

–weishaupt–

product

Information on WK series burners



WK series industrial burners

WK40 to WK80 burners • 1,025 to 109,000 MBH



WK40 (up to 10,000 MBH)



WK50 (up to 20,000 MBH)



WK70 (up to 44,000 MBH)

60 Years of reliability

For more than six decades, Weishaupt burners have proven themselves on a wide variety of heat generators and process plant. Their success results from Weishaupt's relentless demand for high-quality materials and workmanship, and from uncompromising quality control standards.

Weishaupt continually establishes new benchmarks with its well-engineered products, facilitated by the ever-constant efforts of its own in-house Research and Development Centre.

Weishaupt WK-series burners have been designed especially for industrial use. The modular design of the burners and their very large capacity range – 1,000 to 109,000 MBH – means they are ideally suited to a broad spectrum of special applications.

All Weishaupt burners are manufactured at the company's main plant in Schwendi in southwestern Germany. Not only does this extremely modern production facility serve as a beacon of safety, precision and cleanliness, it also allows for a rapid response when assembling small, medium and large-size burners.

Experienced employees and the high proportion of in-house production allow Weishaupt to meet its own demands for the highest levels of quality.

High quality is reflected by Weishaupt's ISO 9001-2015 certification, which covers the development, production, sales and servicing of burners and control panels.

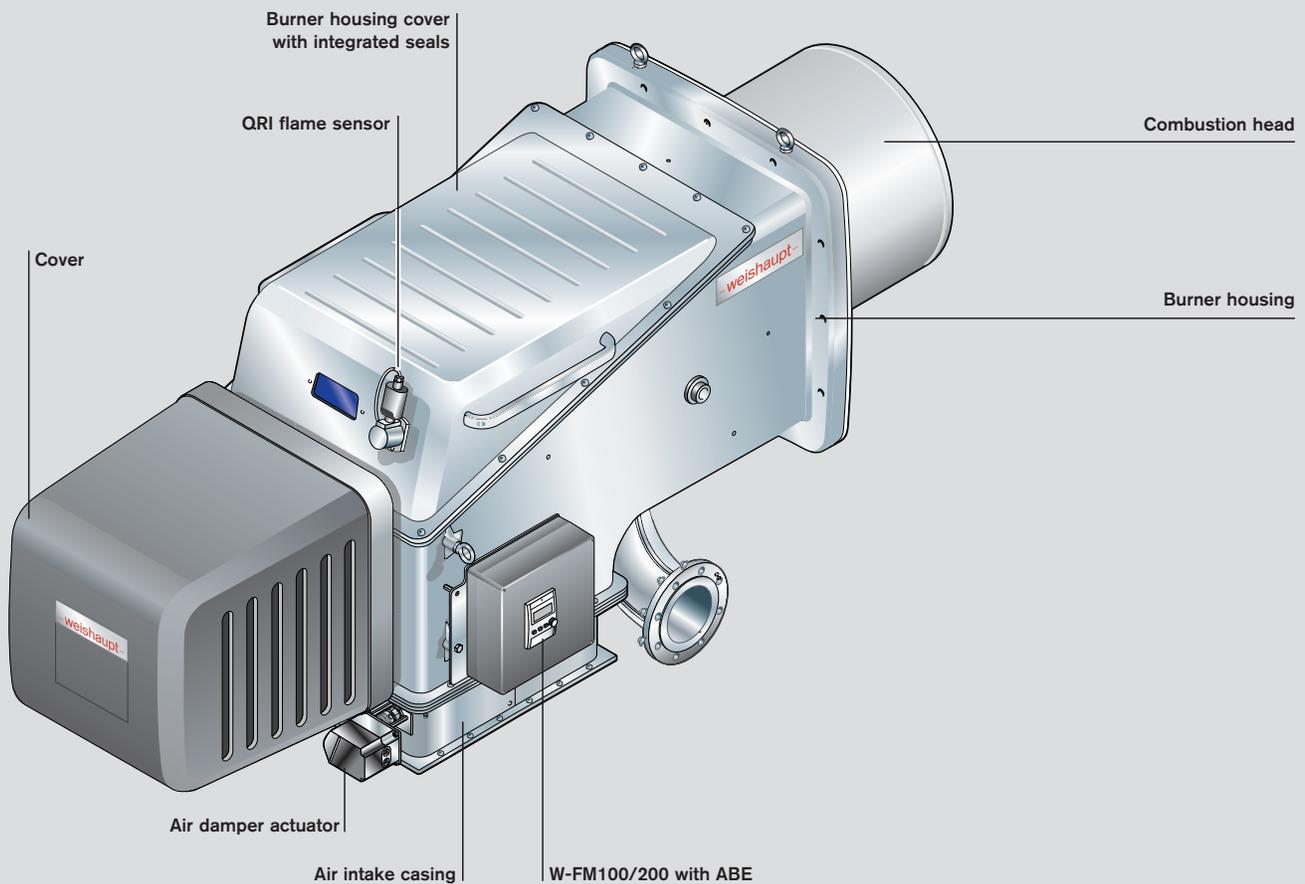
Weishaupt offers individualized solutions for the supply of fuel and the control of burners and boilers. Of course, its product range also covers an array of modern instrumentation and control equipment, including fully comprehensive solutions for complex building automation projects.

Future-oriented, economical, flexible.



WK80 (up to 109,000 MBH)

The high performance Duo block burner in modular design with up to 109,000 MBH



WK burners can adapt to various installations – even under the toughest conditions

Modular design principle

Weishaupt WK industrial burners are designed according to the modular principle, which means that the fan, pump station and preheating station are arranged separately from the burner. This concept offers great flexibility for adapting to a wide variety of applications and mounting situations.

Insulated burner housing

Internal thermal insulation reduces the surface temperature on the housing and also ensures noise reduction. (WK 40/50 optional with cold air)

Heat recovery through the use of preheated combustion air

In industrial processes, high medium temperatures result in very high exhaust gas temperatures. A large amount of energy can be recovered from these hot exhaust gases via a heat exchanger in the stack. With possible combustion air temperatures of up to 480F (250°C), the combustion efficiency can be improve by up to 10%.

Accessibility

The control compartments of the WK burners are generously dimensioned. Structure and cable routing are clear and allow the best accessibility for maintenance work. A cover hood that can be rotated by 90° ensures optimal ventilation and cooling of the components during heavy oil operation.

Serviceability

For easier handling of the mixing head assembly, a rail system with a service position has been developed in larger burner unit, which significantly simplifies removal and installation.

Nozzle head and sliding sleeve

WK80 burners are equipped with nozzle head and sliding sleeve which modulate according to the firing rate. They are driven by a dedicated actuator. Flame stability and mixing energy remain optimal over the entire control range.

Nozzle head shut-off device

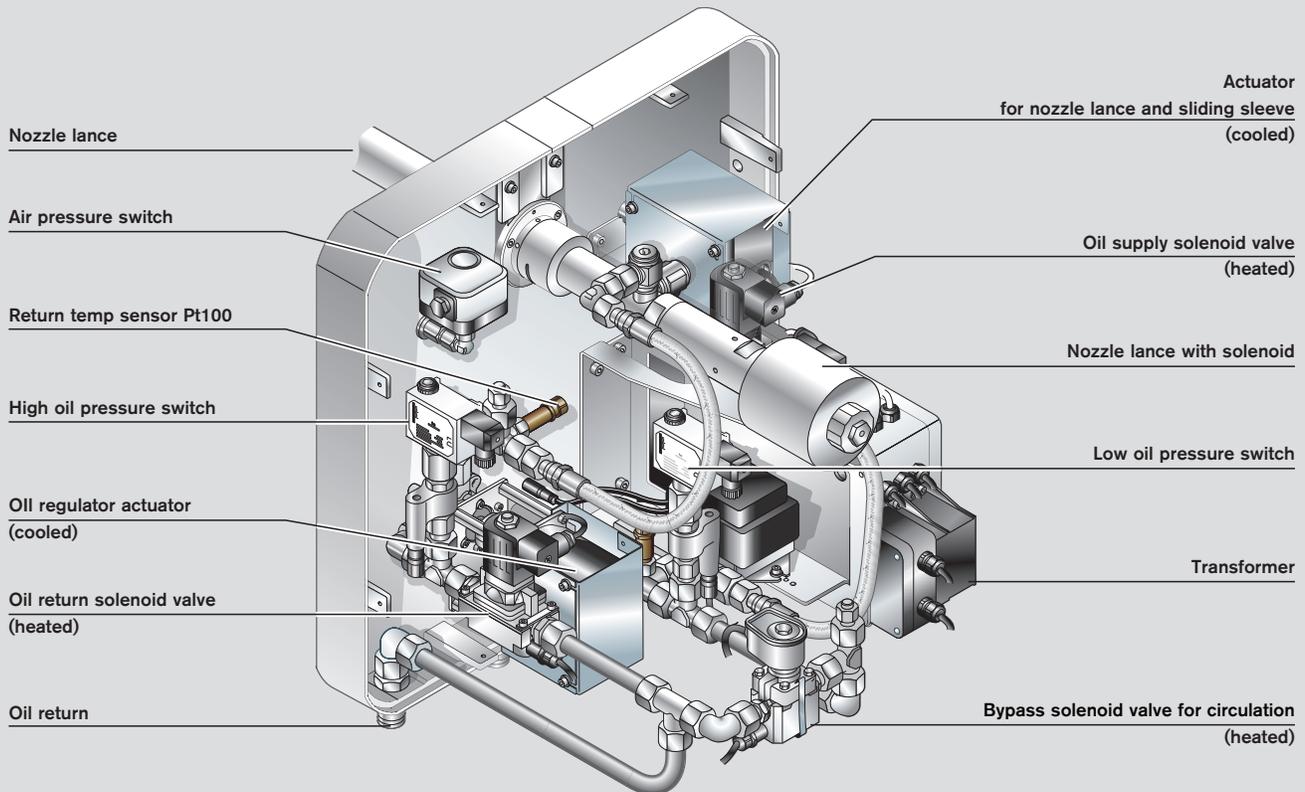
At burner shutdown or when changing over from oil to gas operation, safety shutoff devices in the nozzle head shut off the oil flow directly in the nozzle orifice, preventing the escape of any oil.

Dedicated ignition position

The W-FM combustion managers offer parameters for dedicated ignition position. This makes it possible to achieve safe ignition behavior even under the most varied of conditions.

Controlled shutdown from low fire

The controlled shutdown of the burners only takes place at low fire position. This avoids pressure surges in the gas line and in the combustion chamber.



Digital combustion management: Precise, simple, and reliable



Setting via the ABE control and display unit

Digital combustion management means optimal combustion figures, continuously reproducible set-points, and ease of use.

Weishaupt WK-series burners are equipped as standard with electronic fuel air ratio combustion manager. Modern combustion technologies demand a precise and continually reproducible dosing of fuel and combustion air.

Simple operation

Setting and control of the burner is achieved using the ABE control and display unit. This is connected to the combustion manager via a bus system, enabling the user-friendly setting of the burner. The control and display unit has a clear text display with a choice of languages.

Flexible communication options

The integrated interface enables all necessary data and functions to be relayed to a master control system via, for example Modbus RTU, Modbus TCP/IP, BacNet, etc (gateway or protocol converter might be required).

Measures for saving energy and increasing safety and reliability

Electronic fuel air ratio control with the W-FM 100 and 200 combustion managers facilitates the extremely precise, hysteresis-free setting of the burner. The burner can be adjusted for ideal combustion figures throughout its entire

capacity range. This reduces flue gas losses and saves fuel.

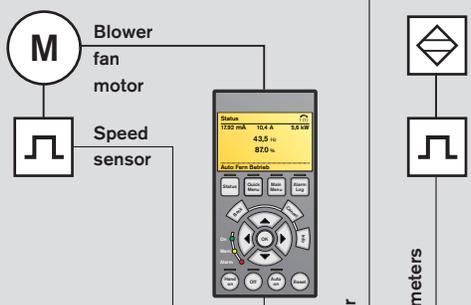
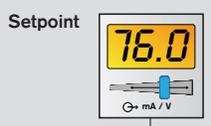
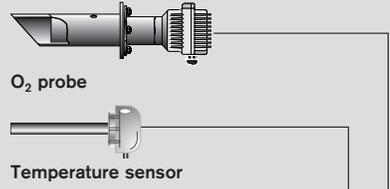
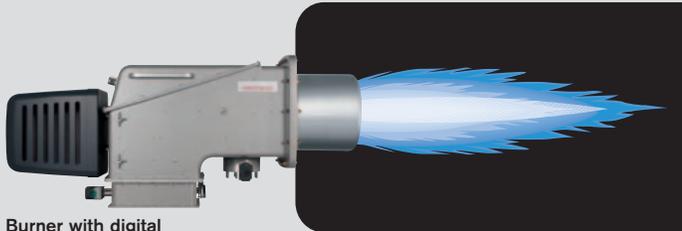
Variable frequency drive reduces electrical consumption and facilitates a soft start of the combustion air fan. The use of VFD also reduces noise emissions by a considerable amount.

O₂ trim saves fuel through a continual and extremely efficient optimization of the combustion air. Different O₂ probes are available, providing suitable solutions for almost all fuels in applications with flue-gas temperatures below 570F (300°C)..

