108)ER	84199112	1,555.00
Relevant ceramic tube combinations		
Capacity 15 kW		
TSC 50B020-300/135-Si-1500 Z	74919643	261.60
TSC 100B050-250/35-Si-1500	74919644	424.90
Capacity 30 kW		
TSC 50B028-300/135-Si-1500 Z	74924200	261.60
TSC 100B050-250/35-Si-1500	74919644	424.90
RSG 100/65-0	74917146	354.20
BIC 65HB-100/235-(34A)ER	84031510	1,555.00
Relevant ceramic tube combinations		
Capacity 50 kW		
TSC 65B033-300/135-Si-1500 Z	74918307	302.60
TSC 100B050-250/35-Si-1500	74919644	424.90
Capacity 60 kW		
TSC 65B040-300/135-Si-1500 Z	74918306	302.60
TSC 100B065-250/35-Si-1500	74919649	424.90
Capacity 70 kW		
TSC 65A048-300/135-Si-1500 Z	74919520	302.60
TSC 100A082-250/35-Si-1500	74923509	424.90
RSG 140/100		
Overall length 300 mm		
RSG 140/100-0	74918101	499.30
BIC 100RB-150/185-(109)FR	84033510	2,046.00
BIC 100RBL-150/185-(111)FR	84033512	2,319.20
Relevant ceramic tube combinations		
Capacity 130 kW		
TSC 100B050-300/35-Si-1500	74918151	424.90
TSC 140B070-300/35-Si-1500	74918257	712.10
Capacity 200 kW		
TSC 100B065-300/35-Si-1500	74918152	424.90
TSC 140B085-300/35-Si-1500	74916387	712.10
Capacity 230 kW		
TSC 100A082-300/35-Si-1500	74918140	424.90
TSC 140A120-300/35-Si-1500	74916540	712.10
RSG 200/140		
Overall length 300 mm		
RSG 200/140-0	74921551	938.10
BIC 140RB-250/285-(47)ER	84099488	3,991.90
BIC 140RBL-250/285-(54)ER	84099589	4,590.70
Relevant ceramic tube combinations		
Capacity 320 kW		
TSC 140B085-300/35-Si-1500	74916387	712.10
TSC 200B107-300/35-Si-1500	74919731	1,135.80
Capacity 360 kW		
TSC 140A120-300/35-Si-1500	74916540	712.10
TSC 200A180-300/35-Si-1500	74923222	1,164.20

Other lengths and types of gas on request

Max. capacities of burners BIC..L

Type	Ceramic tube	kW	Type	Ceramic tube	kW
BIC 80	B033	85	BIC 100	B050	210
BIC 80	B040	140	BIC 140	B055	300
BIC 100	B040	180	BIC 140	B070	440

BIC..L**Kromschröder – Excess air burners BIC..L**

Excess air burners for all applications requiring precise temperature control and consistent product quality.

Designation	Order no.	€/item
BIC 80LB-0/35-(59)F	84032119	1,592.30
TSC 80B033-250/35-Si-1500	74920925	357.60
TSC 80B040-250/35-Si-1500	74919087	357.60
BIC 100LB-0/35-(123)H	84033812	1,814.60
TSC 100B040-300/105-Si-1500	74922808	424.90
TSC 100B050-300/35-Si-1500	74918151	424.90
BIC 140LB-0/35-(60)E	84035310	3,580.00
TSC 140B055-300/35-Si-1500	74922811	712.10
TSC 140B070-300/35-Si-1500	74918257	712.10

Other lengths and types of gas on request

Ceramic tubes TSC 80B033, TSC 100B040 and TSC 140B055 may only be used with excess air burners.

Accessories

Designation	Order no.	€/item
Ceramic paste for easier fitting and removing of burner components		
Ceramic paste, heat-resistant, 50 g tube	05012009	16.00

'C' spanner for BIC extensions

For mounting a ceramic tube TSC to a BIC(A) burner or an RSG housing with extension.

Designation	Order no.	€/item
'C' spanner with pin for burner size 50/65	03352001	37.90
'C' spanner with pin for burner size 80/100	03352003	56.50
'C' spanner with pin for burner size 125/140	03352005	72.10



Eclipse – High-velocity burner ThermJet TJ

Capacity range: 40–5280 kW (0.15–20 MBTU/h), turndown: 10:1 in the case of air/gas ratio control, 50:1 in the case of operation with constant air volume, max. process temperature: 1540°C (2800°F), max. combustion air temperature: 540°C (1000°F), fuels: natural gas, propane, butane, coke oven gas; other types of gas on request.

Designation	Order no.
ThermJet TJ	on request

[Technical Information ThermJet](#)



Maxon – Medium velocity gas or oil burner KINEMAX

The KINEMAX® burners are nozzle-mixing, medium velocity burners. The burners are available in seven different sizes with capacities ranging from 110 kW to 2460 kW.

Designation	Order no.
Kinemax	on request

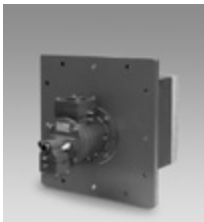


Eclipse – Burner BBG

All-purpose, high input industrial burner. The burner is designed to operate with any type of clean industrial fuel gas with a heating value of more than 19.7 MJ/nm³ (500 BTU/scf) and ambient or preheated combustion air. Capacities: 820 to 32,520 kW (3.1 to 123 MBTU/h).

1000 series (steel baffle) up to T furnace = 980°C
2000 series (refractory baffle) up to T furnace = 1538°C
3000 series (refractory baffle) up to T furnace = 1538°C and preheated air up to 480°C

Designation	Order no.
BBG	on request



Eclipse – Ultra low NOx burner Furnnox

Capacity range: 66–530 kW (0.25–2 MBTU/h), turndown: 10:1, max. process temperature: 1540°C (2800°F), max. combustion air temperature: 600°C (1100°F), fuels: natural gas, propane, butane.

Typical applications: galvanizing furnaces, slot type forge furnaces, heat treatment furnaces.

Designation	Order no.
Furnnox	on request



Eclipse – Triple air staged ultra low NOx burner TriOx

Ultra low NOx burner for diverse possible applications thanks to wide capacity range of up to 5500 kW, air preheating up to 480°C possible, no need for separate burner block thanks to integrated refractory combustion chamber, low polluting level thanks to optimized combustion, ignited directly or using an integrated gas pilot.

Designation	Order no.
TriOx	on request



Eclipse – Gas/oil combination burner NMC

Burns most gaseous fuels and No. 2 fuel oil. Capacity range: 58 – 2930 kW/h (200 – 10,000 kBTU/h) depending on burner size and air pressure. Preheated combustion air up to 425°C (800°F).

Designation	Order no.
NMC	on request



Eclipse – Oil burner 780P

Self-proportioning oil burner. Burns all grades of fuel oil. Single lever control accurately proportions air and oil.

Designation	Order no.
780P	on request



Eclipse – Wall hugger gas burner WHG

Flat flame burner with flat flame profile throughout entire firing range. Direct spark or gas pilot ignition. Capacity range: 47–610 kW (173–2300 kBTU/h). UV or ionization control. Preheated combustion air up to 425°C (800°F). Furnace temperature up to 1370°C (2500°F).

Designation	Order no.
WHG	on request



Kromschröder – Flat flame burner CTO

Ceramic flat flame burner CTO for high temperature applications up to 1300°C (2370°F). Available in 2 capacity ratings: 450 kW and 630 kW. Preheated combustion air up to 600°C (1110°F). Designed for On/Off control.

Designation	Order no.	€/item
CTO 45KB-400-(1)A	84199104	5,061.00
Other lengths and 630 kW capacity	on request	



Hauck – Wall hugger Invisiflame burner WGI

Ultra low NOx flat flame burner for high temperature applications. Direct spark or gas pilot ignition. UV or ionization control. Preheated combustion air up to 425°C (800°F).

Designation	Order no.
WGI	on request



Eclipse – Radiant cone gas burner RKG

Compact ball-shaped flame burner for applications where minimum distance required between burner and load. Direct spark or gas pilot ignition. Capacity range: 47–610 kW (177–2310 kBTU/h). UV or ionization control. Preheated combustion air up to 425°C (800°F). Furnace temperature up to 1370°C (2500°F).

Designation	Order no.
RKG	on request



Maxon – Gas burner WIDE-RANGE

MAXON's WIDE-RANGE® industrial burners burn most low-pressure gaseous fuels, including low BTU exhaust gases and hydrogen. The burners are available in eight different sizes with capacities up to 3950 kW (13,500,000 BTU/h).

Designation	Order no.
WIDE-RANGE	on request



**Maxon – High temperature dual fuel burner
MULTIFIRE®**

The MULTIFIRE® burners are nozzle-mixing, dual fuel burners, capable of firing on most gases and light oils. The burners are available in five different sizes with on-ratio control and capacities up to 5120 kW (17,500,000 BTU/h).

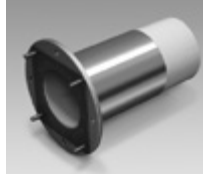
Designation	Order no.
Multifire	on request

7b Self-recuperative and radiant tube burners

ECOMAX



FGT Set



EJEK



Self-recuperative burners ECOMAX®

Type code

ECOMAX	Self-recuperative burner
0-6	Burner size
C	With ceramic burl tube recuperator made of SiSiC
M	With cast steel ribbed tube recuperator
F	With metallic flat tube recuperator
P	With cast steel ribbed tube recuperator for P radiant tube
E	Special recuperator version
395-695	Recuperator length [mm]
-S	With staged combustion
-M	For menox low NOx operation
-F	For flameless mode
B	Natural gas
D	Coke oven gas
G	LPG
L	LCV gas
/D-	For direct heating with eductor
/R-	For radiant tube heating without eductor
/E-	Burner with customized orifices
/N-	Burner without orifices
/V-	For radiant tube heating with VAH
/nnn-	Burner construction stage X for nnn kW
(X)	Burner head identifier
A-, B-, ...	Construction stage
-	The following features differ from the standard version:
K	Additional cooling air connection for increased furnace cooling
A	Electrode made of Kanthal APM
T	NPT connections
S	With spacer for SICAFLEX
W	Air connection without intermediate flange

[Technical Information ECOMAX](#)

The burners with integrated recuperator ECOMAX® are used for heating on either direct or indirect furnace systems in intermittent mode. Other lengths, gas types and versions on request.

Max. capacities of burners ECOMAX®

Type	kW	Type	kW
ECOMAX 0	25	ECOMAX 4	180
ECOMAX 1	36	ECOMAX 5	250
ECOMAX 2	60	ECOMAX 6	500
ECOMAX 3	100		

Self-recuperative burners ECOMAX®

Designation	Order no.	€/item
ECOMAX..C for direct heating		
ECOMAX 1C545-SB/D-(31)B	21802371	3,042.50
ECOMAX 2C545-SB/D-(31)B	21802354	3,184.00
ECOMAX 3C545-SB/D-(31)B	21802287	4,234.50
ECOMAX 4C545-SB/D-(31)B	21802322	7,886.50
ECOMAX 5C545-SB/D-(31)B	21802387	9,039.70
Flue gas guide tubes		
FGT-SET ECO 1C545/D-HT	21800926	810.10
FGT-SET ECO 2C545/D-HT	21800928	836.00
FGT-SET ECO 3C545/D-HT	21800930	946.30
FGT-SET ECO 4C545/D-HT	21800629	1,095.30
FGT-SET ECO 5C545/D-HT	21801325	1,182.20
Flue gas eductors		
EJEK 1-K269-M625-H-AGK-HT-S	22800872	465.40
EJEK 2-K285-M540-H-AGK-HT-A-S	22802953	450.80
EJEK 3-K292-M620-AGK-HT-A-S	22801413	455.10
EJEK 4-K345-M920-AGK-HT-A-S	22801701	728.60
EJEK 5-K345-M1165-AGK-HT-A-S	22801828	819.50

