

Description:

The Pyromat-DYN is an automatically loading burner with a patented double combustion chamber. In automatic operation this burner system is suited for all dry to moist wood fuels (maximum of W35 – W40).

The burner is ready to make the connections to attach the automatic loader system with ignition system and the motor-driven de-ashing system with heat exchanger cleaning system for the DYN-function.

The facility also converts to log operation at the push of a button.

This beautifully designed and sturdily built burner is equipped with motor-driven air vents that provide exact control and a high-quality exhaust gas fan. The low negative pressure this produces results in a high degree of safety against burn-back in automatic operation, as well as comfortable reloading in manual operation.

The burner system is pre-wired in plug-and-play fashion, making installation very simple and fast.

Max. flow temperature:	100°C
Max. operating pressure:	3.0 bar
Test pressure:	5.0 bar
Safety heat exchanger:	Built-in & ready for use

Slide-in module:

The slide-in module consists of an insulated connecting flange with ignition system attached, the auger pipe, the metering container, the light barriers and the safety sensors. All the electric parts are wired for connection to the burner in plug-and-play fashion.

A specially designed, high-temperature feed auger conveys the fuel into the combustion chamber. For maximum safety against burn-back, the fuel is precisely metered from the full metering container (fuel isolating layer). The drive motor is equipped with a wear-free Startec control system (CAN-bus control triggering by Ecotronic with gentle start-up, automatic reversal and overload safeguard). Intake: S180

Automatic de-ashing and cleaning:

A motor-driven de-ashing system automatically conducts the ash out of the main combustion chamber and into the front combustion chamber, where it burns out completely. Generous dimensioning allows automatic operation for a period of many weeks without removing the ashes.

The vertical surfaces of the heat exchanger are continuously cleaned by coil springs moved by a motor. The driving mechanism is situated beneath in the protected cold flow of gas. The springs come off easily with an upward movement for cleaning by the chimneysweep.

Pre-installed burner group:

The burner group is ready-installed on the connecting flange. It consists of the burner pump, the burner control valve, the forward flow sensor and the return flow sensor, incl. the fittings. The pump is installed between two shut-off devices.

The plug-and-play ECOTRONIC for a burner system with storage management:

The ECOTRONIC control system is a decentralised microprocessor system (CAN-bus). To regulate the burner system with storage management, the ECOTRONIC consists of a module integrated in the burner and the control module.

The control module (300 mm wide x 280 mm high x 100 mm deep) mounts on the wall where possible and is connected to the burner via a data line in plug-and-play fashion.

Functions:

- Controller firing with integrated lambda sensor and motor-controlled air vents
- Output control system with RPM-controlled exhaust fan
- Controller loading system via bus cable to the drive motors (see loading system)
- Keeping up the return temperature by means of the burner control valve provides for a long service life of the burner
- Converts to log operation at the push of a button
- Accumulator triggering system as hydraulic switcher
- Help and service functions provide support
- Automatic ignition during the start-up phase
- Precise, output-dependent metering of fuel

Includes:

- Burner with integrated burner controller, incl. temperature-limiting safety switch; plug-and-play exhaust gas fan with exhaust gas sensor and lambda sensor; ash drawers; stoking and cleaning device
- Flanged on burner group with burner pump, burner control valve, forward and return flow sensors
- Control module (300 mm wide, 280 mm high x 100 mm deep): display with background lighting and comprehensive display of text; simple, clearly laid out pushbutton operation for PYROMAT-DYN burner system
- Four pushbuttons for operating additional heating control units
- Triggering system for the loading system wired to output plug
- Three KTY heat storage sensors, incl. dipping shell (1/2" x 280 mm long) wired together to plug
- Emergency shut-off switch, four-pin, uninstalled (for installation near control module)

