



GF100 TÖMEGÁRAM SZABÁLYZÓ

Széria GF80, GF81, GF100, GF101, GF120,
GF120XSL, GF120XSD, GF121, GF125, GF126,
GF135

GF-100

Tömegárammérő – GF-100

- Minden típusú gázhoz 34 bar-ig max. 50 ° C-ig
- 0,003–36 000 l / perc tartomány
- Teljes körű áramlási területek 300 sl / percig (ref. N2)
- 0-10V, 4-20 mA kimenet
- Nagy pontosság, stabilitás és válaszidő



TERMÉKLEÍRÁS

A Brooks GF-100-120-125 termikus tömegáramlás-szabályozó/tömegárammérő a legtöbb alkalmazásra felhasználható, amikor bármilyen típusú gázok mérésére és szabályozására van szükség.

Megrendelésével és bővebb felvilágosításért forduljon Bjarne Österberghez a bjarne.osterberg@oemautomatic.se e-mail címen vagy a +46 075 242 4251-es telefonszámon.

Model Code			
Code	Description	Code Option	Option Description
I.	Base Model Code	GF40	Elastomer / Range Flow (0-50 slpm)
		GF80	Metal / Range Flow (0-50 slpm)
II.	Configurability	C	Multiflo Capable. Standard Bins or specific gas range may be selected
		X	Not Multiflo Capable. Specific gasrange required
III.	Special Application	XX	Standard
IV.	Valve Configuration	C	Normally Closed Valve
		O	Normally Open Valve (GF40 only)
		M	Meter (No Valve)
V.	Multiflo Bin & Range or Gas & Range (Standard)	XXXX XXXX	Specific Gas Code & Range, example: "0004" = Argon and "010L" = 10 slpm
		SA40 010C	Standard Configuration #40, 7-10 sccm N2 Eq. @ 0 deg C Ref Temp.
		SA41 030C	Standard Configuration #41, 11-30 sccm N2 Eq. @ 0 deg C Ref Temp.
		SA42 092C	Standard Configuration #42, 31-92 sccm N2 Eq. @ 0 deg C Ref Temp.
		SA43 280C	Standard Configuration #43, 93-280 sccm N2 Eq. @ 0 deg C Ref Temp.
		SA44 860C	Standard Configuration #44, 281-860 sccm N2 Eq. @ 0 deg C Ref Temp.
		SA45 2-4L	Standard Configuration #45, 861-2600 sccm N2 Eq. @ 0 deg C Ref Temp.
		SA46 7-2L	Standard Configuration #46, 2601-7200 sccm N2 Eq. @ 0 deg C Ref Temp.
		SA47 D15L	Standard Configuration #47, 7201-15000 sccm N2 Eq. @ 0 deg C Ref Temp.
		SA48 010L	Standard Configuration #48, 15001-10000 sccm N2 Eq. @ 0 deg C Ref Temp.
		SA50 050L	Standard Configuration #50, 30001-50000 sccm N2 Eq. @ 0 deg C Ref Temp.
VI.	Fitting	XX	9/16" - 1/8 UNF (GF40 Only)
		CX	1-1/8" C Seal 9/2mm (GF80 Only)
		TL	1/8" tube compression (GF40 Only)
		T2	1/4" tube compression (GF40 Only)
		T3	3/8" tube compression (GF40 Only)
		T4	1/2" tube compression (GF40 Only)
		T6	6 mm tube compression (GF40 Only)
		T8	10 mm tube compression (GF40 Only)
		B2	1/4" Bc (Bc9) (GF40 Only)
		VX	1/4" VCR (GF40, GF80)
		O2	1/4" VCO (GF40 Only)
		N2	1/8" NPT (GF40 Only)
VII.	Downstream Condition	A	Atmosphere
		V	Vacuum