Designation	Order no.	€/item
ECOMAX..M for direct heating		
ECOMAX 1M545-SB/D-(33)B	21802379	2,731.50
ECOMAX 2M545-SB/D-(33)B	21802364	2,942.80
ECOMAX 3M545-SB/D-(34)B	21802273	3,817.20
ECOMAX 4M545-SB/D-(31)B	21802384	6,641.60
ECOMAX 5M545-SB/D-(31)B	21802389	8,042.50
ECOMAX 6M545-SB/D-(32)B	21802392	13,284.70
Flue gas guide tubes		
FGT-SET ECO 1M545/D	21800195	445.80
FGT-SET ECO 2M545/D	21800177	466.50
FGT-SET ECO 3M545/D	21800694	566.30
FGT-SET ECO 4M545/D	21800162	622.10
FGT-SET ECO 5M545/D	21800499	693.60
FGT-SET ECO 6M545/D	21800660	1,402.40
Flue gas eductors		
EJEK 1-K269-M625-H-AGK-S	22800931	374.80
EJEK 2-K285-M540-H-AGK-A-S	22802952	390.40
EJEK 3-K292-M620-AGK-A-S	22801159	390.50
EJEK 4-K345-M920-AGK-A-S	22801700	588.20
EJEK 5-K345-M1165-AGK-A-S	22801826	656.50
EJEK 6-K530-M1618-AGK-A-S	22801903	1,075.70
ECOMAX..C for radiant tube heating		
ECOMAX 0C395-SB/R-(31)B	21802394	2,066.10
ECOMAX 0C475-SB/R-(31)B	21802395	2,327.80
ECOMAX 0C556-SB/R-(31)B	21802396	2,569.00
ECOMAX 1C545-SB/R-(31)B	21802397	3,042.50
ECOMAX 1C641-SB/R-(31)B	21802370	3,341.90
ECOMAX 2C545-SB/R-(31)B	21802358	3,184.00
ECOMAX 2C613-SB/R-(31)B	21802359	3,497.60
ECOMAX 3C545-SB/R-(31)B	21802324	4,234.50
ECOMAX 3C617-SB/R-(31)B	21802325	4,653.10
ECOMAX..M for radiant tube heating		
ECOMAX 1M545-SB/R-(33)B	21802377	2,731.50
ECOMAX 1M695-SB/R-(33)B	21802378	2,865.20
ECOMAX 2M545-SB/R-(33)B	21802401	2,942.80
ECOMAX 2M695-SB/R-(33)B	21802363	3,091.70
ECOMAX 3M545-SB/R-(34)B	21802326	3,817.20
ECOMAX 3M695-SB/R-(34)B	21802327	4,007.80
Flue gas connectors		
FLUP 0-32D-M230-C-B-S	21801830	61.60
FLUP 1/2-50D-M331-C-S	21100612	64.80
FLUP 3-65D-M353-C-S	21102259	75.10
FLUP 4/5-100D-M399-C-S	21102718	93.20
Add-on components		
Düse Elektrodenspülung ECO 0, Rp 1/4, D=2,5 mm /E	21802944	34.10
Nozzle for electrode purge ECO 1-3, Rp 1/4, D = 2.5 mm /E	21802945	34.10
Nozzle for electrode purge ECO 4-6, Rp 1/4, D = 4.0 mm /E	21802946	34.10
UV adapter set ECO R 1/2 /E	21800791	12.50
Air flow detector set ECO /E	21802994	149.50
VAH connection set ECO /E	21802993	67.20
Air connection set ECO 0-1, R 1 /E	22802897	24.00
Air connection set ECO 2, R 1 1/2 /E	22802898	47.80
Air connection set ECO 3-5, R 2 /E	22802899	52.30
Air connection set ECO 6, R 3 /E	22802900	105.80
Accessories		
UV sensor purge air nozzle ECO 0-3, Rp 1/4, D = 2.5 mm /B	21802989	34.10
UV sensor purge air nozzle ECO 4-6, Rp 1/4, D = 4.0 mm /B	21802990	34.10

/E = fitted, /B = enclosed



Segmented flame tubes SICAFLEX®

Type code	
SICAFLEX	Segmented flame tube
100-300	Size
/088-280	Min. radiant tube internal diameter [mm]
/084-275	SICAFLEX external diameter [mm]
-150-300	Length [mm]
F	Narrow end cut off
M	Wide end cut off

[Technical Information](#)
[SICAFLEX](#)

SICAFLEX® segmented flame tubes are used to guide hot flue gases in single ended radiant tubes in conjunction with a self-recuperative burner.

Designation	Order no.	€/item
SICAFLEX 100/088/084-300	22103032	141.10
SICAFLEX 100/088/084-250M	22103412	141.10
SICAFLEX 100/088/084-200F	22103064	141.10
SICAFLEX 142/127/123-300	22436913	151.00
SICAFLEX 142/127/123-250M	22109909	151.00
SICAFLEX 142/127/123-200F	22110530	151.00
SICAFLEX 152/133/129-300	22107453	151.00
SICAFLEX 152/133/129-250M	22110873	151.00
SICAFLEX 152/133/129-200F	22112416	151.00
SICAFLEX 162/147/143-300	22107451	169.10
SICAFLEX 162/147/143-250M	22108168	169.10
SICAFLEX 162/147/143-200F	22110531	169.10
SICAFLEX 175/157/153-300	22437043	208.60
SICAFLEX 175/157/153-250M	22437029	208.60
SICAFLEX 175/157/153-200F	22113948	208.60
SICAFLEX 202/186/182-300	22108132	217.60
SICAFLEX 202/186/182-250M	22105963	217.60
SICAFLEX 202/186/182-200F	22108133	217.60
SICAFLEX 300/280/275-300	22102515	253.40
SICAFLEX 300/280/275-200F	22103975	253.40

Other versions on request



Ceramic radiant tubes SER-C

Type code

SER-C	Ceramic radiant tube
100/088-202/188	External/internal diameter [mm]
W1000-3000	Length [mm]
Eco 0C–Eco 3C	Flange connection for ECOMAX..C
-Y	For hydrogen

[Technical Information SER-C](#)

The ceramic radiant tube SER-C is used in conjunction with a self-recuperative burner for indirect heating in heat treatment processes where the combustion gases must be separated from the product.

Designation	Order no.	€/item
SER-C 100/088 for ECOMAX 0C		
SER-C 100/088-W1400-Eco 0C	22104018	1,981.90
SER-C 100/088-W2100-Eco 0C	22801221	2,718.10
SER-C 100/088-W2500-Eco 0C	22801794	3,128.80
SER-C 142/128 for ECOMAX 1C		
SER-C 142/128-W1500-Eco 1C	22102584	2,887.90
SER-C 142/128-W2000-Eco 1C	22100579	3,651.30
SER-C 142/128-W2600-Eco 1C	22103608	4,572.60
SER-C 162/148 for ECOMAX 2C		
SER-C 162/148-W1500-Eco 2C	22102722	3,355.70
SER-C 162/148-W2000-Eco 2C	22101101	4,246.20
SER-C 162/148-W2500-Eco 2C	22105567	5,152.10
SER-C 162/148-W2900-Eco 2C	22106613	5,888.50
SER-C 202/188 for ECOMAX 3C		
SER-C 202/188-W1700-Eco 3C	22802124	4,685.60
SER-C 202/188-W2200-Eco 3C	22801048	5,803.00
SER-C 202/188-W2600-Eco 3C	22105926	6,695.90
SER-C 202/188-W3000-Eco 3C	22106691	7,603.10

Other lengths on request

SER-C..-Y for hydrogen

SER-C 100..Y	surcharge	201.30
SER-C 142..Y	surcharge	268.40
SER-C 162..Y	surcharge	268.40
SER-C 202..Y	surcharge	402.50



Eclipse – Tube firing burners TFB

Capacity range: 80–530 kW (300–2000 kBTU/h), turndown: 30:1, max. process temperature: 1040°C (1900°F), fuels: natural gas, propane, butane.

Designation	Order no.
TFB	on request

[Technical Information Tube Firing Burner](#)



Eclipse – Bayonet Ultra recuperators BU

Capacity range: 16–110 kW (6,09–400 kBTU/h), max. process temperature: 1090°C (2100°F).

Designation	Order no.
BU	on request

7c Oxy-fuel burners and burners for the glass industry



Eclipse – Air-gas burner 04V

Hot/cold air – combination of fuel oil and gas. Recuperative furnace operation, long-life stainless steel construction, standard models up to 649°C (1200°F), special models up to 760°C (1400°F). Improved adjustable gas orifice for better flame shape control. Oil operation with atomizing air or steam up to 2.76 bar (40 psig), oil flame shape can be adjusted. Preheating of combustion air provides fuel savings up to 45%. Adjustable air supply for additional flame shape control or capacity requirements.

Designation	Order no.
04V	on request



Eclipse – Air-gas burner BrightFire 200

The latest oxygen-fuel glass burner for underport and side-of-port firing features adjustment options for increased flame control and burner flexibility. Nozzle combinations allow firing to be tailored to furnace requirements. Single gas connection for simplified, cost-effective application. Available with a customized mounting bracket and socket plate to ensure proper fitting to the furnace and easy installation/adjustment. This burner provides low NOx emissions, improved glass quality and reduced overall fuel consumption.

Designation	Order no.
BrightFire 200	on request



Eclipse – Air-oil burner 03FA

Flame shape, flame length and heat release are controlled by adjusting the atomizing air flow rate. Flames are typically long and luminous, but can easily be adjusted to a shorter, sharper shape. Superior atomization ensures complete burning of fuel and thus increases efficiency. Can be fired in any standard position. Rugged design to withstand hot, dirty environments. Minimal maintenance and long service life.

Designation	Order no.
03FA	on request



Eclipse – Air-oil burner GTCPA

Underport firing allows a high degree of flame coverage of the melt using multiple burners mounted beneath the port sill, providing easy access for adjustment and maintenance. Underport firing gives both high thermal efficiency and high melt rates with a variety of liquid fuels. Low NOx emissions. The GT/CPA burner bracket ensures accurate, repeatable burner positioning, simple adjustment and quick removal of the burner, all of which are essential for an efficient underport burner system. Eclipse provides advice on furnace aerodynamics, port design and auxiliary equipment as well as full supervision and commissioning services.

Designation	Order no.
GTCPA	on request





Eclipse – Air-gas throughport burner WGD

Equipped with a customized retraction gear mechanism to retract the burner from the port when not firing, this unique, dual-nozzle throughport burner is ideal for float glass applications. Adjustable dual nozzles create a flat, luminous flame with available capacities from 200 to 1200 Nm³/h (7680 to 46,080 SCFH). This water-cooled burner is available in a variety of lengths to allow it to be flexibly adapted to different furnace and port dimensions.

Designation	Order no.
WGD	on request



Eclipse – Air-gas throughport burner WTPU/G

This unique throughport burner is designed to fire either oil (WTPU) or gas (WTPUG) and can quickly be switched from one fuel to the other when required. This burner is the only throughport burner available in the HTS portfolio which is suitable for multiple burner applications. It is offered in a variety of lengths and capacities. The burner is water-cooled, and each burner is equipped with a customized retraction gear mechanism to retract the burner from the port when not firing.

Designation	Order no.
WTPU/WTPUG	on request



Eclipse – Oxygen-fuel burner PrimeFire Forehearth

PrimeFire Forehearth burners deliver significant reductions in fuel consumption and emissions in glass forehearth operations. The burners can reduce fuel consumption by over 60% and NOx emissions by over 70%. They also deliver a high glass yield. In addition, improved glass quality is achieved due to the lower surface tension created with oxygen-fuel combustion. The nozzle-mix design eliminates the equipment costs associated with premix style burners. Capacity range: 5 to 7.3 kW (17,000 to 25,000 BTU/h). Fuel: natural gas. Flow rates: 0.13 to 0.67 m³/h (5 to 25 CFH)

Designation	Order no.
Forehearth	on request



Maxon – Oxygen-fuel burner OxyTherm® 300

Oxygen-fuel burner that offers up to 88 kW (300,000 BTU/h) with a choice of two block shapes. The OxyTherm 300 is a simple burner with relatively low maintenance requirements which can provide clean combustion with low NOx levels. Thanks to the combustion air supply, the OxyTherm® burns any gaseous fuel, including gases that may be unstable.

Designation	Order no.
OxyTherm 300	on request



Maxon – Oxygen-fuel burner OxyTherm® Titan

These burners are available with a wide variety of capacities and large turndown ratios (8:1) and provide precise process temperature control. High temperature oxygen-fuel flame reduces fuel consumption. Sealed, self-cooling design minimizes air infiltration and maintenance. Thanks to the compact flame geometry, easy integration is possible in most processes such as ladle heating, reheat furnaces and rotary hearths.

Designation	Order no.
OxyTherm Titan	on request



Eclipse – Oxygen-fuel burner PrimeFire 100

This oxygen-fuel burner is available for gas or oil firing. It features a high flame luminosity, low flame temperature, low NOx emissions and uniform heat distribution. This burner can quickly be changed from gas to oil firing and requires very little maintenance once installed. The flame shape is adjustable. The oil version offers lower operating temperatures and lower compressed air pressure requirements.

