

Our Delivery Program

Development and planning of firing plants individually designed on the basis of a modular series type production.



Combustion and Energy Systems

Technical Excellence

- Growing dynamism in global competition with regard to quality, time and cost-benefit ratio,
- minimal emissions for the protection of environment and resources,
- maximum flexibility regarding choice of economical fuel,
- continuous optimisation of all systems and components,
- worldwide service...

Economic Efficiency is Integral to Burner Technology



For more than 70 years our burner systems have proved their efficiency daily. Due to the success in the world's industrial thermal markets we have turned these requirements into technical reliability, first-rate engineering, power of innovation, and comprehensive service. More than 100 000 burners worldwide in every field of industry and process technology as well as more than 4 000 marine engines perform successfully for our customers.

Clean combustion with maximum efficiency, low emission rates, excellent operational reliability and, moreover, fast and 'easy' adjustment to individual environments and requirements secure your investment long-term.

The modular burner systems meet all their operators' requirements. Today and in the future. Standardised components and numerous variants allow a maximum amount of flexibility.



Our technological lead is founded on the readiness and ability to continuously improve our products and services and is supported by our own extensive research and development.

In co-operation with SAACKE, customers profit from the broad performance spectrum of our experience, the comprehensive competence of the worldwide operating system-supplier and from customer proximity through the global network of service partners – it's all in one.



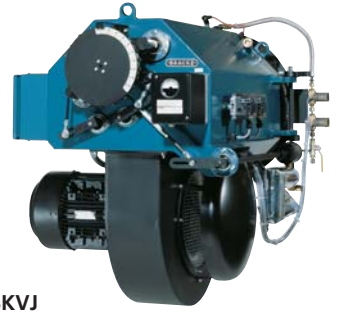
SKV/G-A



SKV/G



SG



SKVJ

Duoblock Rotary Cup Burners

Fuel	Capacity ca. [MW]	0.45 ▽ 1.7	0.6 ▽ 2.4	0.6 ▽ 3.4	0.7 ▽ 4.6	0.8 ▽ 5.8	1.1 ▽ 7.6	1.2 ▽ 9.2	1.4 ▽ 11.5	1.7 ▽ 14	1.8 ▽ 15.2	1.8 ▽ 17	2.3 ▽ 21	2.6 ▽ 23	2.8 ▽ 29	3.6 ▽ 34	4 ▽ 40	4.5 ▽ 46
	Burner size / Burner type	15	20	30	40	50	60 / 68	80 / 82	100 / 102	124	134	150	180	200	250	300	350	400
Heavy oil	SKV SKV-A	[Blue bars indicating capacity ranges]																
Light oil	SKV SKV-A	[Blue bars indicating capacity ranges]																
Gas	SG SG-A	[Blue bars indicating capacity ranges]																
Heavy oil/gas	SKVG SKVG-A	[Blue bars indicating capacity ranges]																
Light oil/gas	SKVG SKVG-A	[Blue bars indicating capacity ranges]																
2 gases	SGD	[Blue bars indicating capacity ranges]																
Heavy oil/2 gases	SKVGD	[Blue bars indicating capacity ranges]																
Light oil/2 gases	SKVGD	[Blue bars indicating capacity ranges]																

Monoblock Rotary Cup Burners

Fuel	Capacity [MW]	0.45 ▽ 1.13	0.45 ▽ 1.9	0.55 ▽ 2.8	0.48 ▽ 3.4	0.48 ▽ 3.5	0.5 ▽ 4.45	0.59 ▽ 5.0	0.59 ▽ 6.1	0.68 ▽ 6.6	0.74 ▽ 7.36	0.74 ▽ 8.25	
	Burner size / Burner type	10	15	25	20	30	35	40	50	55	60	70	
Heavy oil	SKVJ	[Blue bars indicating capacity ranges]											
Heavy oil/gas	SKVJG	[Blue bars indicating capacity ranges]											
Heavy oil	SKVJ 10/15/25	[Blue bars indicating capacity ranges]											
Light oil	JL	[Blue bars indicating capacity ranges]											
Gas	JG	[Blue bars indicating capacity ranges]											
Light oil/gas	JGL	[Blue bars indicating capacity ranges]											