		P	Positive Pressure
VIII.	External Seals, Valve Seat	B	Seal Buna / Seat Buna (GF40 Only)
		F	Seal EPDM / Seat EPDM (GF40 Only)
		K	Seal Kalrez / Seat Kalrez (GF40 Only)
		N	Seal Neoprene / Seat Neoprene (GF40 Only)
		V	Seal Viton / Seat Viton (GF40 Only)
		M	Seal Metal / Seat PEEK (GF40 Only)
		Z	Seal Nickel / Seat Kalrez (GF80 Only)
IX.	Communications / Connector	PS	Profibus / Analog (Input 0-5 V; Output 0-5 V); 9-Pin Female D conn. / 15-Pin Male D conn.
		PD	Profibus / Analog (Input 0-20 mA; Output 0-20 mA); 9-Pin Female D conn. / 15-Pin Male D conn.
		PA	Profibus / Analog (Input 4-20 mA; Output 4-20 mA); 9-Pin Female D conn. / 15-Pin Male D conn.
		ES	EtherCAT™ (Output 0-5 V); 2x3ES signal 2-Pin power
		D5	DeviceNet / Analog (Output 0-5 V); 5-Pin micro signal and power / 3-Pin analog signal
		S5	RS485 (S-Protocol)/Analog (Input 0-5 V; Output 0-5 V); 15-Pin Male D (Pin alignment with Brooks SLA S0)
		Y1	RS485 (S-Protocol)/Analog (Input 0-10 V; Output 0-10 V); 15-Pin Male D (Pin alignment with Brooks SLA S0)
		S0	RS485 (S-Protocol)/Analog (Input 0-20 mA; Output 0-20 mA); 15-Pin Male D (Pin alignment with Brooks SLA S0)
		S4	RS485 (V-Protocol)/Analog (Input 4-20 mA; Output 4-20 mA); 15-Pin Male D (Pin alignment with Brooks SLA S0)
		L5	RS485 (I-Protocol)/Analog (Input 0-5 V; Output 0-5 V); 15-Pin Male D (Pin alignment with Brooks SLA S0)
		L1	RS485 (I-Protocol)/Analog (Input 0-10 V; Output 0-10 V); 15-Pin Male D (Pin alignment with Brooks SLA S0)
		I0	RS485 (I-Protocol)/Analog (Input 0-20 mA; Output 0-20 mA); 15-Pin Male D (Pin alignment with Brooks SLA S0)
		I4	RS485 (I-Protocol)/Analog (Input 4-20 mA; Output 4-20 mA); 15-Pin Male D (Pin alignment with Brooks SLA S0)
		A5	RS485 (A-Protocol)/Analog (Input 0-5 V; Output 0-5 V); 15-Pin Male D (Pin alignment with Brooks SLA S0)
		A1	RS485 (A-Protocol)/Analog (Input 0-10 V; Output 0-10 V); 15-Pin Male D (Pin alignment with Brooks SLA S0)
		A0	RS485 (A-Protocol)/Analog (Input 0-20 mA; Output 0-20 mA); 15-Pin Male D (Pin alignment with Brooks SLA S0)
		A4	RS485 (A-Protocol)/Analog (Input 4-20 mA; Output 4-20 mA); 15-Pin Male D (Pin alignment with Brooks SLA S0)
X.	Customer Special Request	XXXX	Customer Special Request Number
XI.	Auto Shut-Off (Included)	A	Auto Shut-Off (Included)
		X	Auto Shut-Off (Not Included)
XII.	Auto Zero	A	Auto Zero (Included)
		X	Auto Zero (Not Included)
XIII.	Reference Temperature	DDC	0°C Reference
		15C	15°C Reference
		20C	20°C Reference
		70F	21.1°C Reference / 70°F Reference

Example Model Code												
I	II	III	IV		V		VI	VII	VIII	IX		X
GF40	C	XX	C	-	0011300C	-	T2	A	V	PS	-	XXXX

