

AUTOMATIC OIL BURNERS

- **AOH-M** (WITH MECHANICAL COUPLING)
- **AOH-ME** (WITH ELECTRONIC COUPLING)



The company PBS POWER EQUIPMENT, s.r.o. manufactures, installs and services monoblock and power burners which are employed for burning a wide range of fuels, and which can be used in power and heat production as well as in different technological processes.

DESCRIPTION OF BURNERS:

Burners AOH-M (mechanical coupling fuel-air) and AOH-ME (electronic coupling fuel-air) represent modern types of automatic oil burners designed to burn light and extra light furnace oil. They are designed as monoblock, i.e. the fan and all the components are a part of the burner's main body. The operation is fully automatic, suitable for unattended control of boiler plants. Continuous control of the heat output, together with a low excess of air during the combustion, guaranty a high operation efficiency. Burners AOH-M PL series are equipped with an oil heater securing a fast fuel heating up to a required atomization temperature.

The whole cycle of the burner, from the start over the output regulation to the shut-down, is controlled by a modern microprocessor controller MA (2, 3, 5) series or PBS6000, both equipped with a communication channel RS-485 enabling connecting of a remote control or a superior control system (PC). Modifications of the control software enable the use of special algorithms such as permanent venting during the shut-down. The use of the controllers further enables identifying, displaying and storing up to 100 last fault conditions into the memory, and closing of the burner's air suction during each operation shut-down. Thus the flue loss originated by a cold air flow through the appliance is being decreased. The controllers can be equipped with a touch screen. They can be positioned on the burner, on an independent stand or integrated into the switch board panel.

USE:

Oil burners serve as sources of heat for overpressure and underpressure appliances, particularly for steam, hot-water and warm-water boilers. They can, however, be also used for other appliances with a suitable space for combustion, where they will not be subjected to outer blazing heat (e.g. air heaters, dryers, steam generators, industrial and baking furnaces etc.). Their use for special technological purposes must be consulted with the manufacturer.

TECHNICAL SPECIFICATIONS:

- Output 85 ÷ 11 000 kW
- Oil fuels
- Burners comply with technical requirements of ČSN EN 676 and other legislative regulations. The conformity with the product safety requirements was examined by a notified independent person (issued the type certificate).

FUEL:

- Extra light furnace oil (heating oil)
- Light furnace oil (heavy gas oil)

ADVANTAGES:

- Highly efficient operation (low excess of air)
- High reliability and durability
- Combustion of different kinds of gaseous fuel
- Use of modern technologies
- Easy to operate
- Fully automatic operation suitable for unattended control of boiler plants
- Continuous output regulation
- Venting of combustion chamber prior each burner start
- Professional warranty and after-warranty service

STANDARD SCOPE OF SUPPLY:

- Burner body with the cooling fan
- Microprocessor controller
- Diffuser and mixing head with the pressure nozzle
- Combustion air suction regulation with the noise damper
- Flame monitor
- Igniter
- Combustion air and fuel regulation servomotor(s)
- Fuel filter
- Closing valves of the fuel inlet and return pipe
- Hoses
- Electromagnetic oil valves
- Air pressure manostat and 2x fuel pressure manostat
- Additional parts (controller stand, burner sealing, connecting bolts, ...)
- Technical documentation

OVERVIEW OF PRODUCED TYPES:

Burner type	AOH-M, AOH-ME					
	04	10	16	25	45	90
PL	▪	▪	▪	▪	▪	▪
PN	▪	▪	▪	▪	▪	▪

Burner type	AOH-ME					
	04	10	16	25	45	90
PL		▪	▪	▪	▪	▪
PN		▪	▪	▪	▪	▪

Marking:

- AOH-M - with mechanical coupling fuel-air
- AOH-ME - with electronic coupling fuel-air
- No. - describes the burner's heat output
- PL - light furnace oil + equipped with oil heater
- PN - heating oil or extra light furnace oil without oil heater

REGULATION:

The microprocessor controller in connection with a suitable appliance controller enables following kinds of heat output regulation:

- Continuous – a fluent change of heat output according to the instantaneous heat off-take
- Two-step (three position)
MAX-MIN-OFF
- Manual operation – directly with buttons on the controller, resp. superior control system

ACCESSORIES TO ORDER:

- Oil heating station (steam or electric)
- Flue gas recirculation to reduce NO_x
- Frequency convertor
- PBS600 burner controller touch screen
- Oxygen sensor + interface – regulation of excess oxygen in flue gasses
- Distance piece between the burner and the appliance

EMISSIONS:

The burner's operation complies with the emission limits of CO, NO_x, SO₂ and TL within the whole output range. Average values of CO and NO_x are stated in the table below.

