

PROJECT



MCA\_Q0200

### Innovens Pro

MCA 160 from 34.7 to 161.6 kW



Excellent power/compactness ratio



- Wall-hung gas condensing boiler, equipped to operate on natural gasses and can be converted to propane.
- Gas supply pressure: 20/25 mbar
  - Low pollutant emissions: NOx < 39 mg/kWh
  - Monoblock heating body in aluminium/silicium
  - Gas premix burner in stainless steel modulating from 23 to 100% of output
  - Gas line with non return valve, fan with silencer at the air inlet, delivered with automatic air vent and run-off siphon.

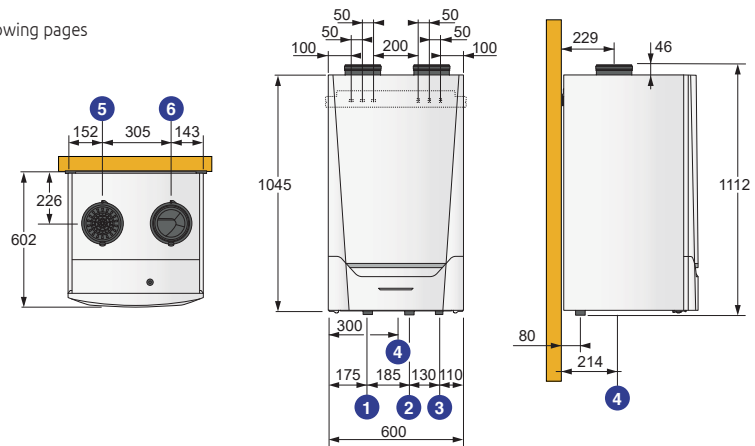
- Choice of 2 control panels:
  - DIEMATIC Evolution or IniControl 2: see regulation options.
- Packaging: 2 packages

N° CE 0063CQ3781

**OPTIONS:** see following pages/ **CASCADE SYSTEMS:** see following pages  
**FLUE SYSTEMS:** see chapter 16

#### MAIN DIMENSIONS (mm and inches)

- ① Heating return R 1" 1/4
- ② Heating flow R 1" 1/4
- ③ Gas inlet R 1"
- ④ Condensates drain (siphon provided)
- ⑤ Air inlet connection Ø 150 mm
- ⑥ Flue gas connection Ø 150 mm



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#### TECHNICAL SPECIFICATIONS

##### Condensing

Max. operating temperature: 90°C	• Power supply: 230 V/50 Hz	• NOx classification: 6	• Classification: B <sub>23P</sub> , B <sub>33</sub> , C <sub>13</sub> , C <sub>33</sub> , C <sub>43</sub> ,
Max. operating pressure: 4 bar	• Protection index: IP X1B		C <sub>53</sub> , C <sub>63</sub> , C <sub>83</sub> , C <sub>93</sub>

#### MODEL

	MCA	160
Nominal output	kW	161.6
Efficiency at. ...% water temp ...°C	%	97.5
	%	108.5
Useful efficiency at 100% of rated heat output	%	87.8
Useful efficiency at 30% of rated heat output	%	97.8
Stand-by losses at ΔT = 30 K	W	191
Auxiliary electrical power at Pn (without circul. pump)	W	275
Power consumption-standby		5
Min./max. useful output at 50/30°C	kW	34.7 - 161.6
Min./max. useful output at 80/60°C	kW	31.5 - 152.1
Flue gas pressure available	Pa	200
Water content	l	17
Minimum flow rate when working at 75°C	m <sup>3</sup> /h	0.4
Net weight	kg	147

#### MODEL

	MCA	160
MCA 160 DIEMATIC Evolution	Ref.	7674142
MCA 160 IniControl 2	Ref.	7674140

### INNOVENS PRO

MCA160 cascade systems from da 304 a 1 216 kW



- MCA 160 cascade systems are available in 3 versions
  - LW: for wall-mounted alignment of the constituent boilers,
  - LV: for floor-mounted alignment of the constituent boilers,
  - RG: for back-to-back floor-mounted alignment of the constituent boilers.
- These systems comprise:
  - the low-loss header,
  - the boiler connection manifold, comprising the heating return and flow connecting pipes, the gas connecting pipes,
  - the modulating primary injection pumps (EEL < 0.23),
- the boiler connection kits with the return valve, the multifunction flow valve (with the filling and drain valve, gate valve, non-return valve, safety valve and port for connecting to an expansion vessel), and the gas valve
- the wall mounting rail for the LW versions or the support uprights for LV and RG versions, with the boiler mounting frames.
- the flow sensor + pocket sensor and the BUS cables to connect the boilers.