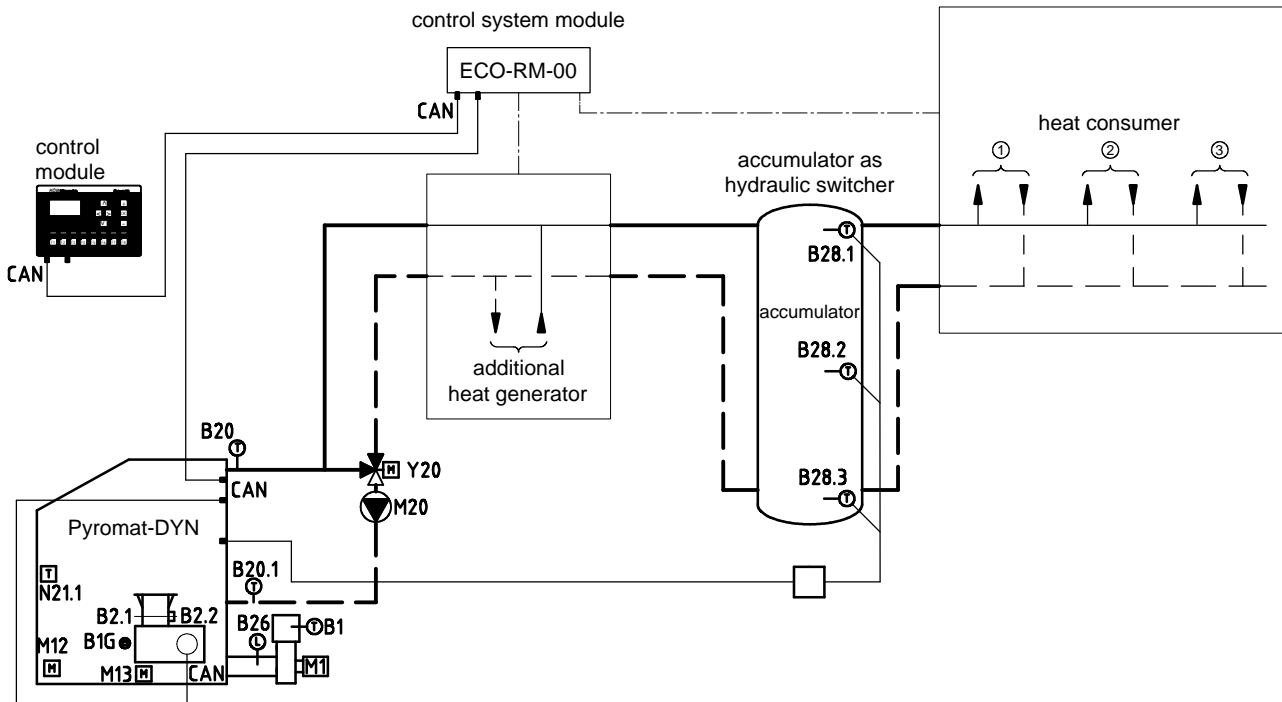
- Complete ignition device
- Pre-wired light barriers for combustion chamber
- Pre-wired light barriers for metering container
- Ready-installed coil springs for the heat exchanger
- Mechanical drive installed for de-ashing
- Slide-in module with Startec drive via CAN-bus (including data line), plug-and-play
- The following safety systems (as per TRVB and VKF) are integrated:
 - FÜF Flame monitoring system
 - RHE Burn-back-inhibiting system
 - RZS Back-flash safeguard

Note:

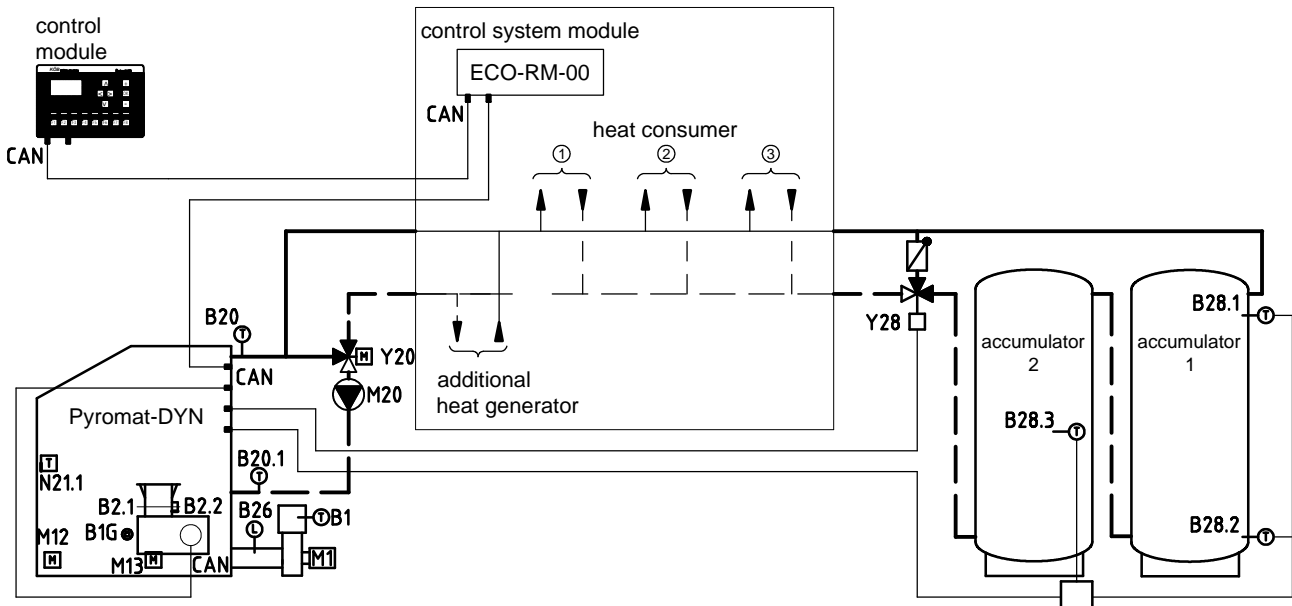
- For burner safety devices: refer to Spec Sheet 4500
- For data cable for the connection to the control module (separate price item), see Spec Sheet 4020

Schematic diagram with ECOTRONIC

a) DYN with reduced log operation (standard with accumulator as hydraulic switcher)



b) DYN with full ECO-function in log operation (accumulator volume as per EN 303-5 – see Spec Sheet 3950)
With this variation, the heat accumulator is incorporated by a storage control valve [Art. No. LSR-DYN-]



ECOTRONIC with heating control unit

The ECOTRONIC can be expanded by a great number of heating control units (heat consumers, additional heat generators) (refer to spec sheets, Category 4). The operation of the heating control units is all carried out in the control module for the burner system. Each controller is operated by a separate pushbutton.

For ECOTRONIC expansion possibilities, refer to spec sheets, Category 4

PYROMAT-DYN with integrated manifold

One manifold with two or three consumer groups can be integrated with the PYROMAT-DYN burner. In this design with the manifold attached, the burner forms a compact overall system (refer to Spec Sheets 4600).

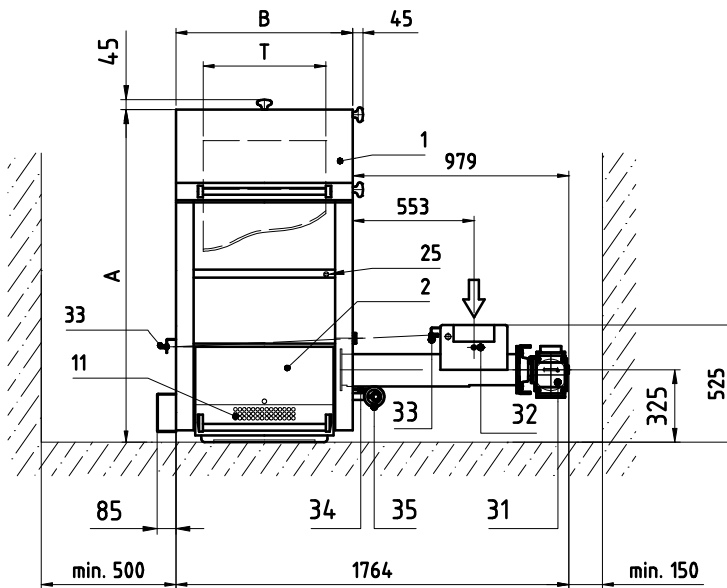
Technical data:

PYROMAT-DYN [Art. No.]	KPM-DYN_45	KPM-DYN_65	KPM-DYN_85
Performance data, operation with logs			
Nominal heat output [kW]	50	75	100
Max. log length [m]	0.5	0.5	0.5
Firebox volume [l]	185	255	300
Burner efficiency rate [%]	91.7	91.5	91.3
Average exhaust gas temperature [°C]	146	145	144
Performance data, automatic operation			
Maximum nominal heat output [kW]	49	68	88
Minimum nominal heat output [kW]	14.7	20	25
Burner efficiency rate at nominal load [%]	92.4	92.3	92.3
Electrical connections, total [kW]	1.91	1.91	1.91
Electrical power, ignition device [kW]	1.6	1.6	1.6
Electrical power, exhaust fan [kW]	0.08	0.08	0.15
Electrical power, feed auger [kW]	0.12	0.12	0.12
Electrical power, de-ashing and cleaning [kW]	0.07	0.07	0.07
Electrical power consumption at max. nominal load [kW]	0.1	0.2	0.3
Electrical power consumption at min. nominal load [kW]	0.04	0.05	0.06
Exhaust gas mass flow, nominal heat output [g/s]	35	56	68
Average exhaust gas temperature at maximum nominal load, °C	138	136	134
Average exhaust gas temperature at minimum nominal load, °C	79	78	77
Maximum water content, forest wood chips [W %] 1)	W35	W35	W35
Maximum chip size	G50	G50	G50
Heating-relevant data			
Volume on heating gas side [litres]	170	180	190
Volume of ash pan (logs/automatic) [litres]	14 / 34	18 / 43	18 / 43
Max. flue draught, wood [Pa] 2)	25	25	25
Chimney draught required [Pa] 3)	+0	+0	+0
Resistance on water-bearing side (difference of 10 K) [mbar]	8	16	25
Boiler water volume [l]	130	170	210
Boiler weight without water [kg]	760	935	1065
Test pressure [bar]	6	6	6
Maximum operating pressure [bar]	3	3	3
Maximum boiler temperature [°C]	100	100	100
Minimum return temperature [°C]	70	70	70
Thermal run-off safety valve: min. flow rate at 2.5 bar [kg/h]	2000	2800	3500
Burner group			
Burner pump, Grundfos model	UPS 32-60	UPS 32-55	UPS 32-80
Electrical power for pump [W]	90	140	245
Pump output m ³ /h at mWS	3.0 at 2.4	5.0 at 3.0	6.0 at 4.3
Burner control valve, Siemens model	VXG 48.32	VXG 48.32	VXG 48.40
Drive for burner control valve, Siemens	SQS 35.00	SQS 35.00	SQS 35.00
Weight of burner group [kg]	14	16	20

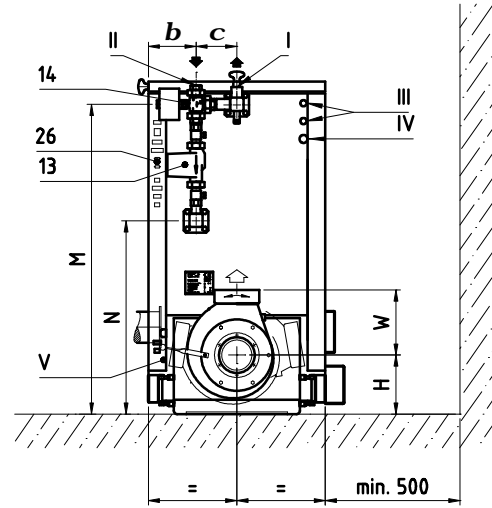
- 1) For function, from W 25 reduction of burner output
- 2) Maximum overpressure during the start-up phase (chimney cold) in the exhaust pipe after the exhaust fan
- 3) Do not install a chimney draught controller!

