

ÖKOFEN – PELLEMATIC- PBV2000

TECHNICAL DATAS – VACUUM SUCTION SYSTEM

Technical Datas Boiler							
Designation			PES12	PES15	PES20	PES25	PES32
rated power	kW		12	15	20	25	32
partial load	kW		3.4	5	6	8	10
boiler efficiency rated power	%		92.5	92.6	92.4	91.9	91.4
boiler efficiency partial load	%		92.1	91.1	91.0	91.1	91.2
Water area							
capacity of water	l		66	66	66	104	104
water supply diameter	Zoll		1	1	1	1 1/4	1 1/4
water supply diameter	DN		25	25	25	32	32
water resistance at 10 K	mBar		95.2	150	220	284	376
water resistance at 20 K	mBar		24.2	38	55	72	95
boiler temperature	°C		65-90	65-90	65-90	65-90	65-90
boiler input temperature minimum	°C		55	55	55	55	55
operating pressure maximum	Bar		3.5	3.5	3.5	3.5	3.5
test pressure	Bar		4.6	4.6	4.6	4.6	4.6
Flue gas area							
fire vault temperature	°C		900-1100				
fire vault pressure	mBar		-0.01	-0.01	-0.01	-0.01	-0.01
need of draught rated power	mBar		0.08	0.08	0.08	0.08	0.08
need of draught partial load	mBar		0.03	0.03	0.03	0.03	0.03
Suction draught necessary			Yes	yes	yes	yes	yes
flue gas temperature (FGT) rated power	°C		120/ 140*	160	160	160	160
*flue gas temperature can be changed							
flue gas temperature (FGT) partial load	°C		80/ 100*	100	100	100	100
*flue gas temperature can be changed							
flue gas inertia current rated power	kg/h		24.2	30.4	40.6	51.1	65.8
flue gas inertia current partial load	kg/h		7.4	10.3	12.2	16.4	20.4
flue gas volume rated power at FGT	m³/h		28.6	37.6	50.2	63.2	81.4
flue gas volume partial load at FGT	m³/h		6.9	10.9	13	17.4	21.8
smoke tube diameter (on the boiler)	mm		152	152	152	152	152
chimney diameter	mm		according to chimney calculation				
chimney construction			withstand humidity				
Fuel			pellets made of 100% natural wood according to ÖNorm M7135				
calorific value	MJ/kg		17.6				
apparent specific weight	kg/m³		>650				
water content	Gew.%		8-10				
ash parts	Gew.%		<0.5				
length	mm		5-30				
diameter	mm		5-6				
finest content	Gew.%		<10				

