

NEW RELEASE



INNOVENS PRO MCA 45-115
from 8.9 to 114 kW (76-98.0 Mcal/h)

Wall-hung gas condensing boilers

P. 2



INNOVENS PRO MCA 45-115 CASCADE SYSTEMS
from 80 to 428 kW (68.8-368 Mcal/h)

Complete cascade systems
for 2 to 4 MCA 45, 65, 90 or 115 boilers

P. 6

Provide a solution to every customer



SOLAR
SOLID FUEL
HEAT PUMPS
CONDENSING BOILERS

FROM 7.6 TO 98.0 Mcal/h
FROM 8.9 TO 114 kW
 for chimney connection or forced flue

INNOVENS PRO

MCA 45, MCA 65, MCA 90, MCA 115

INNOVENS
 "RESIDENTIAL
 OUTPUTS"
 see page 74
 of the product
 catalogue 2010

Wall-hung gas condensing boiler for heating



- Wall-hung gas condensing boiler
- Equipped to operate on natural gases and can be converted to propane
- Gas supply pressure: 20 mbar
- Forced flue or chimney connection
- **Annual operating efficiency up to 110%**
- Low pollutant emissions: NO_x < 37 mg/kWh for MCA 45, 32 mg/kWh for MCA 65, 45 mg/kWh for MCA 90 and 46 mg/kWh for MCA 115
- **Monoblock heating body in aluminium/silicium**
- Gas premix burner in stainless steel with a surface in woven metallic fibres, modulating from 18 to 100% of output
- Fan with air intake silencer
- Delivered with integrated automatic air vent, run-off siphon

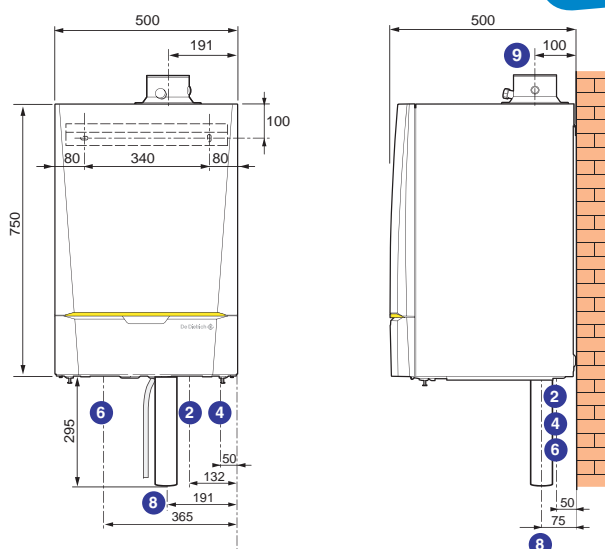
- **Choice of one of the following two control panels:**
- **DIEMATIC iSystem:** control panel to control and regulate up to 3 heating circuits + 1 DHW circuit, depending on optional equipment connected, according to the outside temperature. It can also be used to optimise management of combined control system associated with boilers with IniControl (even DIEMATIC iSystem) and control cascades of 2 to 10 boilers.
- **iniControl:** for operation either according to outside temperature (sensor optional), or through the 0-10 V contact fitted to this panel as standard. It can also be used as a secondary boiler as part of a cascade installation controlled by a boiler with the DIEMATIC iSystem control panel or in a cascade system in which each boiler is controlled in 0-10 V.

(see page 4).
Packaging: 2 packages

Wall-hung condensing gas solution, high performance for small collective and tertiary application

MAIN DIMENSIONS (mm and inches)

- ② Heating flow R1 1/4
- ④ Gas inlet R 3/4
- ⑥ Heating return R 1 1/4
- ⑧ Condensates drain (siphon and flexible drain Ø 25 mm ext provided)
- ⑨ Air/flue gas connection Ø 80/125 mm for MCA 45 Ø 100/150 mm for MCA 65, MCA 90 and MCA 115