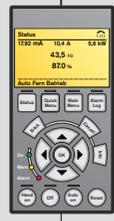
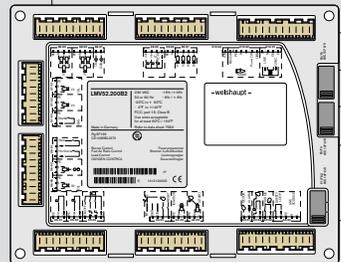
Digital combustion management overview	W-FM 100	W-FM 200
Single fuel application	●	●
Dual fuel application	●	●
Operation > 24hours	●	●
O ₂ trim with QGO20/21 O ₂ probe	-	●
VFD	-	●
Flue-gas recirculation (temperature compensated)	-	●
WKMS40 to 70 with propane ignition pilot	●	●
WK(G)MS80 with propane ignition burner		●
Maximum number of actuators	x 4	x 6
W-FC 4.0 flame monitoring	●	●
W-FC 5.0/6.0 flame monitoring	-	●
Integral valve proving (with gaseous fuels)	●	●
ABE and W-FM Burner-mounted for combustion-air temperatures up to 104F (40°C)	●	●
W-FM and ABE supplied loose (for panel mounting) for preheated combustion-air temperatures	●	●
Combustion manager with internal PID	●	●
Setpoint input (0)4-20 mA / 0-10 V	●	●
Display of combustion efficiency	-	●
Modbus RTU	●	●

● Optional

● Standard



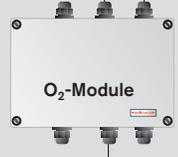
- Up to 6 actuators for:
- Gas supply
 - Air supply
 - Oil supply
 - Sliding sleeve (air)
 - FGR mixing box
 - FGR damper



Internal firing rate controller

Pulse input for oil and gas meters

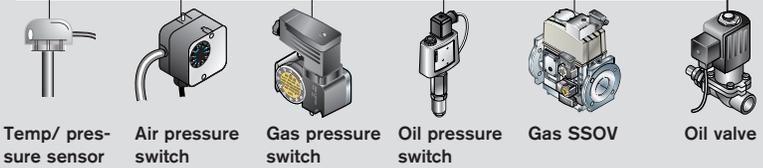
CAN-Bus



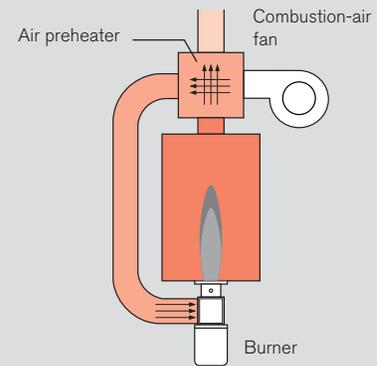
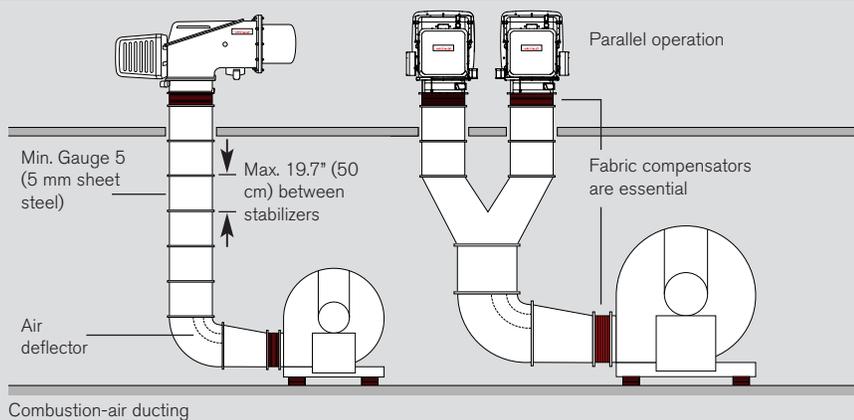
Display and operating unit



ACS 450 software



Powerful Industrial burners with modular design



Combustion air temperatures up to 480F (250°C)

Weishaupt WK-series burners have been designed especially for industrial use. The modular design of the burners, coupled with their large capacity range, makes them ideally suited to a broad spectrum of special applications.

Applications

Weishaupt WK series burners are suitable for intermittent and continuous operation on:

- Hot water boiler
- Steam boiler and high pressure hot water boiler
- Thermal oil heater
- Hot air generator
- Various process applications

Suitable fuels

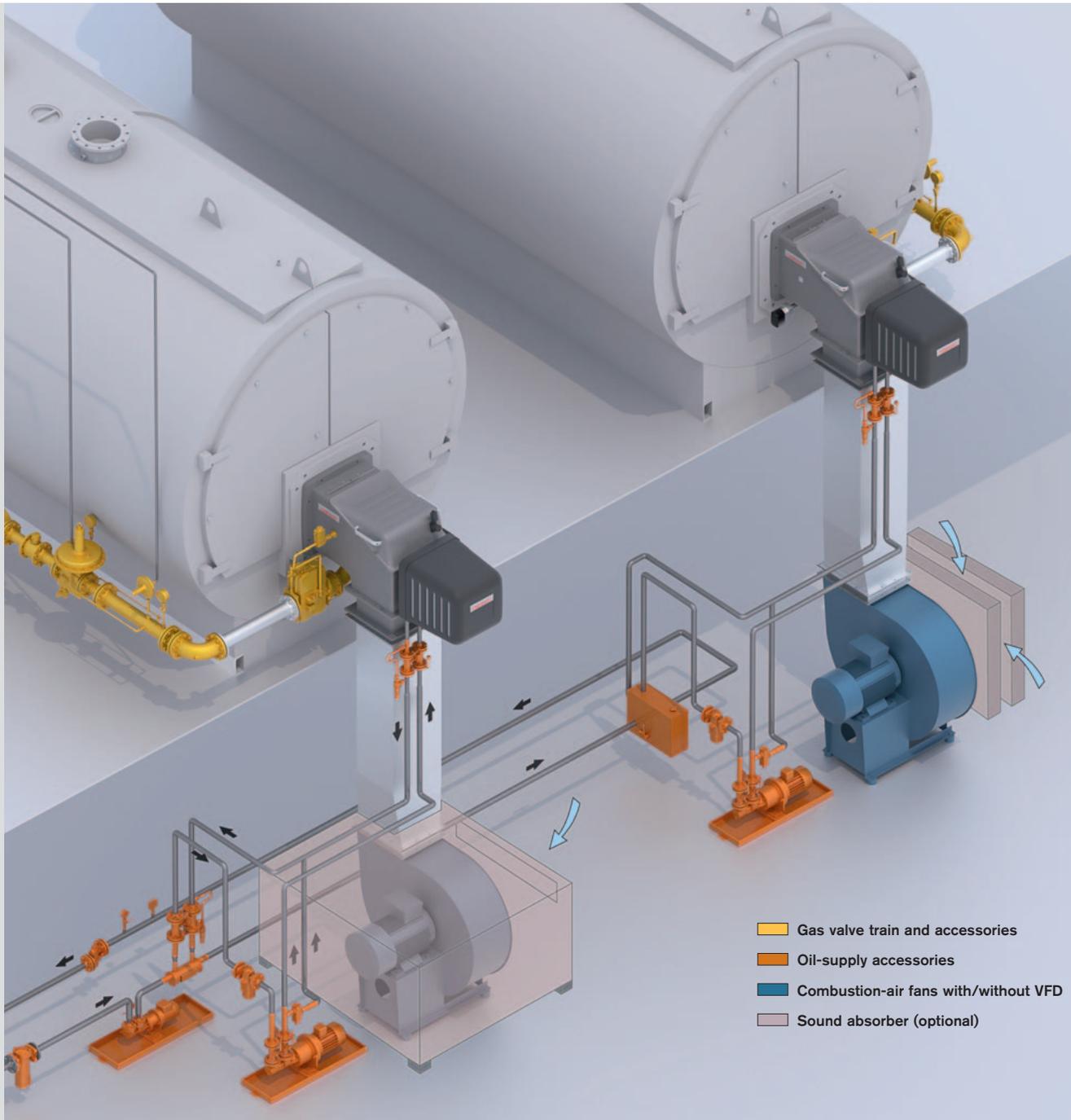
- Natural Gas
- Propane
- Light oil #2
viscosity up to 6 cSt (6 mm²/s) at 68F (20°C) to ASTM D396
- Medium #4 to heavy fuel #6 oil
viscosity up to 50 cSt (50 mm²/s at 212F (100°C) to ASTM D396

Permissible ambient conditions

- Ambient temperature 5 to 104F (-15 to +40°C) for gas operation
- Ambient temperature 5 to 104F (-15 to +40°C) for oil operation
- Combustion air temperature up to 480F (250 °C) for ZMH-version burners
- Humidity: max. 80 % relative humidity, no condensation
- The combustion air must be free from any aggressive substances (Halogen, Chloride, Fluoride, etc) and contamination (dust, building materials, vapours, etc).
- Adequate ventilation is required for operation in enclosed spaces
- For installation in unheated areas, certain measures may be required.

Approvals

The Weishaupt WK series burners are in compliance with most North American and European applicable standards.

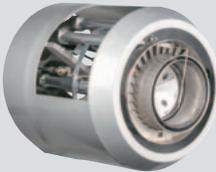
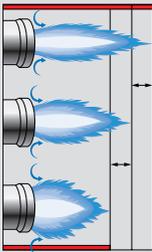
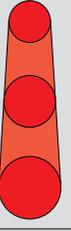


A one-stop solution for reliability (illustration shows burners with some European components)

The right mixing assembly for every application

Mixing head version	Flame geometry		Burner model	Sliding sleeve	Fuel			
	Length	Diameter			Natural gas	Propane	#2 light oil	#6 heavy oil
<p>Service friendly design: The flame tube and mixing head in standard length can be removed from the burner side. On larger burner such as WK80, the mixing head can be moved backwards on a integrated railing.</p>								
<p>ZM(H) Mixing head for oil, gas and dual fuel burners. For application without specific NO_x requirements.</p> <p>ZM(H) - NR Mixing head for gas and dual fuel burners. NO_x reduction on gas side compared to ZM version.</p>			WK 40 WK 50/1 WK 50/2 WK 70/1 WK 70/3 WK 80/3 WK 50/1 WK 50/2 WK 70/1 WK 70/3 WK 80/3	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	● ● ● ● ● ● ● ● ● ● ●	● ● ● ● ● ● ● ● ● ● ●	● ● ● ● ● ● ● ● ● ● ●	● ● ● ● ● ● ● ● ● ● ●
<p>ZM(H) - LN LowNO_x Mixing head for gas burners.</p> <p>In comparison to 1LN version further reduction of NO_x emissions.</p>			WK 40 WK 70	- -	● ●	- -	- -	- -
<p>ZM(H) - 1LN LowNO_x Mixing head for gas and dual fuel burners.</p> <p>For applications with slight NO_x requirements on oil and gas operations.</p>			WK 50/1 WK 50/2 WK 70	- - -	● ● ●	● ● ●	● ● ●	- - -
<p>ZM(H) - 3LN LowNO_x Mixing head for oil, gas and dual fuel burners.</p> <p>For applications with lowNO_x requirements on oil and gas operations.</p>			WK 40 WK 50/1 WK 50/2 WK 70 WK 80/1 WK 80/2	✓ ✓ ✓ ✓ ✓ ✓	● ● ● ● ● ●	● ● ● ● ● ●	● ● ● ● ● ●	- - - - - -

¹⁾ Minimum requirements of combustion chamber need to be consulted with Weishaupt

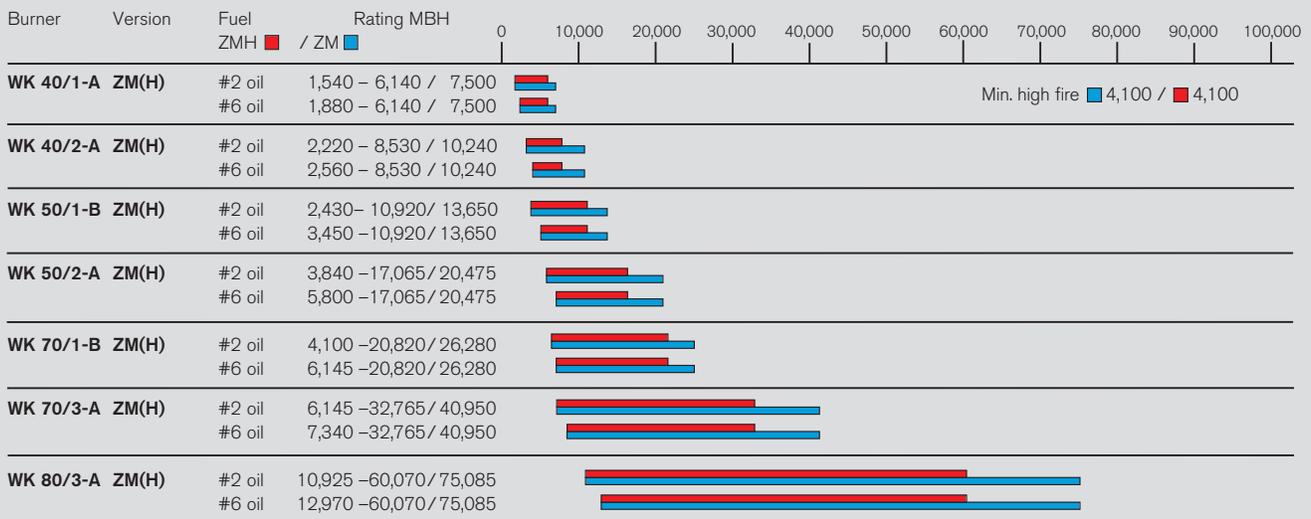
Mixing head version	Flame geometry		Burner model	Sliding sleeve	Fuel				
	Length 	Diameter 			Natural gas	Propane	#2 light oil	#6 heavy oil	
<p>ZM(H) - 4LN LowNO_x mixing head for gas burner with FGR.</p> <p>Lowest NO_x-Emission in comparison to all other versions.</p> 			WK 70/1 WK 70/2 WK 80/1 WK 80/2	✓ ✓ ✓ ✓	● ● ● ●	-	-	-	-
<p>ZM(H) - 1SF Swirl mixing head for oil, gas and dual fuel burners.</p> <p>Swirl mixing head for extremely short combustion chamber, typically on watertube boiler.</p> 			WK 50/2 WK 70/1 WK 80/3	✓ ✓ ✓	● ● ●	-	●	●	●
<p>ZM(H) - 3SF Swirl mixing head for elongated combustion chambers. Flame length comparable with NR version.</p> 			WK 80/6	✓	○	-	-	-	-
<p>ZM(H) - VSF Swirl mixing head for gas burners.</p> <p>Swirl mixing head for extremely short as well as for elongated combustion chambers (D type) with low cross sectional loads. The flame geometry can be optimized by internal round plates.¹⁾</p> 			WK 80/4 WK 80/5	✓ ✓	● ●	● -	-	-	-