Designation	Order no.
PF100	on request



Maxon – Oxygen-fuel burner OxyTherm® LE

These oxy-fuel burners provide some of the lowest NOx emission levels of any industrial oxygen-fuel burners, regardless of oxygen purity. NOx levels are up to 70% lower than in conventional oxygen-gas burners and up to 50% lower than in conventional oxygen-oil burners. OXY-THERM® LE industrial burners offer substantially improved product quality worldwide while reducing fuel usage and emissions produced per ton of product.

Designation	Order no.
OxyTherm LE	on request



Eclipse – Oxygen-fuel burner PrimeFire 300

This oxygen-fuel burner creates a highly luminous, fan-shaped flame with low momentum, which creates a lower peak flame temperature. This results in lower operating crown temperatures and lower volatile heat transfer rates. The flame shape can be adjusted to suit the melter width and the required temperature profile. The high flame luminosity increases radiant heat transmission to improve furnace efficiency.

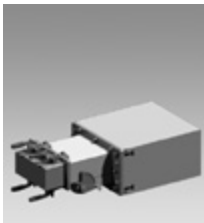
Designation	Order no.
PF300	on request



Eclipse – Oxygen-fuel burner PrimeFire 400

The Low NOx PrimeFire 400 is a nozzle-mixing burner featuring flat flame geometry and a higher degree of flame coverage which ensures uniform heat distribution. This results in improved product quality and extended furnace refractory life. This advanced product features gas cracking technology to increase luminosity and improve the radiant heat transfer to the glass load. As a result, overall furnace efficiency is improved, peak flame temperatures are reduced and NOx formation is lowered. Firing on natural gas or oil, this burner reaches capacities of 2, 4, 10 and 20 MBTU/h and has a turndown of 4:1.

Designation	Order no.
PF400	on request



Maxon – Oxygen-fuel burner OxyTherm® FHR

Adjustable, staged flat flame oxygen-fuel burner designed to optimize heat transfer, flame volume and emissions. Capacity: max. 7 MW (24 MBTU/h). Dual fuel capable: can switch quickly between gas and oil firing by changing the fuel nozzle only. Suitable for light and heavy fuel oils. Fuel consumption up to 25% lower in gas-fired applications, up to 40% lower with oil.

Designation	Order no.
OxyTherm FHR	on request

Eclipse – Oxygen-enriched air staging system

Decreases NOx production in air-fired regenerative glass furnaces. Can be installed in new furnaces or as a retrofit, without making significant changes to the operation and without increasing energy costs. Available for end-fired and cross-fired regenerative glass furnaces encompassing all segments of the glass industry. NOx reduction levels of 30 to 75% can be achieved with a limit of about 1.0 kg NOx per ton of glass for container glass furnaces.

Designation	Order no.
OEAS	on request



Eclipse – Heating systems, heat-up burners

This system is designed to help get glass melt furnaces up to temperature quickly. It features a ThermJet burner, a combustion air blower, gas and air safety train, wiring and hoses for easy set-up, and a custom designed control panel for manual or fully automatic air/fuel ratio control. The components are assembled on a skid which allows for quick, easy installation. The safety train meets all NFPA requirements.

Designation	Order no.
Heat-up	on request

7d Air heating line style and duct burners



Eclipse – AirHeat v1

The AirHeat v1 is a compact modular burner, designed to generate a large volume of clean hot air for a wide range of industrial heating applications. Available with tees and crosses. Capacity: 961 kW/m (1,000,000 BTU/h/LF). Turndown: 40:1. Max. process temperature: 815°C (1500°F). Fuels: natural gas, propane. Typical applications: dry-off and curing ovens, incinerators, indirect air heating, textile drying, food processing/baking, ceramic drying.

Designation	Order no.
AirHeat v1	on request



Eclipse – AirHeat v2

AirHeat v2 is a packaged line burner. Capacity: 961 kW/m (1,000,000 BTU/h/LF). Turndown: 40:1. Max. process temperature: 815°C (1500°F). Fuels: natural gas, propane. Typical applications: dry-off and curing ovens, incinerators, indirect air heating, textile drying, food processing/baking, ceramic drying. Key attributes: lowest CO emissions.

Designation	Order no.
AirHeat v2	on request

[Technical Information AirHeat V2](#)



Maxon – APX

Packaged, modular, natural gas, nozzle-mixing line burners designed for heating applications with fresh or low temperature recirculated air. The single-piece, jointless design of the body made of corrosion-resistant materials allows for assembling standard straight gas burners up to 12 m (40 ft), H-shaped burners and grid shaped burners engineered to a variety of specifications and applications including drying, baking, make-up air heating in paint shops and building materials.

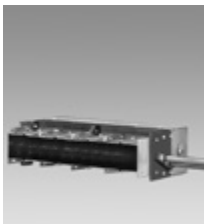
Designation	Order no.
APX	on request



Eclipse – RatioStar

The RatioStar is a modular duct burner designed with on-ratio control for direct fired air heating applications that have high inlet temperatures and a process stream with a low oxygen level, and require uniform heat distribution in process air streams. The on-ratio control ensures high efficiency and low NOx and CO emissions while the modular design allows for application flexibility. Burners are configured in rows of up to 24 modules and can be operated at inlet temperatures up to 750°C (1400°F).

Designation	Order no.
RatioStar	on request



Maxon – Low NOx burner CROSSFIRE®

Modular line burner with low emissions to achieve uniform heat distribution over a wide area while meeting state and local emissions requirements. Capacity: 2336 kW/m (2,500,000 BTU/h/ft). Ultra low NOx and CO emissions. Modular design for a variety of configurations and applications. Best performance and optimal control of emissions and efficiency when paired with the SMARTFIRE® intelligent combustion control system.

Designation	Order no.
CROSS FIRE	on request



Eclipse – Ultra low NOx burner Linnox

The Linnox ultra low emissions burner offers best-in-class emissions. Thanks to its modular design, it is adaptable to any application requiring excellent heat distribution and temperature uniformity. Capacity range: 26 to 791 kW HS/300 mm (90,000 to 2,700,000 BTU/h HHV/ft). Turndown: 8:1 or 10:1. Fuel: natural gas. Typical applications: paint finishing, HVAC, food, building materials/industrial drying, textiles/laundry, paper.

Designation	Order no.
Linnox	on request

[Technical Information Linnox](#)



Eclipse – Ultra low NOx burner Minnox

The Minnox burner offers best-in-class emissions for both NOx and CO. Capacity range: 87 to 2620 kW/m (90,000 to 2,725,000 BTU/h/LF). Turndown: 10:1. Max. process temperature: 800°C (1470°F). Fuels: natural gas, propane. Typical applications: food processing, malting, paint finishing, pulp and paper, direct fired food drying.

Designation	Order no.
Minnox	on request



Maxon – NP-RG

Modular raw gas burner designed to be installed directly in process air streams. Available in a variety of materials. Capacity: 961 kW/m (1,000,000 BTU/h/LF). Turndown: max. 25:1. Efficient operation and easy installation. Modular design which can be adapted to your duct for optimal temperature distribution. Little maintenance required.

Designation	Order no.
NP-RG	on request



Maxon – NP-LE

Modular raw gas burner offering the lowest emissions available in the industry today. Capacity: 961 kW/m (1,000,000 BTU/h/ft). Lower emissions in comparison to other gas burners thanks to considerably lower CO and NOx emissions. Suitable for a wide range of applications and configurations thanks to its modular design. An economical solution for your application, the NP-LE series easily meets ANSI/CSA/CE direct fired industrial heating standards. Available in low pressure versions and in corrosion-resistant materials.

Designation	Order no.
NP-LE	on request



Eclipse – AH-MA

The AH-MA is a compact, modular raw gas line burner, ideal for heating fresh air in make-up and process air heating applications. The burner operates over a wide range of velocities, inputs and fuels. Also available in corrosion-resistant version. Capacity: 1150 kW/m (1,200,000 BTU/h/LF). Turndown: 30:1. Max. upstream process air temperature: 232°C (450°F). Max. downstream process air temperature: 454°C (850°F). Key attributes: robust, reliable performance.

Designation	Order no.
AH-MA	on request

[Technical Information AH-MA](#)



Maxon – LV AIRFLO

With several material varieties provided, the LV can be used in applications up to 650°C (1200°F). It has a high turndown when operated with natural gas, propane and many other fuels. The innovative, progressive aeration pattern of the LV increases the system efficiency since the capacity requirements of the entire system are reduced due to operation at extremely low duct pressure.

Designation	Order no.
LV AIRFLO	on request



Maxon – COMBUSTIFUME®

Reliable, efficient heating in process streams with oxygen levels as low as 16 %-by-vol. Allows clean combustion of many fuel gases with low levels of NOx emissions. Available in various materials and with different burner shapes to match your specific application. Provides clean, uniform distribution of heat.

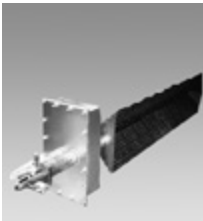
Designation	Order no.
COMBUSTIFUME	on request



Eclipse – FlueFire

Capacity range: 961 to 2300 kW/m (1,000,000 to 2,400,000 BTU/h/LF). Turndown: 10:1. Max. process temperature: 1200°C (2200°F). Fuels: natural gas, butane, propane. Typical applications: heating turbine exhaust gases, spray dryers, agricultural drying, incinerators. Key attributes: robust, reliable performance. Compact modular design.

Designation	Order no.
FlueFire	on request



Maxon – HC AIRFLO

Duct burners ensure low NOx emissions when used in industrial heating applications with recirculated or fresh air. Series HC AIRFLO® low NOx burners can operate in a process air stream with 12% or less oxygen content for optimal efficiency and reliability. The HC AIRFLO® natural gas burner ensures efficient, flexible operation with lower pressure drop than that of other duct burners.

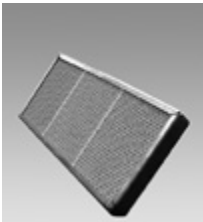
Designation	Order no.
HC AIRFLO	on request



Maxon – LINOFLAME®

MAXON's style A, B & C LINOFLAME® industrial burners produce short, ribbon-type flames which are created by modular-designed sections with customized drillings. The type VF LINOFLAME® gas burners are made of cast iron, V-shaped, modular sections incorporating standardized drillings for interchangeability. Maxon LINOFLAME® burners are suitable for foam laminating, dip tanks, deep frying, glass surface treatment and general air heating applications.

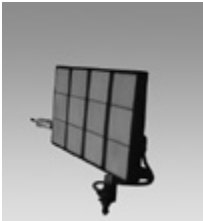
Designation	Order no.
LINOFLAME	on request



Maxon – Air heating radiant line style and duct burners RADMAX®

Radiant low NOx burners have been designed to deliver uniform, high intensity radiant energy for moisture removal in textile and paper ovens, paint drying and powder coating, as well as many preheat, plastic forming, heat treatment and annealing operations. The RadMax features easily replaceable ceramic or metal foam tiles that quickly heat up and cool down, with radiant face temperatures from 565°C to 899°C (1050°F to 1650°F), and can be used in ovens/chambers up to 260°C (500°F).

Designation	Order no.
RADMAX	on request



7e Air heating burners



Maxon – Single, direct fire burner VALUPAK®

Capacity range: 2 to 1125 kW (7,000 to 3,840,000 BTU/h). Turndown: 20:1 to 62:1. Fuels: natural gas, propane. Typical applications: textile machines, printing machines and dryers. Key attributes: ease of installation and operation with low maintenance requirements.

Designation	Order no.
VALUPAK	on request



Eclipse – Single, nozzle-mix burner ThermAir

Capacity range: 44 to 1465 kW (150,000 to 5,000,000 BTU/h). Turndown: 30:1. Max. process temperature: 1038°C (1900°F). Fuels: natural gas, propane, butane, landfill gas, low BTU gas. Typical applications: dry-off and curing ovens, incinerators, indirect air heating, textile drying, food processing/baking, annealing, aluminium homogenizing. Key attributes: easy set-up. No gas adjustment with ratio control.

Designation	Order no.
ThermAir	on request

[Technical Information ThermAir](#)



Maxon – Single, low temp burner OVENPAK® 400

Capacity range: 147 to 4835 kW (500,000 to 16,500,000 BTU/h). Turndown: 40:1 to 65:1. Max. process temperature: 816°C (1500°F). Fuels: natural gas, propane, butane. Typical applications: dry-off and curing ovens, incinerators, indirect air heating, textile drying, food processing/baking. Key attributes: low fuel pressure requirement.

Designation	Order no.
OVENPAK 400	on request



Eclipse – Single, nozzle-mix burner RatioAir

Capacity range: 44 to 5860 kW (150,000 to 20,000,000 BTU/h). Turndown: 30:1. Max. process temperature: 1538°C (2800°F). Fuels: natural gas, propane, butane, landfill gas, low BTU gas. Typical applications: dry-off and curing ovens, incinerators, indirect air heating, textile drying, food processing/baking, annealing, aluminium homogenizing. Key attributes: easy set-up. No gas adjustment with ratio control.

