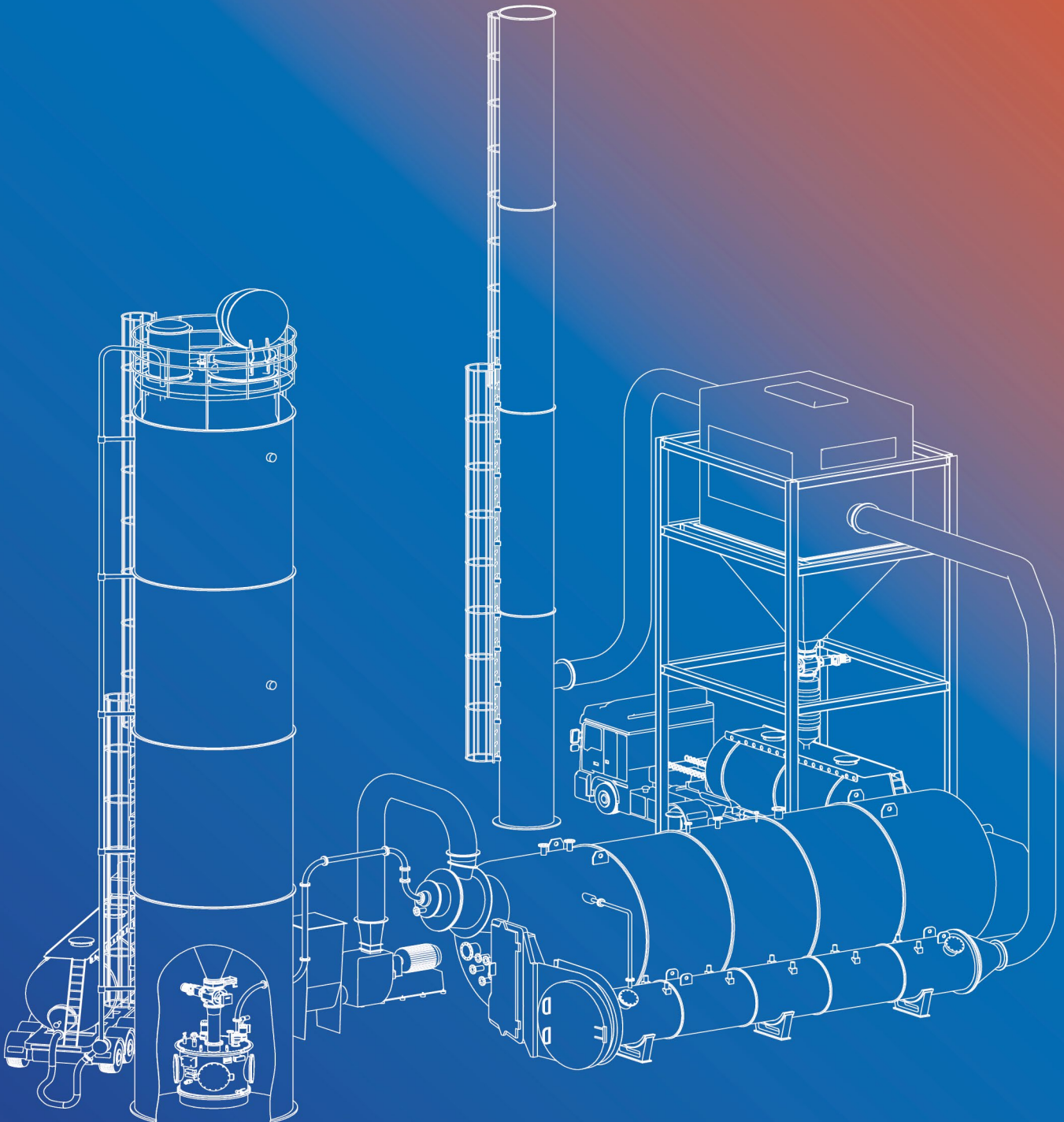


CARBOTECHNIK

Energiesysteme GmbH

DUST FIRED STEAM AND HOT WATER BOILER SYSTEMS

The most economical way to get hot water and steam



Areas of application

- Production of hot water, steam and electricity
- Thermal utilisation of waste gases