Overview of capacities

Oil burners

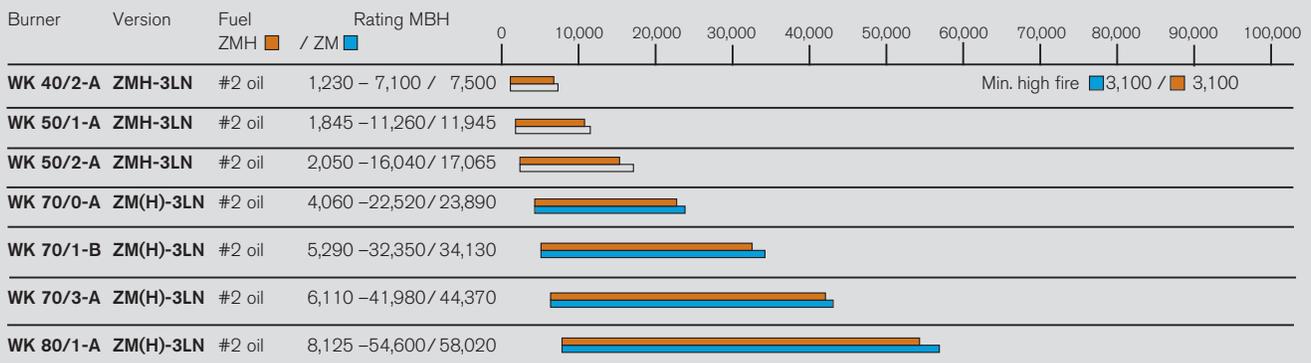
Version Standard

WKL and WKMS #2 light and #6 heavy oil burners



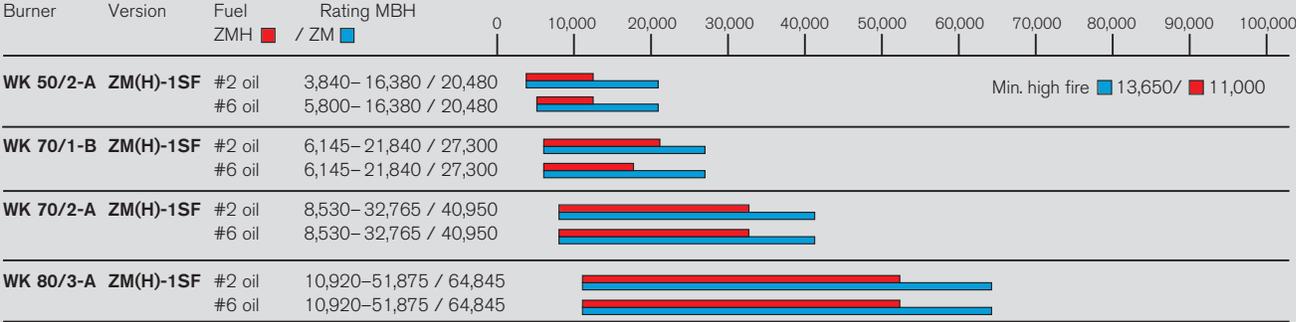
Version 3LN

WKL #2 light oil burners (based on WKGL)



Version 1SF

WKL and WKMS #2 light and #6 heavy oil burners



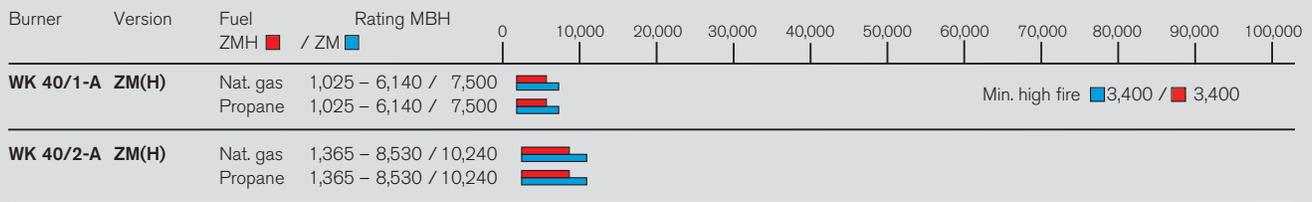
- Version ZM: Combustion air temperature at 104F/40°C
- Version ZMH: Combustion air temperature at 104F/40°C
- Version ZMH: Combustion air temperature at 480F/250°C
- Version ZMH-3LN: Combustion air temperature at 212F/100°C

The burner capacity with combustion air temperature between 104F/40°C and 212F/100°C and between 104F/40°C and 480F/250°C can be interpolated.

Overview of capacities Gas burners

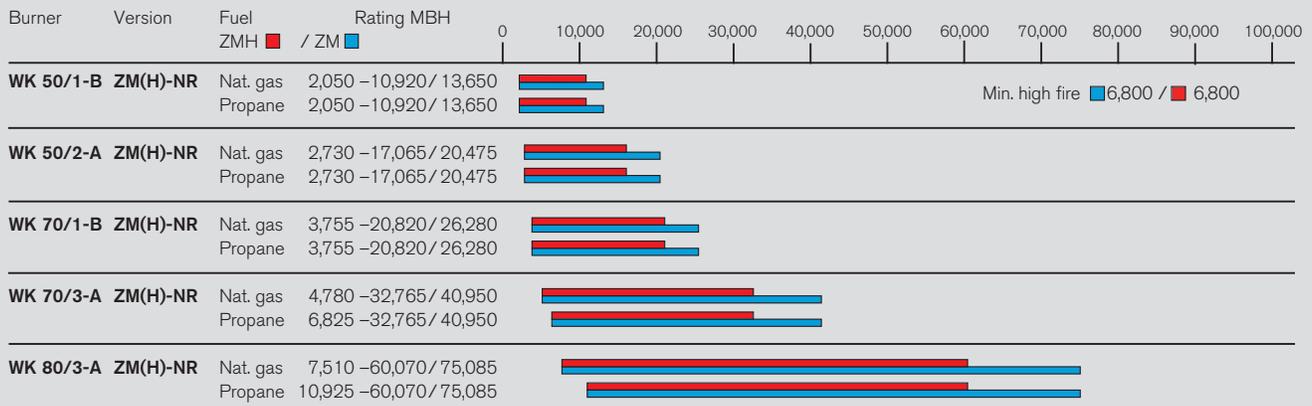
Version Standard

WKG natural gas and propane burners



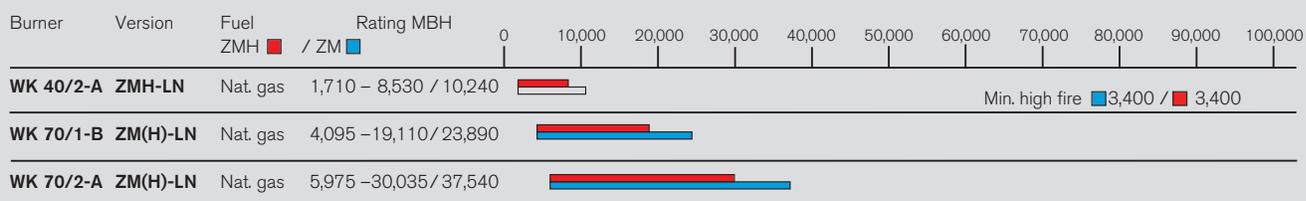
Version NR

WKG natural gas and propane burners



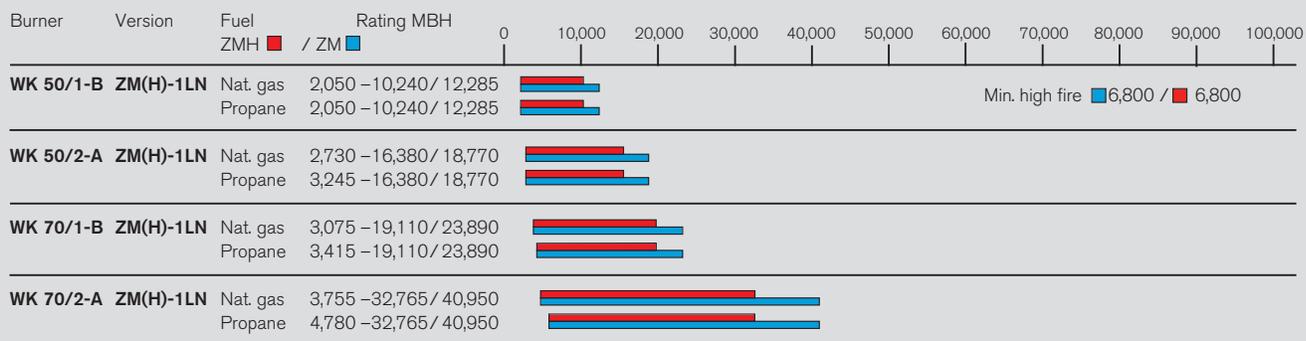
Version LN

WKG natural gas burners



Version 1LN

WKG natural gas and propane burners



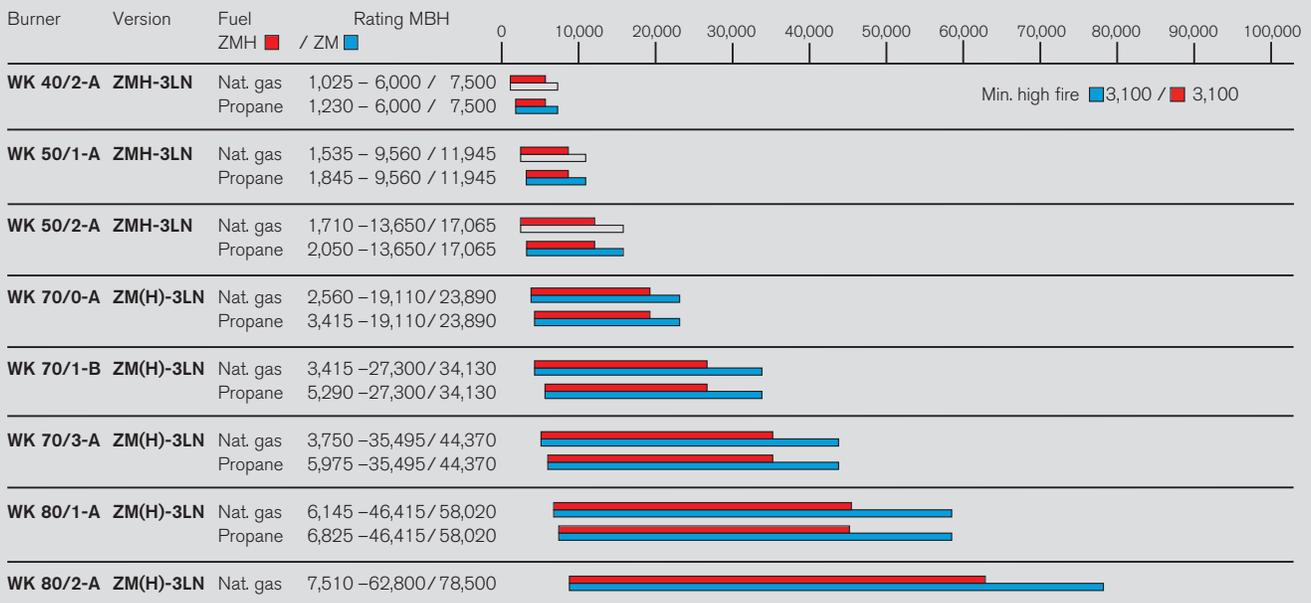
- Version ZM: Combustion air temperature at 104F/40°C
- Version ZMH: Combustion air temperature at 104F/40°C
- Version ZMH: Combustion air temperature at 480F/250°C
- Version ZMH-3LN: Combustion air temperature at 212F/100°C

The burner capacity with combustion air temperature between 104F/40°C and 212F/100°C and between 104F/40°C and 480F/250°C can be interpolated.

