

INDUSTRIAL FURNACES INSERTEC

BLOOM Order No.: 60309

1.0 Regenerative Burner for Aluminium Melting Furnace

1.1	Main Burner	:	Type M1150-100-100 Fabr. BLOOM
	- No. of Burners	:	2 (1 Pairs)
	- Capacity / Burner		
	Max.	:	4.000 kW
	Min	:	590 kW
	- Fuel	:	Natural Gas $H_u = 9,96 \text{ KWh/Nm}^3$
	max. flow / Burner pair	:	401 Nm^3/h
	min. flow / Burner pair	:	60 Nm^3/h
	- Fuel pressure at Burner	:	approx. 165 mbar
	- Total air flow $V_{\min} \text{ } 9,56 \text{ Nm}^3/\text{Nm}^3$ at $\lambda = 1,1$:	3.835 Nm^3/h $V_{\max.} = 4.220 \text{ Nm}^3/\text{h}$
	- Primary air flow / Burner pair		
	at T-Furnace < 950°C	:	20% of $V_{\max.} = 844 \text{ Nm}^3/\text{h}$
	at T-Furnace > 950°C	:	0% of $V_{\max.} = 0 \text{ Nm}^3/\text{h}$
	-Primary air pressure (inlet burner)	:	approx. 60 mbar
	- Secondary air flow / Burner pair		
	at T-Furnace < 950°C	:	80% of $V_{\max.} = 3.375 \text{ Nm}^3/\text{h}$
	at T-Furnace > 950°C	:	96,5% of $V_{\max.} = 4.070 \text{ Nm}^3/\text{h}$
	- Secondary air pressure (inlet regen.)	:	approx. 60 mbar
	- Cooling air for gas lance / Burner	:	150 Nm^3/h ; (20°C)
	- Cooling air pressure (inlet burner)	:	~ 2,0 mbar
	- Total POC / Burner pair	:	4.625 Nm^3/h

- POC / Regenerator		
at 80% Pullback	:	3.700 Nm ³ /h (~200°C)
at 90% Pullback	:	4.165 Nm ³ /h (~200°C)
- POC pressure (outlet regenerator)	:	approx. -65 mbar at PB = 90%
- Cooling air for UV-Cell	:	~ 10 Nm ³ /h (20°C)
- Cooling air for pilot	:	~ 10 Nm ³ /h (20°C)
- Burner operation	:	continuous capacity control Turndown 1 : 5
- Main flame detection	:	UV-Cell
- Burner ignition	:	BLOOM M3001-6100 lance type pilot

1.2	Pilot Burner	:	Type M3001-6100 Fabr. BLOOM
	- No. of pilots / Burner	:	1 piece
	- Capacity	:	26,0 kW
	- Gas flow	:	2,6 Nm ³ /h Natural Gas
	- Gas pressure at pilot	:	~ 20 mbar
	- Combustion air flow	:	26,0 Nm ³ /h (20°C)
	- Combustion air pressure at pilot	:	~ 20 mbar
	- Operation	:	continuously
	- Ignition	:	electrically
	- Ignition transformer	:	7,5 kV (installed in BCU)
	- Pilot flame detection	:	Ionisation (with the same electrode as for ignition)