Technical Datas boiler							
<u>Designation</u>		(PE08)	PES12	PES15	PES20	PES25	PES32
weight - boiler	kg		242	246	250	316	320
ash							
ash pan - volume	l		25	25	25	30	30
<u>Electrical components</u>							
connection	230 VAC, 50Hz, 14A						
main drive	W		40	40	40	40	40
drive motor	W		250/ 370	250/ 370	250/ 370	250/ 370	250/ 370
vacuum suction turbine	W		1200	1200	1200	1200	1200
combustion air blower	W		83	83	83	83	83
suction van blower	W		32	32	32	32	32
electrical ignition	W		250	250	250	250	250
cleaning motor	W		40	40	40	40	40
motor external ash box	W		40	40	40	40	40
flame return gate	W		5	5	5	5	5
<u>Emission according to test report</u>		WB 1)	*)	WB 2)	*)	*)	WB 3)
O2-contents rated power	Vol.%		8.0	7.8	7.6	7.5	7.3
O2-contents partial load	Vol.%		11.4	12.4	12.2	11.5	10.5
<u>Reference 0% O2 dry (theoretic)</u>							
NOx rated power	ppm		135.5	130.7	134.5	138.3	145.9
NOx partial load	ppm		124.1	132.6	130.7	125.1	117.5
NOx rated power	mg/kWh		257	248	255	263	277
NOx partial load	mg/kWh		236	252	248	238	223
<u>Reference 10% O2 dry (EN303-5)</u>							
CO rated power	mg/m ³		95	118	104	76	37
CO partial load	mg/m ³		170	132	125	134	146
OGC rated power	mg/m ³		2.5	3	3	2	<1
OGC partial load	mg/m ³		5	3	2	2	2
dust rated power	mg/m ³		16	17	17	17	17
NOx rated power	ppm		70.0	67.6	69.6	71.5	75.4
NOx partial load	ppm		64.2	68.6	67.6	64.7	60.7
NOx rated power	mg/kWh		257	248	255	263	277
NOx partial load	mg/kWh		236	252	248	238	223
<u>Reference 13% O2 dry (Wieselburg)</u>							
CO rated power	mg/m ³		69	86	76	56	27
CO partial load	mg/m ³		123.5	95	91	97	106
OGC rated power	mg/m ³		2	3	2	2	<1
OGC partial load	mg/m ³		4	2	2	1	1
dust rated power	mg/m ³		11.5	12	12	12	12
NOx rated power	ppm		51.5	49.8	51.1	52.6	55.4
NOx partial load	ppm		47.1	50.4	49.6	47.5	44.6
NOx rated power	mg/kWh		257	248	255	263	277
NOx partial load	mg/kWh		236	252	248	238	223

<u>Designation</u>		(PE08)	PES12	PES15	PES20	PES25	PES32
Accord. to § 15a BVG Österreich							
CO rated power	mg/MJ		45.5	59	49	36	17
CO partial load	mg/MJ		81	62	59	63	69
NOx rated power	mg/MJ		71.5	69	71	73	77
NOx partial load	mg/MJ		65.5	70	69	66	62
NOx rated power	mg/kWh		257	248	255	263	277
NOx partial load	mg/kWh		236	252	248	238	223
OGC rated power	mg/MJ		1.5	2	2	1	<1
OGC partial load	mg/MJ		2.5	1	1	1	<1
dust rated power	mg/MJ		7.5	8	8	8	8

WB - Federal Institut of Agricultural Engineering Wieselburg

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WB 1): BLT- recording no.: 010/05 PE 08 Date of execution: 27.05.2005

WB 2): BLT- recording no.: 001/05 PE 16 Date of execution: 27.05.2005

WB 3): BLT- recording no.: 012/05 PE 32 Date of execution: 27.05.2005

*) Intermeditate sizes accord. to ÖNORM EN303-5 Pkt.5.1.3.1.- values middled
BLT- recording no: 0741/08 0742/08 Date of execution: 09.06.2008

ÖKOFEN – PELLEMATIC- PBV2000

TECHNICAL DATAS – VACUUM SUCTION SYSTEM

Technical Datas Boiler							
Designation			PES36	PES48	PES56	(PE64)	
rated power	kW		36	48	56		
partial load	kW		11	15	17		
boiler efficiency rated power	%		91.7	92.5	93		
boiler efficiency partial load	%		91	91.1	91.1		
Water area							
capacity of water	l		135	135	135		
water supply diameter	Zoll		2	2	2		
water supply diameter	DN		50	50	50		
water resistance at 10 K	mBar		38.9	51.9	60.5		
water resistance at 20 K	mBar		10.4	13.9	16.2		
boiler temperature	°C		65-90	65-90	65-90		
boiler input temperature minimum	°C		55	55	55		
operating pressure maximum	Bar		3.5	3.5	3.5		
test pressure	Bar		4.6	4.6	4.6		
Flue gas area							
fire vault temperature	°C		900-1100				
fire vault pressure	mBar		-0.01	-0.01	-0.01		
need of draught rated power	mBar		0.08	0.08	0.08		
need of draught partial load	mBar		0.03	0.03	0.03		
Suction draught necessary			Yes	Yes	Yes		
flue gas temperature (FGT) rated power	°C		160	160	160		
flue gas temperature (FGT) partial load	°C		100	100	100		
flue gas inertia current rated power	kg/h		73.7	97.5	113.2		
flue gas inertia current partial load	kg/h		22.5	31	34.9		
flue gas volume rated power at FGT	m³/h		91.1	120.7	140		
flue gas volume partial load at FGT	m³/h		24	33	37.2		
smoke tube diameter (on the boiler)	mm		182	182	182		
chimney diameter	mm		according to chimney calculation				
chimney construction			withstand humidity				
Fuel			pellets made of 100% natural wood according to ÖNorm M7135				
calorific value	MJ/kg		17.6				
apparent specific weight	kg/m³		>650				
water content	Gew.%		8-10				
ash parts	Gew.%		<0.5				
length	mm		5-30				
diameter	mm		5-6				
finest content	Gew.%		<10				