Overview of capacities Gas burners

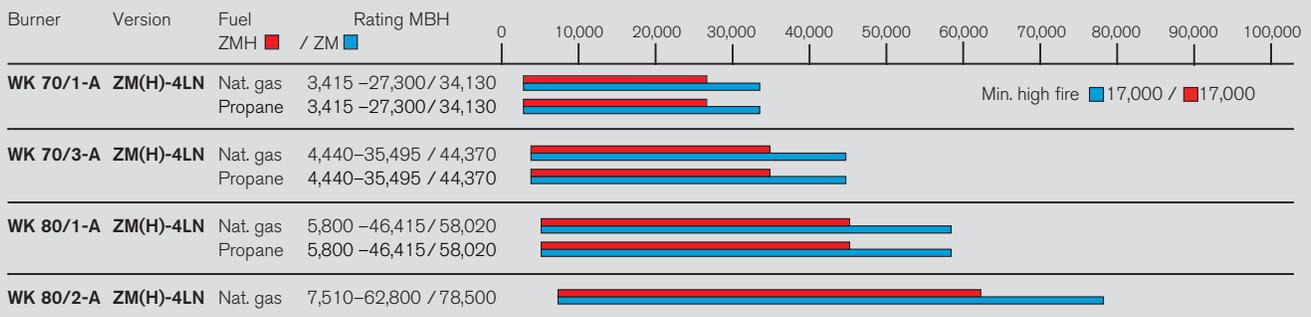
Version 3LN multiflam®

WKG natural gas and propane burners



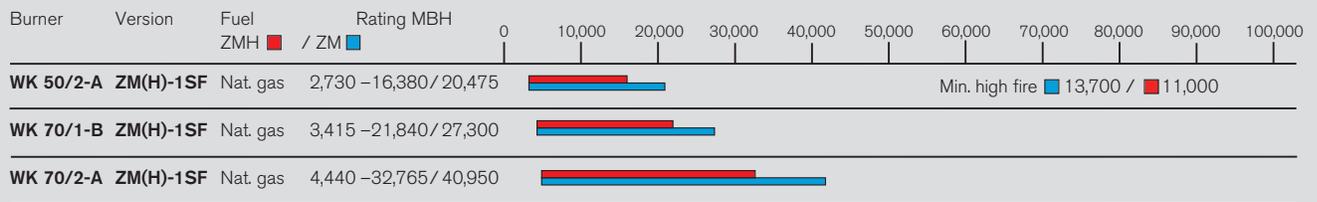
Version 4LN (Flue gas recirculation)

WKG natural gas and propane burners



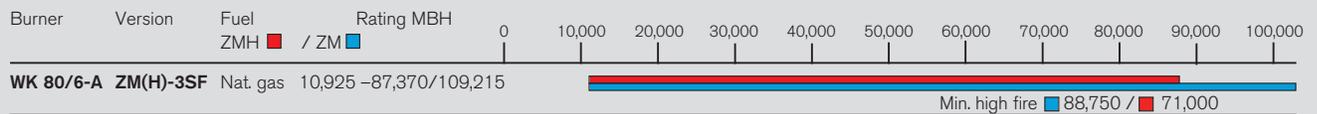
Version 1SF

WKG natural gas burners



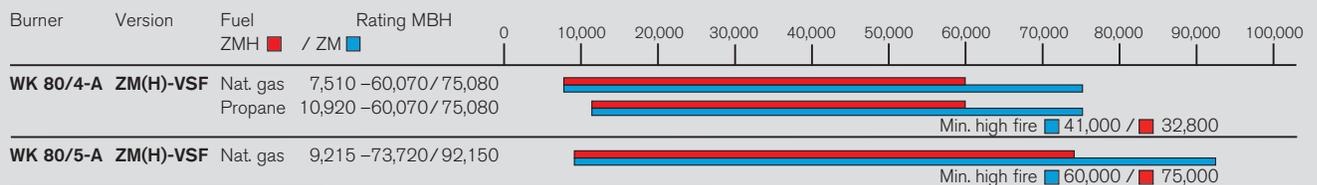
Version 3SF

WKG natural gas burner



Version VSF

WKG natural gas and propane burners



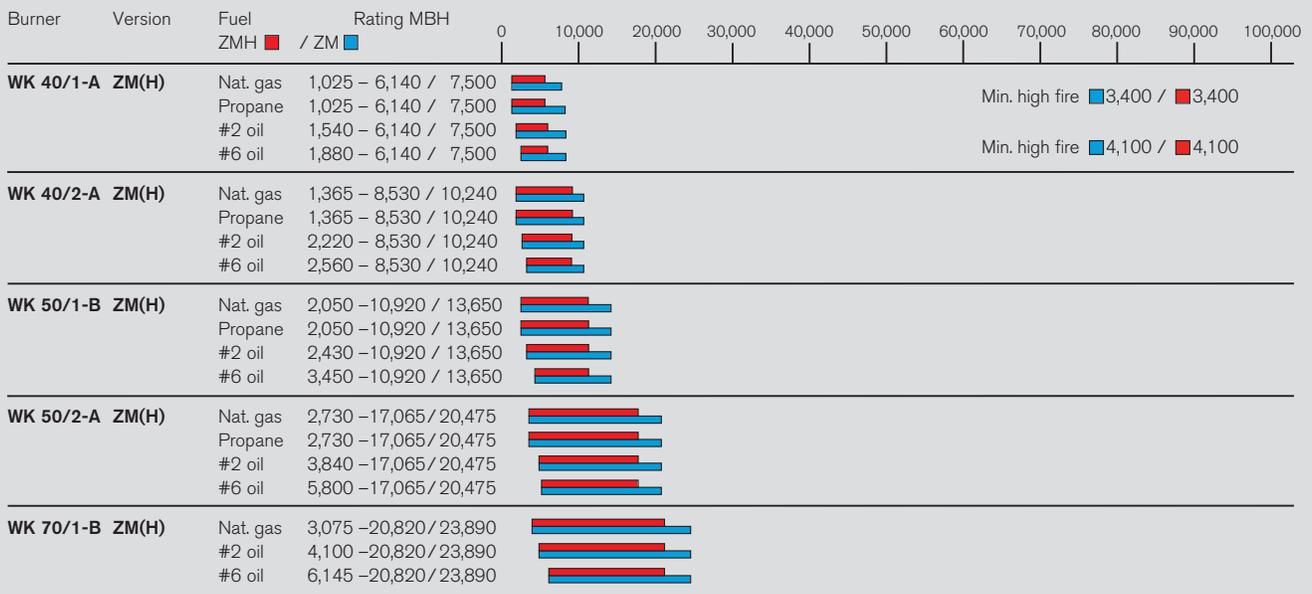
- Version ZM: Combustion air temperature at 104F/40°C
- Version ZMH: Combustion air temperature at 104F/40°C
- Version ZMH: Combustion air temperature at 480F/250°C
- Version ZMH-3LN: Combustion air temperature at 212F/100°C

The burner capacity with combustion air temperature between 104F/40°C and 212F/100°C and between 104F/40°C and 480F/250°C can be interpolated.

Overview of capacities Dual-fuel burners

Version Standard

WKGL and WKGMS dual-fuel burners



Version NR

WKGL and WKGMS dual-fuel burners



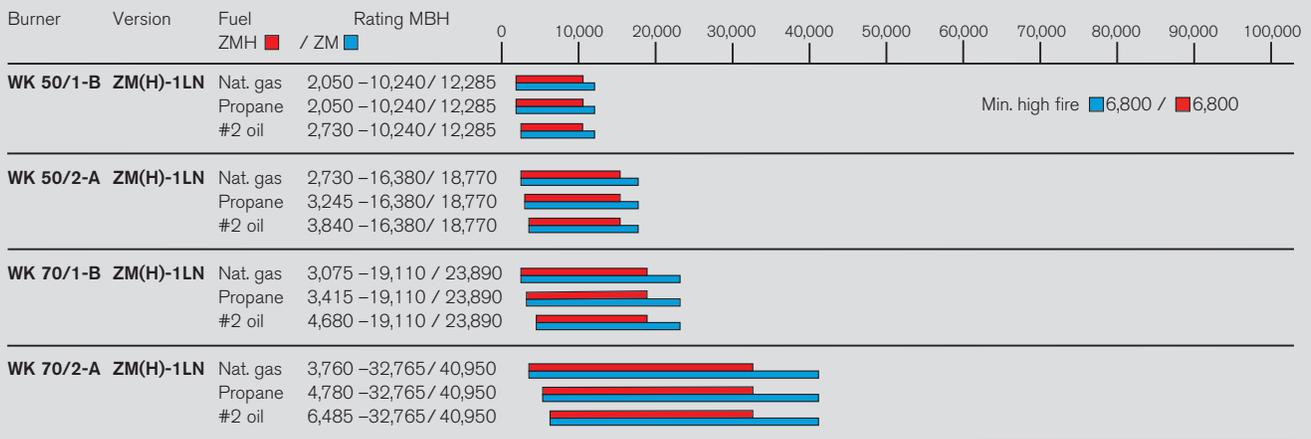
- Version ZM: Combustion air temperature at 104F/40°C
- Version ZMH: Combustion air temperature at 104F/40°C
- Version ZMH: Combustion air temperature at 480F/250°C
- Version ZMH-3LN: Combustion air temperature at 212F/100°C

The burner capacity with combustion air temperature between 104F/40°C and 212F/100°C and between 104F/40°C and 480F/250°C can be interpolated.

Overview of capacities Dual-fuel burners

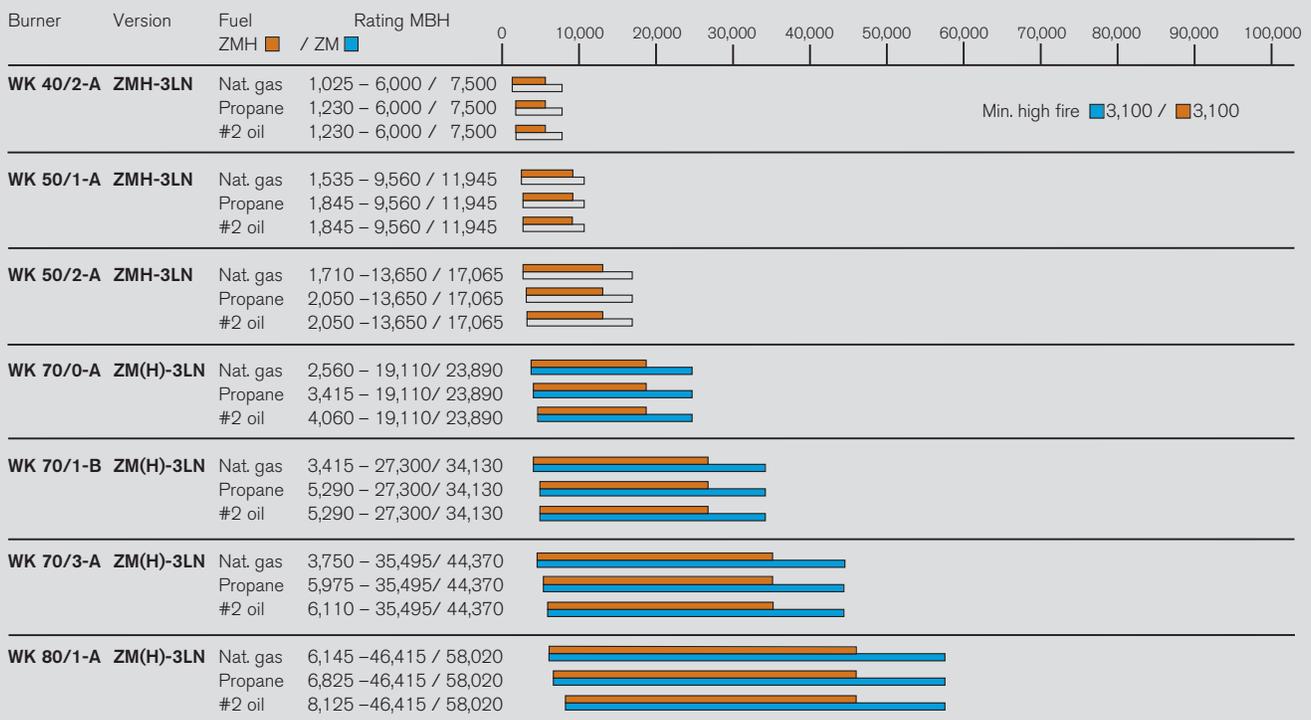
Version 1LN

WKGL dual-fuel burners



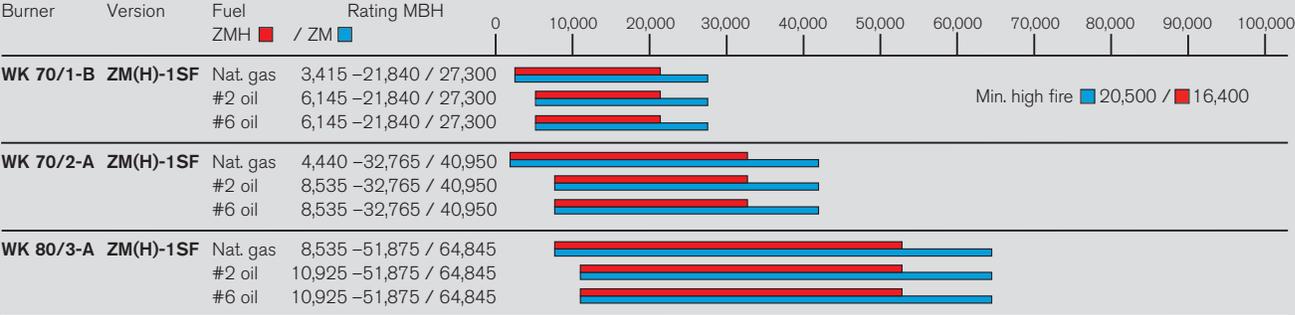
Version 3LN multiflam®

WKGL dual-fuel burners



Version 1SF

WKGL and WKGMS dual-fuel burners



- Version ZM: Combustion air temperature at 104F/40°C
- Version ZMH: Combustion air temperature at 104F/40°C
- Version ZMH: Combustion air temperature at 480F/250°C
- Version ZMH-3LN: Combustion air temperature at 212F/100°C

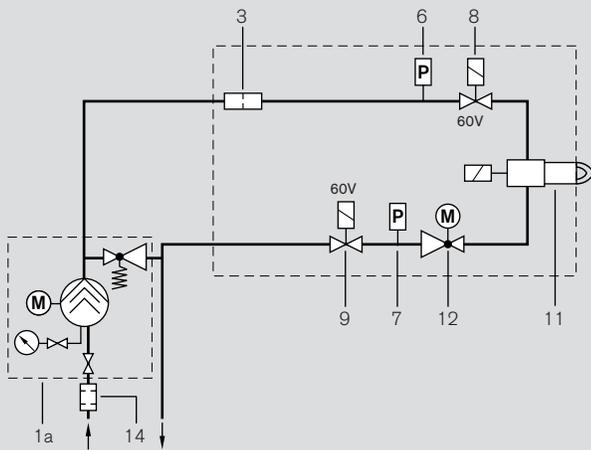
The burner capacity with combustion air temperature between 104F/40°C and 212F/100°C and between 104F/40°C and 480F/250°C can be interpolated.