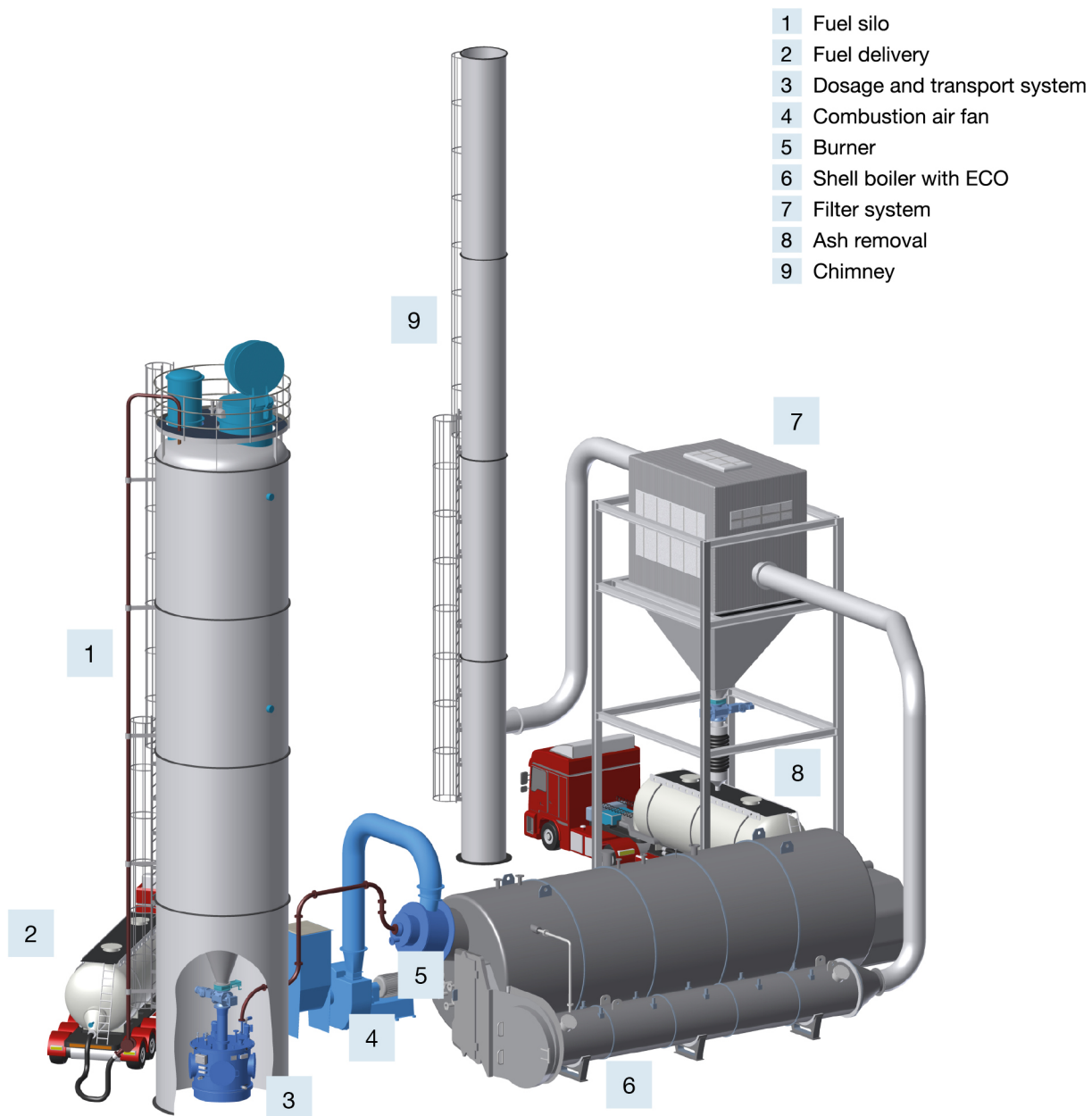
Advantages at a glance

- long-term security of low fuel costs
- Boiler efficiency $\geq 93\%$
- Low-maintenance and high system availability
- Economical operation without constant supervision (BOB according to TRD 604)
- Clean and dust-free operation
- Environmentally sound standard fuel (lignite dust) in accordance with the "Technical Manual for Clean Air" (TA - Luft)
- Thermal disposal of harmful waste gases
- Turnkey deployment
- Optional contracting model for cheap energy without high investment costs