Low NO_x Burners



SKVJ/G



JGL



SSB



DDZ/G

Swirl-type Burners SSB

Fuel	Capacity [MW]	1.0	3.0	7.0	15
		3.5	7.5	17,5	30
Burner size / Burner type		20	50	100	200
Heavy oil	SSBS				
Light oil	SSBL				
Gas	SSBG				
Heavy oil/gas	SSBGS				
Light oil/gas	SSBGL				

Steam Assisted Pressure Jet Burners DDZ

Fuel	Capacity [MW]	4.6	7.8	13.3	20.8	32.5	53.1	83.6
		11.7	19.8	31.8	50.4	81.5	126.8	134
Burner size / Burner type		8	10	12	14	16	18*	20*
Heavy oil	DDZ							
Light oil	DDZ							
Gas	DDG							
Heavy oil/gas	DDZG							
Light oil/gas	DDZG							

*upon request



HLG

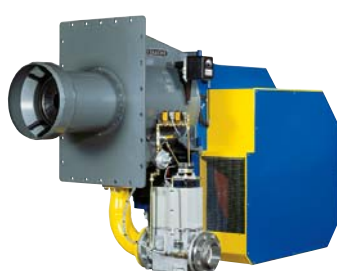
Monoblock Pressure Jet Burners EURO THERM

Fuel	Capacity ca. [MW]	0.24	0.29	0.39	0.46	0.61	0.92
		0.83	1.21	2.05	2.40	4.10	5.10
Burner size / Burner type		10	15	20	30	40	60
Natural gas	HG						
Light oil	HL						
Medium oil (60cST/50°C)	HM						
Light oil/natural gas	HLG						

Ultra Low NO_x Burners



TGL, TG, TL



GLS, GS, LS



TF

TEMINOX® TGL Duoblock Burners

Fuel	Capacity [MW]	0.65 ▽ 3.9	1.3 ▽ 3.9	0.85 ▽ 5.3	1.54 ▽ 5.3	1.0 ▽ 6.6	1.9 ▽ 6.6	1.2 ▽ 8.1	2.25 ▽ 8.1	1.4 ▽ 10.4	2.85 ▽ 10.4	1.5 ▽ 11.5	3.08 ▽ 11.5
	Burner size / Burner type	35		45		55		70		90		100	
Light oil/gas	TGL	[Blue bar spanning all columns]											
Gas	TG	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]
Light oil	TL	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]

TEMINOX® GLS Mono- and Duoblock Burners

Fuel	Capacity [MW]	0.54 ▽ 5.4	1.35 ▽ 5.4	0.8 ▽ 7.5	1.85 ▽ 7.5	1.0 ▽ 9.5	2.5 ▽ 9.5	1.2 ▽ 12.0	3.2 ▽ 12.0	1.5 ▽ 15.2	3.5 ▽ 14.0*	2.0 ▽ 18.5	3.8 ▽ 14.0*	4.2 ▽ 20.5*
	Monoblock Burner size	55		75		95		125		155		185		—
	Duoblock Burner size	60		80		100		130		160		190		220
Light oil/gas	GLS	[Blue bar spanning all columns]												
Gas	GS	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]
Light oil	LS	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]

* Light oil >14 MW upon request

TF Duoblock Burners

Fuel	Capacity [MW]	2 ▽ 10	1.66 ▽ 10	3 ▽ 15	2.5 ▽ 15	4 ▽ 20	3.33 ▽ 20	5.2 ▽ 26	4.33 ▽ 26	6.4 ▽ 32	5.33 ▽ 32	8 ▽ 40	6.66 ▽ 40	10 ▽ 50	8.33 ▽ 50
	Burner size / Burner type	100		150		200		260		320		400		500	
Light oil/gas	TF-DDZG	[Blue bar spanning all columns]													
Gas	TF-DDG	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]
Light oil	TF-DDZ	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]	[Blue bar]

Beyond the legal requirements, the SAACKE TEMINOX® burners also comply with the even stronger values already required by official authorities and the dynamized emission limit values to be expected in future.