Fuel systems

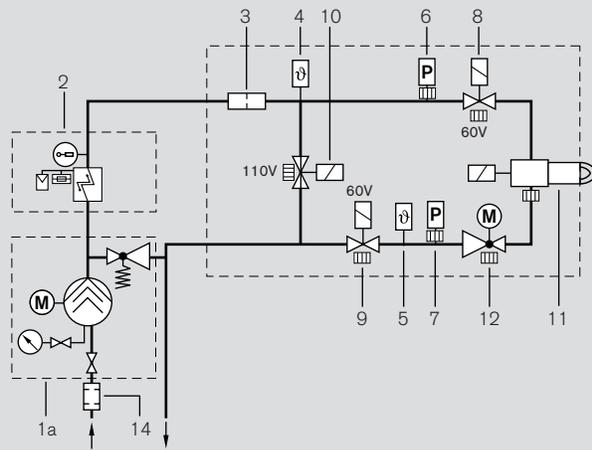
Oil/ Gas burners

Oil burners

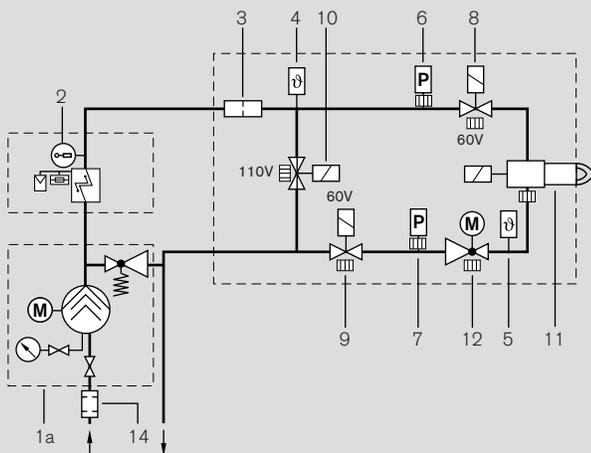
WKL40 - 80



WKMS40/50



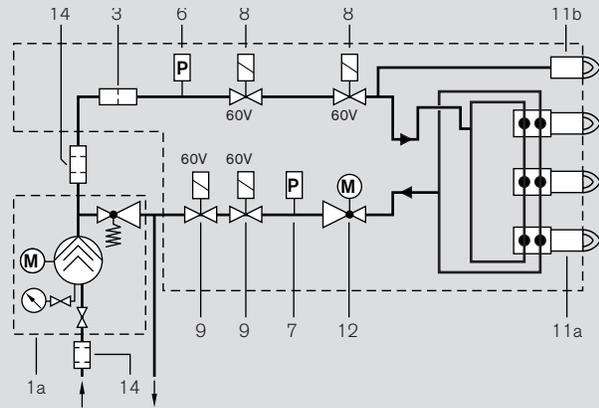
WKMS 70/80



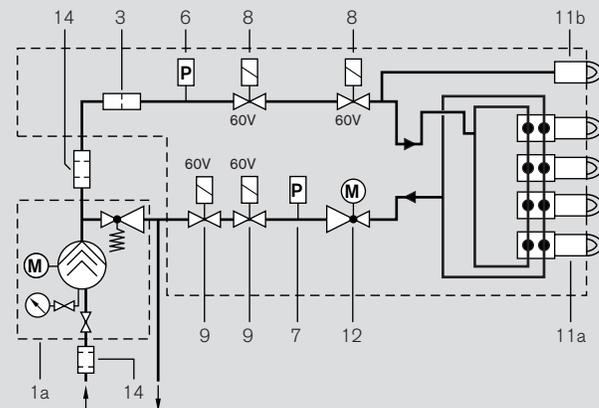
- 1 Oil pump
- 1a External pump station with pressure regulator
- 2 Oil preheater
- 3 Strainer
- 4 Temperature sensor in supply
- 5 Temperature sensor in return
- 6 Low-pressure switch
- 7 High-pressure switch
- 8 Solenoid valve in supply (installed in the direction of flow)
- 9 Solenoid valve in return (installed against the direction of flow)
- 10 Bypass solenoid valve (normally open)
- 11 Solenoid valve assembly
- 11a Nozzle head with secondary nozzles
- 11b Nozzle head with primary nozzle
- 12 Oil regulator
- 13 Pressure regulating valve
- 14 Filter

Oil burners

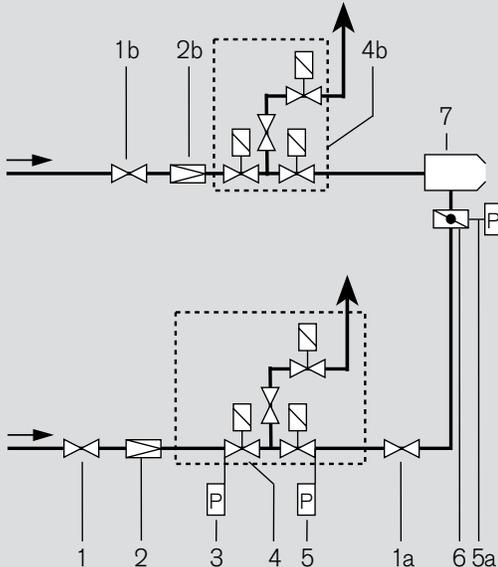
WKL 40/50 multiflam®



WKL 70/80 multiflam®



Gas burners



- 1 Ball valve
- 1a Ball valve
- 1b Ball valve on pilot gas train
- 2 Gas pressure regulator
- 2b Pilot gas pressure regulator
- 3 Low gas pressure switch
- 4 2 main gas SSOVs and 1 N/O vent valve
- 4b 2 pilot gas SSOVs and 1 N/O vent valve
- 5 High gas pressure switch
- 5a High gas pressure switch
- 6 Gas butterfly valve
- 7 Burner

* The above shows typical gas train configuration only. The actual gas train configuration shipped with burner might differ depending on applicable codes/ regulation and application.

Flame monitoring for the most demanding safety requirements



Testing and optimization via PC-Software Tool

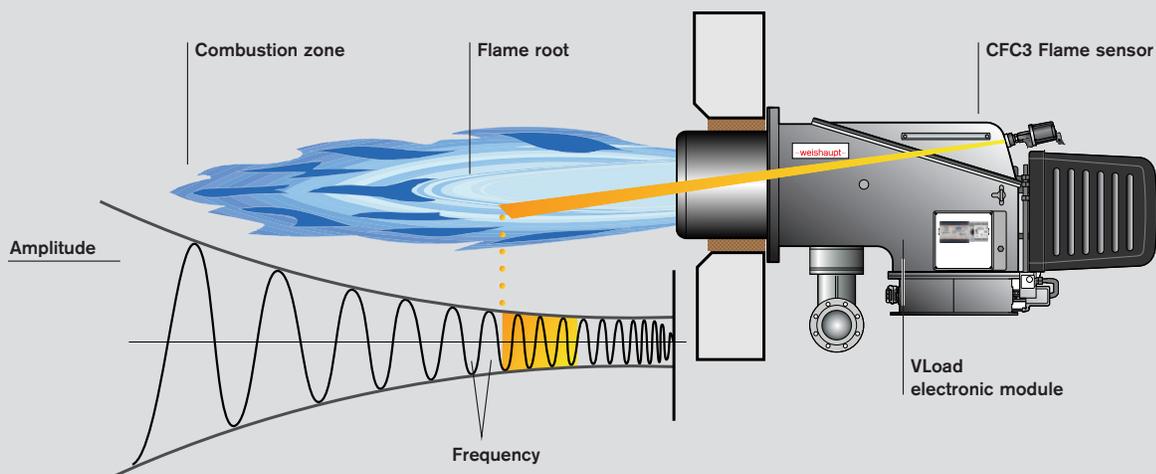
Flame monitoring plays a crucial role when it comes to safety.

The optimal choice of flame monitoring system does not only have to consider the type of burner and the type of fuel to be combusted, but also the operational aspects of the system and the conditions inside the combustion chamber.

Heat generators with one flame per combustion chamber are easier to monitor than those with multiple flames. It also depends on whether the flames burn in the same direction or against each other.

Biomass plants or waste incinerator plants require flame monitoring systems that will not be influenced by other source of flames.

Weishaupt offers flame monitoring systems for oil, gas and dual-fuel burners under a wide variety of operating conditions.



The design of the CFC3 .. allows the detection area to be optimized

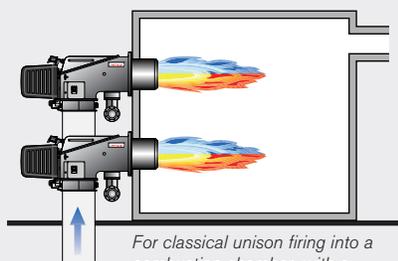
Weishaupt Flame Control W-FC

The W-FC (Weishaupt Flame Control) flame monitoring system is a reliable monitoring system which satisfies the most demanding requirements and can also be used for continuous operation.

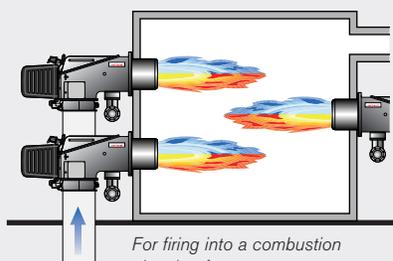
W-FC 4.0 is for plant with multiple burners firing from the same direction into a single combustion chamber. The W-FC assembly utilizes flame frequency to distinguish each flame separately. The CFC3... flame sensor works in conjunction with the QRA73 flame sensor on the W-FM 100 or W-FM 200 combustion manager.

Note: If a turndown in excess of 4:1 or single-burner operation is required, the W-FC 5.0 should be used instead.

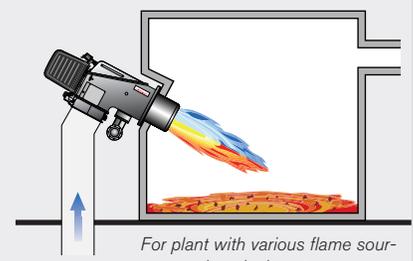
W-FC 5.0 can be used for plant with multiple burners firing from different directions into a single combustion chamber and for process plant with various flame sources. The W-FC system monitors each flame separately via a load-dependent flame relay. This guarantees a distinction of flames originate from various sources. The CFC3... flame sensor works in parallel with the QRA73 flame sensor on the W-FM 200 combustion manager.



For classical unison firing into a combustion chamber, with a maximum turndown of 4:1

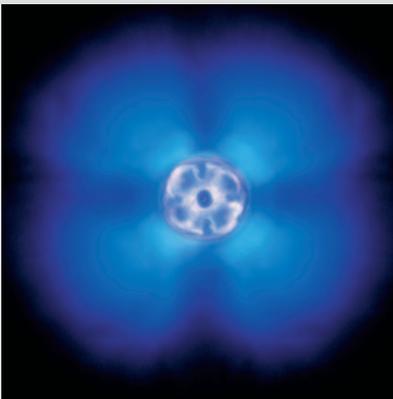


For firing into a combustion chamber from opposing directions and firing of multiple burners

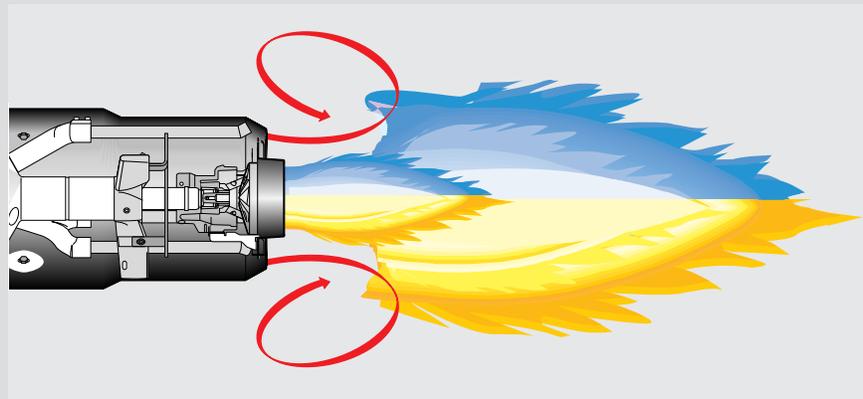


For plant with various flame sources, such as incinerator, process plant, etc.

Emissions reduction: The multiflam® principle - version 3LN



The multiflam® Flame shows efficient combustion



Primary and secondary flames with internal circulation

The multiflam® principle developed and patented by Weishaupt is an innovative way to reduce nitrogen oxide emission greatly from a furnace.