Designation	Order no.
RatioAir	on request

[Technical Information RatioAir](#)



Packaged burner systems HeatPak

HeatPaks are completely pre-assembled and pre-wired burner packages based on the time-tested Eclipse air heating burners RatioAir, RatioMatic and ThermAir. The packages include integral combustion air blower, gas safety system, gas control system and burner control unit for industrial applications.

Designation	Order no.
RatioAir HeatPak RAHP	on request
RatioMatic HeatPak RMHP	on request
ThermAir HeatPak TAHP	on request



Eclipse – Single, nozzle-mix burner RatioMatic

Capacity range: 147 to 8785 kW (500,000 to 30,000,000 BTU/h). Turndown: up to 90:1 depending on burner size and chamber conditions. Max. process temperature: 1038°C (1900°F). Fuels: natural gas, propane, butane. Typical applications: dry-off and curing ovens, incinerators, indirect air heating, textile drying, food processing/baking, annealing, aluminium homogenizing. Key attributes: easy set-up. No gas adjustment with ratio control.

Designation	Order no.
RatioMatic	on request

[Technical Information](#)
[RatioMatic](#)



Maxon – Single, low temp burner OVENPAK® 500

Capacity range: 234 to 2945 kW (800,000 to 10,050,000 BTU/h). Turndown: up to 20:1. Fuels: natural gas, propane, butane, light oils. Typical applications: dry-off and curing ovens, incinerators, indirect air heating, textile drying, food processing/baking. Key attributes: simultaneous burning of multiple fuels. Low fuel pressure requirement. Uses compressed air for oil atomization.

Designation	Order no.
OVENPAK 500	on request



Maxon – Heavy duty, low temp, dual fuel burner MEGAFIRE® HD

Capacity range: 4396 to 13,188 kW (15,000,000 to 45,000,000 BTU/h). Turndown: 10:1 with No. 2 fuel oil; 15:1 with natural gas. Max. process temperature: 870°C (1600°F). Fuels: natural gas, propane, No. 2 fuel oil. Typical applications: boilers, rotary dryers, municipal solid waste incinerators, indirect air heaters, heaters/treaters for the petroleum industry. Key attributes: designed to allow for higher back-pressures and preheated combustion air. Fires gas, No. 2 fuel oil, or both simultaneously.

Designation	Order no.
MEGAFIRE HD	on request



Eclipse – Single, smoke-free burner Vortometric

Capacity range: 1764 to 61,540 kW (6,000,000 to 210,000,000 BTU/h). Turndown: 20:1 to 30:1. Max. process temperature: 1204°C (2200°F). Fuels: natural gas, propane, butane, oil, landfill gas, low BTU gas. Typical applications: dryers, rotary kilns, thermal fluid heaters, thermal oxidizers, liquid and waste incineration, boilers. Key attributes: gas, oil or combination.

Designation	Order no.
Vortometric	on request

[Technical Information](#)
[Vortometric](#)



**Maxon – Single, nozzle-mix, low NOx burner
CYCLOMAX®**

Capacity range: 9 to 2169 kW (30,000 to 7,400,000 BTU/h). Turndown: 10:1 to 15:1. Max. process temperature: 427°C (800°F). Fuels: natural gas, propane. Key attributes: designed specifically for oven-type applications. Low NOx burner.

Designation	Order no.
CYCLOMAX	on request



Maxon – Single, low NOx burner OVENPAK® LE

Capacity range: 147 to 2931 kW (500,000 to 10,000,000 BTU/h). Turndown: 25:1 to 100:1. Max. process temperature: 538°C (1000°F). Fuels: natural gas, propane, butane. Typical applications: dry-off and curing ovens, paint finishing lines, incinerators, indirect air heating, textile drying, food processing/baking. Key attributes: low NOx emissions with high excess air.

Designation	Order no.
OVENPAK LE	on request



Eclipse – Single, nozzle-mix, low NOx burner Winnox

Capacity range: 161 to 3660 kW (550,000 to 12,500,000 BTU/h). Turndown: 7:1 to 17:1. Consult the data sheet for the turndown of each model. Max. process temperature: 982°C (1800°F). Fuels: natural gas, propane, butane. Typical applications: dry-off and curing ovens, incinerators, indirect air heating, textile drying, food processing/baking, annealing, aluminium homogenizing. Key attributes: robust, reliable performance. 5 – 20 ppm NOx emissions.

Designation	Order no.
Winnox	on request

[Technical
Information Winnox](#)



Maxon – Low NOx burner KINEDIZER®

Capacity range: 147 to 11,723 kW (500,000 to 40,000,000 BTU/h). Turndown: 10:1 to 40:1. Max. process temperature: 1093°C (2000°F). Fuels: natural gas, propane. Typical applications: oxidizers and incinerators, process heaters, kilns and furnaces. Key attributes: low NOx emissions. Can be operated using preheated or impure combustion air from an external blower. The correct gas/air mixture can be set using a MAXON MICRO-RATIO® valve or SMARTLINK® technology.

Designation	Order no.
KINEDIZER	on request



Maxon – Low NOx, low excess air burner KINEDIZER® LE

Capacity range: 158 to 21,980 kW (540,000 to 75,000,000 BTU/h). Turndown: up to 20:1. Max. process temperature: 1093°C (2000°F). Fuels: natural gas, propane. Typical applications: oxidizers and incinerators, process heaters, kilns and furnaces. Key attributes: low NOx emissions. Low excess air. The correct gas/air mixture can be set using a MAXON MICRO-RATIO® valve or SMARTLINK® technology.

Designation	Order no.
KINEDIZER LE	on request



Maxon – Heavy duty, low NOx burner KINEDIZER® LX

Capacity: 29,307 kW (100 MBTU/h). Turndown: 10:1 to 20:1. Max. process temperature: 1093°C (2000°F). Fuels: natural gas, propane. Typical applications: oxidizers and incinerators, process heaters, kilns and furnaces. Key attributes: complete, customized system. Low air pressure requirements. Low NOx emissions.

Designation	Order no.
KINEDIZER LX	on request



Maxon – Single, ultra low NOx burner MPAKT®

Capacity range: 120 to 2462 kW (410,000 to 8,400,000 BTU/h). Turndown: up to 13.5:1. Fuels: natural gas, propane. Typical applications: dry-off and curing ovens, textile production, food baking, make-up air heating. Key attributes: flame contained almost entirely inside the discharge sleeve. Ultra low NOx and CO emissions.

Designation	Order no.
MPAKT	on request



Maxon – Single, ultra low NOx burner OPTIMA® SLS

Capacity range: 3810 to 27,402 kW (13,000,000 to 93,500,000 BTU/h). Turndown: up to 8:1. Typical applications: textile drying, indirect heating using coils, drying of food and paint products. Key attributes: ultra low NOx and CO emissions. Large capacity burner.

Designation	Order no.
OPTIMA	on request



Eclipse – Fume incineration burner Incini-Cone

Capacity range: 400 to 8600 kW (1,400,000 to 29,400,000 BTU/h). Turndown: 26:1. Max. process temperature: 900°C (1650°F). Fuels: natural gas, propane, butane. Typical applications: fume incineration, biological and solid waste treatment, power generation. Key attributes: high turndown. Compact design. Minimal maintenance. Raw gas pilot.

Designation	Order no.
Incini-Cone	on request

7f Tube firing burners



Eclipse – Small-bore tube firing burner ImmersoJet

Capacity range: 56 to 2344 kW (190,000 to 8,000,000 BTU/h). Turndown: min. 7:1. Max. process temperature: 93 to 204°C (200 to 400°F). Fuels: natural gas, propane, butane. Typical applications: wash and rinse tanks, dip tanks, pickling tanks, spray washers, deep fryers, salt baths, quench tanks. Key attributes: up to 80% efficiency. Allows the use of smaller, lower cost tubes.

[Technical Information ImmersoJet](#)

Designation	Order no.
ImmersoJet	on request



Maxon – Small-bore tube firing burner TUBE-O-THERM®

Capacity range: 147 to 2491 kW (500,000 to 8,500,000 BTU/h). Turndown: 10:1 to 13:1. Max. process temperature: 260°C (500°F). Fuels: natural gas, propane, butane. Typical applications: applications involving the heating of liquid solutions, such as dip tanks, spray washers, pickling or quench tanks and salt baths. Key attributes: allows the use of smaller bore immersion tubes.

Designation	Order no.
TUBE O THERM	on request



Maxon – Tube firing burner TUBE-O-FLAME®

Capacity range: 234 to 1465 kW (800,000 to 5,000,000 BTU/h). Turndown: up to 20:1. Max. process temperature: 260°C (500°F). Fuels: natural gas, propane, butane. Typical applications: indirect air heating or baking ovens, applications involving the heating of liquid solutions, such as spray washers or cleaning, pickling or quench tanks, dye becks, salt baths, rendering vats and asphalt kettles. Key attributes: up to 75% efficiency. Low noise levels.

Designation	Order no.
TUBE O FLAME	on request



Eclipse – Immersion tube burner ImmersoPak

Capacity range: 79 to 1200 kW (270,000 to 4,100,000 BTU/h). Turndown: min. 4.5:1. Max. process temperature: 93 to 204°C (200 to 400°F). Fuels: natural gas, propane, butane. Typical applications: wash and rinse tanks, dip tanks, pickling tanks, spray washers, deep fryers, salt baths, quench tanks. Key attributes: up to 80% efficiency. Low noise levels.

Designation	Order no.
ImmersoPak	on request

[Technical
Information
ImmersoPak](#)



Maxon – Ultra low NOx, indirect burner XPO®

Capacity range: 293 to 2579 kW (1,000,000 to 8,800,000 BTU/h). Turndown: 3:1 to 6.6:1. Max. process temperature: 871°C (1600°F). Fuels: natural gas, propane. Typical applications: indirect heating of liquid-backed fire tube heaters. Key attributes: single digit NOx emissions at 30% excess air.

Designation	Order no.
XPO	on request

7g Hauck asphalt burners



Hauck – Open-fired, multi-fuel asphalt burner StarJet

Capacity range: 4455 to 58,614 kW (15,200,000 to 200,000,000 BTU/h). Fuels: natural gas, propane, butane, heavy/light fuel oil, landfill gas. Key attributes: no combustion chamber required. Convenient flame shape adjustment. No ignition tile.

Designation	Order no.
StarJet	on request



Hauck – Packaged, low NOx, high-efficiency aggregate drying burner MegaStar®

Capacity range: 4396 to 43,961 kW (15,000,000 to 150,000,000 BTU/h). Max. process temperature: 815°C (1500°F). Fuels: natural gas, propane. Key attributes: low motor start-up current.

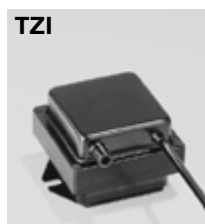
Designation	Order no.
MegaStar	on request



Hauck – Packaged, ultra low NOx asphalt burner NovaStar

Capacity range: 5275 to 29,307 kW (18,000,000 to 100,000,000 BTU/h). Fuels: natural gas, propane. Key attributes: patented lean premix technology. Ultra low NOx emissions. Combustion air fan controlled by variable frequency drive (VFD).

Designation	Order no.
NovaStar	on request



Ignition transformers TZI, TGI

Type code

TZI	Ignition transformer
TGI	Ignition transformer, enclosed
5	5 kV high voltage
7	7 kV high voltage
7,5	7.5 kV high voltage
-12	Output current 12 mA at 50 Hz (9 mA at 60 Hz)
-15	Output current 15 mA at 50 Hz (11 mA at 60 Hz)
-20	Output current 20 mA at 50 Hz (15 mA at 60 Hz)
-25	Output current 25 mA at 50 Hz (18 mA at 60 Hz)
/20	20% duty cycle
/33	33% duty cycle
/100	100% duty cycle
R	Mains voltage 115 V AC
W	Mains voltage 230 V AC

[Technical
Information TZI,
TGI](#)

Ignition transformers for high-voltage spark ignition of gas or oil burners, suitable for ignition and monitoring with one or two electrodes.

