

High-velocity gas burners



General information:

High-velocity gas burners of the B202 H1-H5 series are available with various design options. The standard or basic type comes with ceramic injector, body with gas and air connections, burner insert and ignition insert.

Output range:	B202 H1-H5 for 30 to 2000 kW
Air preheating:	up to approx. 450 °C
Fuels:	natural gas and LPG gases
Control range:	1:10, infinitely variable or two stages (some up to 1:25)
Process temperature:	up to approx. 1400 °C
Flame outlet velocity:	up to approx. 150 m/sec.

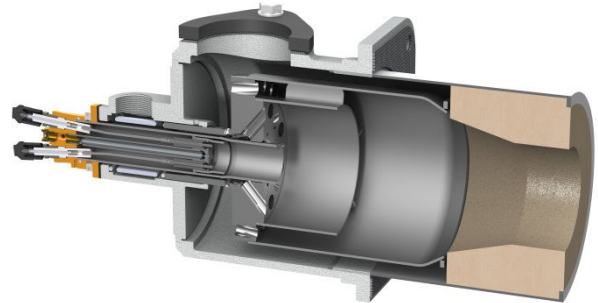
High-velocity gas burners of the B202 H1-H5 series can be used for diverse applications in direct heating of industrial thermoprocessing equipment. High levels of functionality plus rugged and maintenance-friendly design are the hallmarks of these units.

The elevated hot gas discharge velocity of up to 150 m/sec. creates effective flue gas circulation in the combustion chambers. This provides high temperature uniformity throughout the thermoprocessing system. These burners can also be operated with combustion air pre-heated up to approx. 450 °C.

All high-velocity gas burners of the B202 H1-H5 series come with direct electrical ignition and flame monitoring as part of the standard package. Flame monitoring is effected by built-in ionization electrode. Accordingly, these burners are intrinsically safe due to flame monitoring by an ionization probe. This feature is also referred to as "IO" below.

A regards maximum start-up output and equipment specifications, the applicable safety requirements laid down in EN 746-2 shall be observed.

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From size B202 H4 upwards each unit may be optionally equipped with a pilot burner. The choice is between an ionization-monitored pilot burner plus additional ionization monitoring of the main flame or, alternatively, a UV-monitored pilot burner. In the latter configuration the main burner flame is sensed through the de-activated UV pilot burner.

Standard ignition inserts for direct ignition and ionization monitoring of the above mentioned burner systems are shown in their normal and short configuration below.

B051 series gas pilot burners, size 1 and 2, are optionally available for indirect ignition with ionization monitoring of the above burner systems.

These can also be supplied in special versions with UV-monitoring probes from diverse manufacturers, based on the use of custom adapters.



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The illustration across shows a typical basic equipment configuration for high-velocity gas burners designed to operate on cold air.

It comprises a two-stage output control system with combustion air valve and LRM differential-pressure metering orifice.

A VHM dual-type volumetric air flow rate indicator is attached to the LRM differential-pressure orifice.

An air/gas ratio controller (VAS and VAG) including a gas volume indicator with RA-60 float-type flowmeter are also fitted.

The system is set up as a mobile demonstration unit.

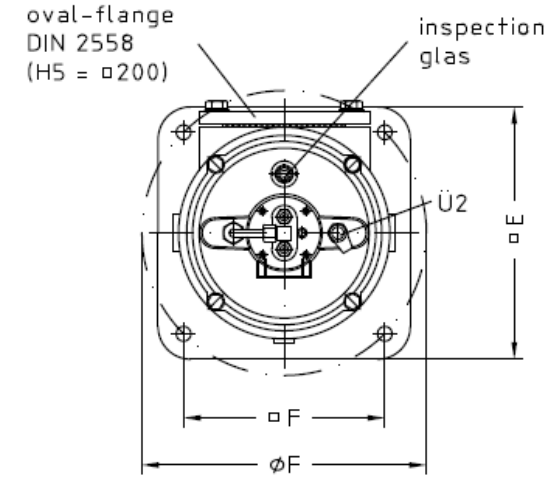
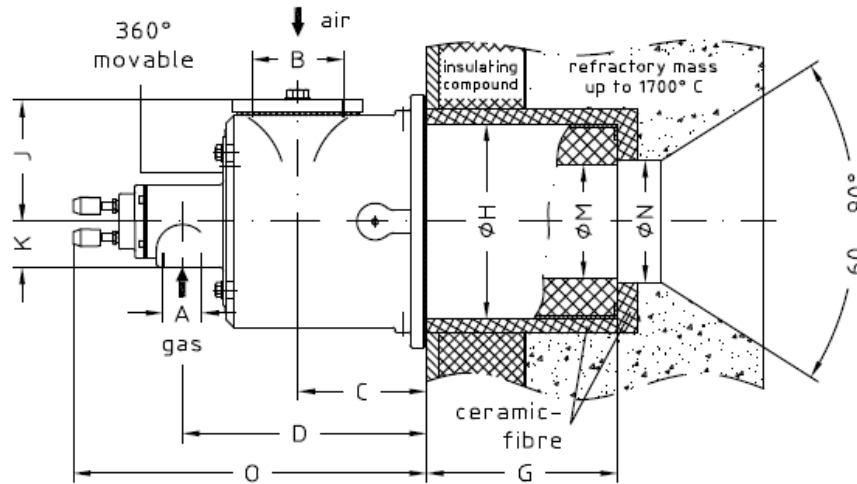


High-velocity gas burner of the B202 H5 series delivering a maximum output of 2000 kW.

