FNDP 350/M-EL - FNDP 450/M-EL - FNDP 550/M-EL

Burners for heavy-oil modulating (PID fully modulating) if equipped with addition of optional modulation kit and probe.
Suitable for heavy-oil 5°-20°E to 50°C and for BTZ heavy-oil.
They are composed by: fan at high pressurisation and combustion head with adjustment at high efficiency and high flame stability, PID regulators for the control of the heavy-oil temperature.
Compact overall dimensions and disposition rationalized of the components with accessibility facilitated for the operations of setting and maintenance.
Complete of nozzle, flexible pipes and line filter.
Complete of flange and gasket for installation on generator.

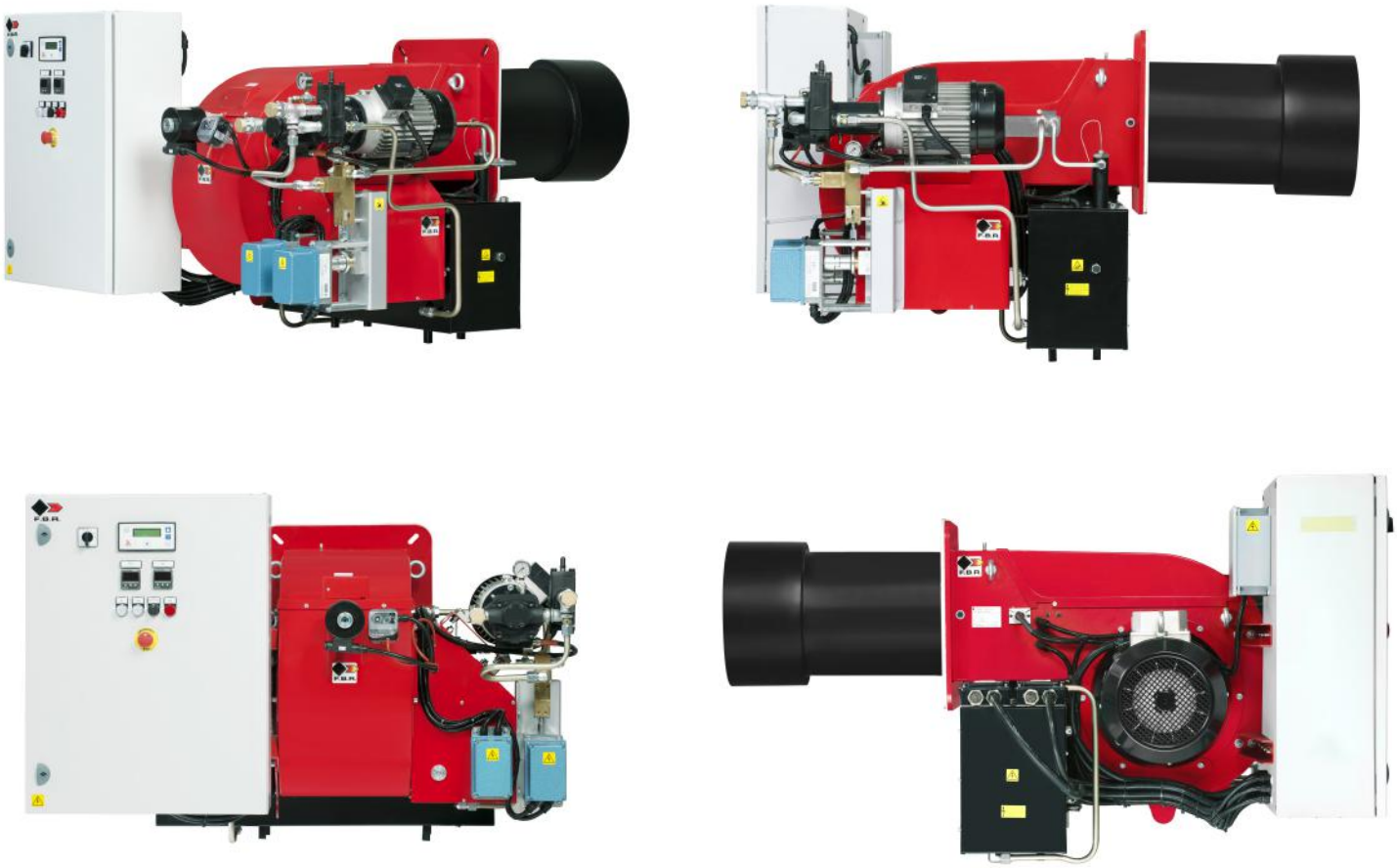


Fig. 1 FNDP 550/M-EL

TECHNICAL DATA FNDP 350/M-EL - FNDP 450/M-EL - FNDP 550/M-EL

MODEL		FNDP 350/M-EL	FNDP 450/M-EL	FNDP 550/M-EL
Flow 1st stage / min. 2nd stage - max. 2nd stage *	[kg/h]	60/120-350	80/160-450	100/200-550
Thermal power 1st stage / min. 2nd stage - max. 2nd stage *	[Mcal/h]	588/1176-3430	783/1568-4410	980/1960-5390
Thermal power 1st stage / min. 2nd stage - max. 2nd stage *	[kW]	684/1367-3988	911/1823-5128	1139/2279-6267
Fuel: HEAVY-OIL 5°-20°E to 50°C				
Intermitted working operation (min. 1 stop every 24 hours) two stages progressive or modulating				
Environmental conditions operation / storage:	-15...+40°C / -20...+70°C, rel. humidity max. 80%			
Max. temperature combustion air	[°C]	60	60	60
Nominal electric power	[kW]	35.2	43.2	56.7
Fan motor	[kW]	9	11	18.5
Pump motor	[kW]	2.2	2.2	2.2
Resistances	[kW]	24	30	36
Nominal motor current absorption	[A]	25	27.5	38
Nominal auxiliary absorption	[A]	0.8	0.8	0.8
Power supply:	3~400V, 1N~230V - 50Hz			
Electric protection degree:		IP 44	IP 44	IP 44
Burner weight	[kg]	317	343	387

* Reference conditions: Environment temperature 20°C - Barometric pressure 1013 mbars - Altitude 0 metre (sea level).