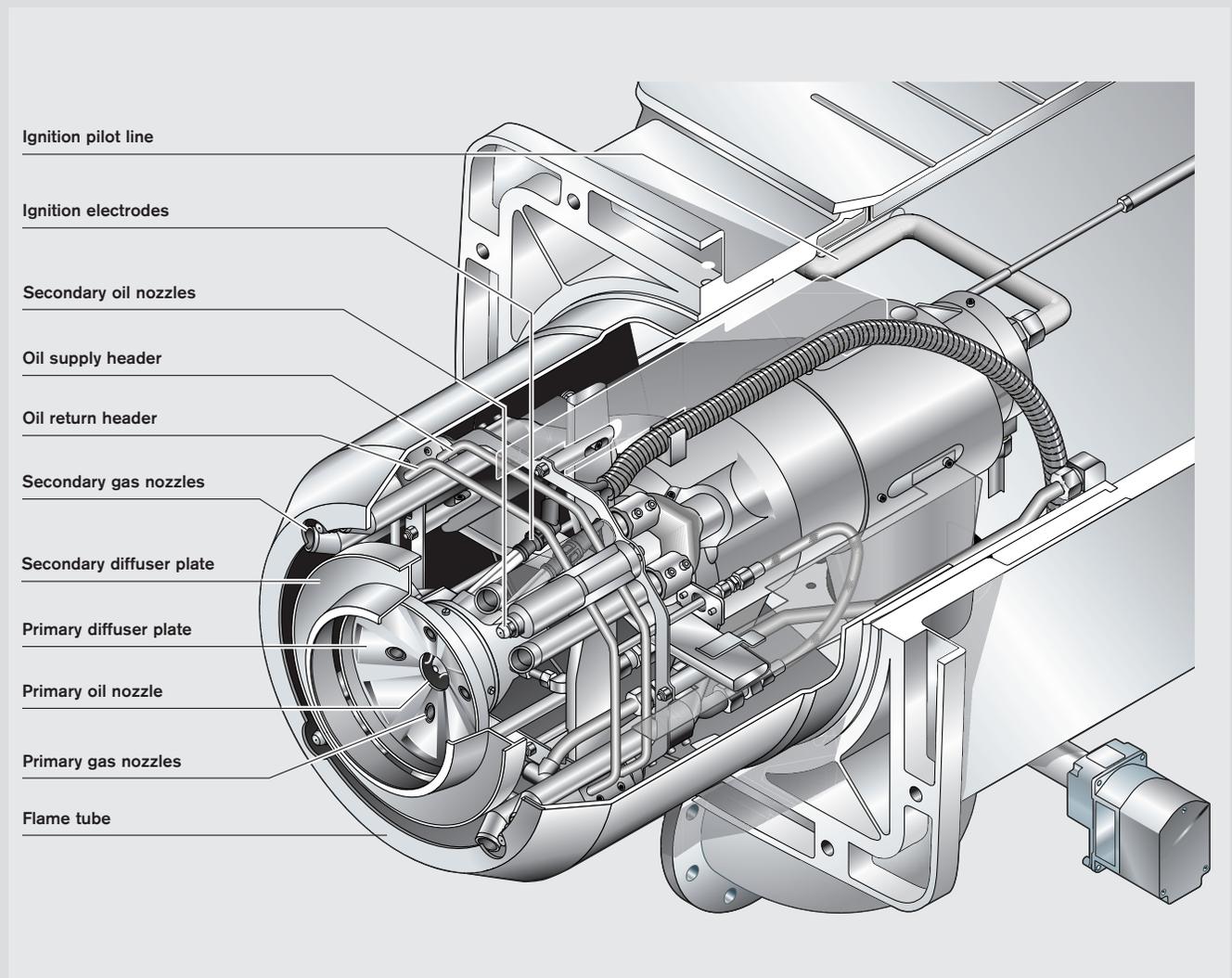
The centerpiece of multiflam® technology is the specially designed mixing head assembly. The fuel is distributed and combusted over a primary and secondary flame. The temperature inside the flame is significantly reduced, nitrogen oxides are effectively reduced.

The range of available products with multiflam® technology is also outstanding. Starting with the Weishaupt monarch® burner WM 10 to industrial burners WK 80 multiflam® burners are available in the power range from 1,000 to 80,000 MBH.

Weishaupt multiflam® burners have proven themselves in practice for over 20 years. As full-fledged oil, gas and dual-fuel burners, they are always the first choice when it comes to complying with low NOx emission requirements even without external measures.

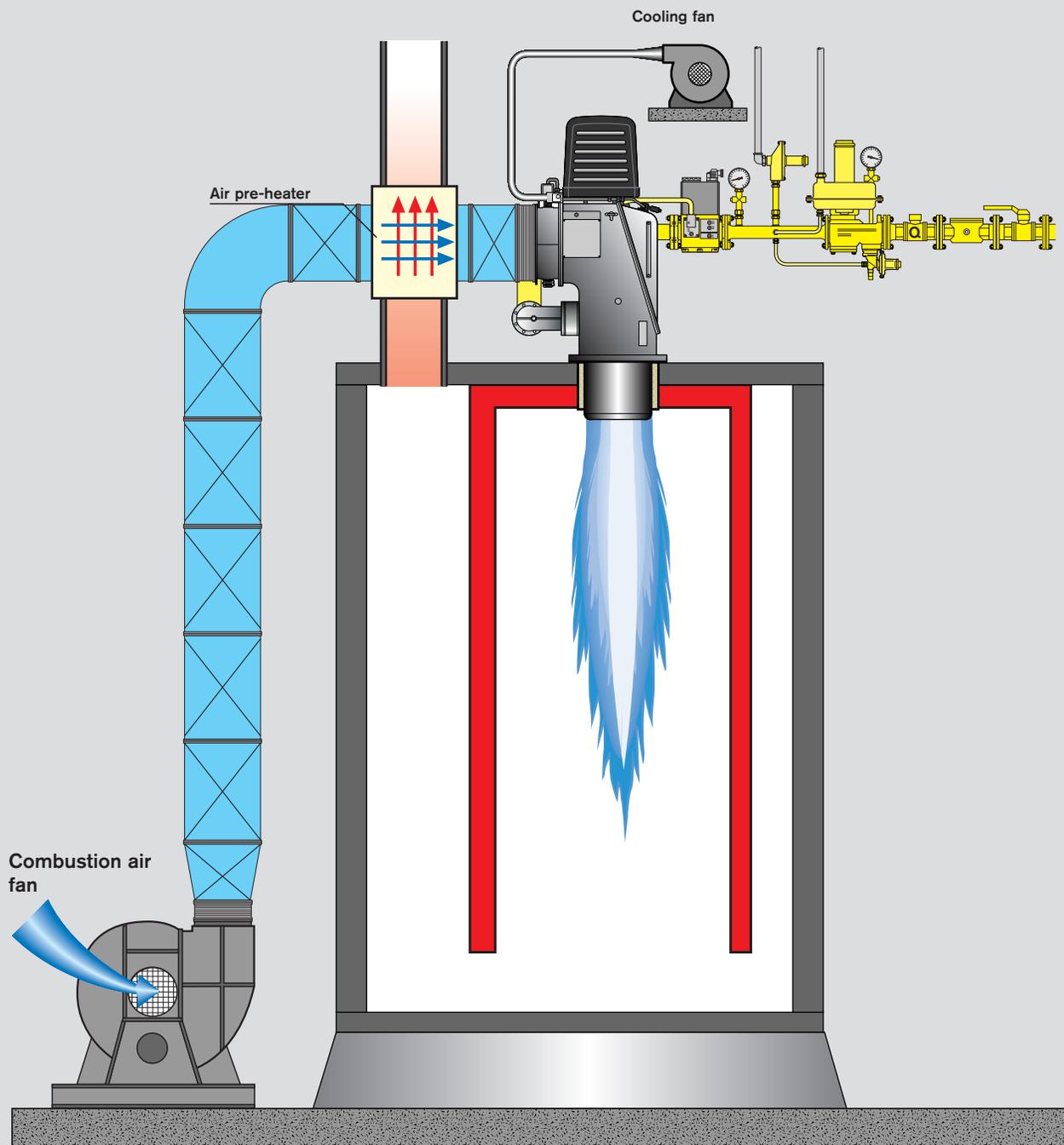
Compliance with the emission values is always system-dependent. Emission values depend on the respective combustion chamber geometry, the cross-sectional load and the firing system (3-pass principle).

Guarantee values can only be provided in conjunction with predefined conditions (e.g. combustion chamber load, combustion air temperature, air humidity, medium temperature, measurement tolerances, etc.).



multiflam® Mixing head for dual fuel burner

WK burner in hot air version up to 480F (250°C)
Efficiency increase up to 10 percent



Principle of heat recovery by air preheating up to 480F (250°C).

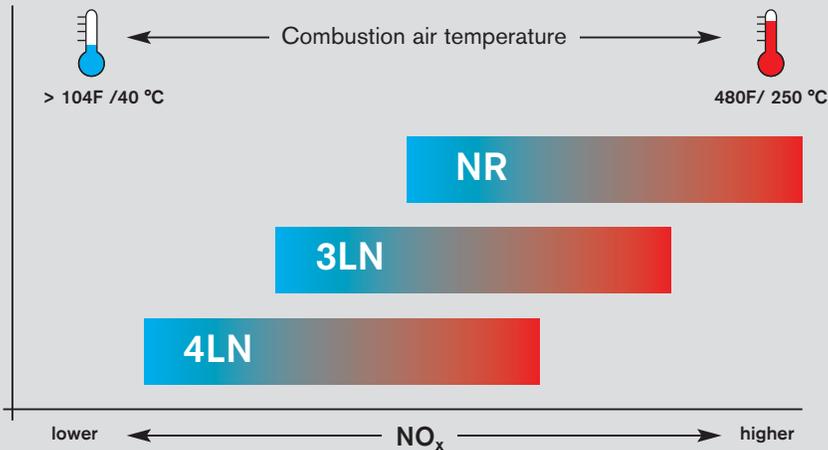
Nitrogen oxides reduction with multiflam[®] burner in hot air version up to 480F (250°C)



Cooling air for actuator and flame sensor

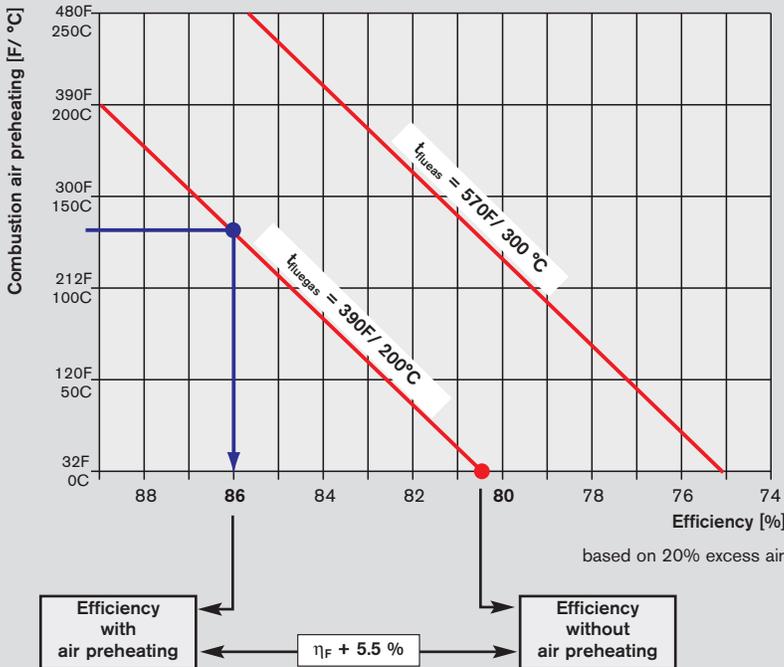
New in the multiflam[®] and 4LN burners is the use in the hot air sector.

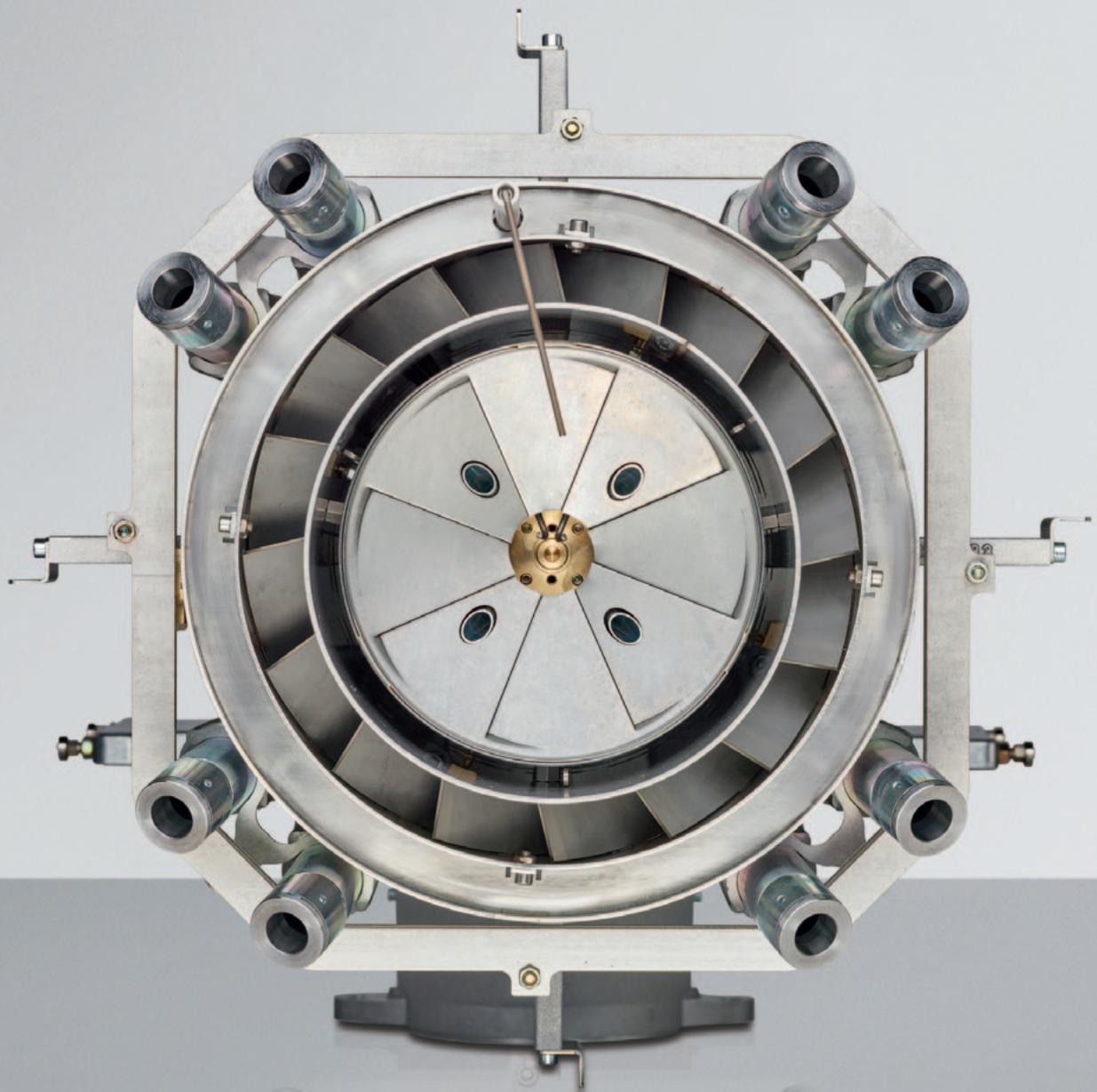
Heat generators with very high medium temperatures can extract less heat from the exhaust gas. The result is high energy losses. One way to use this energy is by utilizing the hot air WK duoblock burner. A heat exchanger, between the air duct and the exhaust system, extracts heat from the hot exhaust gas and releases it to the combustion air. With this method and a combustion air temperature of up to 480F (250°C), an increase in efficiency of up to 10 percent is possible. And, still impressive, are the achievable NO_x emission values for gas burners, which despite the extreme conditions meet many regulations.



