RKG

Radiant Cone Gas Burner

RKG-1
Edition 07-08

Hauck, a product brand of the Elster Group

- Compact ball-shaped flame for even heating
- Direct spark or gas pilot ignition
- Immediate ramping up to high fire reduces furnace heat-up time
- Stable operation at ratio in cold furnace
- Minimum distance requirement from burner to load
- Roof or sidewall mounting
- Preheated air up to 800°F (425°C)
- UV or flame rod flame supervision

The Hauck RKG radiant cone burner is designed for applications requiring even heat distribution with a short flame length. The compact flame pattern promotes even heating by radiation from the furnace walls and roof. The short flame length allows the burner to be placed close to the load without flame impingement.

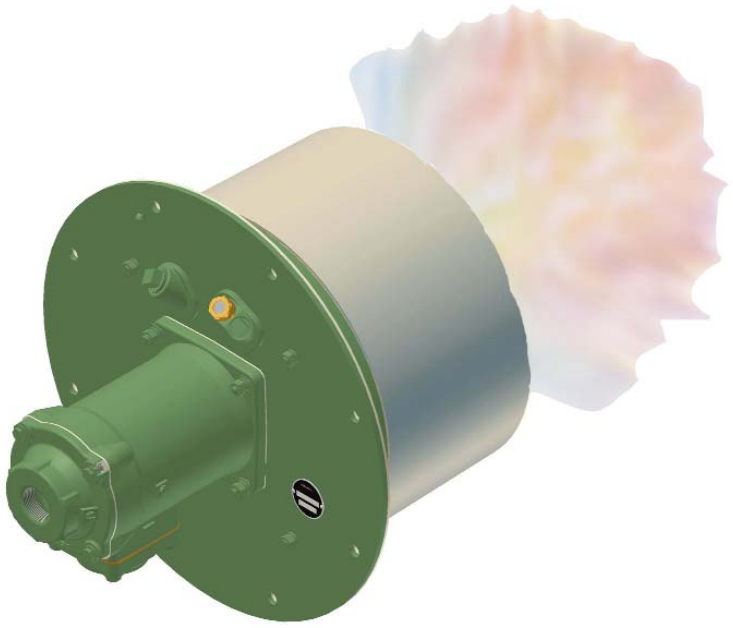
The burner is available in six sizes, with a capacity range of 177,000 to 2.3 million Btu/hr (47 to 611 kW). Hot air versions are available for preheated air up to 800°F (425°C).

The RKG incorporates a port for monitoring the pilot and main flames with either a UV scanner or optional flame rod. An optional spark igniter kit is available. The burner, mounting plate and refractory tile are shipped as an assembled unit ready for mounting on the furnace. The RKG can be installed to fire in any position.

Even in a cold tight furnace, the RKG can be ignited and brought to high fire immediately, reducing furnace heat-up time.

The burner performs equally well when firing on-ratio, with excess fuel up to 20%, or with excess air limits ranging from 280 to 400% at 16 osig (6900 Pa) inlet air pressure.

The RKG may be operated in furnaces with chamber temperatures up to 2500°F (1370°C).



FLAME CHARACTERISTICS			
BURNER SIZE	APPROX. FLAME DIA.*	APPROX. MAX. FORWARD FLAME TRAVEL	MIN. TILE TO WORK DISTANCE**
RKG 112	12"	6"	14"
RKG 115	14"	7"	14"
RKG 120	22"	7"	14"
RKG 125	26"	8"	16"
RKG 130	30"	9"	17"
RKG 140	36"	10"	19"

* The normal minimum centerline to centerline distance between burners is the same as the flame diameter. Burners may be positioned closer to each other, but there may be some gas interference.

