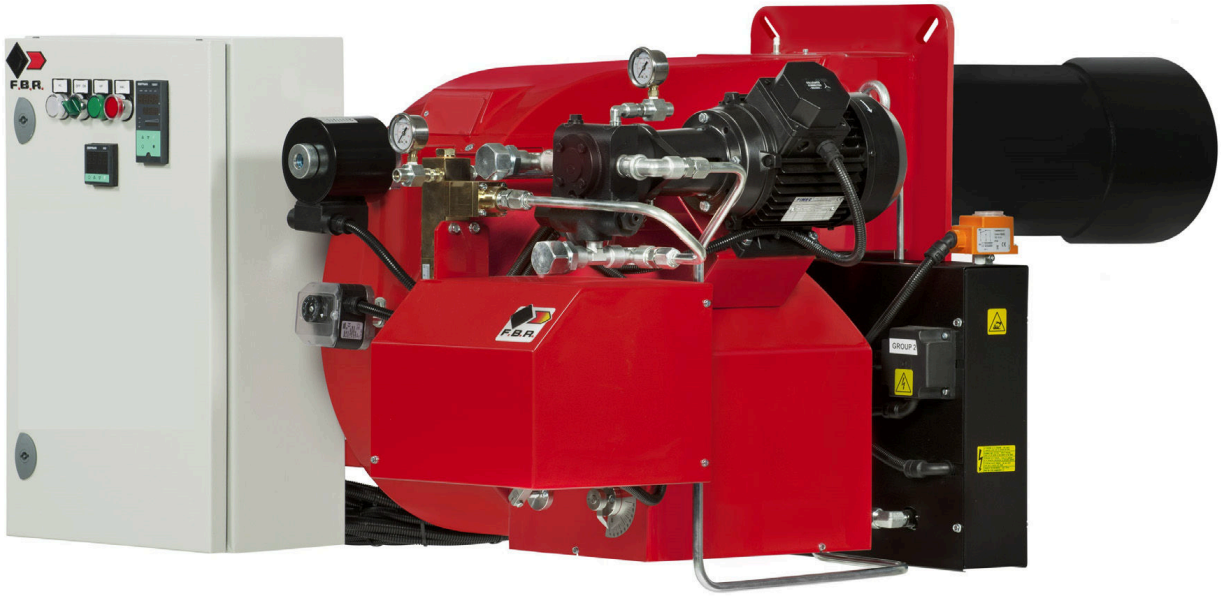
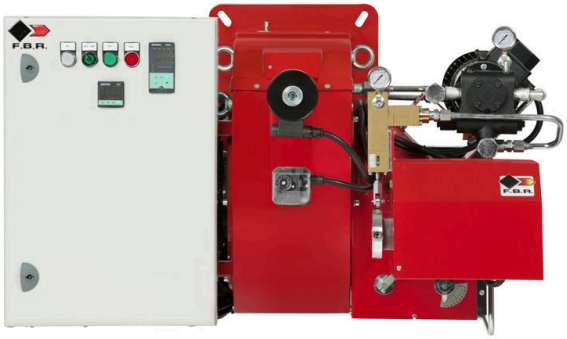
FNDP 190/M - FNDP 250/M - FNDP 350/M - FNDP 450/M - FNDP 550/M

Burners for heavy-oil two stages progressive (hi-low flame) or 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.
Available with mechanical cam or with electronic cam.





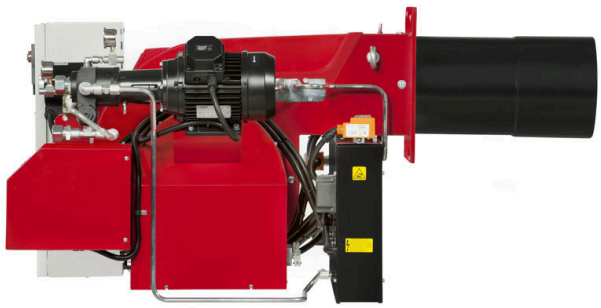


Fig. 1 FNDP 190/M

TECHNICAL DATA FNDP 190/M - FNDP 250/M - FNDP 350/M

MODEL		FNDP 190/M	FNDP 250/M	FNDP 350/M
Flow 1st stage / min. 2nd stage - max. 2nd stage *	[kg/h]	40/80-206	50/100-250	60/120-350
Thermal power 1st stage / min. 2nd stage - max. 2nd stage *	[Mcal/h]	392/784-2018	490/980-2450	588/1176-3430
Thermal power 1st stage / min. 2nd stage - max. 2nd stage *	[kW]	456/911-2347	570/1139-2849	684/1367-3988
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]	24.8	29.3	35.2
Fan motor	[kW]	5.5	7.5	9
Pump motor	[kW]	1.1	1.1	2.2
Resistances	[kW]	15	20	24
Nominal motor current absorption	[A]	15	17	25
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]	206	210	317