Designation	Order no.	€/item
For cabinet installation, enclosure IP 00		
TZI 5-15/100W	84331381	90.00
TZI 7-25/20W	84327455	108.50
TZI 7,5-20/33W	84326116	108.50
TZI 7,5-12/100W	84331383	108.50
TZI 5-15/100R	84331382	90.00
TZI 7-25/20R	84335123	108.50
TZI 7,5-20/33R	84329111	108.50
TZI 7,5-12/100R	84331384	108.50
For on-site mounting, enclosure IP 65		
TGI 5-15/100W	84391065	170.30
TGI 7-25/20W	84391080	170.30
TGI 7,5-20/33W	84391020	187.80
TGI 7,5-12/100W	84391045	187.80
TGI 5-15/100R	84391075	170.30
TGI 7-25/20R	84391090	170.30
TGI 7,5-20/33R	84391030	187.80
TGI 7,5-12/100R	84391055	187.80

Ignition transformers for 100 V on request

Accessories

100 m per coil

Designation	Order no.	€/m
High-voltage cable FZLK 1/7, -5 to +80°C	04250409	3.90
High-voltage cable FZLSi 1/7, -50 to +180°C	04250410	8.90

FE, FZE**Ignition and sensing electrodes FE, FZE**

Electrodes for ignition and monitoring of gas burners, made of Kanthal A1, insulated or bare.

Designation	Order no.	€/item
FE 200	34433320	20.60
FZE 300	34434610	71.00
FZE 400	34434612	80.40
FZE 500	34434613	82.20
FZE 600	34434614	86.10
FZE 300 insulated	74434610	86.10
FZE 400 insulated	74434612	94.70
FZE 500 insulated	74434613	113.40
FZE 600 insulated	74434614	150.80

Longer electrodes can be supplied, if desired on request

[Technical
Information FE,
FZE](#)

Terminal boots**Accessories**

Designation	Order no.	€/item
Electrode holder		
Electrode holder for FE	75442337	28.70
Adapter piece R1/2 - M14 x 1.25	34453650	14.60
Right-angle or straight terminal boots		
Right-angle terminal boot, ø 4 mm	04115301	10.10
Right-angle terminal boot, ø 4 mm, interference-suppressed	04115308	12.00
Straight terminal boot, ø 4 mm	04115302	9.90
Straight terminal boot, ø 6 mm, interference-suppressed	04115306	9.60
Right-angle terminal boot, ø 4 mm, made of silicone rubber	04115309	16.00
Straight terminal boot, ø 4 mm, made of ceramics	04115314	18.40
Right-angle terminal boot, ø 4 mm, splash-proof	75459221	28.20
Sleeve type suppressor, e.g. for ZKIH		
Sleeve type suppressor HE1	04115319	18.40

Electr. spark plug**Spark plugs for BIO, BIOA, ZIO, BIC, BICA, ZIC**

Spark plug M14 x 1.25 L35	34482170	46.60
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Spark plugs for ZMI

Spark plug M18 x 1.5 L50	34483591	46.60
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Dowel pin for electrode wire d = 3.5 mm

Connex light spring pin L4 x 40	74921607	2.50
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Dowel pin



UV sensors UVS

Type code

UVS	UV sensor
5	Series 5
10	Series 10
D	Quartz glass heat guard
L	Quartz glass heat guard lens
0	Rp 1/2 internal thread
1	Rp 1/2 internal thread and cooling air connection
4	UVS 1 adapter (28 mm (1.1"))
G1	M20 cable gland

[Technical Information UVS 10](#)

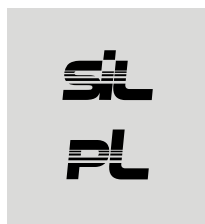
UVS 10D0G1 replaces UVS 1 with heat guard.

UV sensors for monitoring gas burners in intermittent operation in conjunction with flame detectors or automatic burner control units, EU certified in conjunction with Kromschroder automatic burner control units.

Designation	Order no.	€/item
Quartz glass heat guard		
UVS 10D0G1	84315200	226.00
UVS 10D1G1	84315202	240.90
UVS 10D4G1	84315204	238.10
Quartz glass heat guard lens		
UVS 10L0G1	84315201	326.50
UVS 10L1G1	84315203	341.30
Other versions	on request	
UVS 5		
UVS 5G1	84333031	201.70

Accessories

Designation	Order no.	€/item
UV tube for UVS	74960445	115.70
Quartz glass disc with seal	74960612	60.40
Quartz glass lens with seal	74960611	165.10



UV flame detectors UVC

Type code

UVC	UV flame detector
1	Series 1
D	Quartz glass heat guard
L	Quartz glass heat guard lens
0	Rp 1/2 internal thread
1	Rp 1/2 internal thread and cooling air connection
G1	M20 cable gland
A	Mains voltage 100–230 V AC, 50/60 Hz
Q	Mains voltage 120 V AC, 50/60 Hz

[Technical Information UVC 1](#)

8

UV flame detectors for continuous operation, for monitoring gas burners in conjunction with Kromschroder burner control units BCU..U or PFU..U, in aluminium housing with connection terminals, EU certified, FM, CSA and EAC approved, certified for systems up to SIL 3 (compliant with PL e).

Designation	Order no.	€/item
Quartz glass heat guard		
UVC 1D0G1A	84320305	635.30
UVC 1D1G1A	84320301	649.80
Quartz glass heat guard lens		
UVC 1L0G1A	84320304	734.10
UVC 1L1G1A	84320300	748.60

Accessories

Designation	Order no.	€/item
UV tube for UVC 1	74960684	115.70
Nozzle for cooling air adapter Rp 1/4, d = 4.5 mm /B	74960616	59.20



All-in-one viewing head U2-101xS

The Honeywell U2-101xS series all-in-one viewing head with integrated signal processor delivers flame discrimination in the toughest environments. With automatic set-up and the ability to monitor UV and IR flame components simultaneously or separately, the U2-101xS all-in-one viewing head offers improved burner uptime and reliability. For industrial process burners and multiple burner systems. A tempered and fully sealed glass touch wheel sensor: no mechanical buttons, power supply: 24 V DC, 2.6 VA, enclosure: NEMA 4x, IP 66, Zone 2, Class 1, Div. 2, Groups A, B, C and D, U2-101xS: II 3G Ex nA nC T5 Gc, U2-101xS-PF: II 2G Ex d IIC T6 Gb / 2D Ex d t_b IIIC T85 Db, ambient temperature: -40 to +70°C, max. humidity: 85% RH, approvals: CE (EN 298) for continuous operation (Europe), CSA and FM (USA), IECEx and ATEX (explosion-proof), NCC/Inmetro (Brazil), EAC (Russia), KTL (Korea), SIL 3 capable, housing (H x W x D): 117 x 117 x 155 mm, weight: 2.8 kg, output signal: 4 – 20 mA (or 0 – 20 mA) with scale multiplier for remote meter or DCS and local display, relay outputs: connect flame control and self-check relay contacts in series to ensure fail-safe operation; flame control and self-check relays: SPST normally open contact, limit switch function/capacity: 30 V DC, 1 A (resistive), control model: flame switch, outputs: 2 x SPST, safety time during operation: 1/2/3 s selectable.

Designation	Order no.	on request
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U2-S series cable connection options for general use and for use in Zone 2, excluding cable, connector, PT adapter and purge air connection, 3G Ex nA nC T5

Triple flame sensor (UVTron + UVSS + IR)	U2-1010S
Single flame sensor (IR)	U2-1012S
Single flame sensor (UVTron)	U2-1016S
Dual flame sensor (UVTron + IR)	U2-1018S

U2-S models with factory mounted cable and 3/4" cable gland for use in Zone 1, excluding PT adapter and purge air connection, Ex d IIC T6

Triple flame sensor, cable length 10 ft (3 m) (UVTron + UVSS + IR)	U2-1010S-PF
Triple flame sensor, cable length 50 ft (15 m) (UVTron + UVSS + IR)	U2-1010S-PF-050
Triple flame sensor, cable length 100 ft (30 m) (UVTron + UVSS + IR)	U2-1010S-PF-100
Single flame sensor, cable length 10 ft (3 m) (IR)	U2-1012S-PF
Single flame sensor, cable length 10 ft (3 m) (UVTron)	U2-1016S-PF
Dual flame sensor, cable length 10 ft (3 m) (UVTron + IR)	U2-1018S-PF

Accessories on request



Viewing heads S700/S800

The viewing heads of the S700 and S800 series are able to detect the flames of almost every available fuel type or fuel mixture. They have a high flame discrimination capability thanks to the adjustable background radiation sensitivity. For industrial process burners, multiple burner systems, incinerators, kilns, furnaces. Approvals: FM and CSA, SIL 3 capable, enclosure: NEMA 4x, IP 64, ambient temperature: 0 to 50°C, max. humidity: 85% RH.



Designation	Order no.	on request
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Flame scanner heads with cable connection, incl. 4.5 m cable and connector

Single IR viewing head	S702
Single UV viewing head	S706
Single IR viewing head in stainless steel enclosure	S802
Single UV viewing head in stainless steel enclosure	S806

Flame scanner heads with 3.5 m (15 ft) factory mounted moulded cable

Single IR viewing head	S702PF
Single UV viewing head	S706PF

Signal processors for use with viewing heads of the S5xx and S55x series on request
Accessories on request



Flare stack monitoring system Watchdog III

Watchdog III is a flare stack monitoring system, guarding against the venting of hazardous gases into the atmosphere. Can be used for continuous on-site flare monitoring. The fail-safe and time-tested UVtron technology is used for flame detection. Totally immune to sunlight: can be installed anywhere in a 360° radius around the flare stack. Operates in the 210 nm spectral range (UV). The viewing head can be mounted outside a hazardous area: the WATCHDOG viewing head can detect a flare more than 300 m away. The signal processor can be mounted inside a nearby control cabinet. Temperature range: -40 to +80°C, serial communication: RS422/485 (differential), 4800, 9600, 19,200 or 38,400 Baud (selectable), hardware outputs: early indication: 2 x change-over contact (SPDT), delayed indication: 1 x change-over contact (SPDT), 0 – 20 mA or 4 – 20 mA (selectable).



Designation	Order no.	on request
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Complete set

Complete set, consisting of a signal processor (P222), a viewing head (S256BE) and a 15 m cable kit with pre-assembled connector (ASY55XBE) WATCHDOGIIB

Individual components (excl. connector and cable)

Watchdog signal processor, only with mounting base and terminal, excl. connector.	P222
Watchdog III UV digital flare stack pilot monitor viewing head. Powered by signal processor (P222).	S256BE

Accessories on request



Gas turbine flame monitoring systems

The Honeywell LG and EG flame monitoring systems detect the UV radiation emitted by a hydrocarbon flame and produce an output signal to indicate whether a flame has formed or not. These systems have delivered proven performance on General Electric (and GE licensee) gas turbines for more than 35 years.

- Geiger Mueller-type sensor photocell. Detects UV radiation in the 180 – 260 nm spectral range. Immune to sunlight and tolerant to black body radiation.
- Designed lifetime of 2 years, MTBF of 10,000 hours at more than 1 billion operating hours.

Hardware outputs

For connecting EG1033 amplifier modules only

- EG1033AA: transistor with open collector
- EG1033AB and EG1033AC: relay contacts (SPDT)

Features

- High sensitivity with quick response time upon flame formation (0.1 s typical)
- Response time in the event of flame failure: max. 0.2 s
- Amplifiers support multiple voltage requirements: 28 V DC, 20 – 35 V DC and 115 V AC
- Distance between sensor and amplifier in operation: up to 330 m (1000 ft)
- Component qualified for use with General Electric turbines
- Available with CE mark in accordance with the EMC Directive 89/336/EEC, the Low Voltage Directive 73/23/EEC and the ATEX Directive 94/9/EC (EEx d IIA T3 or EEx d IIC T3, Zone 1 and 2)
- Available with Factory Mutual approval for use in hazardous areas (Class I, Div. 1 and 2, Groups B, C and D)

Designation	Order no.	on request
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Flame sensor with 3/4" NPT internal thread and Teflon-shielded cable with 1" external thread, viewing window rated for 10 bar (150 psi), -40 to +176°C

Cable length max. 16 ft (4.9 m) (FM)	LG1093AA24/U
Cable length max. 61 ft (12.8 m) (FM)	LG1093AA26/U
Cable length max. 16 ft (4.9 m) (CE/ATEX (EEx d IIA T3))	LG1093AA34/U
Cable length max. 61 ft (12.8 m) (CE/ATEX (EEx d IIA T3))	LG1093AA36/U
Cable length max. 16 ft (4.9 m) (CE/ATEX (EEx d IIC T3))	LG1093AA44/U
Cable length max. 61 ft (12.8m) (CE/ATEX (EEx d IIC T3))	LG1093AA46/U

Flame sensor with 1.73" external diameter, 0.14" wide flange and 2-core armoured cable, viewing window rated for 428 bar (6.3 psi), -40 to +176°C

Cable length 9 ft (2.7 m) (CE/ATEX (EEx d IIA T3))	LG1093AC01/U
Cable length 24 ft (7.3 m) (CE/ATEX (EEx d IIA T3))	LG1093AC05/U

Amplifier modules, 0 to 55°C, 90% RH

Transistor open collector output (24 – 28 V DC)	EG1033AA01/U
SPST normally closed contact (115 V AC)	EG1033AB02/U
SPST normally open contact (24 – 28 V DC)	EG1033AC01/U
SPST normally closed contact (24 – 28 V DC)	EG1033AD01/U

Gas pilots

Can be used in many applications, for example for safely igniting gas burners. Distinguishing criteria are the type of air supply (forced/atmospheric) and the type of flame control (flame rod/thermocouple). Only suitable for ON/OFF operation; no capacity modulation possible.