** Recommended minimum tile to work distances should be maintained to avoid contact with the hot gases.

For additional information on this product, visit our website at:

www.hauckburner.com

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RKG RADIANT CONE GAS BURNER

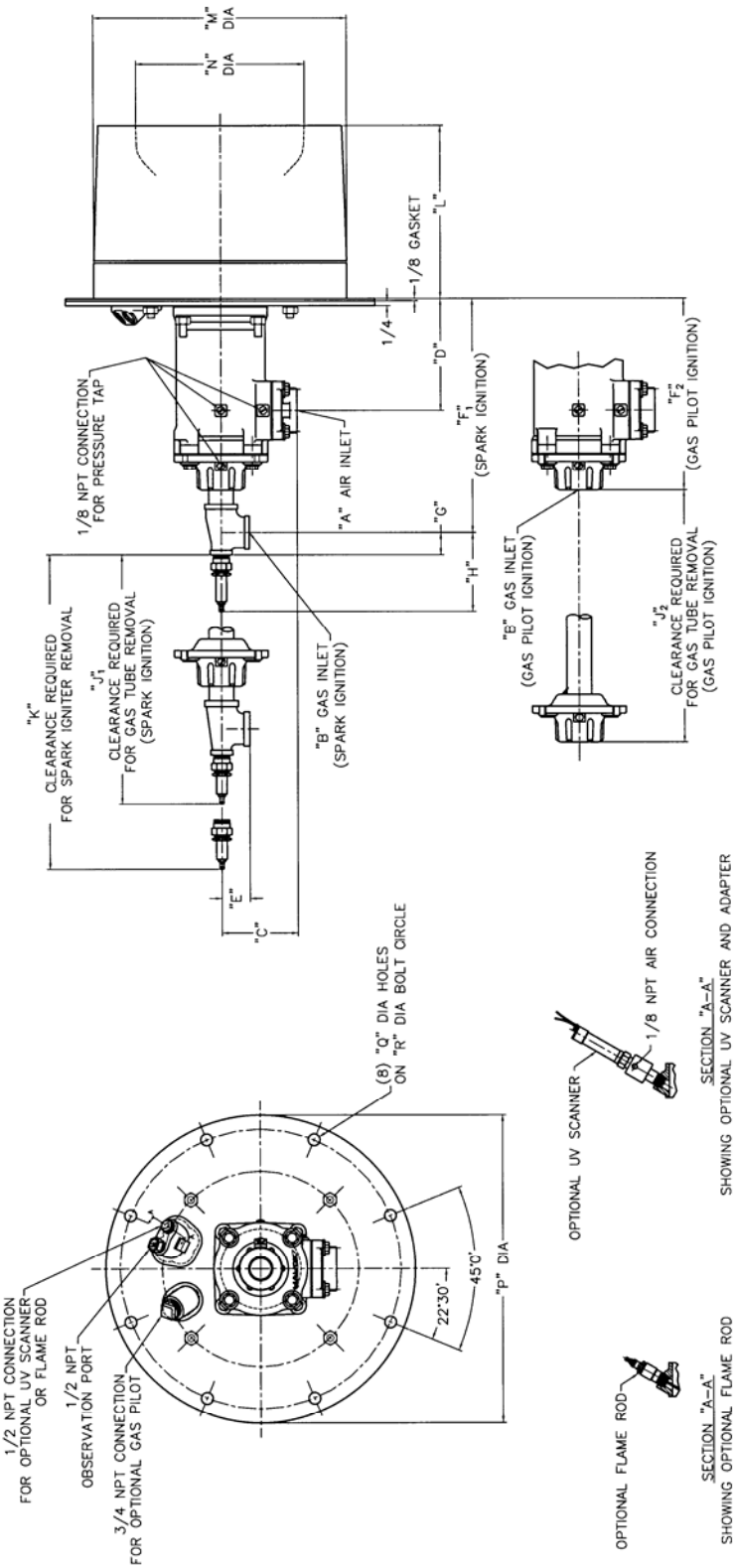
			MODEL NUMBER					
SPECIFICATIONS			112	115	120	125	130	140
HIGH FIRE	**Max. Input @ 10% Excess Air**	**(Btu/hr)**	**177,500**	**432,300**	**658,200**	**952,500**	**1,344,000**	**2,310,000**
	Max. Air Flow @ 16 osig	(scfh)	1,840	4,480	6,820	9,870	13,930	23,960
	Min. Input @ Max. Air Flow	(Btu/hr)	45,420	108,100	144,800	275,800	359,900	620,400
	Max. Excess Air	(%)	330	340	400	280	310	175
	Flame Length @ Max. Input	(in.)	6	7	7	8	9	10
LOW FIRE	**Max. Input @ 10% Excess Air**	**(Btu/hr)**	**43,940**	**108,100**	**177,500**	**232,500**	**340,700**	**577,100**
	Air Flow @ 1 osig	(scfh)	455	1,120	1,840	2,410	3,530	5,980
	Min. Input @ Air Flow	(Btu/hr)	12,720	26,680	32,050	75,270	76,510	176,300
	Max. Excess Air	(%)	280	345	510	240	390	240