Configuration with ignition insert for direct ignition and ionization-type flame monitoring.



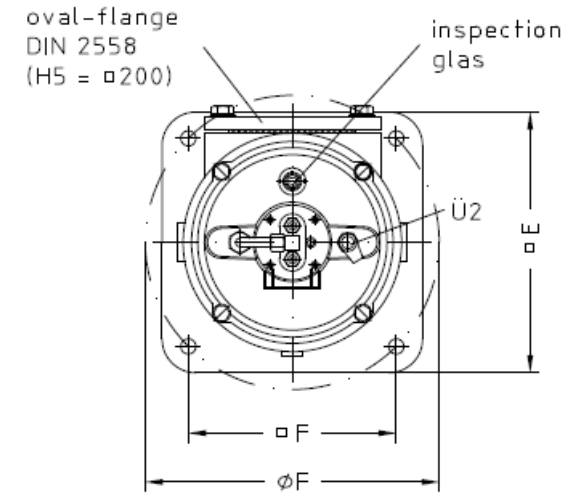
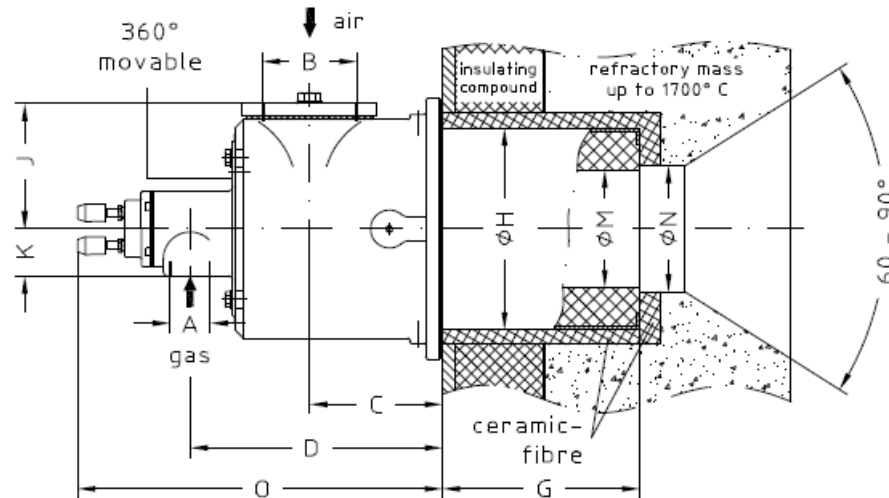
furnace execution with burner muffle (if required)



burner type	gross power [kW]	A-gas press. [mbar]	A-gas conn.	B-air press. [mbar]	B-air conn.	C [mm]	D [mm]	J [mm]	K [mm]	Ø L [mm]	D approx [mm]	Ø E [mm]	Ø F [mm]	Ø F [mm]	G [mm]	Ø H [mm]	Ø M [mm]	flame length approx. [mm]	weight approx [kg]	ignition ZUE = ignition insert ZBR = pilot burner
B202 H1	30-80	40	G ¾"	50	G 1½"	96	200	90	50	4xØ12	148	170	134	190	140	112	28/30/40	500	15,5	ZUE
B202 H2	80-180	40	G 1"	50	G 2"	108	220	104	55	4xØ14	146	200	163	231	190	140	50/55/65	750	21,0	ZUE
B202 H3	180-380	40	G 1¼"	50	G 2½"	146	288	119	55	4xØ14	155	250	198	280	230	180	70/80/90	1.100	33,5	ZUE
B202 H4	380-900	40	G 1½"	50	DN 100	158	300	149	55	4xØ18	165	310	247	350	235	242	108/120/140	1.400	56,0	ZUE / ZBR
B202 H5	900-2.000	40	G 2"	50	DN 150	231	455	205	80	4xØ20	180	400	300	425	280	340	175/200	1.600	107,0	ZUE / ZBR

All power datas with reference to cold combustion air (approx. 40 °C) • Combustion air temperature by means of external heat exchanger to approx. 450 °C
 Process temperature: max. 1.500 °C • Regulating range: 1:10 (up to 1:25) • Direct electrical ignition and ionization control
 Datas of emission: reference to 3 % O₂, nominal power, nominal temperature, operation with natural gas as well as measuring in wet exhaust gas
 CO = 80 ppm (100 mg/Nm³) - NO_x = 98 ppm (200 mg/Nm³)

furnace execution with burner muffle (if required)



burner type	gross power [kw]	A-gas press. [mbar]	conn.	B-air press. [mbar]	conn.	C [mm]	D [mm]	J [mm]	K [mm]	phi L [mm]	O approx [mm]	=E [mm]	=F [mm]	phi F [mm]	G [mm]	phi H [mm]	phi M [mm]	flame length approx. [mm]	weight approx [kg]	ignition ZUE = ignition insert ZBR = pilot burner
B202 H3-L	180-380	40	G 1 1/4"	50	G 2 1/2"	146	288	119	55	4 x phi 14	155	250	198	280	230	180	70/80/90	1.100	34,0	ZUE
B202 H4-L	380-1000	40	G 1 1/2"	50	DN 100	158	300	149	55	4 x phi 18	165	310	247	350	235	242	108/120/140	1.400	56,0	ZUE

All power datas with reference to cold combustion air (approx. 40 °C) • Direct electrical ignition and ionization control

Process temperature: max. 1.500 °C • Regulating range: 1:10 (up to 1:25)