TEMINOX® burners are especially characterized by the following properties:

- GLS Low NO_x and TGL Ultra Low NO_x mixing system for optimum combustion with lowest emissions.
- Modular structure of mixing system, fan and sound absorber thus assuring optimum adaptation to all possible plant requirements.
- No external flue gas recirculation plant required. That means no additional flue gas fans, enlarged combustion air fans, ducts, control systems and safety equipment. Result: reduced plant costs.
- Short installation and start-up times as well as very easy mounting and maintenance by a service-friendly burner design.

Process Firing Plants

Thermal utilisation of residues

- Animal grease
- Poor gas
- Organically loaded wastes
- Exhaust air containing noxious matters

Combustion of special fuels

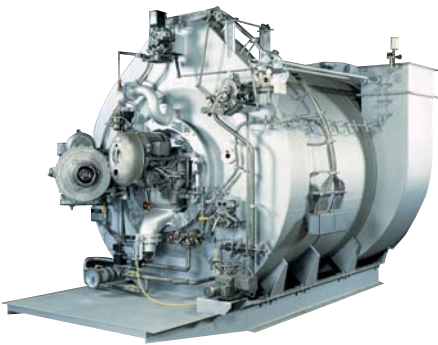
- Explosion-hazardous exhaust air/gases
- Liquids and gases with a high nitrogen content

Multi-stage thermal processes

Hot gas generators

Re-heating of gas flows

Ignition and supporting burners for waste incineration plants



Hot Gas Generators 1 MW – 50 MW

SAACKE hot gas generators equipped with SKV burners of any capacity are used for the generation of hot gases for drying processes, for the re-heating of flue gases in flue gas cleaning plants, for the combustion of non-standard fuels and the incineration of toxic wastes.



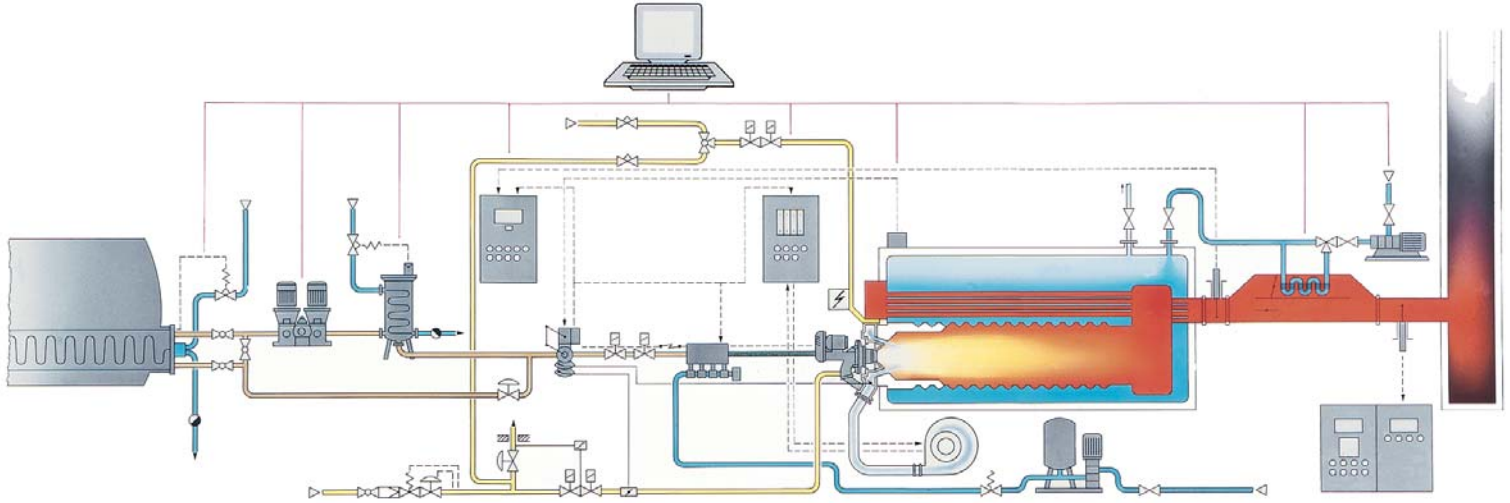
Thermal utilisation of residues from the production of resins

When producing resins, there are residues that must be disposed in an environmentally compatible way:

- formalin waste gas (high heat value, explosive)
- resin plant waste air (contaminated air)
- sewage water (difficult to clean)

The SAACKE plant incinerates these residues in an energy-saving and environmentally compatible way. The steam generated during combustion is fed into the supply lines of the resin-producing company.