MCA_F0048

TECHNICAL SPECIFICATIONS

Condensing

Min. outlet temperature: 20°C
 Min. return temperature: 20°C

- Max. operating temperature: 90°C
 - Max. operating pressure: 4 bar

Protection index: IPXD4D
 Power supply: 230 V/50 Hz

Classification:
 B_{23P} C_{13X} C_{33X} C_{93X} C₅₃

Boiler type	MCA	45	65	90	115
Nominal output at Pn (50/30°C)	kW	43	65	89.5	114
Efficiency at ...%	{ - 100% average temp. 70°C 100% return temp. 30°C 30% return temp. 30°C	%	97.2	98.3	97.9
output and ...°C		%	102.9	104.6	104.1
water temp.		%	107.7	108.9	108.1
Water flow at Δt = 20 K	m ³ /h	1.72	2.62	3.62	4.60
Auxiliary electrical power at Pn/Pmin (without circul. pump)	W	68/18	88/23	125/20	199/45
Min./max. useful output at 50/30°C	kW	8.9-43	13.3-65.0	15.8-89.5	18.4-114
Min./max. useful output at 80/60°C	kW	8-40	12-61	14.1-84.2	16.6-107
Min./max. flue gas mass flow rate	kg/h	14/69	21/104	28/138	36/178
Flue gas pressure available	Pa	150	100	160	220
Water content	l	5.5	6.5	7.5	7.5
Minimum water flow	m ³ /h	0.4	0.4	0.4	0.4
Water resistance at Δt = 20 K	mbar	90	130	140	250
Gas flow { - natural gas H	m ³ /h	4.4	6.6	9.1	11.7
(15 °C-1013 mbar) { - propane	m ³ /h	1.7	2.5	3.5	4.7
Net weight	kg	53	60	68	69

Model	MCA	45	65	90	115
MCA... iSystem	Ref.	100016199	100016200	100016201	100016202
MCA... iniControl	Ref.	100016195	100016196	100016197	100016198

NB: These boilers have been designed, tested and certified with the flue systems offered in our catalogue, pursuant to the requirements of standard EN 483 covering central heating boilers using gaseous fuels.
 We guarantee the safety and correct operation of our boilers as long as they are installed with the certified flue systems under the conditions recommended in our technical documentation.

OPTIONS: see page 3, **SYSTEMS CASCADES:** see pages 6-7, **FLUE SYSTEMS:** see page 8 and chapter 17 of the product catalogue 2010

OPTIONS

FOR INNOVENS PRO MCA 45 TO 115

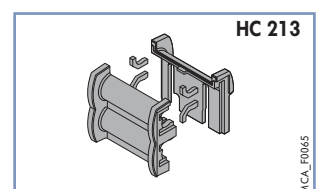
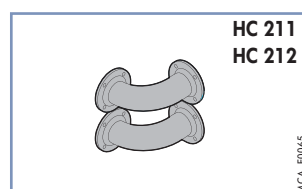
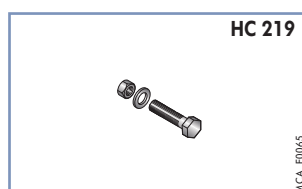
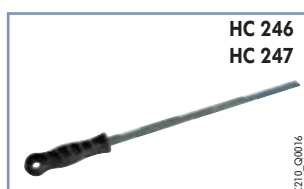
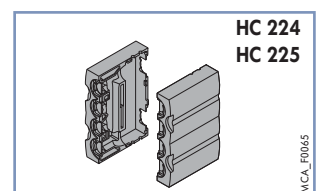
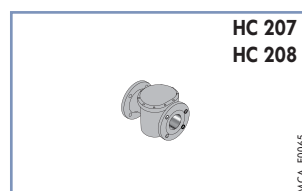
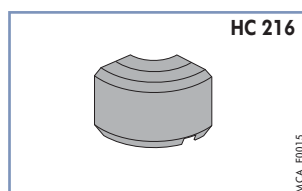
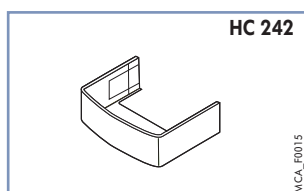
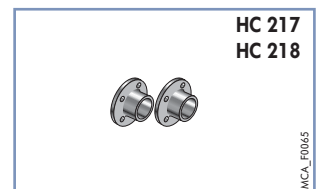
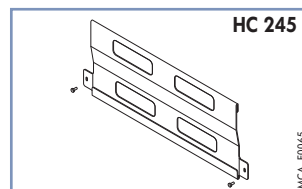
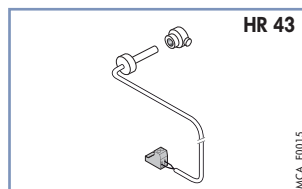
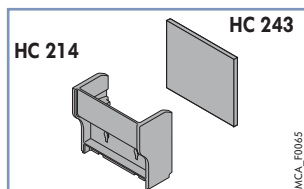
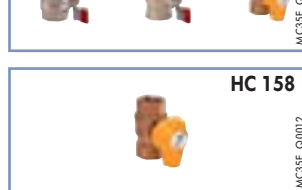
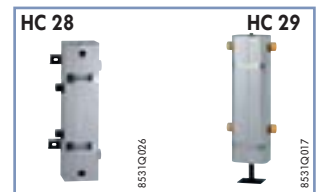
ALL OPTIONS EXCEPT CONTROL UNITS OPTIONS