OPERATING RANGE DIAGRAM

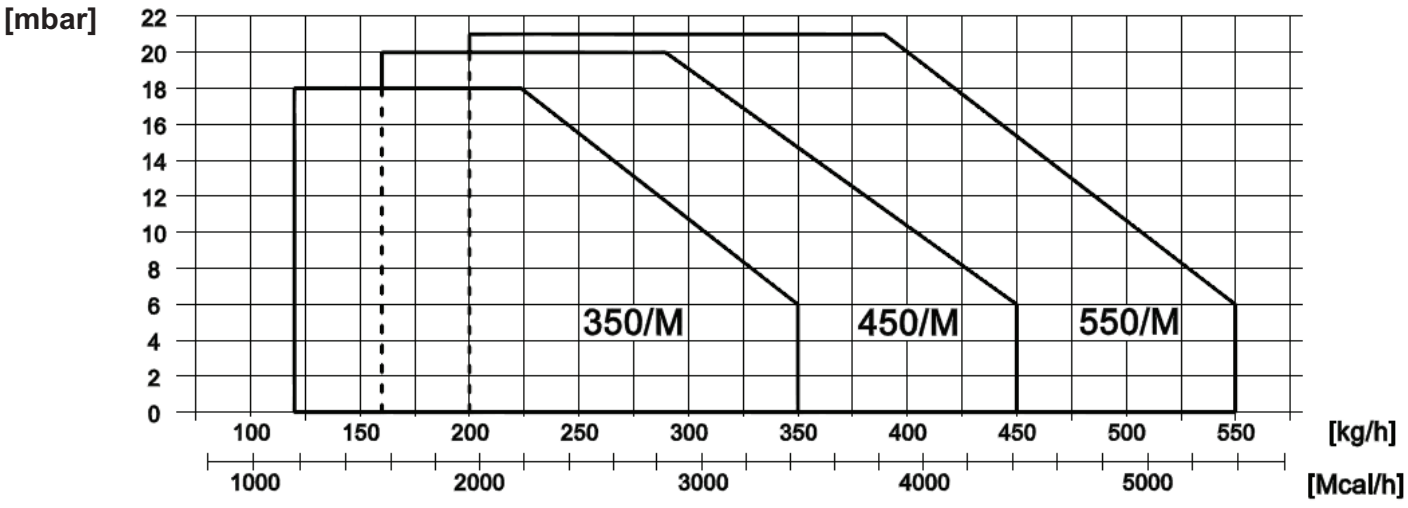


Fig. 2 X = Flow/Thermal power Y = Pression in the combustion chamber

The firing rates has been obtained based on test boilers in accordance with EN267 standards and are indicative of matching the burner to the