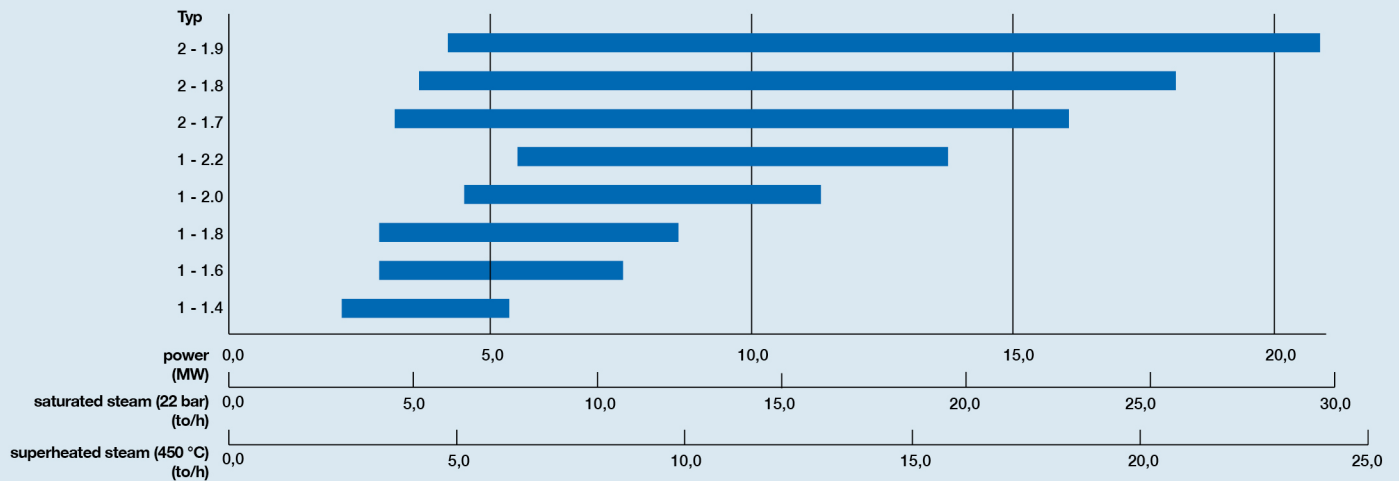
Functional description

After delivery by silo truck or railway wagon, the fuel is discharged into the silo via a closed pipeline system. The discharge of the fuel is carried out by a rotary valve in the dosage machine. The dosage and transport to the burners takes place absolutely evenly and without pulsation. The burner produces a flame jet of up to 100 m/s whereby the ash is blown out and the combustion

chamber stays clean. The emission limits will certainly not be reached through the optimum combustion. The ash extracted from the flue gas can be collected again in the course of a fuel delivery.



Performance details



Within the specified performance limits, the exhaust emission limits are fulfilled with lignite dust.

Technical details

The systems are designed and dimensioned according to the customer's requirements, so the following basic data is only intended as a guide.

Designation data	Unit	Type 1 - 1.4	Type 1 - 1.6	Type 1 - 1.8	Type 1 - 2.0	Type 1 - 2.2	Type 2 - 1.7	Type 2 - 1.8	Type 2 - 1.9
Boiler performance	MW	5.32	7.04	9.0	11.20	13.64	15.96	18.00	20.71
Coal dust *1	kg/h	928	1,228	1,570	1,954	2,380	2,788	3,141	3,614
Air to the burner	m ³ /h	6,316	8,219	10,682	13,178	16,245	20,076	22,614	26,023
Exhaust gas quantity	m ³ /h	7,741	10,243	13,096	16,298	19,852	23,255	26,190	30,145
Ash amount	kg/h	35	45	55	68	84	98	110	127
electric power consumption (approx. value) partially not constantly running	kW	approx. 90	approx. 110	approx. 140	approx. 180	approx. 210	approx. 240	approx. 270	approx. 320
Largest single consumer (burner fan)	kW	30	40	55	65	80	2 x 48	2 x 55	2 x 65
BKS - silo (content)	m ³	120	180	220	280	280	2 x 180	2 x 220	2 x 280
BKS - Silo (Maximum limit at full capacity)	Hrs.	72	81	77	79	65	71	77	85
Length overall	mm	10,100	11,400	12,500	13,600	14,600	12,900	13,700	14,700
Length boiler drum	mm	7,400	8,300	9,100	9,800	10,600	9,100	9,500	10,200
Height (without fittings)	mm	4,100	4,400	4,700	5,000	5,250	4,600	4,900	5,200
Ø boiler drum (without insulation)	mm	3,000	3,300	3,600	3,900	4,200	3,900	4,100	4,300
Ø ECO	mm	1,000	1,100	1,200	1,300	1,400	2 x 1,200	2 x 1,300	2 x 1,400

* 1: Assumed calorific value: 20.6 MJ/kg



CARBOTECHNIK

The company

Burner and dosage systems for powdery fuels/goods of CARBOTECHNIK are characteristic of mature and proven applications.

CARBOTECHNIK uses the high-grade development of a patented technology comprised of fuel preparation, fuel transport and combustion in co-ordinated proportions.

Our team develops the specially tailored approach for our customers. Manufactures, delivers and erects the plant.

Competent engineering services under strict compliance with our quality assurance system; optimal work preparation and modern manufacturing methods guarantee highest quality technical products.



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