DESCRIPTION	PACKAGE	REF.
Hydraulic connection kit	HC 139	100002310
Pipe cover	HC 242	S101539
Insulation for hydraulic boiler connection kit	HC 252	122441
Rear insulation for hydraulic boiler connection kit	HC 243	123182
Flue gas thermostat	HR 43	S100310
3-stage heating pump for		
- MCA 45	HC 141	100002312
- MCA 65	HC 143	100002314
- MCA 90/MCA 115	HC 145	100002316
Electronic heating pump of class A for MCA 45	HC 142	100002313
Primary pump for MCA 45-65, 90-115	HC 147	100002323
Motorized 3 way valve	HC 15	85317005
Right gas tap 3/4" MCA 45 to 115	HC 158	100004641
HW PLUS 70 decoupling cylinder	HC 28	85317018
HW 200 decoupling cylinder	HC 29	85317019
Neutralisation station (without pump)	HC 33	85317023
Wall bracket for neutralisation station	HC 34	85317024
Neutralisation granules 2 kg	HC 35	85317025
Condensates neutralisation system with lift pump		
- boiler up to 120 kW	DU 13	83877009
- from 120 to 350 kW	DU 14	83877010
- from 350 to 1300 kW	DU 15	83877011
Neutralisation granules 10 kg for DU 13, 14 and 15*	-	94225601
Cleaning tool boiler body MCA 45/65	HC 246	S52484
Cleaning tool boiler body MCA 90/115	HC 247	S58286
Adapter bi-flow 2 x Ø 80 mm	DY 906	S100762
Adapter bi-flow 2 x Ø 100 mm	DY 907	S101626

* To order at the spare parts department

DESCRIPTION (cascade installations)	PACKAGE	REF.
MCA mounting rail on an existing MC cascade system ("LV" and "RG" alignment only)	HC 245	S101463
Gas filter Ø 50 mm	HC 207	111779
Set of elbows Ø 65 mm	HC 209	111788
Extension pipe for gas filter Ø 50 mm	HC 211	111805
Collector insulation	HC 213	111069
Insulation for hydraulic boiler connection kit	HC 252	122441
Rear insulation for hydraulic boiler connection kit	HC 243	123182
Decoupling cylinder insulation < 350 kW	HC 224	115269
Decoupling cylinder insulation > 350 kW	HC 215	111067
Insulation 90° elbow	HC 216	111167
Set of counter flanges to be welded Ø 65 mm	HC 217	112632
Adjustable foot	HC 219	111807
For cascade of 428 to 1070 kW:		
Gas filter Ø 65 mm	HC 208	111780
Set of elbows Ø 100 mm	HC 210	111790
Extension pipe for gas filter Ø 65 mm	HC 212	111806
Set of counter flanges to be welded Ø 100 mm	HC 218	112633

DHW PRODUCTION	PACKAGE	REF.
With solar calorifier	see chapter 1 and 10 of the product catalogue 2010	
With independent water calorifier	see chapter 19 of the product catalogue 2010	
DHW temperature sensor	AD 212	100000030
MCA 45 to 115/BL..., BP..., BSC and DT connecting kit	EA 121	100007827


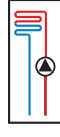
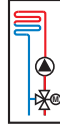
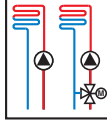
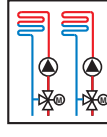
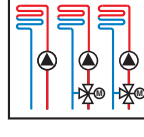
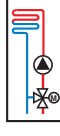
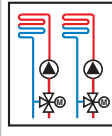