NO_x emission values of WK burners in hot air version
Comparison: NR and multiflam[®] 3LN without flue gas recirculation vs 4LN (with FGR)

Combustion efficiency improvement by air pre-heating





4LN mixing head on WK series burner – further development of the 3LN multiflam® mixing head

Ultra LowNO_x values in high capacity: WK burner in 4LN version

Weishaupt 4LN gas burners are an innovative development to meet the worldwide stringent NO_x requirements.

New in this development is the general integration of an external exhaust gas recirculation. The burner's mixing head assembly is based on the well-known multiflam® technology and is specially optimized for operation with flue gas recirculation.

Test bench and practical values prove that with this technology the NO_x requirements of 15 ppm (natural gas) can be satisfied under specified conditions.

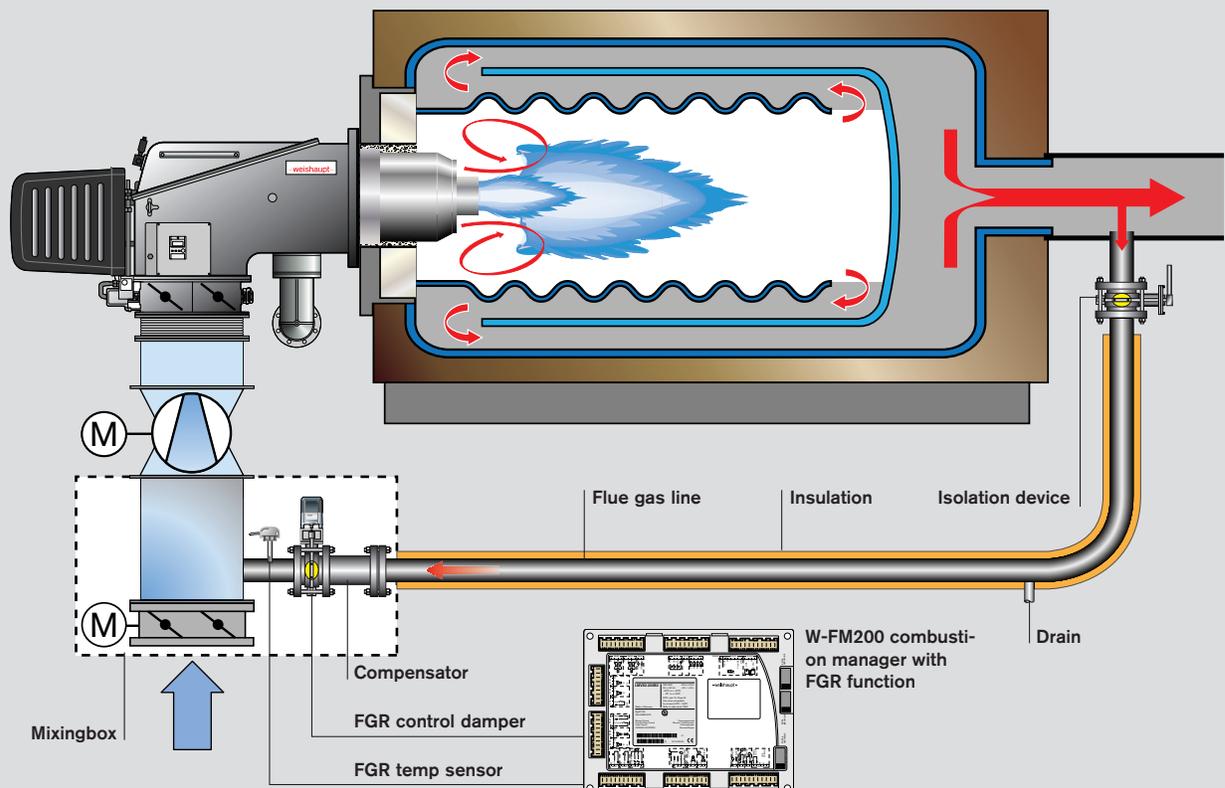
Weishaupt systems with flue gas recirculation do not require an additional fan to supply exhaust gas/ flue gas to the burner.

The combustion air fan takes over the intake of the exhaust gas. The mixing box creates a negative pressure that allows the exhaust gas to flow into the blower through the exhaust pipe. The control unit of the combustion manager takes care of the optimal quantity dosing with the help of a control damper.

Service work, easy as usual.

The system components of the flue gas recirculation only affect the blower.

The burner remains unchanged and so does the handling during commissioning and maintenance. This saves time and costs.



Principle construction of WK burner with mixing box and flue gas recirculation

Weishaupt flue gas recirculation system: Combustion blower fan with mixing box

Weishaupt mixing box

The mixing box is fabricated in cooperation with blower manufacturer. It is attached directly to the combustion air blower and forms a compact assembly with fixed dimensions. It consists of a housing with attached air damper suction control and provision to mount FGR damper.

Advantages:

- Mixing box is an integral part of combustion blower fan
- Installation time on site is substantially reduced due to integral design

Variable speed drive

Also for project equipped with variable speed drive, as standard Weishaupt provides speed sensor for the combustion blower fan's motor. This ensures correct rotational direction and continuous fan speed monitoring.

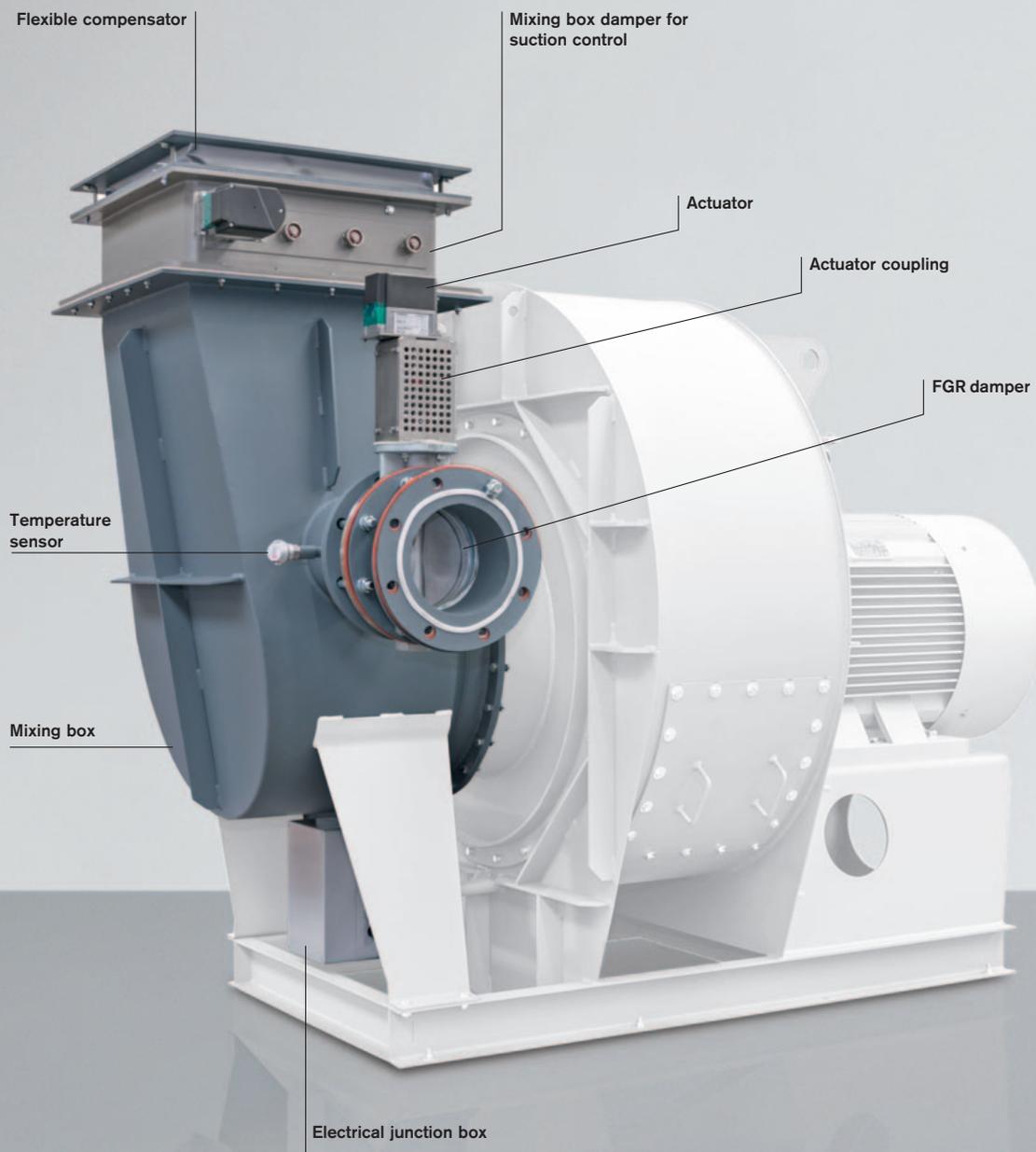


Example of combustion blower fan with mixing box



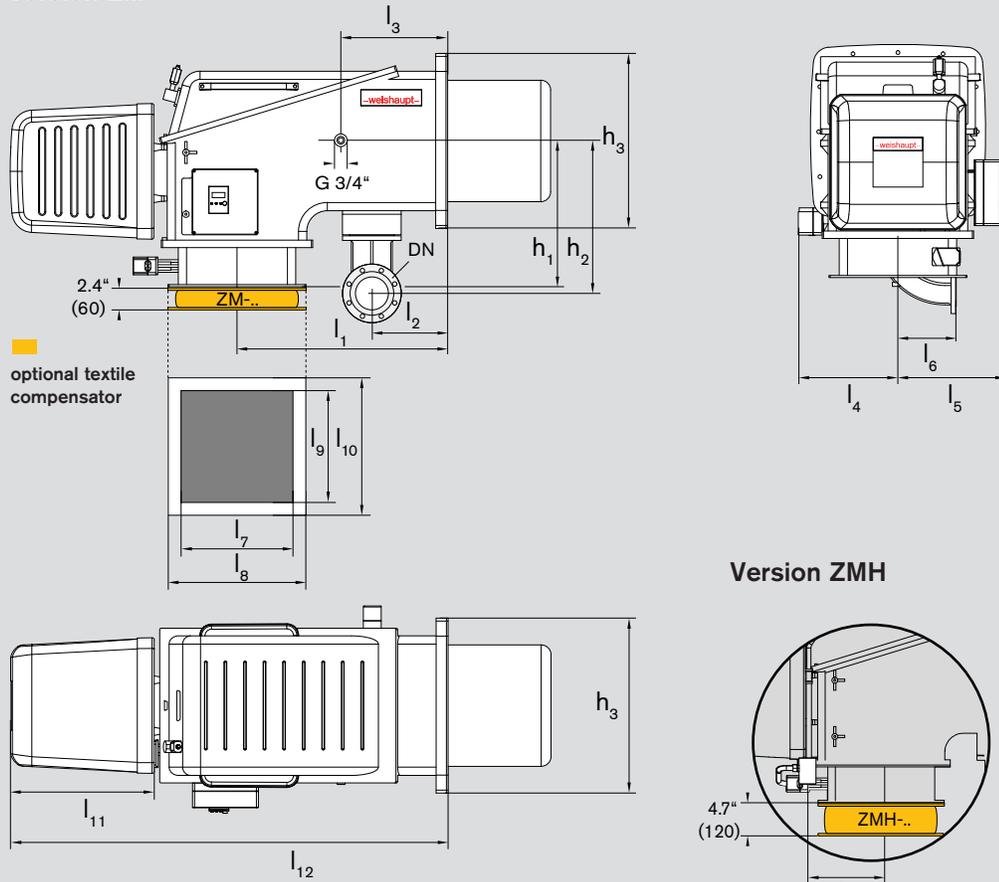
Motor with speed sensor

The pictures show example of combustion blower fan with mixing box in European version for reference only