Technical Datas boiler							
Designation			PES36	PES48	PES56	(PE64)	
weight - boiler	kg		602	606	610		
ash							
ash pan - volume	l		30	30	30		
Electrical components							
connection			230 VAC, 50Hz, 14A				
main drive	W		40	40	40		
drive motor	W		250/ 370	250/ 370	250/ 370		
vacuum suction turbine	W		1200	1200	1200		
combustion air blower	W		83	83	83		
suction van blower	W		32	32	32		
electrical ignition	W		250	250	250		
cleaning motor	W		40	40	40		
motor external ash box	W		40	40	40		
motor intermediate reservoir	W		40	40	40		
flame return gate	W		5	5	5		
Emission according to test report			*)	*)	*)	WB 4)	
O2-contents rated power	Vol.%		7.1	6.7	6.6		
O2-contents partial load	Vol.%		11.0	12.4	13.4		
Reference 0% O2 dry (theoretic)							
NOx rated power	ppm		150.5	164.7	174.2		
NOx partial load	ppm		121.2	132.6	140.1		
NOx rated power	mg/kWh		286	313	331		
NOx partial load	mg/kWh		230	252	266		
Reference 10% O2 dry (EN303-5)							
CO rated power	mg/m ³		41.4	54.5	63.3		
CO partial load	mg/m ³		151.5	169	180.5		
OGC rated power	mg/m ³		1	1	1		
OGC partial load	mg/m ³		2	2	2		
dust rated power	mg/m ³		17.2	18	18.5		
NOx rated power	ppm		77.9	85.3	90.2		
NOx partial load	ppm		62.7	68.6	72.5		
NOx rated power	mg/kWh		286	313	331		
NOx partial load	mg/kWh		230	252	266		
Reference 13% O2 dry (Wieselburg)							
CO rated power	mg/m ³		30.1	39.5	45.8		
CO partial load	mg/m ³		110	122.5	130.8		
OGC rated power	mg/m ³		1	1	1		
OGC partial load	mg/m ³		1	1.5	1.7		
dust rated power	mg/m ³		10.2	13	13.5		
NOx rated power	ppm		57.2	62.6	66.2		
NOx partial load	ppm		46.1	50.4	53.3		
NOx rated power	mg/kWh		286	313	331		
NOx partial load	mg/kWh		230	252	266		

			PES36	PES48	PES56	(PE64)	
Accord. to § 15a BVG Österreich							
CO rated power	mg/MJ		19.1	26	30.0		
CO partial load	mg/MJ		71.8	80	85.5		
NOx rated power	mg/MJ		79.5	87	92		
NOx partial load	mg/MJ		64	70	74		
NOx rated power	mg/kWh		286	313	331		
NOx partial load	mg/kWh		230	252	266		
OGC rated power	mg/MJ		<1	<1	<1		
OGC partial load	mg/MJ		1	1	1		
dust rated power	mg/MJ		8.1	8.5	8.8		

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*) Intermeditate sizes accord. to ÖNORM EN303-5 Pkt.5.1.3.1.- values middled
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