OPTIONS

FOR INNOVENS PRO MCA 45 TO 115

CONTROL UNITS OPTIONS

CHOICE OF OPTIONS ACCORDING TO THE CONTROL PANEL TYPE AND THE CONNECTED CIRCUITS

Circuit type	Boiler self-standing or boiler 1 of a cascade						Boiler 2 to 10 of a cascade for additional boiler (2)	
	 DHW	 direct	 valve	 direct + 1 valve	 2 x valve	 direct + 2 x with valve	 valve	 2 x with valve
INNOVENS PRO MCA 45 to 115 with control panel:								
iniControl	+ 1 x AD 212	as standard (1)	no	no	no	no	no	no
DIEMATIC iSystem (3)	+ 1 x AD 212	as standard	1 x AD 199	1 x AD 199	1 x AD 199 + 1 x AD 249	1 x AD 199 + 1 x AD 249	<ul style="list-style-type: none"> • With iniControl control panel no	<ul style="list-style-type: none"> • With DIEMATIC iSystem control panel (2) 1 x AD 199

DESCRIPTION	PACKAGE	REF.	DESCRIPTION	PACKAGE	REF.
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<ul style="list-style-type: none"> • for DIEMATIC iSystem control panel: 			<ul style="list-style-type: none"> • for iniControl control panel 		
CDI D. iSystem remote control	AD 254	100013309	Outside temperature sensor	FM 46	85757741
Radio remote control CDR D. iSystem module (without radio transmitter/receiver)	AD 253	100013308	DHW temperature sensor	AD 212	100000030
Room temperature sensor	AD 244	100012044			
Radio outside temperature sensor	AD 251	100013306			
Boiler radio module (transmitter/receiver)	AD 252	100013307			
Simplified remote control + room sensor	FM 52	85757747			
PCB + sensor for mixing valve	AD 249	100013304			
Simplified remote control + room sensor	FM 52	85757747			
Sensor for mixing valve	AD 199	88017017			
DIEMATIC BUS connection cable (12 m)	AD 134	88017851			
DHW sensor	AD 212	100000030			
Sensor for storage tank	AD 250	100013305			

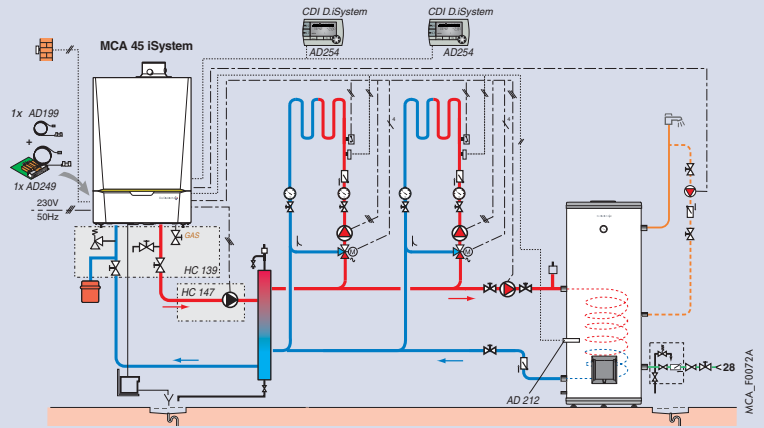
(1) + Package FM 46 (outside temperature sensor) to control an installation of a single boiler according to the outside temperature. Without outside temperature sensor, the MCA... iniControl boilers used as single boiler or as part of a cascade installation, will be connected through the 0-10 V contact.

(2) According to the number of heating circuits to be connected, it will be necessary to insert 1 or more MCA... iSystem slave boilers in the cascade, the other boilers of the cascade being fitted with the iniControl control panel.

(3) Each of the circuits "heating" can be completed in choice by a remote control AD 254, AD 252/253, FM 52 or room sensor AD 244.