MŰSZAKI ADATOK

Állapotjelzés	MFC-státusz, hálózati státusz
Betáplálás	DNet: + 11–25 V DC, 545 mA max. @ 11 V DC, 250 mA (max.) @ 24 V DC, analóg/RS485: + 15 V DC. (+10%), 6 W (max.)
Data	RS485, DeviceNet
Diagnosztikai/szervizport	RS-485 via 2.5mm jack
Differenciálynymás	3-860 mln/min = 7-45 psid, 861-7 200 mln/min = 10-45 psid, 7 201-55000 mln/min = 15-45 psid
Elektromos csatlakozás	Analóg/RS-485 9 pólusú „D” érintkezőn keresztül, DeviceNet™ 5 pólusú „M12”-n keresztül
Felületkiképzés	10 μm Ra
Hőmérsékleti együttható	Mérési tartomány: 0,005% F.S/°C, Nullapont: 0,001% F.S/°C
Jóváhagyások	CE, RoHS, SEMI F20 kompatibel, EN61010-1, EN61326: 2006 (FCC Part 15 & Canada IC-subset of CE testing)
Kijelző	Felülre szerelt integrált LCD
Kijelző	Áramlás (%), hőm. (0 °C), nyomás (psia, kPa) / 0,1 (egység)
Külső szivárgás	1x10-10 atm. cc/sec He

Közeghőmérséklet eddig:	50 °C
Közeghőmérséklet ettől:	10 °C
Linearitás	±0,5% F.S (pontosságba belefér)
Lökésszerű nyomás	206 bar
Max. szállítási távolság	0,003 l/min
Max. üzemi hőmérséklet	50 °C
Max. üzemi nyomás	34 bar
Megismételhetőség	< + 0,15% S.P
Min. üzemi hőmérséklet	10 °C
Nulla üzemi ingadozás	< + 0,5% F.S évente
Nyomásérzéketlenség	nem alkalmazható
Nyomástartomány max. értéke	55 bar
Pontosság	±1% S.P. > 35–100%, ±0,35% F.S. 2–35%
Rendszerint nyitott szelep bezár	< 2%F.S
Rendszerint zárt szelep bezár	<1%F.S
Riasztások	Érzékelő kimeneti jele, szabályozószelep kimeneti jele, túlmelegedés, Power Surge/Sag, hálózati kimaradás
Szabályozási tartomány	2-100 % (NC) 3-100 % (NO)
Szelep típusa	NC/NO
Többkörös működés	Választható
Válaszidő	< 1 s
Vízzel érintkező alkatrészek anyaga	Rozsdamentes acél 304, Rozsdamentes acél 316, Hastelloy