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

OPERATING RANGE DIAGRAM FNDP 190/M - FNDP 250/M - FNDP 350/M

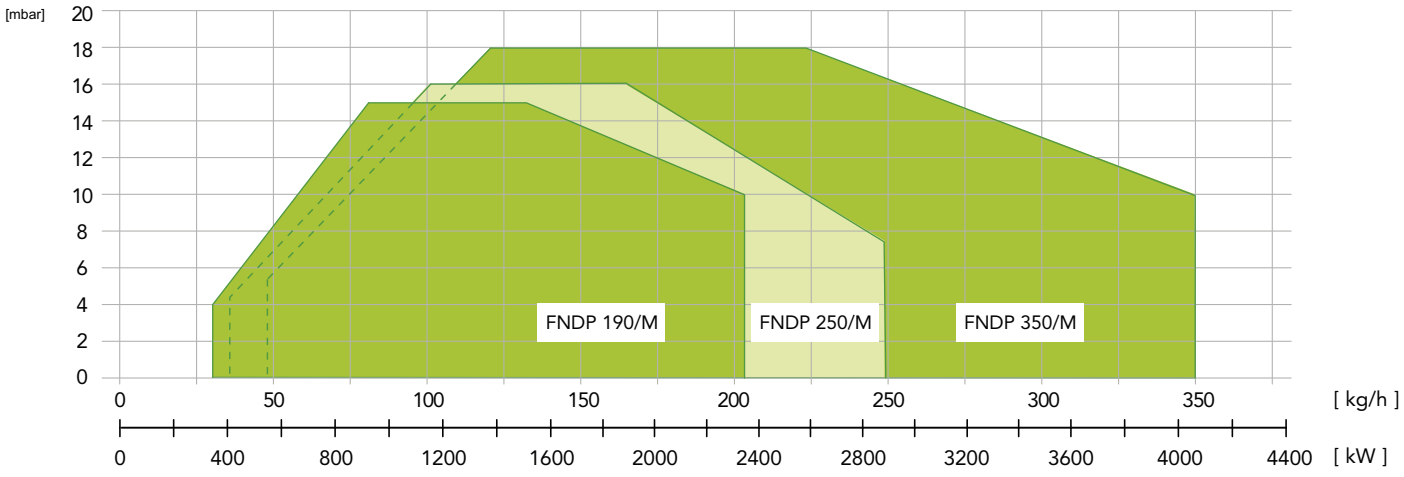


Fig. 2 X = Flow/Thermal power Y = Pression in the combustion chamber

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.

TECHNICAL DATA FNDP 450/M - FNDP 550/M

MODEL		FGP 350/M	FGP 450/M
Flow 1st stage / min. 2nd stage - max. 2nd stage *	[kg/h]	80/160-450	100/200-550
Thermal power 1st stage / min. 2nd stage - max. 2nd stage *	[Mcal/h]	783/1568-4410	980/1960-5390
Thermal power 1st stage / min. 2nd stage - max. 2nd stage *	[kW]	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
Nominal electric power	[kW]	43.2	56.7
Fan motor	[kW]	11	18.5
Pump motor	[kW]	2.2	2.2
Resistances	[kW]	30	36
Nominal motor current absorption	[A]	27.5	38
Nominal auxiliary absorption	[A]	0.8	0.8
Power supply:		3~400V, 1N~230V - 50Hz	
Electric protection degree:		IP 44	IP 44
Burner weight	[kg]	343	387

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

OPERATING RANGE DIAGRAM FNDP 450/M - FNDP 550/M

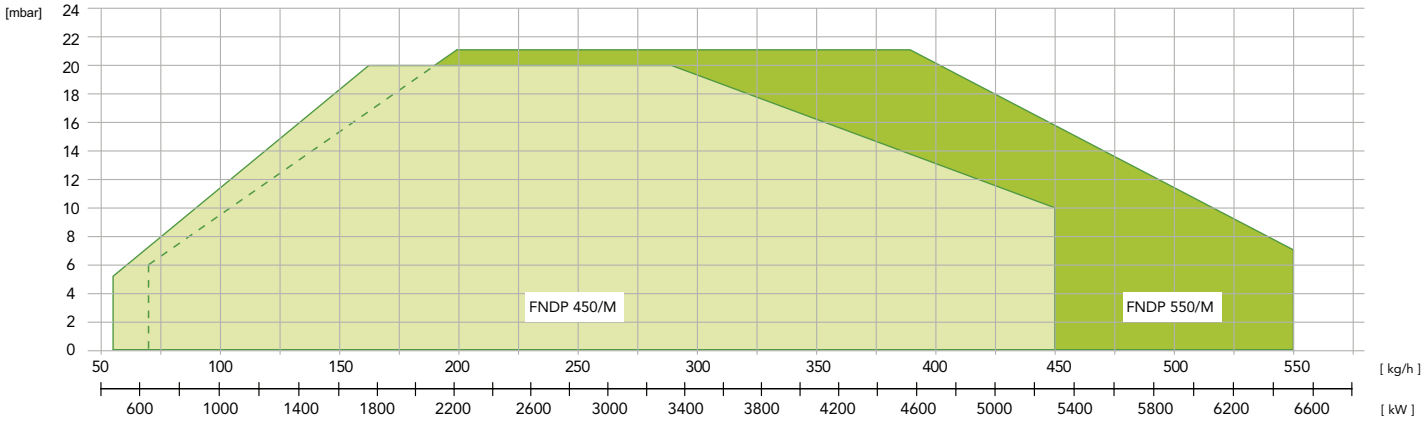


Fig. 3 X = Flow/Thermal power Y = Pression in the combustion chamber

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]