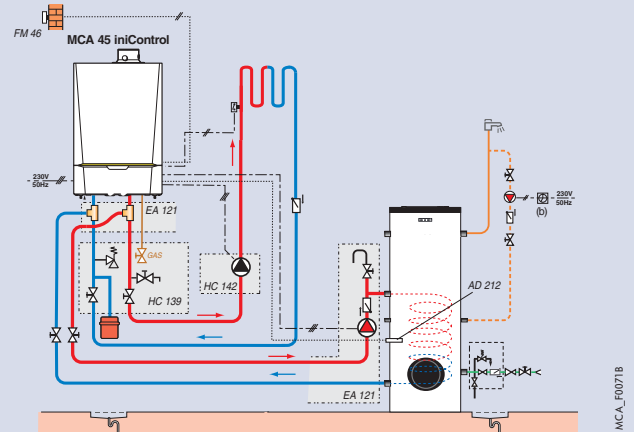
EXAMPLES OF INSTALLATIONS FOR INNOVENS PRO MCA 45 TO 115

INNOVENS PRO MCA... iSystem
- 2 circuits with mixing valve
- 1 DHW calorifier



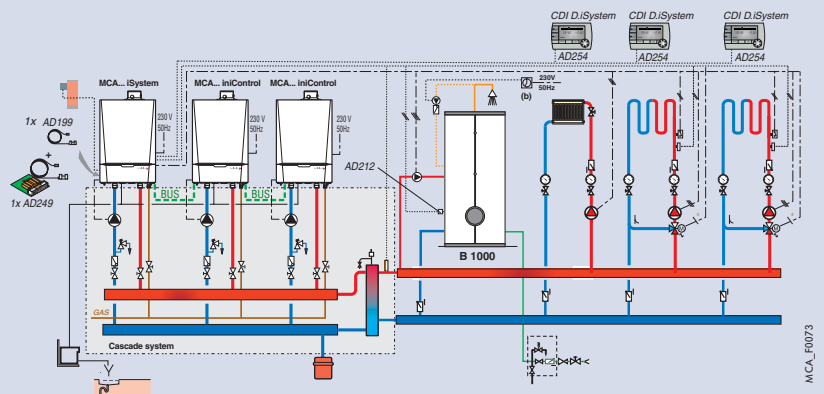
DESCRIPTION	PACKAGE	REF.
Boiler MCA 45 iSystem	-	100016199
1 x Sensor for mixing valve	AD 199	88017017
1 x PCB + sensor for mixing valve	AD 249	100013304
DHW calorifier BP 400	EC 403	100006734
DHW temperature sensor	AD 212	100000030
Options		
Hydraulic connection kit MCA 45	HC 139	100002310
Primary pump	HC 147	100002323
2 x CDI D. iSystem remote control	2 x AD 254	2 x 100013309

INNOVENS PRO MCA... iniControl
- 1 direct circuit
- 1 DHW calorifier



DESCRIPTION	PACKAGE	REF.
Boiler MCA 45 iniControl	-	100016195
DHW calorifier BL 400	EC 444	100013064
MCA.../BP, BL... connecting kit	EA 121	100007827
DHW temperature sensor	AD 212	100000030
Outside temperature sensor	FM 46	85757741
Options		
Hydraulic connection kit MCA 45	HC 139	100002310
Electronic heating pump for MCA 45	HC 142	100002313

1 x INNOVENS PRO MCA... iSystem
2 x INNOVENS PRO MCA... iniControl
- 1 direct circuit
- 2 circuits with mixing valve
- 1 DHW calorifier



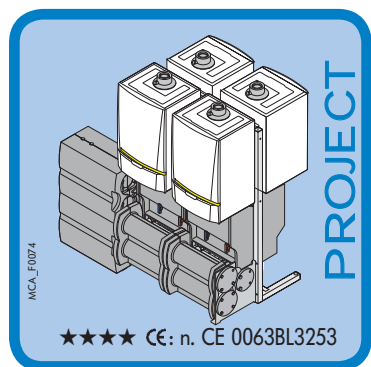
DESCRIPTION	PACKAGE	REF.
1 x boiler MCA 45 iSystem	-	100016199
2 x boiler MCA 45 iniControl	-	2 x 100016195
1 x Sensor for mixing valve	AD 199	88017017
1 x PCB + sensor for mixing valve	AD 249	100013304
Cascade system for 3 boilers MCA 45 wall-hung alignment	-	LW.0120kW.3000
DHW calorifier B 1000	-	89759841
DHW temperature sensor	AD 212	100000030
Options		
3 x CDI D. iSystem	3 x AD 254	3 x 100013309

FROM 68.8 TO 368 McAL/H
FROM 80 TO 428 kW

INNOVENS PRO

MCA 45, 65, 90 OR 115 CASCADE SYSTEMS

Complete cascade systems for 2 to 4 MCA 45, 65, 90 or 115 boilers



MCA 45 to 115 cascade systems are available in 3 versions:

- **LW**: for wall-hung alignment of the boilers
- **LV**: for floor-standing alignment of the boilers
- **RG**: for back to back assembly of the boilers

These systems include:

- the decoupling cylinder
- the boiler connection collector including the heating flow and return connection pipes Ø 65 mm, the gas connection pipes Ø 50 mm and the flanges
- the primary injection pumps
- the boiler connection kits including the outlet valve, the multi-function return valve (with filling and draining valve, gate valve, non-return valve, safety valve and connection for the expansion vessel), and the gas valve
- the wall assembly rail for LW versions or, for LV and RG versions, the corner support structures with the boiler

assembly frame

- the outlet sensor + sensor tube and the inter-boiler BUS connection cable

Nota: the boilers should be ordered separately

Options:

- insulating shells
- connecting flanges...