NOTES:

1. Capacities based on natural gas with HHV of 1034 Btu/ft^3, 0.59 S.G., and a stoichiometric air/gas ratio of 9.74:1 with burner firing into chamber under no pressure.
2. Air and gas flows based on 60°F @ sea level.
3. Static air pressures measured at the burner air inlet pressure tap.
4. Flame lengths measured from the end of the refractory tile.
5. All data based on industry standard air and gas piping practices.
6. Flame detection available via flame rod or UV scanner.
7. Burners can be operated up to a static inlet air pressure of 20 osig; consult Hauck.

(See Reverse Side for Metric Capacities)

RKG RADIANT CONE GAS BURNER



MODEL NO.	A	B	C	D	E	F_1	F_2	G	H	J_1	J_2	K	L	M	N	P	Q	R
RKG 112B	1 1/4 NPT	1 NPT	4 1/16	6	1 1/2	12 3/4	10 1/4	1 3/16	4 1/4	13 1/4	9 15/16	18 3/4	9 1/4	13 1/2	9	16 1/2	5/8	15
RKG 115B	1 1/2 NPT				1 3/4	12 13/16	10 5/16	1 9/16	3 15/16	12 3/4	10 13/16		10 1/8	15	10 1/8	19		17
RKG 120B	2 NPT	1 1/4 NPT	4 9/16		1 15/16	13		1 11/16	3 3/4	12 7/16								
RKG 125B	2 1/2 NPT	1 1/2 NPT	4 11/16		2 1/4	17 5/16	14 1/16	1 7/8	4 7/8	16 7/8	13 5/8	23 7/8	9 1/8	18 3/4	14 1/4	21 3/4		20 1/4
RKG 130C	3 NPT	2 NPT	5 15/16	8 1/2	2 11/16	17 7/8		2 3/16	4 5/16	16								
RKG 140C	4 NPT	2 1/2 NPT	8 1/16															

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(NOT TO SCALE)

(See Reverse Side for Metric Dimensions)

RKG RADIANT CONE GAS BURNER

BURNER MODEL RKG 112B

		STATIC AIR PRESSURE (OSIG) AT BURNER INLET TAP					
		1 OSIG	**4 OSIG**	**8 OSIG**	**12 OSIG**	**16 OSIG**	**20 OSIG**
Burner Input @ 10% Excess Air	**(Btu/hr)**	**43,950**	**88,820**	**125,400**	**153,400**	**177,500**	**198,800**
Max. Air Flow (Not Firing)	(scfh)					---	
Max. Air Flow	(scfh)	455	920	1,300	1,590	1,840	2,060
Burner Air Orifice •P	("wc)	---	---	---	---	---	---
Gas Inlet Pressure	("wc)	---	---	---	---	3.1	---
Max. Excess Air – Flame Rod	(%)	---	---	---	---	---	---
Max. Excess Air – UV Scanner	(%)	280	330	340	340	330	330
Max. Excess Fuel	(%)	---	---	---	---	---	---
Flame Length	(in.)	---	---	---	---	6	---
Flame Diameter	(in.)	---	---	---	---	---	---
Min. Ignition Gas Flow	(scfh)	12	21	29	36	42	47

NOTES:

1. Capacities based on natural gas with HHV of 1034 Btu/ft^3, 0.59 S.G. and a stoichiometric air/gas ratio of 9.74:1 with burner firing into chamber under no pressure.
2. Air and gas flows based on 60°F @ sea level; capacities for preheated air will differ from those shown.
3. Flame lengths measured from the end of the refractory tile.
4. All data based on industry standard air and gas piping practices.