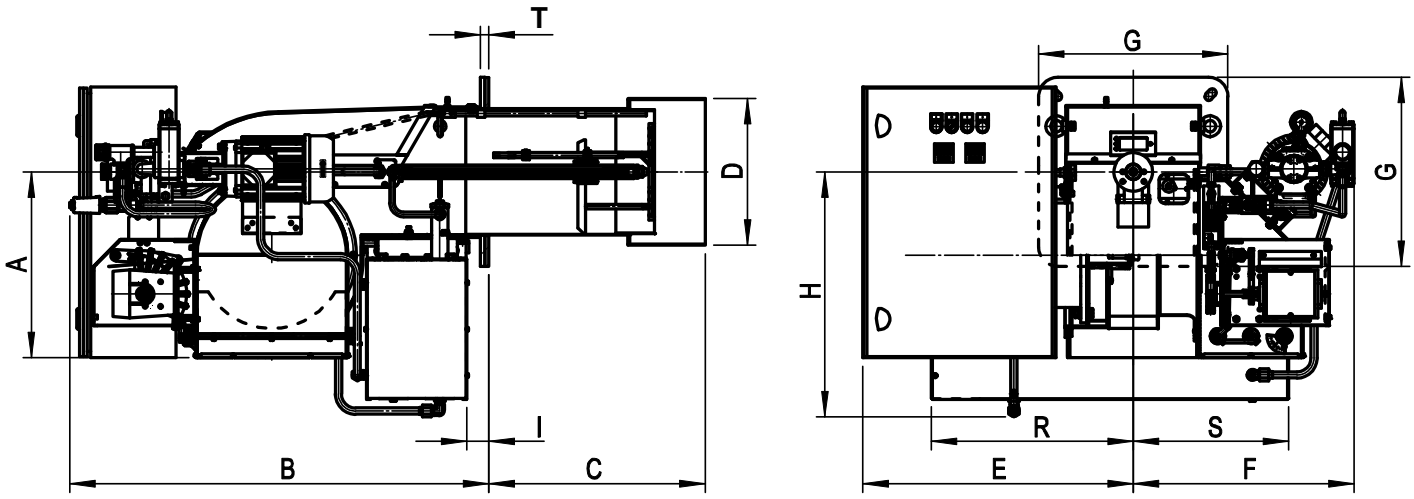
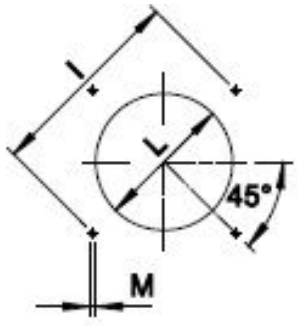


Fig. 4 Dimensions FNDP 190/M - FNDP 250/M - FNDP 350/M - FNDP 450/M - FNDP 550/M

MODEL	A	B	C	D	E	F	G	H	I	R	S	T
FNDP 190/M	453	920	495	234	545	536	360	490	93	400	400	20
FNDP 250/M	453	920	500	271	545	536	360	490	93	400	400	20
FNDP 350/M	481	1100	535	334	700	565	490	495	75	400	400	22
FNDP 450/M	481	1100	560	380	700	571	490	635	57	520	400	22
FNDP 550/M	481	1100	560	380	700	571	490	635	57	520	400	22

BOILER PLATE



* Suggested dimension of connection between burner and generator.

Fig. 5 Boiler plate

MODEL		I min	I *	I max	L min	L *	L max	M
FNDP 190/M	mm	396	424	438	245	280	320	M14
FNDP 250/M	mm	396	424	438	280	280	320	M14
FNDP 350/M	mm	552	552	580	350	350	450	M14
FNDP 450/M	mm	552	552	580	390	390	450	M14
FNDP 550/M	mm	552	552	580	390	410	450	M14

PRODUCT SPECIFICATION

SHORT DESCRIPTION

Heavy-oil burners two stages progressive (hi-low flame) or 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, two stages progressive (hi-low flame) or 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;
- Photoresistance for flame detection;
- 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, by stopping the pump motor, 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 and 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 E.M.C.;
- 2014/35/UE Directive L.V.;
- 2014/68/EU Directive M.D.;
- 97/23/CE Directive P.E.D.;
- 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.