Burner variant	NO _x [mg·m ⁻³]	CO [mg·m ⁻³]
Standard	150 ÷ 220	< 70
With flue gas recirculation *	80 ÷ 120	< 30

* Burner's maximal heat outputs (characteristics) decrease of ca 15 %.

Burners with the electronic coupling can also be supplied with the regulation of residual oxygen in the flue gases optimizing the excess of the combustion air with consequent fuel savings.



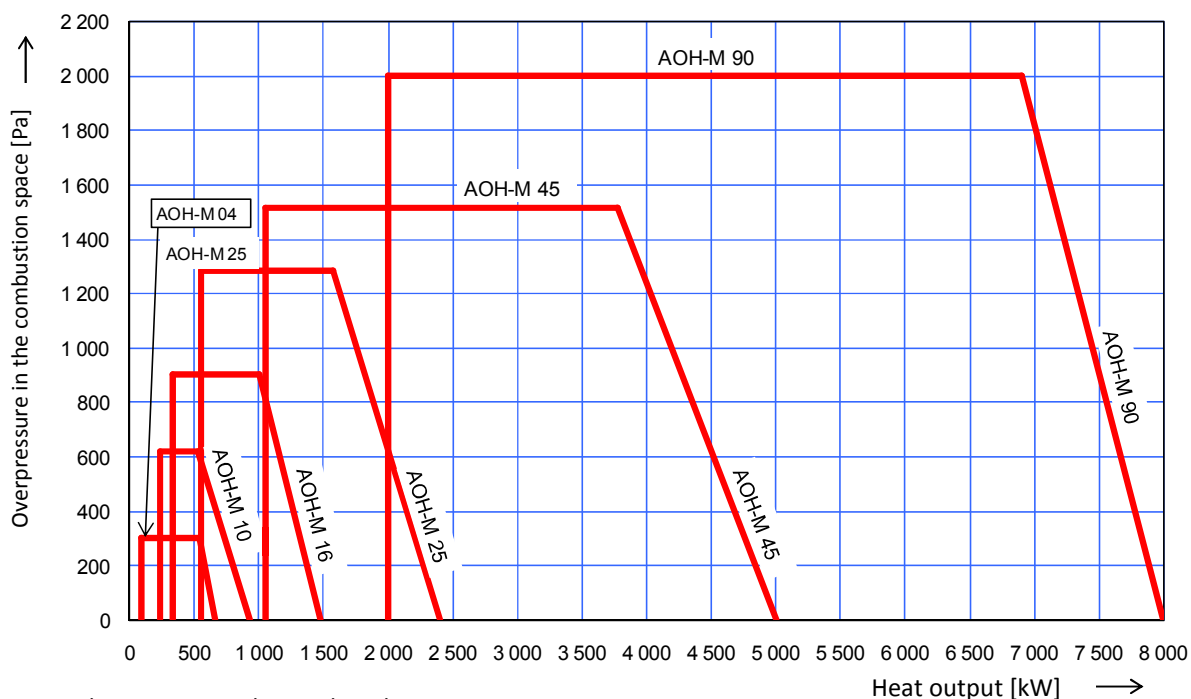
BASIC TECHNICAL PARAMETERS:

Burner type	Tepelný výkon [kW]			Maximal over-pressure in combustion space [Pa]	Spotřeba paliva [kg h ⁻¹]			Weight [kg]	Electric input [kW]	Voltage supply	Maximal inlet overpressure of fuel [kPa]	Inlet viscosity of fuel [mm ² s ⁻¹]
	Maximal to zero over-pressure	Maximal to max. over-pressure	Minimal		At maximal heat output to zero overpressure	At maximal heat output to max. overpressure	Minimal					
AOH-M 04 PL	655	540	85	300	57	46	7	47	2,5	3NPE ~ 50 Hz, 400 V / TN-S (L1, L2, L3, N, PE), possible grids TN-C, TT, IT Connect to a fused (characteristic „D“) 3ph supply	100	oils 4,3 ÷ 760 ELFO 1,3 ÷ 18 fuel oil 1,3 ÷ 20
AOH-M 04 PN					56	46		40	0,9			
AOH-M 10 PL	920	530	235	620	78	45	20	77	4,1			
AOH-M 10 PN					78	45	20	65	1,1			
AOH-M 16 PL	1475	1000	335	900	126	85	29	88	4,9			
AOH-M 16 PN					124	84	28	75	1,9			
AOH-M 25 PL	2400	1570	545	1280	204	134	46	120	5,6			
AOH-M 25 PN					202	132	46	102	2,6			
AOH-M 45 PL	4800	3775	1050	1510	409	321	89	246	14,9			
AOH-M 45 PN					405	318	89	209	9,9			
AOH-M 90 PL	11000	6900	2000	2000	681	587	170	490	17,9			
AOH-M 90 PN					675	582	169	475	12,9			