Gas pilot ZAI

Thermo gas pilot with ionization control, capacity: approx. 3 kW, gas types: natural gas and LPG, town gas nozzle available separately.

[Brochure ZAI](#)

Designation	Order no.	€/item
ZAI K	84228010	99.20
Protective tube set ZAI	35437010	69.80
ZAI town gas nozzle, d = 1.8 mm	34472880	5.40



Gas pilot ZMI, ZMIC

Type code

ZMI	Gas pilot
ZMIC	Gas pilot with ceramic flame tube
16	16 mm burner size (ZMI only)
25	25 mm burner size (ZMI only)
28	28 mm burner size (ZMIC only)
B	Natural gas
G	LPG
D	Coke oven gas, town gas
150, 200, 300...	Flame tube length in mm
R	Rp internal thread
K	With bellows unit

[Technical
Information ZMI](#)


Gas pilot with one spark/monitoring electrode and forced air supply.

Designation	Order no.	€/item
For 2 kW rated capacity, for natural gas		
ZMI 16B200R	84230020	300.10
ZMI 16B400R	84230040	390.10
ZMI 16B600R	84230060	478.80
For 2 kW rated capacity, for propane		
ZMI 16G200R	84230021	300.10
ZMI 16G400R	84230041	390.10
ZMI 16G600R	84230061	478.80
For 4 kW rated capacity, for natural gas		
ZMI 25B200R	84234020	398.60
ZMI 25B400R	84234040	496.90
ZMI 25B600R	84234060	595.20
For 4 kW rated capacity, for propane		
ZMI 25G200R	84234026	398.60
ZMI 25G400R	84234046	496.90
ZMI 25G600R	84234066	595.20
For 3 kW rated capacity, for natural gas, with ceramic flame tube		
ZMIC 28B300R	84199200	515.00

ZMIC..K with bellows unit
(for an overall length of 400 mm or more) surcharge **62.90**

Other types of gas and lengths on request

ZKIH**Gas pilot ZKIH****Type code**

ZKIH	Gas pilot
150-600	Protective tube length in mm
/50, /100	Flame tube length in mm
R	Rp internal thread

Gas pilot with forced air supply and ionization control, capacity: 2-7 kW, for natural gas (max. 5 kW), propane and town gas.

Designation	Order no.	€/item
ZKIH 150/100R	84214010	331.10
ZKIH 200/100R	84214020	331.10
ZKIH 300/100R	84214030	393.40
ZKIH 400/100R	84214040	457.50

[Technical Information ZKIH](#)

ZIO 40**Gas pilot ZIO 40**

Gas pilot with forced air supply and ionization control, capacity: up to 20 kW, for natural gas, propane and town gas.

Designation	Order no.	€/item
ZIO 40HB-100/35-(1)B	84002017	941.60
ZIO 40HB-200/135-(1)B	84002027	1,075.70
ZIO 40HB-300/235-(1)B	84002037	1,209.90
ZIO 40HB-400/335-(1)B	84002047	1,344.20

Type code ZIO,
cf. page 107

S11T..S**Control valves S11T****Type code**

S11T	Control valve
15-25	Nominal sizes
R	Rp internal thread
01	p _u max. 100 mbar
15	p _u max. 1500 mbar
S	With switch

Control valves for thermo-electric safeguarding of gas-fired installations of any kind in conjunction with thermo gas pilots ZT, independent of mains power supply, closing time below 30 s, EU certified.

Designation	Order no.	€/item
For manual ignition		
S11T 15R01	34156010	518.70
S11T 20R01	34157010	609.00
S11T 25R01	34158010	689.70
S11T 15R15	34156030	824.50
S11T 25R15	34160010	1,168.30
With switch to control an ignition transformer		
S11T 15R01S	34156020	800.40
S11T 20R01S	34157020	827.20
S11T 25R01S	34158020	882.10
S11T 15R15S	34156040	932.90
Thermo-cable and grounding cable NYA 6 mm ²	04250404	4.10

[Technical Information S11T, ZTA, ZT 40..A, ZT 40../100, ZTI 55](#)

ZTA**Gas pilots ZTA**

Thermo gas pilots, with spark electrode for electrical ignition.

Designation	Order no.	€/item
Natural gas		
ZTA B	84221018	151.40
LPG		
ZTA G	84221019	151.40
Town gas nozzle		
Düse ZTA/ZTI d=0,9	35457820	13.00

[Technical Information S11T, ZTA, ZT 40..A, ZT 40../100, ZTI 55](#)



Gas pilots ZT, ZTI

Type code

ZT	Thermo gas pilot for control valve S11T
ZTI	With additional flame rod
40, 55	Protective tube diameter in mm
B	Natural gas
G	LPG
D	Coke oven gas, town gas
-XXX	Protective tube length in mm
/100, /120	Flame tube length in mm
A	Atmospheric

Technical
Information S11T,
ZTA, ZT 40..A, ZT
40../100, ZTI 55

Thermo gas pilots either with forced air supply or atmospheric, with spark electrode for electrical ignition.

Designation	Order no.	€/item
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Atmospheric

ZT 40B-100A	84221013	266.80
ZT 40G-100A	84221014	266.80
ZT 40D-100A	84221015	266.80

Forced air

ZT 40B-100/100	84221010	315.00
ZT 40G-100/100	84221011	315.00
ZT 40D-100/100	84221012	315.00
Other lengths	on request	

Atmospheric with additional flame rod

ZTI 55B-105/120A	84228210	522.90
ZTI 55G-105/120A	84228211	522.90
ZTI 55D-105/120A	84228212	522.90



Air entrainment with compressed air via Eclipse AirJector

Uses compressed air to entrain larger volumes of ambient air for combustion systems.

Designation	Order no.
Airjector	on request

Air/gas mixers Eclipse Atmojector

Simple, low cost, adjustable mixers designed to produce an air/gas mixture for one or more burners. Atmospheric injectors use the kinetic energy of a stream of gas to entrain part or all of the air required for combustion.

Designation	Order no.
Atmojector	on request



Low pressure air/gas mixers

Low-pressure injectors supply 30 to 50% of the combustion air required. However, sufficient secondary air should be provided around the burner outlet to allow complete combustion.

Designation	Order no.
Low Pressure Mixers	on request



Air/gas mixers Eclipse Vari-Set

Eclipse Vari-Set proportional mixers are used to mix air and any commercially available fuel gas at low pressure (10 mbar to 69 mbar/4 to 27 "WC). The mixture is then supplied under pressure to open or sealed premix gas burners.

Designation	Order no.
Vari-Set Mixers	on request

Air/gas mixers Eclipse Mixing Tee

Eclipse Mixing Tees provide two-valve control for the mixing of low-pressure gas and air.

Designation	Order no.
Mixing Tees	on request

Eclipse open burner nozzles

Eclipse nozzles are suitable for any open-type nozzle application. Typical applications include boiler conversions, kilns, ovens, air heaters, furnaces and immersion heating systems. All Eclipse open burner nozzles are flame retention type nozzles which ensure satisfactory operation over a wide range of mixture pressures and draught conditions.

Designation	Order no.
Open Nozzles	on request

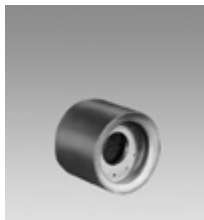




Maxon air/gas mixers

Using the kinetic energy of higher gas pressures, Maxon mixers provide a thoroughly blended air/gas mixture to single or multiple industrial burner systems.

Designation	Order no.
Maxon Mixers	on request



Maxon open/sealed burner nozzles

Maxon nozzles provide a high-quality solution for direct fired air heating and/or open-port firing into a furnace, duct or immersion tube. The single torch-like flame creates a Venturi effect which draws secondary air from around the burner into the cast metal nozzle, thereby cooling it.

Designation	Order no.
Maxon Nozzles	on request

KFM**RFM****Pressure gauges KFM, RFM****Type code**

KFM	Pressure gauge with capsule element
RFM	Pressure gauge with Bourdon tube
0,6-16	Measuring range on RFM in bar
2500	Measuring range on KFM in Pa
25-400	Measuring range on KFM in mbar
R	Connection pin with cylindrical pipe thread
B	Positive pressure
U	Positive pressure and negative pressure
63	63 mm visible scale diameter
100	100 mm visible scale diameter

Brochure KFM,
RFM

Pressure gauges with capsule element or Bourdon tube for pressure display, for gas and air, stainless steel housing.

Designation	Order no.	€/item
100 mm diameter (G 1/2 connection, radial), zero point correction		
KFM 20RU100	03200194	119.20
KFM 25RB100	03200138	119.20
KFM 40RB100	03200131	119.20
KFM 60RB100	03200159	119.20
KFM 100RB100	03200108	119.20
KFM 160RB100	03200124	119.20
KFM 250RB100	03200109	119.20
KFM 400RB100	03200157	119.20
100 mm diameter (G 1/2 connection, radial), zero point correction, Pascal		
KFM 2500RB100	03200176	119.20
100 mm diameter (G 1/2 connection, radial), zero point correction		
RFM 0,6RB100	03200156	65.40
RFM 1,6RB100	03200111	65.40
RFM 4RB100	03200121	65.40
RFM 6RB100	03200125	65.40
RFM 10RB100	03200110	65.40
RFM 16RB100	03200155	65.40
63 mm diameter (G 1/4 connection, radial)		
KFM 25RB63	03200177	76.30
KFM 40RB63	03200178	76.30
KFM 60RB63	03200179	76.30
KFM 100RB63	03200180	76.30
KFM 160RB63	03200181	76.30
KFM 250RB63	03200182	76.30
63 mm diameter (G 1/4 connection, radial)		
RFM 0,6RB63	03200149	39.20
RFM 1,6RB63	03200150	39.20
RFM 4RB63	03200151	39.20
RFM 10RB63	03200152	39.20
RFM 16RB63	03200153	39.20

Other versions on request

DH

Manual cock DH, pressure gauge shut-off valve MH

For protecting a pressure gauge against pressure fluctuations, for gas and air, DH: EU certified, MH: DVGW tested and registered.

Designation	Order no.	€/item
Rp 1/4, p_u max. 5 bar		
DH 8R50	03152141	36.40
Rp 1/2, p_u max. 5 bar		
DH 15R50	03152149	33.70
G 1/2, with clamping sleeve, p_u max. 100 bar		
MH 15	03150191	88.60
G 1/2, with clamping sleeve, p_u max. 100 bar, for aggressive media		
MH 15M	03150192	156.70
Pressure gauge seal 1/2" - Cu	03110615	3.60
Pressure gauge seal 1/4" - Cu	03110617	3.40
Pressure gauge seal 1/2" - PTFE	03110711	5.10

MH

UDS

Positive pressure protection for pressure gauges UDS
Type code

UDS	Positive pressure protection for pressure gauges
2,5	Adjusting range 0.4-2.5 bar
6,0	Adjusting range 2.0-6.0 bar
25	Adjusting range 5.0-25 bar
M	Aggressive media

For protection against positive pressures exceeding the measuring range of the pressure gauges, adjustable, for gas and air, G 1/2 connection, DVGW tested and certified.

Designation	Order no.	€/item
UDS 2,5	03150621	242.20
UDS 6,0	03150623	242.20
UDS 25	03150625	242.20
UDS 2,5M	03150622	520.20
UDS 6,0M	03150624	520.20
UDS 25M	03150626	520.20

GEHV



GEH



LEH



Flow adjusting cocks GEHV, GEH, LEH

Type code

GEHV	Flow adjusting cock for gas and air
GEH	Flow adjusting cock for gas
LEH	Flow adjusting cock for air
8-50	Nominal sizes
R	Rp internal thread
10	p _u max. 1 bar
40	p _u max. 4 bar
50	p _u max. 5 bar

Technical
Information GEHV,
GEH, LEH

Adjusting cocks for precise flow rate adjustment.

