



The operation of the KB rotary cup burner is automatic, simple and reliable – also when fired with a combination of fuels as is often the case. The design is compact and the burners easy to maintain.

Capacity range: 1.9 – 38 MW
170 – 3,400 kg/h

KB 1600 – KB 3400 rotary cup burner

Description

The KB rotary cup burner has been designed to meet customer requirements such as reliable operation, easy maintenance and minimum installation requirements. The design is based on Aalborg Industries' long-term experience in marine boilers and combustion technology, ensuring optimum burner performance for demanding customers. The working principle of rotary cup burners is based on atomising by centrifugal force. The atomising cup is driven at high speed via a heavy-duty belt drive. The oil is gently positioned

at low pressure into the spinning cup where gradually, and forced by the centrifugal action of the cup, it moves forward until it is thrown off the cup rim as a very fine, uniform film.

The high-velocity primary air discharged around the cup strikes the oil film, breaks it up and converts it into a mist of fine particles which are introduced into the combustion zone and burner. The secondary air necessary for complete combustion is supplied by a forced-draught fan through the wind-box and burner air register. Normally,

atomising is effected at a viscosity of approx. 45 cSt. which ensures a particle size small enough to burn quickly and completely.

Heavy fuel oil fired rotary cup burner

The KB burner is a typical rotary cup burner with combustion air according to the forced draught fan location principle.

Larger burners of types KB 1600–3400 have a separate primary air fan that receives its air supply from the forced draught fan.

STANDARD PRODUCT RANGE

Capacity and dimensions

Burner type	Guideline boiler output kg/h	Capacity Min. - max. MW	Capacity Min. - max. kg/h	Burner motor max. power 50/60 Hz kW	Burner air pressure loss mm WG	Air flow max. Nm ³ /h	Primary air fan Motor size 60 Hz kW	Air inlet flange position
KB 1600	20,000	1.9–17.9	170–1,600	3.0/3.6	335	22,300	Separate/12.8	0–360°
KB 1800	23,000	2.2–20.0	200–1,800	3.0/3.6	350	25,000	Separate/12.8	0–360°
KB 2000	25,000	2.6–22.3	230–2,000	3.0/3.6	355	27,700	Separate/17.5	0–360°
KB 2200	30,000	2.8–24.6	250–2,200	3.0/3.6	365	32,400	Separate/17.5	0–360°
KB 2600	35,000	2.9–29.0	260–2,600	3.0/3.6	380	38,100	Separate/17.5	0–360°
KB 3000	40,000	3.5–33.5	310–3,000	3.0/3.6	385	42,400	Separate/17.5	0–360°
KB 3400	45,000	3.8–38.0	340–3,400	3.0/3.6	410	49,320	Separate/21.6	0–360°

General burner data

Heavy fuel oil data			General data		
Max. viscosity at 50°C	700	cSt	Excess air ratio	1.15	-
Max. viscosity at burner inlet	45	cSt	Combustion air temperature, design	45	°C
Calorific value	40.2	MJ/kg	Fuel oil delivery pressure	2.5	bar (g)
Diesel oil data (for ignition burner)			General electrical data		
Viscosity	1.3–12	cSt	Main voltage	440/380	V
Calorific value	42.2	MJ/kg	Pilot voltage	220/110	V
			Frequency	50/60	Hz