Dimensional drawing:

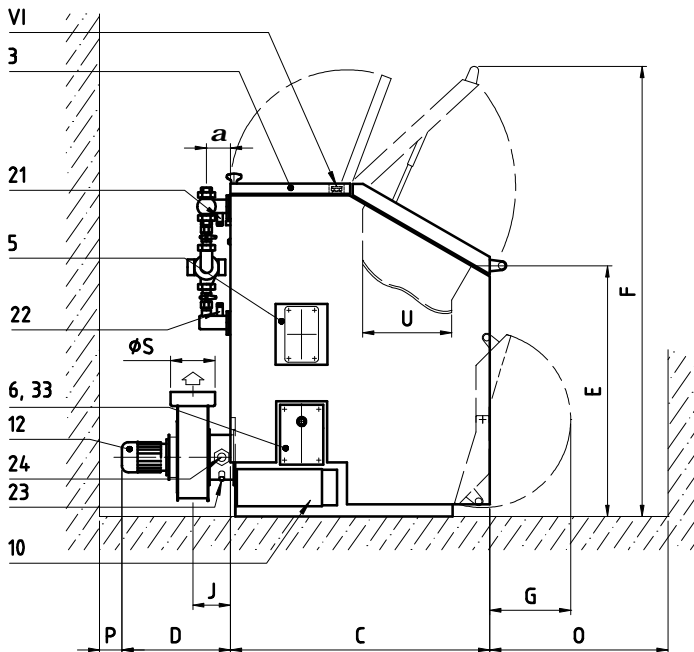
front view



rear view



side view (opposite slide-in module)



top view

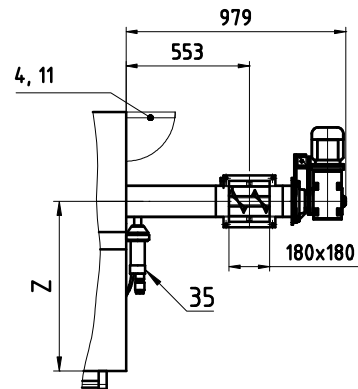


Table of dimensions:

Pyromat-DYN [Art. No.]		KPM-DYN_45	KPM-DYN_65	KPM-DYN_85
I	Forward flow, connection Bsp	R 1¼"	R 1¼"	R 1½"
II	Return flow, connection Bsp	R 1¼"	R 1¼"	R 1½"
III	Safety valve connection Bsp	R ½"	R ½"	R ½"
IV	Sensor for run-off safety valve connection Bsp	R ½"	R ½"	R ½"
V	Drain valve	R ½"	R ½"	R ½"
VI	Inspection window (transport hook) connection Bsp	R 1"	R 1"	R 1"
A	Height of casing	1430	1490	1490
B	Width of casing (dismantled)	795 (686)	795 (686)	795 (686)
C	Length of casing	958	1163	1313
D	Length of exhaust fan	500	500	630
E	Filling height	1134	1134	1134
F	Height of lid, open	1892	2012	2012
G	Radius of ash door	365	365	365
H	Outlet, burner	265	265	265
J	Outlet, exhaust fan	175	175	300
M	Flange, forward flow, burner	1331	1389	1386
N	Flange, return flow, burner	811	869	693
O	Space for operation	800	800	800
P	Min. distance to wall	100	100	100
S	Connection for exhaust fan 1)	200	200	200
T	Width of firebox	550	550	550
U	Depth of firebox	300	400	400
W	Outlet, exhaust fan	293	293	293
Z	Slide-in module flange	650	765	800
a	Connection, burner	108	108	108
b	Connection, burner	214	214	214
c	Connection, burner	183	183	183
Operation and maintenance				
1	Firebox door			
2	Ash pan door			
3	Cleaning door, top			
4	Cleaning door, bottom (slide-in module side)			
5	Maintenance lid to radiation chamber			
6	Maintenance lid to combustion chamber, automatic (opposite slide-in module)			
Electric drives, burner [Art. No. KPM-DYN-...]				
10	Drive, de-ashing / Cleaning (opposite slide-in module)			
11	Motor-driven air vent (primary and secondary)			
12	Motor for exhaust fan			
13	Burner pump			
14	Burner control valve with servomotor			
Electric connections and sensors, burner				
21	Burner sensor			
22	Return flow sensor			
23	Exhaust gas sensor			
24	Lambda sensor			
25	Burner control panel with temperature-limiting safety switch			
26	Sockets for electrical connection			
Electric drives and sensors, slide-in module				
31	Drive for feed auger			
32	Light barrier for metering container			
33	Light barrier for combustion chamber			
34	Temperature sensor for feed auger			
35	Ignition device			

¹⁾ Reduction up to KPM-DYN-65 is possible (160 mm or 180 mm)