SAACKE Plant Modernisation



In the course of the service life of a heat generator, a periodical adaptation to the actual state-of-the-art engineering and changed legal directives may be required. For this purpose, SAACKE offers a comprehensive program for improvements of the plant operation and safety.

Our consulting engineers can develop together with you an individual solution for a specific problem arising from your very special requirements. This guarantees optimum advantages for the customer by saving costs and improving the operation of the plant.

The following list specifies the focal points of services offered by us:

- Change of fuel for a reduction of cost and / or emissions

- Emission reduction in compliance with actually prevailing legal regulations by a retrofitting or exchange of the firing plant
- Retrofitting of the firing plant to an electronic compound control system
- Speed control of the combustion air fan
- Conversion of the heat generator for operation without continuous supervision
- Efficiency optimisation of the heat generator by means of waste gas heat exchangers for the preheating of feed water, returned water or combustion air

- Efficiency optimisation by controlling the oxygen content in the flue gas
- Increase of the operational safety by an upgrading of the EMC engineering with optimised control and monitoring processes
- Remote monitoring and control of the heat generator

It is self-evident that additional modernisation programs can be designed in reply to the special plant requirements of our customers.

SAACKE Plant Accessories

Electric Control Plants



Control and switchgear are components of firing plants individually adapted to actual operation conditions and are, therefore, appropriately planned and manufactured by SAACKE. All such components are mounted in chassis and may be integrated into already existing central control panels.

Automatic Firing Sequence Control



The automatic sequence control system is an essential component of a firing plant. This small compact unit is of self-monitoring type with electronic timing elements and relay outlets. Igniter and safety shut-off valves are controlled directly.

Approvals: DIN EN 230, DIN EN 298, EU Gas Appliances Guidelines and TRD 604 for continuous operation. This control unit also includes a leak testing of the gas valves.

Burner Management System BMS



The SAACKE BMS is a universal microprocessor system with a lighted graphical display. The BMS can be used e.g. as an actual value trouble- and operational signal system as well as an electric boiler sequence control system. A menu guides you through the various operational sequences. The language and the texts of optional various lengths are determined in compliance with the needs of the individual plant. The BMS is an optimal supplement of the automatic SAACKE firing sequence controller.

se@vis[®] Burner management – online



The result of innovation in the field of burner and boiler automation on land and on sea is called **se@vis**[®]. The fail-safe connection of the system components via safe ethernet allows operating the complete plant on the highest level. Included are automatic firing sequence controller, electronic compound control system, storage of operation- and first value trouble messages as well as control circuits, complete plant visualisation by touch screen, flexible communication possibilities and an integrated web server function.

Gas Valves and Fittings- and Control Valve Train



The modular construction of the gas valves and fittings- and control valve train allows an individual adaptation to prevailing operation conditions. It incorporates a leak testing device and is DVGW type-certified. At delivery, this unit is ready for direct connection so that a short installation time is guaranteed.

Heaters



SAACKE heaters are designed to achieve the viscosity necessary for atomisation. The heating system may be operated alternatively with steam, hot water, thermal oil or electrically according to customer's needs which are individually considered.

Steam/hot water heaters	1 – 16 m ² heating surface
Electrical heaters	4 – 60 kW



- **Training at site and in the SAACKE premises**
- **24-hour service hotline**
- **Diagnostics by Tele Support & Service**
- **SAACKE companies, factories and service stations worldwide in 22 countries**
- **Additional 70 SAACKE Contact Offices**

Count on this Service

SAACKE production sites and service stations in 22 countries worldwide, additional 70 international SAACKE contact offices, supply of spare parts in 24-hour service, repair and replacement around the clock... We help competently and immediately - wherever you need us.

Diagnostics via tight-knit, worldwide Tele Support & Service and extensive capacities in maintenance, repair and spare parts logistics enable us to ensure your burners' trouble-free operations long after assembly and commissioning at site.