(See Reverse Side for Metric Data)

RKG RADIANT CONE GAS BURNER

BURNER MODEL RKG 115B

		STATIC AIR PRESSURE (OSIG) AT BURNER INLET TAP					
		1 OSIG	**4 OSIG**	**8 OSIG**	**12 OSIG**	**16 OSIG**	**20 OSIG**
Burner Input @ 10% Excess Air	**(Btu/hr)**	**108,000**	**214,200**	**306,000**	**374,400**	**432,300**	**484,400**
Max. Air Flow (Not Firing)	(scfh)					---	
Max. Air Flow	(scfh)	1,120	2,220	3,170	3,380	4,480	5,020
Burner Air Orifice •P	("wc)	---	---	---	---	---	---
Gas Inlet Pressure	("wc)	---	---	---	---	8.3	---
Max. Excess Air – Flame Rod	(%)	---	---	---	---	---	---
Max. Excess Air – UV Scanner	(%)	340	390	380	380	340	350
Max. Excess Fuel	(%)	---	---	---	---	---	---
Flame Length	(in.)	---	---	---	---	7	---
Flame Diameter	(in.)	---	---	---	---	---	---
Min. Ignition Gas Flow	(scfh)	25	45	65	80	100	110

NOTES:

1. Capacities based on natural gas with HHV of 1034 Btu/ft^3, 0.59 S.G. and a stoichiometric air/gas ratio of 9.74:1 with burner firing into chamber under no pressure.
2. Air and gas flows based on 60°F @ sea level; capacities for preheated air will differ from those shown.
3. Flame lengths measured from the end of the refractory tile.
4. All data based on industry standard air and gas piping practices.

(See Reverse Side for Metric Data)

RKG RADIANT CONE GAS BURNER

BURNER MODEL RKG 120B

		STATIC AIR PRESSURE (OSIG) AT BURNER INLET TAP					
		1 OSIG	**4 OSIG**	**8 OSIG**	**12 OSIG**	**16 OSIG**	**20 OSIG**
Burner Input @ 10% Excess Air	**(Btu/hr)**	**177,500**	**311,800**	**442,900**	**557,800**	**658,200**	**720,900**
Max. Air Flow (Not Firing)	(scfh)					---	
Max. Air Flow	(scfh)	1,840	3,230	4,590	5,780	6,820	7,470
Burner Air Orifice •P	("wc)	---	---	---	---	---	---
Gas Inlet Pressure	("wc)	---	---	---	---	2.1	---
Max. Excess Air – Flame Rod	(%)	---	---	---	---	---	---
Max. Excess Air – UV Scanner	(%)	510	480	470	400	400	390
Max. Excess Fuel	(%)	---	---	---	---	---	---
Flame Length	(in.)	---	---	---	---	7	---
Flame Diameter	(in.)	---	---	---	---	---	---
Min. Ignition Gas Flow	(scfh)	30	55	80	115	135	150

NOTES:

1. Capacities based on natural gas with HHV of 1034 Btu/ft^3, 0.59 S.G. and a stoichiometric air/gas ratio of 9.74:1 with burner firing into chamber under no pressure.
2. Air and gas flows based on 60°F @ sea level; capacities for preheated air will differ from those shown.
3. Flame lengths measured from the end of the refractory tile.
4. All data based on industry standard air and gas piping practices.

(See Reverse Side for Metric Data)

RKG RADIANT CONE GAS BURNER

BURNER MODEL RKG 125B

		STATIC AIR PRESSURE (OSIG) AT BURNER INLET TAP					
		1 OSIG	**4 OSIG**	**8 OSIG**	**12 OSIG**	**16 OSIG**	**20 OSIG**
Burner Input @ 10% Excess Air	**(Btu/hr)**	**232,500**	**465,200**	**658,200**	**819,300**	**952,500**	**1,042,000**
Max. Air Flow (Not Firing)	(scfh)					---	
Max. Air Flow	(scfh)	2,410	4,820	6,820	8,490	9,870	10,800
Burner Air Orifice •P	("wc)	---	---	---	---	---	---
Gas Inlet Pressure	("wc)	---	---	---	---	3.2	---
Max. Excess Air – Flame Rod	(%)	---	---	---	---	---	---
Max. Excess Air – UV Scanner	(%)	240	240	270	300	280	260
Max. Excess Fuel	(%)	---	---	---	---	---	---
Flame Length	(in.)	---	---	---	---	8	---
Flame Diameter	(in.)	---	---	---	---	---	---
Min. Ignition Gas Flow	(scfh)	70	140	185	210	260	300

NOTES:

1. Capacities based on natural gas with HHV of 1034 Btu/ft^3, 0.59 S.G. and a stoichiometric air/gas ratio of 9.74:1 with burner firing into chamber under no pressure.
2. Air and gas flows based on 60°F @ sea level; capacities for preheated air will differ from those shown.
3. Flame lengths measured from the end of the refractory tile.
4. All data based on industry standard air and gas piping practices.