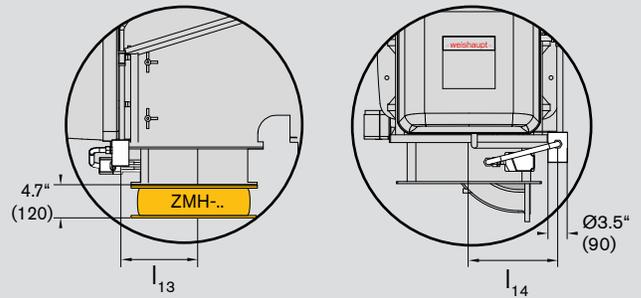


The most important dimensions at a glance

Version ZM



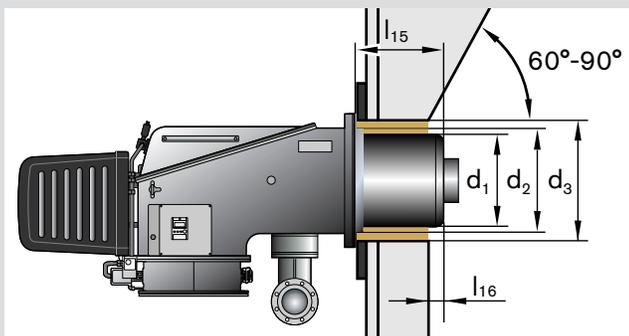
Version ZMH



Typ	DN	l ₁	l ₂	l ₃	l ₄	l ₅	l ₆	l ₇	l ₈	l ₉	l ₁₀	l ₁₁	l ₁₂	l ₁₃	l ₁₄	h ₁	h ₂	h ₃
WK.. 40	65	15.3	4.6	4.6	12.3	13.4	5.5	8.9	13.2	10.4	14.5	17.8	41.2	9.1	10.0	17.5	15.1	15.7
		(388)	(116)	(116)	(313)	(340)	(140)	(226)	(336)	(264)	(368)	(452)	(1046)	(231)	(255)	(444)	(384)	(400)
WK.. 50	80	20.8	6.2	6.2	14.7	15.9	6.5	10.6	15.9	14.6	19.5	17.8	47.7	10.2	12.2	20.4	18.3	21.3
		(528)	(158)	(158)	(373)	(404)	(165)	(270)	(403)	(370)	(495)	(452)	(1212)	(258)	(311)	(518)	(464)	(540)
WK.. 70	100	28.7	7.4	12.3	17.9	18.3	8.1	16.5	21.6	19.7	24.8	25.6	66.5	11.8	14.2	24.7	23.2	27.6
		(730)	(188)	(313)	(454)	(466)	(205)	(418)	(548)	(500)	(630)	(650)	(1689)	(300)	(360)	(628)	(589)	(700)
WK.. 80	150	40.3	14.5	20.6	19.1	20.6	11.1	21.9	26.4	21.9	26.4	27.4	83.6	15.5	16.1	27.9	29.2	33.5
		(1023)	(368)	(522)	(486)	(524)	(283)	(556)	(670)	(556)	(670)	(697)	(2124)	(393)	(410)	(708)	(741)	(850)

Dimensions are in inches and (mm)

Installation at heat exchanger



■ The void must be filled with flexible high temperature insulation material (e.g.: cerafelt, fiber wool, etc.)

Service-friendly flame head assembly:

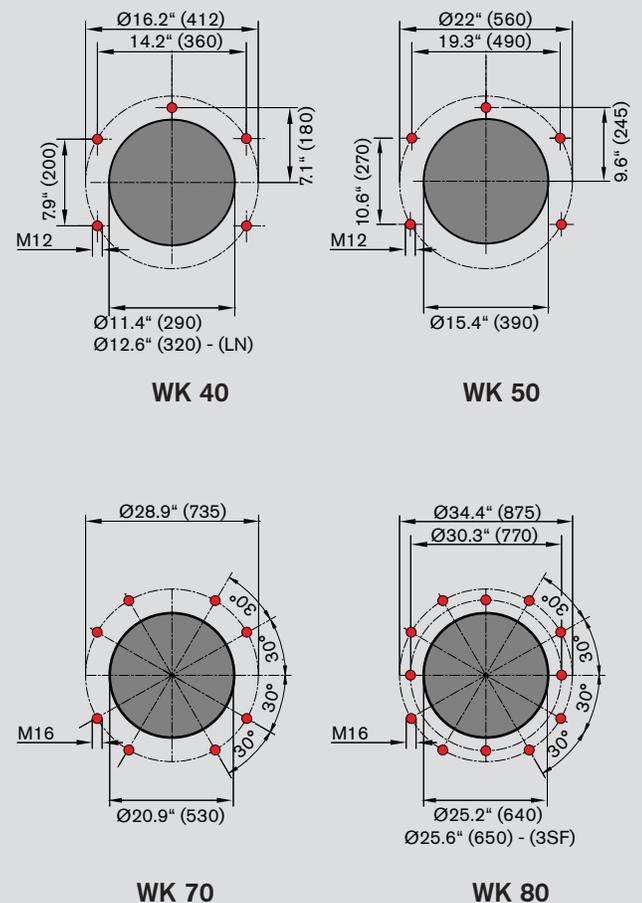
The flame head in the standard length can be (de) mounted on all burner types through the service opening on the burner housing.

¹⁾ Flame tube extension is available as an option

Model	Size	Vers. ZM(H)	d ₁	d ₂	d ₃	l ₁₅ ¹⁾	l ₁₆
WK..	40/1		9.8 (250)	11.0 (280)	11.4 (290)	10.2 (260)	≥ 0
WK..	40/2		10.3 (261)	11.0 (280)	11.4 (290)	10.2 (260)	≥ 0
WK..	40/2 LN		11.7 (296)	11.0 (280)	12.6 (320)	16.7 (424)	≥ 0
WKG(L)	40/2	3LN	10.1 (256)	11.0 (280)	11.4 (290)	16.2 (412)	≥ 2 (50)
WK..	50/1	NR / 1LN	11.4 (290)	15.0 (380)	15.4 (390)	12.1 (307)	≥ 0
WKG(L)	50/1	3LN	11.7 (296)	15.0 (380)	15.4 (390)	15.0 (380)	≥ 2 (50)
WK..	50/2	NR	13.8 (350)	15.0 (380)	15.4 (390)	13.3 (337)	≥ 0
WKG(L)	50/2	1LN	13.8 (350)	15.0 (380)	15.4 (390)	17.8 (452)	≥ 0
WKL(MS)	50/1		11.4 (290)	15.0 (380)	15.4 (390)	13.3 (337)	≥ 0
WKL(MS)	50/2		13.8 (350)	15.0 (380)	15.4 (390)	15.4 (392)	≥ 0
WKG(L)	50/2	3LN	13.5 (344)	15.0 (380)	15.4 (390)	19.7 (501)	≥ 2 (50)
WK..	50/2	1SF	13.8 (350)	15.0 (380)	15.4 (390)	13.3 (337)	≥ 0
WK..	70/1	NR	15.7 (400)	20.4 (518)	20.9 (530)	13.7 (347)	≥ 0
WK..	70/3	NR	18.9 (480)	20.4 (518)	20.9 (530)	18.2 (462)	≥ 0
WKG	70/1	LN	16.0 (406)	20.4 (518)	20.9 (530)	18.0 (457)	≥ 0
WKG(L)	70/1	1LN	16.0 (406)	20.4 (518)	20.9 (530)	17.3 (439)	≥ 0
WKG(L)	70/2	LN / 1LN	18.9 (480)	20.4 (518)	20.9 (530)	18.8 (477)	≥ 0
WKG(L)	70/0	3LN	16.1 (409)	20.4 (518)	20.9 (530)	18.6 (472)	≥ 2.4(60)
WKG(L)	70/1	3LN / 4LN	17.5 (444)	20.4 (518)	20.9 (530)	18.7 (475)	≥ 2.4(60)
WKG(L)	70/3	3LN / 4LN	18.9 (480)	20.4 (518)	20.9 (530)	18.7 (475)	≥ 2.4(60)
WK..	70/1	1SF	15.7 (400)	20.4 (518)	20.9 (530)	13.7 (347)	≥ 0
WK..	70/2	1SF	18.9 (480)	20.4 (518)	20.9 (530)	14.3 (362)	≥ 0
WKL(MS)	70/1		15.7 (400)	20.4 (518)	20.9 (530)	16.4 (417)	≥ 0
WKL(MS)	70/2		18.9 (480)	20.4 (518)	20.9 (530)	16.6 (422)	≥ 0
WK..	80/3	NR	23.2 (590)	23.2 (590)	25.2 (640)	19.7 (500)	≥ 0
WKG(L)	80/1	3LN / 4LN	21.3 (540)	22.0 (558)	25.2 (640)	20.1 (510)	≥ 2.8 (70)
WKG(L)	80/2	3LN / 4LN	21.3 (540)	22.0 (558)	25.2 (640)	20.1 (510)	≥ 2.8 (70)
WK..	80/3	1SF	23.6 (600)	23.6 (600)	25.2 (640)	18.9 (480)	≥ 0
WKG	80/4	VSF	23.2 (590)	23.2 (590)	25.2 (640)	19.7 (500)	≥ 0
WKG	80/5	VSF	23.2 (590)	23.2 (590)	25.2 (640)	19.7 (500)	≥ 0
WKG	80/6	3SF	24.3 (618)	24.3 (618)	25.2 (640)	19.7 (500)	≥ 0

Drilling dimensions for boiler plate

Dimensions are in inches and (mm)

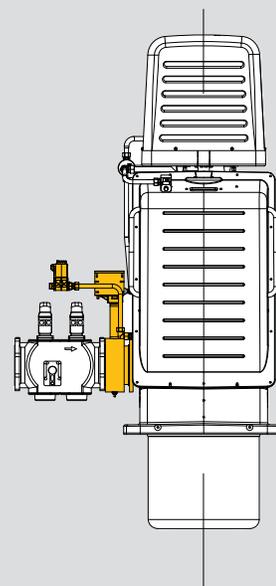
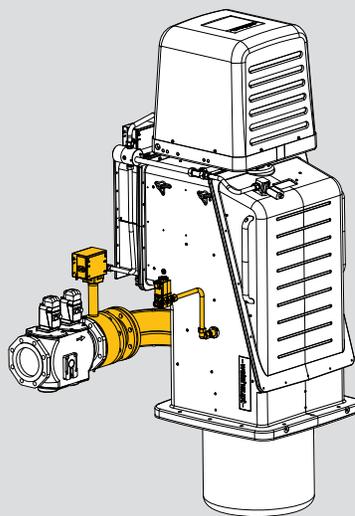


Options, mounting possibilities and weight in an overview

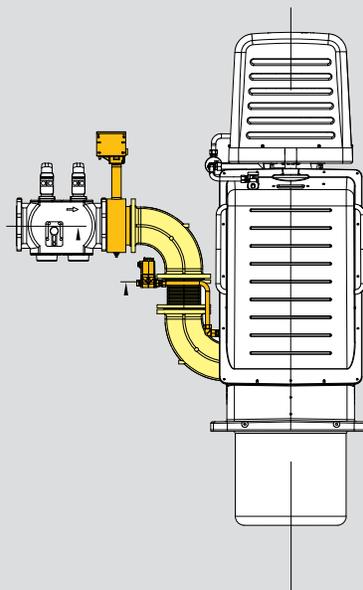
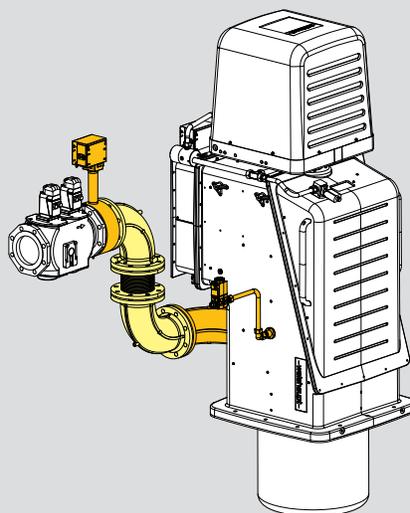
Vertical Weishaupt burners (based on ZMH burners) are specially designed for use with systems with vertical construction such as steam boilers, thermal oil heaters and various heat exchangers for process application.

Safe operation: safety relevant components such as gas butterfly valve, actuator, gas shut-off valves and gas pressure switch are relocated from the high temperature zone for reliable operation.

Vertical version



Option



Option

Expanded Option (with accessories)

Burner weights⁷⁾ in lbs and (kg)

	WKG	WKL	WKMS	WKGL	WKGMS
WK.. 40	264	308³⁾ / 275⁵⁾	363^{3,4)} / 286^{5,6)}	330³⁾ / 297⁵⁾	374^{3,4)} / 308^{5,6)}
	(120)	(140)³⁾ / (125)⁵⁾	(165)^{3,4)} / (130)^{5,6)}	(150)³⁾ / (135)⁵⁾	(170)^{3,4)} / (140)^{5,6)}
WK.. 50	363	352	363	363	374
	(165)	(160)	(165)	(165)	(170)
WK.. 70	638	638	660	682	704
	(290)	(290)	(300)	(310)	(320)
WK.. 80	968	924	946	1012	1034
	(440)	(420)	(430)	(460)	(470)

³⁾ mounted oil pump ⁴⁾ mounted oil pre-heater ⁵⁾ separate oil pump ⁶⁾ separate oil pre-heater. ⁷⁾ Weights are approximate only

That is not an Imagination. Continuous research and development at Weishaupt ensure environmental friendly and efficient burners. That is Reliability.



Test facility at Weishaupt R&D centre



Developing improvement. Weishaupt recognizes the signs of time and researches perpetually to get more efficient and environmental friendly burner systems.

This way not only Weishaupt prevents largely unnecessary energy cost but also actively contributes in conserving the environment.

-weishaupt-

Weishaupt Corporation
2925 Argentia Road
Mississauga, ON L5N 8G6, Canada
Ph: (905) 564 0946
Fax: (905) 564 0949
www.weishaupt-corp.com

Weishaupt America Inc.
2587 Millenium Drive, Unit A
Elgin, IL 60124, USA
Ph: (847) 531 5800
Fax: (847) 531 5855
www.weishaupt-america.com

Weishaupt America Inc.
1320 Ellsworth Industrial Blvd.
Atlanta, GA 30318, USA
Ph: (404) 968-2935
Fax: (404) 968-2966
www.weishaupt-america.com

Print No. 83159816, February 2019
Printed in Germany. All rights reserved.



Regular maintenance reduces heating costs and environmental pollution. Only a properly adjusted burner can save energy and be environmentally friendly. Behind each Weishaupt burner stands the whole Weishaupt customer service organization. The outstanding efforts made in maintenance and service justify the enormous trust placed in Weishaupt's burners, for at Weishaupt product and customer service belong together.

Weishaupt customer service is there for you all year round. Whenever you need help, be it the supply of spare parts, technical advice or a site visit. We are there when you need us.