Designation	Order no.	€/item
For gas: p_u max. 5 bar, for air: p_u max. 25 bar, operated by hand wheel with adjusting scale		
GEHV 8	03152258	41.50
GEHV 10	03152259	40.20
GEHV 15	03152260	45.80
GEHV 20	03152261	52.40
GEHV 25	03152262	70.00
GEHV 40	03152264	157.20
GEHV 50	03152265	212.70
For gas, p_u max. 1 or 5 bar, spanner-operated		
GEH 8R10	03352504	15.30
GEH 10R10	03352505	17.00
GEH 15R10	03352506	18.90
GEH 20R10	03352507	35.10
GEH 25R10	03352508	63.90
GEH 32R50	03352509	73.30
GEH 40R50	03352510	87.70
GEH 50R50	03352511	129.50
For air, p_u max. 4 bar, operated by hand wheel		
LEH 25R40	03152101	32.80
LEH 40R40	03152102	41.10
LEH 50R40	03152103	58.20
Safety cap as spare part for LEH		
Safety cap LEH 25 Rp-A	35447202	5.70
Safety cap LEH 40 Rp-A	35447201	8.30
Safety cap LEH 50 Rp-A	35444445	11.40

Orifice



Restricting orifices with cap screw

Restricting orifices for varying the flow rate adjustment, consisting of 1 male coupling, flat sealing, 2 sealing rings and 1 washer with hole as per your requirements, drilling tolerance ± 0.2 mm, $d > 3$ mm.

Designation	Order no.	€/item
Restricting orifice set DN 15	74911847	40.20
Restricting orifice set DN 20	74911848	48.80
Restricting orifice set DN 25	74911849	56.00
Restricting orifice set DN 40	74911850	83.50
Restricting orifice set DN 50	74911851	122.40

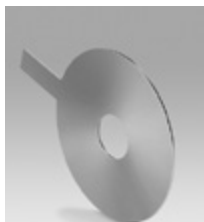
Stainless steel washers, drilled ($d \geq 3$ mm), without cap screw and seals

Designation	Order no.	€/item
Orifice for 1/2", drilled	35441251	33.70
Orifice for 3/4", drilled	35441252	35.60
Orifice for 1", drilled	35441253	36.30
Orifice for 1 1/2", drilled	35441254	48.20
Orifice for 2", drilled	35441255	57.10



Stainless steel washers, predrilled (d = 3 mm), without cap screw and seals

Designation	Order no.	€/item
Orifice for 1/2", d = 3 mm	35439224	8.90
Orifice for 3/4", d = 3 mm	35439225	9.80
Orifice for 1", d = 3 mm	35436925	10.40
Orifice for 1 1/2", d = 3 mm	35436926	11.10
Orifice for 2", d = 3 mm	35436927	12.30



Restricting orifices for flange unions

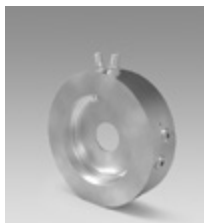
Stainless steel restricting orifices for varying the flow rate adjustment, for fitting between two flanges to DIN 2633 and 2566, orifice sizes for DN 80-150 with diameter stamped on lug visible from the outside, washer with hole as per your requirements, drilling tolerance ± 0.2 mm, d > 3 mm.

Designation	Order no.	€/item
Orifice for DN 50, drilled	35458298	79.90
Orifice for DN 65, drilled	35441256	87.80
Orifice for DN 80, drilled	35441257	95.80
Orifice for DN 100, drilled	35441258	103.70
Orifice for DN 125, drilled	35450878	111.40
Orifice for DN 150, drilled	35441259	119.80



Stainless steel washers, predrilled (d = 3 mm), for flange unions

Designation	Order no.	€/item
Orifice for DN 65, d = 3 mm	35440882	21.30
Orifice for DN 80, d = 3 mm	35440376	22.00
Orifice for DN 100, d = 3 mm	35440377	22.70
Orifice for DN 125, d = 3 mm	35456293	25.20
Orifice for DN 150, d = 3 mm	35440378	25.90



Orifice assemblies MBO

e.g. for measurement of gas flow rates on burners BBG, made of heat-resistant stainless steel, for fitting between two flanges, MBO with orifice diameter according to customer requirements without flow rate curve, drilling tolerance ± 0.2 mm.

Designation	Order no.	€/item
MBO 80, d = 32	74924087	369.10
MBO 80, d = 42	74924089	369.10
MBO 80, d according to customer requirements	74924145	446.20
MBO 100, d = 52	74924088	442.20
MBO 100, d = 62	74924090	442.20
MBO 100, d according to customer requirements	74924146	519.50

EKO..RA**EKO..RI****EKO..F****Stainless steel bellows units EKO****Type code**

EKO	Stainless steel bellows unit
15-200	Nominal size
RI	Rp internal thread
RA	R external thread
F10P	Flange with bore holes to PN 16, p _u max. 1 bar
F100P	Flange with bore holes to PN 16, p _u max. 10 bar
F	Flange with bore holes to PN 10, p _u max. 10 bar
Z	Hot-galvanized

Technical
Information EKO,
ES

High temperature
resistant flange
seals WL-HT,
cf. page 9

Restricting orifices,
cf. page 152

Stainless steel bellows units for stress-free pipe installation and to prevent transmission of vibration, for gas, air and water, with restricting orifice if desired, DVGW tested and registered.

Designation	Order no.	€/item
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**High temperature resistant (HTR) version, cap screws
with REINZ-AFM 34 type seal to DIN 3535, Part 6, at both
ends, for gas: p_u max. 4 bar, for air: p_u max. 10 bar**

EKO 15RA	03262041	81.60
EKO 20RA	03262043	101.10
EKO 25RA	03262045	104.90
EKO 32RA	03262047	112.40
EKO 40RA	03262049	136.20
EKO 50RA	03262051	163.10
EKO 15RI	03262042	77.80
EKO 20RI	03262044	96.20
EKO 25RI	03262046	101.10
EKO 32RI	03262048	104.90
EKO 40RI	03262050	129.90
EKO 50RI	03262052	161.10

**High temperature resistant (HTR) version only in con-
junction with WL-HT type flange seal (not included in the
delivery), with flanges at both ends, cold-galvanized, for
gas and air, EKO 250 and EKO 350 for air only**

EKO 25F	03262053	157.40
EKO 32F	03262054	184.40
EKO 40F	03262055	241.10
EKO 50F	03262056	279.60
EKO 65F	03262057	306.20
EKO 80F	03262058	365.80
EKO 100F	03262059	425.90
EKO 125F	03262060	543.60
EKO 150F	03262061	644.60
EKO 200F	03262062	860.00
EKO 200F100P	03262073	1,504.70
EKO 250F10P	03262074	935.30
EKO 350F10P	03262075	1,381.30

**High temperature resistant (HTR) version only in con-
junction with WL-HT type flange seal (not included in the
delivery), with flanges at both ends, hot-galvanized, for
gas and air**

EKO 40F-Z	03262065	215.30
EKO 50F-Z	03262066	252.20
EKO 65F-Z	03262067	330.30
EKO 80F-Z	03262068	363.20
EKO 100F-Z	03262069	438.80
EKO 125F-Z	03262070	605.70
EKO 150F-Z	03262071	720.10
EKO 200F-Z	03262072	957.00

Restricting orifices

If desired, V2A steel restricting orifices can be supplied for stainless steel bellows units EKO. Please send for a quotation.



Stainless steel flexible tubes ES

Type code

ES	Stainless steel flexible tube
8-100	Nominal size
RA	R external thread
F	Flange to EN 1092-1
500-1000	Length [mm]

Technical
Information EKO
ES

Stainless steel flexible tubes for stress-free, flexible connection of devices and pipes and to prevent transmission of vibration,

ES..RA: p_U max. 5 bar for gas (MOP 5),

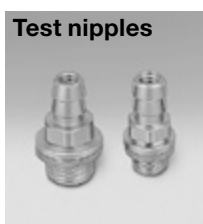
for air and water: ES 8–25RA: p_U max. 25 bar (PS 25), ES 32–50RA: p_U max. 16 bar (PS 16),

ES..F: p_U max. 16 bar for gas, air and water (MOP 16, PS 16),

DIN-DVGW tested and registered.

Designation	Order no.	€/item
ES 8RA500	03263001	118.90
ES 8RA800	03263004	134.20
ES 8RA1000	03263006	142.30
ES 10RA500	03263011	121.20
ES 10RA800	03263014	140.30
ES 10RA1000	03263016	151.00
ES 16RA500	03263021	131.90
ES 16RA800	03263024	149.20
ES 16RA1000	03263026	161.80
ES 20RA500	03263031	146.70
ES 20RA800	03263034	167.90
ES 20RA1000	03263036	178.60
ES 25RA500	03263041	167.90
ES 25RA800	03263044	191.50
ES 25RA1000	03263046	210.90
ES 32RA500	03263051	233.70
ES 32RA800	03263054	256.70
ES 32RA1000	03263056	278.60
ES 40RA500	03263061	380.70
ES 40RA800	03263064	429.10
ES 40RA1000	03263066	457.50
ES 50RA500	03263071	410.80
ES 50RA800	03263074	464.00
ES 50RA1000	03263076	495.30
ES 65F500	03263085	755.00
ES 65F850	03263086	839.80
ES 65F1000	03263087	875.80
ES 80F500	03263081	965.00
ES 80F800	03263083	1,060.60
ES 80F1000	03263088	1,122.50
ES 100F500	03263091	1,141.60
ES 100F800	03263084	1,269.40
ES 100F1000	03263096	1,315.70

Other lengths on request



Pressure test nipples with seal

Designation	Order no.	€/item
Test nipple G 1/8 aluminium + AFM /B	75444352	7.50
Test nipple G 1/4 aluminium + AFM /B	74912868	7.50
Test nipple G 1/8 Ms + AFM /B	74918601	7.50
Test nipple G 1/4 Ms + AFM /B	74918602	7.50
Test nipple G 1/8 P aluminium + Viton /B	74923824	8.70
Test nipple G 1/4 P aluminium + Viton /B	74923390	9.10

GRS



Non-return gas valves GRS, GRSF

Type code

GRSF	Non-return gas valve with flame arrester
GRS	Non-return gas valve
15-80	Nominal size
R	Rp internal thread
F	Flange to ISO 7005
01	p _u max. 0.1 bar

[Technical
Information GRS,
GRSF](#)

Non-return gas valves to prevent gas creepage or surge, for gas, air and oxygen, the max. inlet pressure depends on the gas type and nominal size, DVGW tested and registered.

Designation	Order no.	€/item
Not flame arresting		
GRS 15R	03150667	275.80
GRS 20R	03150668	307.80
GRS 25R	03150669	505.00
GRS 40R	03150670	745.90
GRS 50R	03150671	826.00
GRS 80F01	03150642	3,672.50
With flame arrester, flame arresting in the case of use with combustion air		
GRSF 15R	03150672	304.80
GRSF 20R	03150673	353.60
GRSF 25R	03150674	766.20
GRSF 40R	03150675	1,027.10
GRSF 50R	03150676	1,252.70
Adapter for length compensation		
Adapter for length compensation GRS 25R	03150677	49.30
Adapter for length compensation GRS 40R	03150678	63.10
Adapter for length compensation GRSF 25R	03150679	49.30
Adapter for length compensation GRSF 40R	03150680	85.10
Adapter for length compensation GRSF 50R	03150681	92.90

Welded fittings

Fittings and reducing fittings on request.

TAS 32-50



Thermal equipment trips TAS

Type code

TAS	Thermal equipment trip
32-50	Nominal size
I	Rp internal thread inlet connection
F	DIN flange inlet connection
I	Rp internal thread outlet connection
A	R external thread outlet connection
F	DIN flange outlet connection
50	p _u max. 5 bar
M	For biogas

[Technical
Information TAS,
AKT..TAS](#)

Automatically closing safety device, can be used pursuant to the German Firing System Directive and TRGI 86/96, steel fitting, resistant to high temperatures (HTR), trip temperature 100°C (-5K), suitable for natural gas, town gas, LPG, DVGW tested and registered.

Designation	Order no.	€/item
Threaded connection		
TAS 32IA50	03352457	232.50
TAS 40IA50	03352458	263.40
TAS 50IA50	03352459	323.60
TAS 32II50	03352460	232.50
TAS 40II50	03352461	263.40
TAS 50II50	03352462	323.60

Designation	Order no.	€/item
For biogas, with threaded connection		
TAS 15IA50M	03352541	165.50
TAS 20IA50M	03352543	194.20
TAS 25IA50M	03352545	292.30
TAS 32IA50M	03352548	298.10
TAS 40IA50M	03352551	329.30
TAS 50IA50M	03352554	402.70

Flanged connection on request

Flow meters DM, DE

Type code

DM	Mechanical index
DE	Electronic index
10-1000	Nominal flow rate [m³/h]
R	Rp internal thread
Z	For fitting between two DIN flanges
25-150	Nominal size
-40	p _U max. 4 bar
-160	p _U max. 16 bar
B	M-Bus interface

DM..R


Flow meters DM

For metering gas where no calibration is required, display of the quantity consumed, with mechanical 7-digit display, with E1 and E200 pulse generators, for gas and air, DVGW tested and certified.