Model Code			
Code Description	Code	Option	Description
1 Base Model Code	CR400	CR400	CR400
2 Configuration	00	00	00
3 Special Application	00	00	00
4 Value Configuration	00	00	00
5 Module Set & Range	0000	0000	0000
6 Range (Standard)	0000	0000	0000
7 Range (Standard)	0000	0000	0000
8 Range (Standard)	0000	0000	0000
9 Range (Standard)	0000	0000	0000
10 Range (Standard)	0000	0000	0000
11 Range (Standard)	0000	0000	0000
12 Range (Standard)	0000	0000	0000
13 Range (Standard)	0000	0000	0000
14 Range (Standard)	0000	0000	0000
15 Range (Standard)	0000	0000	0000
16 Range (Standard)	0000	0000	0000
17 Range (Standard)	0000	0000	0000
18 Range (Standard)	0000	0000	0000
19 Range (Standard)	0000	0000	0000
20 Range (Standard)	0000	0000	0000
21 Range (Standard)	0000	0000	0000
22 Range (Standard)	0000	0000	0000
23 Range (Standard)	0000	0000	0000
24 Range (Standard)	0000	0000	0000
25 Range (Standard)	0000	0000	0000
26 Range (Standard)	0000	0000	0000
27 Range (Standard)	0000	0000	0000
28 Range (Standard)	0000	0000	0000
29 Range (Standard)	0000	0000	0000
30 Range (Standard)	0000	0000	0000
31 Range (Standard)	0000	0000	0000
32 Range (Standard)	0000	0000	0000
33 Range (Standard)	0000	0000	0000
34 Range (Standard)	0000	0000	0000
35 Range (Standard)	0000	0000	0000
36 Range (Standard)	0000	0000	0000
37 Range (Standard)	0000	0000	0000
38 Range (Standard)	0000	0000	0000
39 Range (Standard)	0000	0000	0000
40 Range (Standard)	0000	0000	0000
41 Range (Standard)	0000	0000	0000
42 Range (Standard)	0000	0000	0000
43 Range (Standard)	0000	0000	0000
44 Range (Standard)	0000	0000	0000
45 Range (Standard)	0000	0000	0000
46 Range (Standard)	0000	0000	0000
47 Range (Standard)	0000	0000	0000
48 Range (Standard)	0000	0000	0000
49 Range (Standard)	0000	0000	0000
50 Range (Standard)	0000	0000	0000
51 Range (Standard)	0000	0000	0000
52 Range (Standard)	0000	0000	0000
53 Range (Standard)	0000	0000	0000
54 Range (Standard)	0000	0000	0000
55 Range (Standard)	0000	0000	0000
56 Range (Standard)	0000	0000	0000
57 Range (Standard)	0000	0000	0000
58 Range (Standard)	0000	0000	0000
59 Range (Standard)	0000	0000	0000
60 Range (Standard)	0000	0000	0000
61 Range (Standard)	0000	0000	0000
62 Range (Standard)	0000	0000	0000
63 Range (Standard)	0000	0000	0000
64 Range (Standard)	0000	0000	0000
65 Range (Standard)	0000	0000	0000
66 Range (Standard)	0000	0000	0000
67 Range (Standard)	0000	0000	0000
68 Range (Standard)	0000	0000	0000
69 Range (Standard)	0000	0000	0000
70 Range (Standard)	0000	0000	0000
71 Range (Standard)	0000	0000	0000
72 Range (Standard)	0000	0000	0000
73 Range (Standard)	0000	0000	0000
74 Range (Standard)	0000	0000	0000
75 Range (Standard)	0000	0000	0000
76 Range (Standard)	0000	0000	0000
77 Range (Standard)	0000	0000	0000
78 Range (Standard)	0000	0000	0000
79 Range (Standard)	0000	0000	0000
80 Range (Standard)	0000	0000	0000
81 Range (Standard)	0000	0000	0000
82 Range (Standard)	0000	0000	0000
83 Range (Standard)	0000	0000	0000
84 Range (Standard)	0000	0000	0000
85 Range (Standard)	0000	0000	0000
86 Range (Standard)	0000	0000	0000
87 Range (Standard)	0000	0000	0000
88 Range (Standard)	0000	0000	0000
89 Range (Standard)	0000	0000	0000
90 Range (Standard)	0000	0000	0000
91 Range (Standard)	0000	0000	0000
92 Range (Standard)	0000	0000	0000
93 Range (Standard)	0000	0000	0000
94 Range (Standard)	0000	0000	0000
95 Range (Standard)	0000	0000	0000
96 Range (Standard)	0000	0000	0000
97 Range (Standard)	0000	0000	0000
98 Range (Standard)	0000	0000	0000
99 Range (Standard)	0000	0000	0000
00 Range (Standard)	0000	0000	0000
01 Range (Standard)	0000	0000	0000
02 Range (Standard)	0000	0000	0000
03 Range (Standard)	0000	0000	0000
04 Range (Standard)	0000	0000	0000
05 Range (Standard)	0000	0000	0000
06 Range (Standard)	0000	0000	0000
07 Range (Standard)	0000	0000	0000
08 Range (Standard)	0000	0000	0000
09 Range (Standard)	0000	0000	0000
10 Range (Standard)	0000	0000	0000
11 Range (Standard)	0000	0000	0000
12 Range (Standard)	0000	0000	0000
13 Range (Standard)	0000	0000	0000
14 Range (Standard)	0000	0000	0000
15 Range (Standard)	0000	0000	0000
16 Range (Standard)	0000	0000	0000