SAACKE's customers worldwide can rely on fast availability regarding repair and replacement of all SAACKE burners. SAACKE's service partnership includes at the same time - depending on the individual agreement - maintenance and operational optimisation of your burners, training of boiler room personnel, safety inspections according to TRD or complete boiler room management by our specialists.

In line with our burner systems, we offer a wide choice of services to choose from at any time, according to your special requirements.

Our service is geared to one aim: to secure the functioning of your burners for many years - economic, eco-friendly, reliable!



*Tele Support & Service
replaces external
servicing in many cases.*



SAACKE GmbH
Südweststrasse 13 · 28237 Bremen
GERMANY
Phone: +49 - 421 - 64 95 0
Fax: +49 - 421 - 64 95 224
E-Mail: info@saacke.de
www.saacke.com



SAACKE Service GmbH
Südweststrasse 13 · 28237 Bremen
GERMANY
Phone: +49 - 421 - 64 95 0
Fax: +49 - 421 - 64 95 244
E-Mail: service@saacke.de
www.saacke.com

SAACKE-Hotline: +49 - 421 - 64 95 201

SAACKE ROSSPLET S.A., ARGENTINA

Phone: +54 - 11 - 49 11 14 80, Fax: +54 - 11 - 49 12 30 41

SAACKE AUSTRALIA Pty. Ltd., AUSTRALIA

Phone: +61 - 2 - 96 36 77 77, Fax: +61 - 2 - 96 31 34 13

SAACKE Ges.m.b.H., AUSTRIA

Phone: +43 - 1 - 86 93 345, Fax: +43 - 1 - 86 93 34 530

SAACKE do Brazil, BRAZIL

Phone: +55 - 11 - 34 43 70 06, Fax: +55 - 11 - 34 43 66 01

SAACKE Finland, FINLAND

Phone: +358 - 9 - 3432637, Fax: +358 - 9 - 3432637

SAACKE S.A.R.L., FRANCE

Phone: +33 - 1 - 48 48 20 54, Fax: +33 - 1 - 48 47 73 66

SAACKE Ltd., GREAT BRITAIN

Phone: +44 - 23 - 92 38 31 11, Fax: +44 - 23 - 92 32 71 20

SAACKE JAPAN TRATEC Ltd., JAPAN

Phone: +81 - 3 - 33 39 12 11, Fax: +81 - 3 - 33 39 75 77

SAACKE Benelux, NETHERLANDS

Phone: +31 - 33 - 43 30 014, Fax: +31 - 33 - 43 30 016

SAACKE Polska Sp. z o.o., POLAND

Phone: +48 - 71 - 36 81 865, Fax: +48 - 71 - 36 08 929

**SAACKE Energy Systems (Shanghai) Co., Ltd., PR CHINA
Shanghai Office**

Phone: +86 - 21 - 64 72 68 22, Fax: +86 - 21 - 64 72 68 220

**SAACKE Energy Systems (Shanghai) Co., Ltd., PR CHINA
Beijing Office**

Phone: +86 - 10 - 85 86 27 17, Fax: +86 - 10 - 85 86 27 19

SAACKE Romania Representative Office, ROMANIA

Phone: +40 - 21 - 31 89 333, Fax: +40 - 21 - 31 89 354

SAACKE Russia Representative Office, RUSSIA

Phone: +7 - 495 - 78 93 117, Fax: +7 - 495 - 68 23 191

**SAACKE Belgrade Representative Office,
SERBIA AND MONTENEGRO**

Phone: +381 - 11 - 301 73 35, Fax: +381 - 11 - 301 73 36

SAACKE South Africa (Pty) Ltd., SOUTH AFRICA

Phone: +27 - 21 - 94 53 806, Fax: +27 - 21 - 94 53 808

SAACKE ESPAÑA, SPAIN

Phone: +34 - 976 - 25 87 51, Fax: +34 - 976 - 25 87 52

SAACKE AG, SWITZERLAND

Phone: +41 - 1 - 82 15 656, Fax: +41 - 1 - 82 15 644

SAACKE TURKEY LTD. Sti, TURKEY

Phone: +90 - 216 - 34 93 112, Fax: +90 - 216 - 33 03 778