Technical
Information DM,
DE

DM..Z


Designation	Order no.	€/item
p_U max. 4 bar		
DM 10R25-40	03200378	870.00
DM 16R25-40	03200379	985.00
DM 25R25-40	03200380	1,095.00
DM 40R25-40	03200381	1,255.00
DM 40R40-40	03200386	1,750.00
DM 65Z50-40	03200382	1,955.00
DM 100Z80-40	03200390	2,025.00
DM 160Z80-40	03200391	2,145.00
DM 250Z100-40	03200392	2,595.00
DM 400Z100-40	03200402	2,795.00
DM 400Z150-40	03200387	3,340.00
DM 650Z150-40	03200388	3,635.00
DM 1000Z150-40	03200389	3,975.00
p_U max. 16 bar		
DM 10R25-160	03352493	960.00
DM 16R25-160	03352494	1,070.00
DM 25R25-160	03352495	1,180.00
DM 40R25-160	03352496	1,345.00
DM 40R40-160	03352497	1,835.00
DM 65Z50-160	03200423	2,045.00
DM 100Z80-160	03200424	2,105.00
DM 160Z80-160	03200425	2,230.00
DM 250Z100-160	03200426	2,680.00
DM 400Z100-160	03200427	2,875.00
DM 400Z150-160	03200428	3,420.00
DM 650Z150-160	03200429	3,715.00
DM 1000Z150-160	03200430	4,065.00
Spare coupler plug		
Coupler plug E1 and E200	04115179	16.00

DE..Z



Flow meters DE

For metering gas where no calibration is required, display of the quantity consumed, key-date value, key date, current flow rate and high resolution of the quantity consumed, with E200 pulse generator, for gas and air, DVGW tested and certified.

[Technical
Information DM,
DE](#)

Designation	Order no.	€/item
p_u max. 4 bar, with M-Bus interface, quote primary address when ordering		
DE 10R25-40B	03352381	1,275.00
DE 16R25-40B	03352382	1,390.00
DE 25R25-40B	03352383	1,500.00
DE 40R25-40B	03352384	1,660.00
DE 40R40-40B	03352385	2,155.00
DE 65Z50-40B	03352386	2,360.00
DE 100Z80-40B	03352387	2,430.00
DE 160Z80-40B	03352388	2,550.00
DE 250Z100-40B	03352389	3,000.00
DE 400Z100-40B	03352390	3,195.00
DE 400Z150-40B	03352391	3,740.00
DE 650Z150-40B	03352392	4,040.00
DE 1000Z150-40B	03352393	4,380.00
p_u max. 16 bar, with M-Bus interface, quote primary address when ordering		
DE 10R25-160B	03352488	1,365.00
DE 16R25-160B	03352489	1,475.00
DE 25R25-160B	03352490	1,585.00
DE 40R25-160B	03352491	1,745.00
DE 40R40-160B	03352492	2,235.00
DE 65Z50-160B	03352480	2,450.00
DE 100Z80-160B	03352481	2,510.00
DE 160Z80-160B	03352482	2,635.00
DE 250Z100-160B	03352483	3,085.00
DE 400Z100-160B	03352484	3,275.00
DE 400Z150-160B	03352485	3,825.00
DE 650Z150-160B	03352486	4,120.00
DE 1000Z150-160B	03352487	4,470.00
Spare cable		
M-Bus cable M-MKWZR	03352148	10.00

Adjustment parts for flow meters DM, DE

Designation	Order no.	€/item
Adjustment part for DM/DE, R 1"	86571798	51.70
Adjustment part for DM/DE, R 1 1/2"	86571813	86.40
Adjustment part for DM/DE, DN 50	86571797	103.70
Adjustment part for DM/DE, DN 80	86571799	178.70
Adjustment part for DM/DE, DN 100	86571800	195.90
Adjustment part for DM/DE, DN 150	86575629	432.00

Exhausts ABG

Type code

ABG	Exhaust
25	Connection pipe nominal diameter: DN 25
50	Connection pipe nominal diameter: DN 50
/40	Exhaust nominal diameter: DN 40
/80	Exhaust nominal diameter: DN 80

Exhaust for gas pressure control and measuring systems, type A to DVGW note G 442 for the safe discharge of gases into the atmosphere, for connecting exhaust lines, breather lines and safety relief valves, relief and exhaust lines should discharge non-combusted gas safely and must be routed straight into the open air. Potentially explosive areas may be created at the discharge points of relief and exhaust lines. For the operator, the knowledge of the spatial extent of the potentially explosive areas is required so that action can be taken to avoid ignition sources and so that gas can therefore be discharged safely. Steel P235GH, DIN EN 10216-2, welded, hot-galvanized, length of the exhaust with connection pipe: 1100 mm. The connection pipe has smooth pipe ends. A connection can be made by welding, screw connection with threaded fittings or by clamp connectors for steel pipes.

Designation	Order no.	€/item
ABG 25/40	03165011	203.40
ABG 50/80	03165013	254.20



Electronic pressure gauge DMG

For positive pressure, negative pressure and differential pressure measurement, for gas or air.

DMG S2601: measuring range -150 to +150 mbar.

DMG S2610: measuring range -1000 to +1000 mbar, certified to EN 50379-1 and -2.

Designation	Order no.	€/item (net)
DMG S2601	03352141	653.20
DMG S2610	03352142	653.20
Connection set DMG S2600	03352147	43.20

Silicone tube

Designation	Order no.	€/m (net)
Silicone tube 8 x 2	00318438	17.30

Test adapters IFS and IFD

Test adapters for rapid and reliable monitoring of all functions of automatic burner control units IFS and IFD, mains voltage 220/240 V, 50/60 Hz, in the event of troubleshooting all required measurements are carried out by this device.

Designation	Order no.	€/item
Test adapter for IFx 258..W	84402540	759.40

Micro-ammeter



Micro-ammeter FSM 1

DC micro-ammeter for flame signal measurement, also suitable for single-electrode operation.

Designation	Order no.	€/item (net)
FSM 1	84380850	112.50

Gas trains



Kromschroder System Technology (KST)

Prices on request

For gas supply: gas pressure, measurement and control systems.

For industrial firing technology: gas pressure, control and safety systems, switch cabinets for control tasks, process computer systems for automation.

Service

Gas pressure, control and safety systems

Complete units in compact form with gas pressure regulators, monitoring devices and safety controls, ready installed and wired, in different versions and sizes.

Gas booster systems GDEE

Gas booster systems up to 100 mbar p_d in accordance with DVGW Code of Practice G 620

Switch box



Test certificates

Designation	Order no.	€/item (net)
Acceptance certificate 3.1 to EN 10204	without No.	59.00

Calibration report for pressure switch

Required information:

- Installation position (vertical, horizontal or upside down)
- Switching point (On or Off)
- Set value (see pressure ranges for different types)

Switching point calibration report for pressure switch	without No.	59.00
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Industrial blowers TBA

The Hauck direct drive turbo blowers are available in six pressure ranges from 5.2 to 15.5 kPa (12 to 36 osig) and 63 different sizes ranging from 6.4 to 348 Nm³/min (240 to 13,000 SCFM) and are suitable for providing large or small volumes of air at constant pressures. The turbo blowers are designed to supply air for combustion or for all other applications requiring low air pressure. They are up to 50% more efficient than conventional blowers. Available in 60 and 50 Hz models.

Designation	Order no.
TBA Blower	on request



Indirect air heaters ER Heater

Fully packaged, indirect air heating system to produce contaminant-free process air with low NOx emissions. Max. process temperature: 412°C (775°F). Velocity: 1700 to 82,010 Am³/h (1000 to 52,000 ACFM). Typical applications: food production, spray drying for dairy operations, pharmaceutical/chemical drying, tobacco drying, hydrated lime drying. Key attributes: produces contaminant-free process air, packaged solution.

Designation	Order no.
ER Heater	on request



Indirect air heaters RHT

Indirect air heaters RHT are designed to heat recirculating ovens and dryers where the products of combustion must be isolated from the process air stream. They are also excellent for use in industrial space heating systems. The firing chamber and exhaust tubes are assembled as a single unit for easy installation and optimum performance. Capacity range: 50 to 800 kW (170,600 to 2,730,000 BTU/h). Max. process temperature: 290°C (550°F).

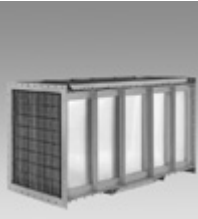
Designation	Order no.
RHT	on request



Heat exchangers Sinusoidal Plate

Heat exchanger with a unique, proprietary plate shape designed to achieve the best heat transfer in the most cost-effective manner. Max. operating temperature: 650°C (1200°F). SP volume range: 510 to 161,405 Am³/h (300 to 95,000 ACFM). HP volume range: 510 to 9345 Am³/h (300 to 5500 ACFM). Also available in high temperature aluminium and fully welded. Max. operating temperature: 232°C (450°F). Volume range: 1190 to 42,475 Am³/h (700 to 25,000 ACFM).

Designation	Order no.
HEx - Sinusoidal	on request



Heat exchangers Dimple Plate

Heat exchanger with a robust dimple plate design for use in dirty or corrosive/abrasive process streams. Fully welded design with or without insulation. Available in versions with different plate spacing configurations and flow profiles. Max. operating temperature, regular recuperator: 650°C (1200°F). Max. operating temperature, insulated recuperator: 815°C (1500°F). Volume range: 510 to 161,405 Am³/h (300 to 95,000 ACFM).

Designation	Order no.
HEx - Dimple	on request



Heat exchangers Tubular

Standard tubular type heat exchanger for a wide variety of processes. Stainless steel construction with a choice of 1", 1.5" or 2" tubes that can be placed in an in-line or staggered pattern. Robust, high-quality welds with 4 customizable flow configurations for applications up to 870°C (1600°F). Volume range: 510 to 254,850 Am³/h (300 to 150,000 ACFM).

Designation	Order no.
HEX - Tubular	on request



Heat exchangers Extern-a-Therm

Tube-in-tube heat exchanger to be inserted directly into the process exhaust duct. Tubes are only welded on one side to prevent tube damage. Ease of installation and efficient use of existing pipework. Housing with internal insulation, no additional external insulation required. Compact device to recover the waste heat in industrial exhaust gases. Recovered heat is used to preheat the combustion air for the system's burners, increasing thermal efficiency.

Designation	Order no.
HEX - Extern-a-Therm	on request



Heat exchangers Cross Flow

Tube-in-tube heat exchanger to be inserted directly into the process exhaust duct. Tubes are only welded on one side to prevent tube damage. Free expansion of the recuperator tubes, no expansion joints required. Compact to recover the waste heat in industrial exhaust gases. Recovered heat is used to preheat the combustion air for the system's burners, increasing thermal efficiency.

Designation	Order no.
HEX - Cross Flow	on request

Services

Consultancy

Our trained sales staff and planning engineers would be glad to discuss your problem personally with you. We put your ideas into practice using the latest technology. Hot-line for answering technical questions or assessing your installation's safety standards.

Planning

As soon as we have studied your problem, we start to devise and draw up a special offer. Design and plant documentation are prepared by qualified staff on modern CAD workstations.

Manufacture

Modern production facilities ensure high-quality and punctual processing of orders. Our experienced specialists are the best guarantee for consistently high and recognized standards of quality.

Technical Service Department

Start-up assistance and customer instruction on gas-fired installations, maintenance work, customized maintenance contracts and troubleshooting.

Service

Working hour of an after-sales technician on request

Travelling hour of an after-sales technician on request

Travelling expenses

Car per km on request

If other means of transport are used, we will charge the fares imposed by public and private service providers.

For rail travel: second class; sleeping car, first class.

For flights: Economy Class; as of 7-hour flight: Business Class.

Accommodation at cost price

Subsistence on request

Engineering

Planning work (projects, etc.) per hour on request

Drafting of documentation

(drawings, circuit diagrams, etc.) per hour on request

Customer product training

For users, service personnel and planners, at the training centre in Osnabrück, in German or English, other languages on request.

The training courses can be booked individually, but are also ideal for combining (ask for a copy of our seminar brochure).

The seminar fee includes training documents for every participant.

www.kromschroeder.de/en/courses/

For safety reasons, customers are not allowed to make repairs on our automatic burner control units.

Manufacturer

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