(See Reverse Side for Metric Data)

RKG RADIANT CONE GAS BURNER

BURNER MODEL RKG 130C

		STATIC AIR PRESSURE (OSIG) AT BURNER INLET TAP					
		1 OSIG	**4 OSIG**	**8 OSIG**	**12 OSIG**	**16 OSIG**	**20 OSIG**
Burner Input @ 10% Excess Air	**(Btu/hr)**	**340,700**	**682,300**	**974,800**	**1,167,000**	**1,344,000**	**1,500,000**
Max. Air Flow (Not Firing)	(scfh)					---	
Max. Air Flow	(scfh)	3,530	7,070	10,100	12,100	13,930	15,550
Burner Air Orifice •P	("wc)	---	---	---	---	---	---
Gas Inlet Pressure	("wc)	---	---	---	---	2.7	---
Max. Excess Air – Flame Rod	(%)	---	---	---	---	---	---
Max. Excess Air – UV Scanner	(%)	390	330	310	310	310	310
Max. Excess Fuel	(%)	---	---	---	---	---	---
Flame Length	(in.)	---	---	---	---	9	---
Flame Diameter	(in.)	---	---	---	---	---	---
Min. Ignition Gas Flow	(scfh)	70	160	245	285	335	350

NOTES:

1. Capacities based on natural gas with HHV of 1034 Btu/ft^3, 0.59 S.G. and a stoichiometric air/gas ratio of 9.74:1 with burner firing into chamber under no pressure.
2. Air and gas flows based on 60°F @ sea level; capacities for preheated air will differ from those shown.
3. Flame lengths measured from the end of the refractory tile.
4. All data based on industry standard air and gas piping practices.

(See Reverse Side for Metric Data)

RKG RADIANT CONE GAS BURNER

BURNER MODEL RKG 140C

		STATIC AIR PRESSURE (OSIG) AT BURNER INLET TAP					
		1 OSIG	**4 OSIG**	**8 OSIG**	**12 OSIG**	**16 OSIG**	**20 OSIG**
Burner Input @ 10% Excess Air	**(Btu/hr)**	**577,100**	**1,153,000**	**1,632,000**	**2,000,000**	**2,310,000**	**2,602,000**
Max. Air Flow (Not Firing)	(scfh)					---	
Max. Air Flow	(scfh)	5,980	11,950	16,910	20,720	23,930	26,960
Burner Air Orifice •P	("wc)	---	---	---	---	---	---
Gas Inlet Pressure	("wc)	---	---	---	---	5.0	---
Max. Excess Air – Flame Rod	(%)	---	---	---	---	---	---
Max. Excess Air – UV Scanner	(%)	240	275	200	200	175	175
Max. Excess Fuel	(%)	---	---	---	---	---	---
Flame Length	(in.)	---	---	---	---	10	---
Flame Diameter	(in.)	---	---	---	---	---	---
Min. Ignition Gas Flow	(scfh)	175	300	Will not Ignite	Will not Ignite	Will not Ignite	Will not Ignite