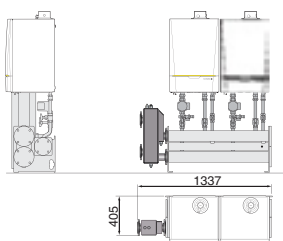
(see page 3)

The modularity in answer to high output

"CASCADE" COMBINATIONS DEPENDING ON THE TOTAL REQUIRED OUTPUT (2)

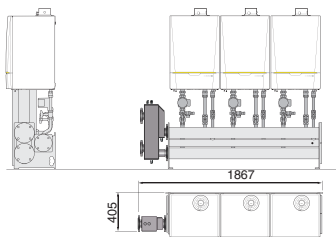
- Wall-hung alignment: "LW"

• 2 boilers



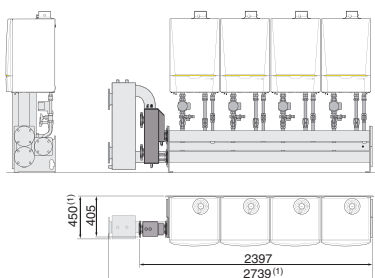
Output (80/60°C) kW	Boiler type				Water flow Δt = 20 K m³/h	Designation and REF. (*)
	MCA 45	MCA 65	MCA 90	MCA 115		
080	2	0	0	0	3.43	LW.0080kW.2000
122	0	2	0	0	5.23	LW.0122kW.0200
168	0	0	2	0	7.20	LW.0168kW.0020
214	0	0	0	2	9.17	LW.0214kW.0002

• 3 boilers



Output (80/60°C) kW	Boiler type				Water flow Δt = 20 K m³/h	Designation and REF. (*)
	MCA 45	MCA 65	MCA 90	MCA 115		
120	3	0	0	0	5.14	LW.0120kW.3000
183	0	3	0	0	7.84	LW.0183kW.0300
252	0	0	3	0	10.80	LW.0252kW.0030
321	0	0	0	3	13.76	LW.0321kW.0003

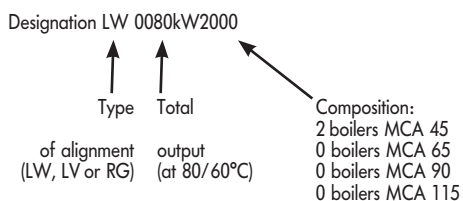
• 4 boilers



Output (80/60°C) kW	Boiler type				Water flow Δt = 20 K m³/h	Designation and REF. (*)
	MCA 45	MCA 65	MCA 90	MCA 115		
160	4	0	0	0	6.86	LW.0160kW.4000
244	0	4	0	0	10.46	LW.0244kW.0400
336	0	0	4	0	14.40	LW.0336kW.0040
428 (1)	0	0	0	4	18.34	LW.0428kW.0004

(*) except insulating shells
(1) with decoupling cylinder > 350 kW

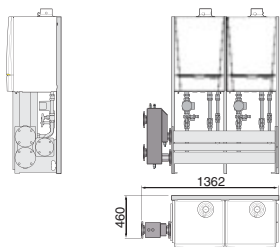
Caption:



"CASCADE" COMBINATIONS DEPENDING ON THE TOTAL REQUIRED OUTPUT (2)

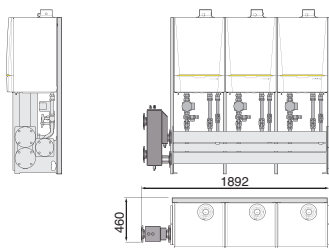
- Floor-standing alignment: "LV"

• 2 boilers



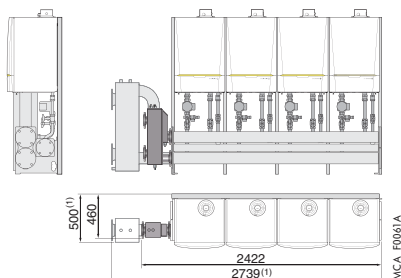
Output (80/60°C) kW	Boiler type				Water flow $\Delta t = 20\text{ K}$ m ³ /h	Designation and REF. (*)
	MCA 45	MCA 65	MCA 90	MCA 115		
80	2	0	0	0	3.43	LV.0080kW.2000
122	0	2	0	0	5.23	LV.0122kW.0200
168	0	0	2	0	7.20	LV.0168kW.0020
214	0	0	0	2	9.17	LV.0214kW.0002