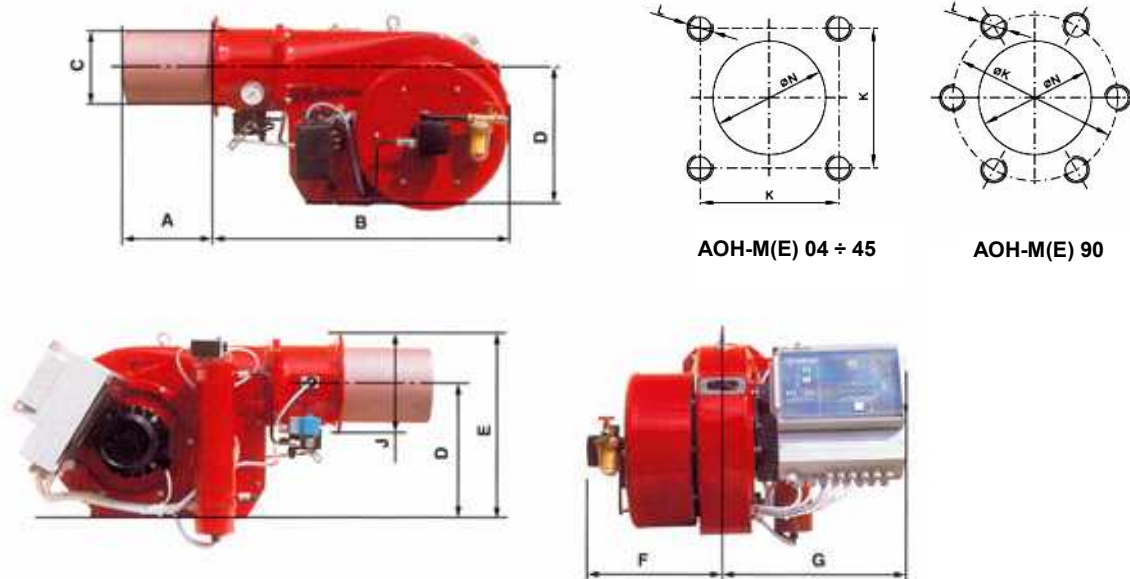
Note: basic technical parameters also apply to burners AOH-ME 10 - 90

OUTPUT CHARACTERISTICS:

AOH-M extra light oil (heating oil)



Note: characteristics also apply to burners AOH-ME 10 - 90

DIMENSIONS:

AOH-M(E) 04 ÷ 45

AOH-M(E) 90

Burner type	Dimension [mm]											Inlet hose inner diam.	Return hose inner diam.
	A	B	C	D	E	F	G	J	K	L	N		
AOH-M 04 P	240	668	∅ 156	247	347	312	395	200x200	145	4 x M10	∅ 165	DN 10	DN 8
AOH-M 10 P	240	802	∅ 206	372	512	344	415	∅ 280	180	4 x M12	∅ 215	DN 10	DN 8
AOH-M 16 P	300	832	∅ 250	402	570	457	422	∅ 336	216	4 x M12	∅ 260	DN 10	DN 8
AOH-M 25 P	300	954	∅ 286	511	711	568	427	∅ 400	254	4 x M16	∅ 295	DN 13	DN 10
AOH-M 45 P	300	1104	∅ 330	619	839	709	440	∅ 440	272	4 x M16	∅ 340	DN 13	DN 10
AOH-M 90 P	400	1516	∅ 476	1094	1166	792	505	∅ 600	∅540	6 x M20	∅ 490	DN 15	DN 15

Note: dimensions also apply to burners AOH-ME 10 - 90


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