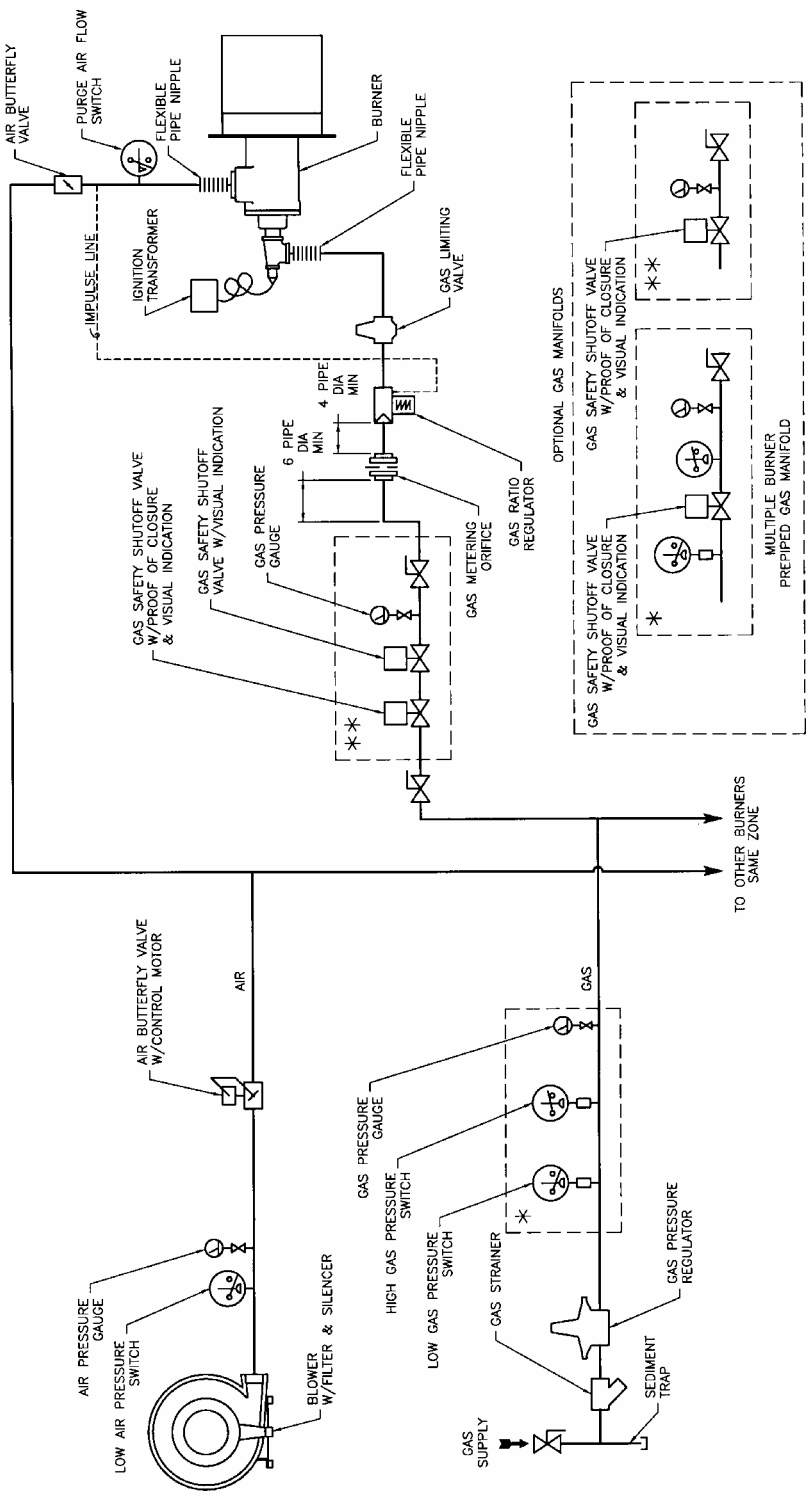
NOTES:

1. Capacities based on natural gas with HHV of 1034 Btu/ft^3, 0.59 S.G. and a stoichiometric air/gas ratio of 9.74:1 with burner firing into chamber under no pressure.
2. Air and gas flows based on 60°F @ sea level; capacities for preheated air will differ from those shown.
3. Flame lengths measured from the end of the refractory tile.
4. All data based on industry standard air and gas piping practices.

(See Reverse Side for Metric Data)

RKG RADIANT CONE GAS BURNER

TYPICAL MULTIPLE BURNER SYSTEM RATIO CONTROL



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(NOT TO SCALE)

NOTES:
1. OPTIONAL GAS MANIFOLDS ARE PERMITTED AS AN EXCEPTION PER NFPA 86 2003 EDITION REQUIREMENTS FOR MULTIPLE BURNERS FIRING INTO A COMMON HEATING CHAMBER. HOWEVER, SPECIAL FEATURES ARE REQUIRED IN THE ASSOCIATED CONTROL SYSTEM (SEE HAUCK APPLICATION SHEET GJ76).