boiler. For the correct operation of the burner, combustion chamber dimensions must be in accordance with current regulation. In case of non-compliance, contact the manufacturer.

DIMENSIONS [MM]

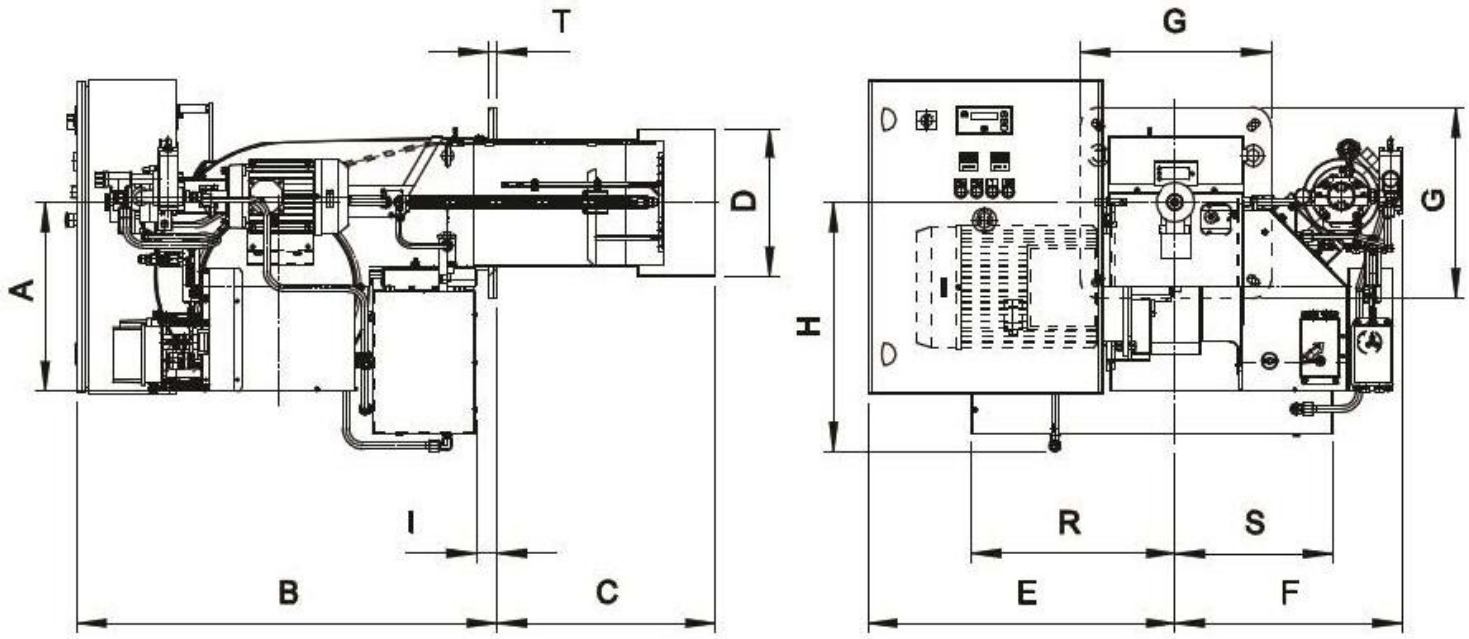
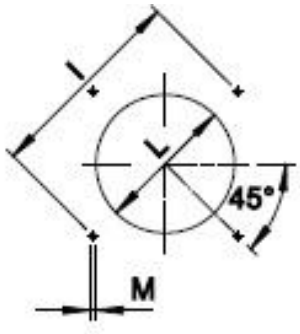