• 3 boilers



Output (80/60°C) kW	Boiler type				Water flow $\Delta t = 20\text{ K}$ m ³ /h	Designation and REF. (*)
	MCA 45	MCA 65	MCA 90	MCA 115		
120	3	0	0	0	5.14	LV.0120kW.3000
183	0	3	0	0	7.84	LV.0183kW.0300
252	0	0	3	0	10.80	LV.0252kW.0030
321	0	0	0	3	13.76	LV.0321kW.0003

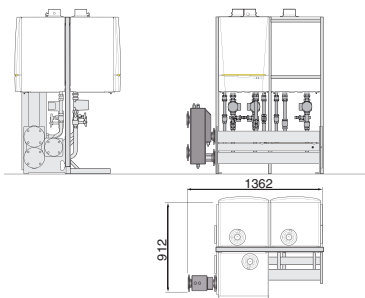
• 4 boilers



Output (80/60°C) kW	Boiler type				Water flow $\Delta t = 20\text{ K}$ m ³ /h	Designation and REF. (*)
	MCA 45	MCA 65	MCA 90	MCA 115		
160	4	0	0	0	6.86	LV.0160kW.4000
244	0	4	0	0	10.46	LV.0244kW.0400
336	0	0	4	0	14.40	LV.0336kW.0040
428 (1)	0	0	0	4	18.34	LV.0428kW.0004

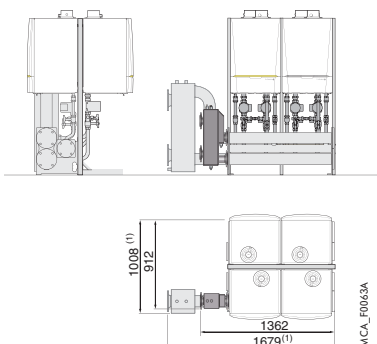
- back to back alignment: "RG"

• 3 boilers



Output (80/60°C) kW	Boiler type				Water flow $\Delta t = 20\text{ K}$ m ³ /h	Designation and REF. (*)
	MCA 45	MCA 65	MCA 90	MCA 115		
120	3	0	0	0	5.14	RG.0120kW.3000
183	0	3	0	0	7.84	RG.0183kW.0300
252	0	0	3	0	10.80	RG.0252kW.0030
321	0	0	0	3	13.76	RG.0321kW.0003

• 4 boilers



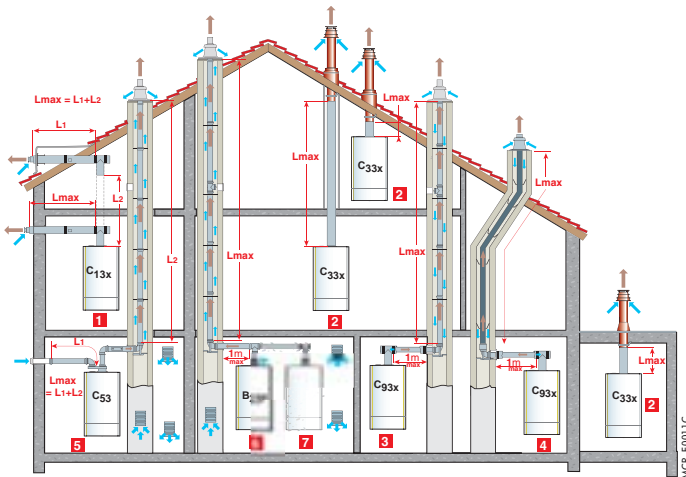
Output (80/60°C) kW	Boiler type				Water flow $\Delta t = 20\text{ K}$ m ³ /h	Designation and REF. (*)
	MCA 45	MCA 65	MCA 90	MCA 115		
160	4	0	0	0	6.86	RG.0160kW.4000
244	0	4	0	0	10.46	RG.0244kW.0400
336	0	0	4	0	14.40	RG.0336kW.0040
428 (1)	0	0	0	4	18.34	RG.0428kW.0004