17 Range (Standard)	0000	0000	0000
18 Range (Standard)	0000	0000	0000
19 Range (Standard)	0000	0000	0000
20 Range (Standard)	0000	0000	0000
21 Range (Standard)	0000	0000	0000
22 Range (Standard)	0000	0000	0000
23 Range (Standard)	0000	0000	0000
24 Range (Standard)	0000	0000	0000
25 Range (Standard)	0000	0000	0000
26 Range (Standard)	0000	0000	0000
27 Range (Standard)	0000	0000	0000
28 Range (Standard)	0000	0000	0000
29 Range (Standard)	0000	0000	0000
30 Range (Standard)	0000	0000	0000
31 Range (Standard)	0000	0000	0000
32 Range (Standard)	0000	0000	0000
33 Range (Standard)	0000	0000	0000
34 Range (Standard)	0000	0000	0000
35 Range (Standard)	0000	0000	0000
36 Range (Standard)	0000	0000	0000
37 Range (Standard)	0000	0000	0000
38 Range (Standard)	0000	0000	0000
39 Range (Standard)	0000	0000	0000
40 Range (Standard)	0000	0000	0000
41 Range (Standard)	0000	0000	0000
42 Range (Standard)	0000	0000	0000
43 Range (Standard)	0000	0000	0000
44 Range (Standard)	0000	0000	0000
45 Range (Standard)	0000	0000	0000
46 Range (Standard)	0000	0000	0000
47 Range (Standard)	0000	0000	0000
48 Range (Standard)	0000	0000	0000
49 Range (Standard)	0000	0000	0000
50 Range (Standard)	0000	0000	0000
51 Range (Standard)	0000	0000	0000
52 Range (Standard)	0000	0000	0000
53 Range (Standard)	0000	0000	0000
54 Range (Standard)	0000	0000	0000
55 Range (Standard)	0000	0000	0000
56 Range (Standard)	0000	0000	0000
57 Range (Standard)	0000	0000	0000
58 Range (Standard)	0000	0000	0000
59 Range (Standard)	0000	0000	0000
60 Range (Standard)	0000	0000	0000
61 Range (Standard)	0000	0000	0000
62 Range (Standard)	0000	0000	0000
63 Range (Standard)	0000	0000	0000
64 Range (Standard)	0000	0000	0000
65 Range (Standard)	0000	0000	0000
66 Range (Standard)	0000	0000	0000
67 Range (Standard)	0000	0000	0000
68 Range (Standard)	0000	0000	0000
69 Range (Standard)	0000	0000	0000
70 Range (Standard)	0000	0000	0000
71 Range (Standard)	0000	0000	0000
72 Range (Standard)	0000	0000	0000
73 Range (Standard)	0000	0000	0000
74 Range (Standard)	0000	0000	0000
75 Range (Standard)	0000	0000	0000
76 Range (Standard)	0000	0000	0000
77 Range (Standard)	0000	0000	0000
78 Range (Standard)	0000	0000	0000
79 Range (Standard)	0000	0000	0000
80 Range (Standard)	0000	0000	0000
81 Range (Standard)	0000	0000	0000
82 Range (Standard)	0000	0000	0000
83 Range (Standard)	0000	0000	0000
84 Range (Standard)	0000	0000	0000
85 Range (Standard)	0000	0000	0000
86 Range (Standard)	0000	0000	0000
87 Range (Standard)	0000	0000	0000
88 Range (Standard)	0000	0000	0000
89 Range (Standard)	0000	0000	0000
90 Range (Standard)	0000	0000	0000
91 Range (Standard)	0000	0000	0000
92 Range (Standard)	0000	0000	0000
93 Range (Standard)	0000	0000	0000
94 Range (Standard)	0000	0000	0000
95 Range (Standard)	0000	0000	0000
96 Range (Standard)	0000	0000	0000
97 Range (Standard)	0000	0000	0000
98 Range (Standard)	0000	0000	0000
99 Range (Standard)	0000	0000	0000
00 Range (Standard)	0000	0000	0000
01 Range (Standard)	0000	0000	0000
02 Range (Standard)	0000	0000	0000
03 Range (Standard)	0000	0000	0000
04 Range (Standard)	0000	0000	0000
05 Range (Standard)	0000	0000	0000
06 Range (Standard)	0000	0000	0000
07 Range (Standard)	0000	0000	0000
08 Range (Standard)	0000	0000	0000
09 Range (Standard)	0000	0000	0000
10 Range (Standard)	0000	0000	0000
11 Range (Standard)	0000	0000	0000
12 Range (Standard)	0000	0000	0000
13 Range (Standard)	0000	0000	0000
14 Range (Standard)	0000	0000	0000
15 Range (Standard)	0000	0000	0000
16 Range (Standard)	0000	0000	0000
17 Range (Standard)	0000	0000	0000
18 Range (Standard)	0000	0000	0000
19 Range (Standard)	0000	0000	0000
20 Range (Standard)	0000	0000	0000
21 Range (Standard)	0000	0000	0000
22 Range (Standard)	0000	0000	0000
23 Range (Standard)	0000	0000	0000
24 Range (Standard)	0000	0000	0000
25 Range (Standard)	0000	0000	0000
26 Range (Standard)	0000	0000	0000
27 Range (Standard)	0000	0000	0000
28 Range (Standard)	0000	0000	0000
29 Range (Standard)	0000	0000	0000
30 Range (Standard)	0000	0000	0000
31 Range (Standard)	0000	0000	0000
32 Range (Standard)	0000	0000	0000
33 Range (Standard)	0000	0000	0000
34 Range (Standard)			