Fig. 3 Dimensions FNDP 350/M-EL - FNDP 450/M-EL - FNDP 550/M-EL

MODEL	A	B	C	D	E	F	G	H	I	R	S	T
FNDP 350/M-EL	481	1075	535	334	790	570	490	495	75	400	400	22
FNDP 450/M-EL	481	1075	560	380	790	580	490	635	57	520	400	22
FNDP 550/M-EL	481	1075	560	380	790	580	490	635	57	520	400	22

BOILER PLATE



* Suggested dimension of connection between burner and generator.

Fig. 4 Boiler plate

MODEL		I min	I *	I max	L min	L *	L max	M
FNDP 350/M-EL	mm	552	552	580	350	350	450	M14
FNDP 450/M-EL	mm	552	552	580	390	390	450	M14
FNDP 550/M-EL	mm	552	552	580	390	410	450	M14

PRODUCT SPECIFICATION

SHORT DESCRIPTION

Heavy-oil burners modulating (PID fully modulating) if equipped with addition of optional modulation kit and probe. Suitable for combustion of heavy-oil till 20°E at 50°C and for BTZ heavy-oil.

DETAILED SPECIFICATION

Heavy-oil burner 5 to 20°E at 50°C, modulating (PID fully modulating) if equipped with addition of optional modulation kit and probe; composed by:

- Steel burner body;
- Fan at high pressurisation;
- Combustion head with adjustment at high performance and elevated flame stability complete with steel blast tube and steel flame disk;
- Flange and insulating gasket for fixing at boiler;
- Heavy-oil pump driven by a dedicated motor;
- Two PID regulators for the control of fuel heaters;
- Low-density flanged heaters (anticracking);
- Three-phase power supply;
- UV probe for flame detection;
- Electronic control box for the burner control;
- IP 44 electric protection level;
- Resistances (always on) for pump, nozzle and fuel valve;
- Safety air pressure switch to stop the burner in lock-out, in case of failed or anomalous fan operation;
- Maximum light-oil pressure switch to stop the burner in case of the light-oil pressure on the return is higher then the set point value;
- Servomotor for air shutter;
- Servomotor for the pressure regulator;
- Thermocouples for detecting the oil temperature;
- Button for the manual tank load;
- Easy extraction of combustion head without get off the burners by bolier;
- Set up for the additional specific kit that transforms burner operation as modulating i.e. the modulating kit allows to supply any power between the minimun and the maximum value based on instantaneous loading request.

CONFORMING TO:

- CE rules;
- 2014/30/UE Directive EMC;
- 2014/35/UE Directive LV;
- 2006/42/CE - 2006/42/EG - 2006/42/EC Directive MD;
- (art.4, par.3) 2014/68/EU Directive PED;
- Reference rules: EN267 (liquid fuel) - EN746-2 (industrial thermoprocessing equipment).

STANDARD EQUIPMENT

- Flexible hoses for connection;
- Line filter;
- Isomart gasket;
- Nozzle;
- Flange with insulating gasket;
- Burner nameplate;
- Warranty;
- Instruction handbook for installation, use and maintenance.

OPTIONAL

- Power modulating kits for temperatures;
- Power modulating kits for pressures;
- Temperature probe 0°C-400°C (PT 100 a 0° C);
- Temperature probe 0°C-1200°C (K probe);
- Pressure probe 0-3 bar, 0-6 bar. 0-16 bar, 0-20 bar, 0-30 bar;
- Noise protection.

The illustrations and data here shown are indicative. F.B.R. Bruciatori S.r.l. reserves the right to bring, without any obligation of warning, any changes that would be appropriate to the continuing development of their products.