(*) except insulating shells
 (1) with decoupling cylinder > 350 kW

(2) Important: boiler cascade of up to 1070 kW: consult us

OPTIONS: see page 3

FLUE SYSTEMS FOR INNOVENS PRO



CLASSIFICATION

- 1 **Classification C_{13x}**: Air/flue gas connection through concentric pipes to a horizontal air/flue gas vent (so-called forced flue)
- 2 **Classification C_{33x}**: Air/flue gas connection through concentric pipes to a vertical air/flue gas vent (roof outlet)
- 3 **Classification C_{33x} (newly C_{93x})**: Air/flue gas connection using concentric pipes in the boiler room and single pipes in the chimney (combustive air in counter current in the chimney) or
- 4 Air/flue gas connection using concentric pipes in the boiler room and single "flex" pipes in the chimney (combustive air in counter current in the chimney)
- 5 **Classification C₅₃**: Separate air and flue gas connection using a bi-flow adapter and single pipes (combustive air taken from outside)
- 6 **Classification B_{23p}**: Connection to a chimney (combustive air taken from the boiler room).
- 7 **Classification B_{23p}**: for cascade installations

TABLE OF MAXIMUM AIR/FLUE GAS PIPE LENGTHS ADMISSIBLE ACCORDING TO BOILER TYPE

Type of air/flue gas connection			L _{max} : Maximum length of the connecting pipes in m				See page ... of th product catalogue 2010
			45	65	90	115	
		Ø ... mm					
Concentric pipes connected to a horizontal air/flue gas vent (PPS)	C _{13x}	80/125 110/150	16 -	- 9	- 8	- 5.9	191
Concentric pipes connected to a vertical air/flue gas vent (PPS)	C _{33x}	80/125 110/150	14.5 -	- 11.5	- 10	- 9.4	192
Pipes - concentric in the boiler room, - single in the chimney (combustive air in counter current) (PPS)	C _{93x} C _{33x}	80/125 80 110 110/150 110	15 25 -	- -	- -	- -	193
Pipes - concentric in the boiler room, - "flex" in the chimney (combustive air in counter current) (PPS)	C _{93x} C _{33x}	80/125 80 110/150 110	12 -	- 16.5	- 13.5	- 9.4	194
Bi-flow adapter and separate single air/flue gas pipes (combustive air taken from outside) (Aluminium)	C ₅₃	80/125 to 2x80 100/150 to 2x100	20.5 -	- 23	- 17.5	- 16	195
In the chimney (rigid or flex) (combustive air taken from the premises) (PPS)	B _{23p}	80 (rigid) 110 (rigid) 80 (flex) 110 (flex)	23.5 - 21 -	- 40 (1) - 29.5 (1)	- 40 (1) - 24	- 40 (1) - 17.5	196

Attention: **Maximum L** is measured by adding the lengths of the straight air/flue gas pipes and the equivalent lengths of the other sections:

- Ø 80 mm (Aluminium): 87° elbow: 1.2 m, 45° elbow: 0.9 m, inspection T: 2.8 m, straight inspection: 0.5 m
- Ø 100 mm (Aluminium): 87° elbow: 5 m, 45° elbow: 1.2 m, inspection T: 5.3 m, straight inspection: 0.5 m
- Ø 80/125 mm (PPS): 87° elbow: 1.5 m, 45° elbow: 1 m, inspection T: 2.6 m, straight inspection: 0.6 m, inspection elbow: 2 m
- Ø 80 mm (PPS): Inspection pipe for flex pipe: 0.3 m, 87° elbow: 1.9 m, 45° elbow: 1.2 m, 30° elbow: 0.4 m, 15° elbow: 0.2 m, inspection T: 4.2 m, straight inspection: 0.3 m, inspection elbow: 0.7 m
- Ø 110/150 mm (PPS): 87° elbow: 3.7 m, 45° elbow: 1 m, inspection T: 2.5 m, straight inspection: 1 m
- Ø 110 mm (PPS): 87° elbow: 4.9 m, 45° elbow: 1.1 m, inspection elbow: 4.8 m, Inspection pipe for flex pipe: 0.5 m

Important: Our gas- boilers have been designed, tested and approved using the air/flue gas pipes proposed in our catalogue, pursuant to the requirements of the prevailing NFEN 483 and XPD 35-430 standards. We guarantee the safety and correct operation of our boilers when they are installed with the approved flue systems and under the conditions recommended in our technical documentation.

- (1) **△**: Max. height in the flue pipe from the support elbow to the outlet musn't exceed:
 - 30 m for rigid PPS
 - 25 m for flex PPS
 In case of higher lengths, holding collars must be added by slices of 25 or 30 m.

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