[illegible]



Installation and Operation Manual

KLITSH-GP 130 Series Air-Cooling

Part Number: 5413103-0102

November 2015

Section 8 Product Description Code

GP 130 Series

Table 5-4 GP130 & GP125 Series Product Description Code

Code Description	Code	Code Description
1. Base Unit Type	00	Basic Unit Type (See Table 5-5 for details)
2. Refrigerant Specification	000	Refrigerant Specification (See Table 5-6 for details)
3. Capacity	000	Capacity (See Table 5-7 for details)
4. Configuration	000	Configuration (See Table 5-8 for details)
5. Material Specification	000	Material Specification (See Table 5-9 for details)
6. System Configuration	000	System Configuration (See Table 5-10 for details)
7. Unit Configuration	000	Unit Configuration (See Table 5-11 for details)
8. Case or Base Unit Size	000	Case or Base Unit Size (See Table 5-12 for details)
9. Option	000	Option (See Table 5-13 for details)
10. Factory	000	Factory (See Table 5-14 for details)
11. Installation	000	Installation (See Table 5-15 for details)
12. Accessory	000	Accessory (See Table 5-16 for details)
13. Special	000	Special (See Table 5-17 for details)
14. Remark	000	Remark (See Table 5-18 for details)
15. Note	000	Note (See Table 5-19 for details)
16. Warning	000	Warning (See Table 5-20 for details)
17. Safety	000	Safety (See Table 5-21 for details)
18. Maintenance	000	Maintenance (See Table 5-22 for details)
19. Troubleshooting	000	Troubleshooting (See Table 5-23 for details)
20. Appendix	000	Appendix (See Table 5-24 for details)
21. Index	000	Index (See Table 5-25 for details)