NOTA: the boilers must be ordered separately  
 OPTIONS: see following pages



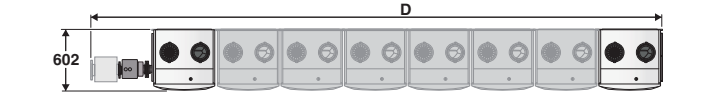
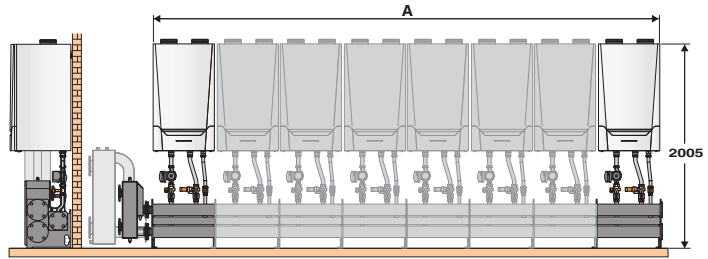
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OPTIONS: see following pages

#### CASCADE COMBINATIONS DEPENDING ON THE TOTAL REQUIRED OUTPUT (1)

##### - WALL-HUNG ALIGNMENT: "LW":

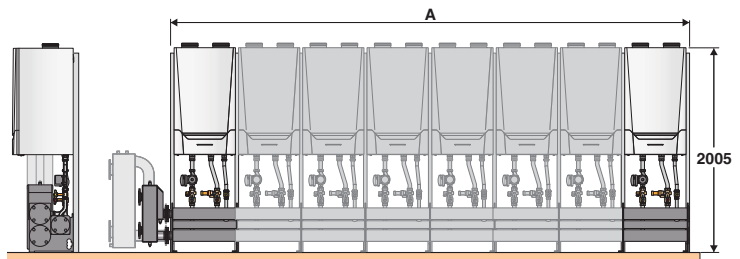
number of boiler	dimensions (mm)			
	A	D	Water Ø DN	Gas Ø DN
2 x MCA 160	1230	1621	65	65
3 x MCA 160	1860	2591	65	65
4 x MCA 160	2490	3153	100	65
5 x MCA 160	3120	3783	100	65
6 x MCA 160	3750	4413	100	65
7 x MCA 160	4380	5043	100	65
8 x MCA 160	5010	5673	100	65



number of boiler	OUTPUT (80/60°C) KW	WATER FLOW ΔT = 20 K m³/h	DESIGNATION AND REF. (*)
2	304	13,10	LW.0304kW.00002
3	456	19,65	LW.0456kW.00003
4	608	26,20	LW.0608kW.00004
5	760	32,75	LW.0760kW.00005
6	912	39,50	LW.0912kW.00006
7	1 064	45,85	LW.1064kW.00007
8	1 216	52,40	LW.1216kW.00008

##### - FLOOR-STANDING ALIGNMENT: "LV":

number of boiler	dimensions (mm)			
	A	D	Water Ø DN	Gas Ø DN
2 x MCA 160	1310	1671	65	65
3 x MCA 160	1940	2641	65	65
4 x MCA 160	2570	3203	100	65
5 x MCA 160	3200	3833	100	65
6 x MCA 160	3830	4463	100	65
7 x MCA 160	4460	5093	100	65
8 x MCA 160	5090	5723	100	65



number of boiler	OUTPUT (80/60°C) KW	WATER FLOW ΔT = 20 K m³/h	DESIGNATION AND REF. (*)
2	304	13,10	LV.0304kW.00002
3	456	19,65	LV.0456kW.00003
4	608	26,20	LV.0608kW.00004
5	760	32,75	LV.0760kW.00005
6	912	39,50	LV.0912kW.00006
7	1 064	45,85	LV.1064kW.00007
8	1 216	52,40	LV.1216kW.00008

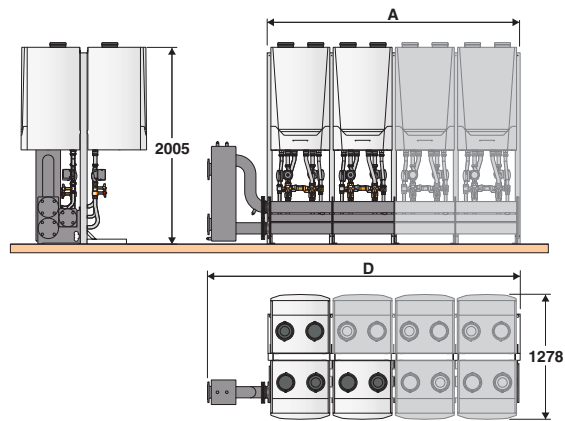
(\*) except insulating shells

(1) N.B.: For further details, measurements and technical data refer to the specific documentation

## CASCADE COMBINATIONS DEPENDING ON THE TOTAL REQUIRED OUTPUT (1)

- BACK TO BACK ALIGNMENT: "RG":

number of boiler	dimensions (mm)			
	A	D	Water Ø DN	Gas Ø DN
3 x MCA 160	1310	2011	65	65
4 x MCA 160	1310	1943	100	65
5 x MCA 160	1940	2573	100	65
6 x MCA 160	1940	2573	100	65
7 x MCA 160	2570	3203	100	65
8 x MCA 160	2570	3203	100	65



number of boiler	OUTPUT (80/60°C) KW	WATER FLOW $\Delta T = 20 K$ m <sup>3</sup> /h	DESIGNATION AND REF. (*)
3	456	19,65	RG.0456kW.00003
4	608	26,20	RG.0608kW.00004
5	760	32,75	RG.0760kW.00005
6	912	39,50	RG.0912kW.00006
7	1 064	45,85	RG.1064kW.00007
8	1 216	52,40	RG.1216kW.00008

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# OPTIONS

FOR INNOVENS PRO MCA 160

## ALL OPTIONS EXCEPT CONTROL UNITS OPTIONS

### ACCESSORIES

	PACKAGE	REF.
Hydraulic connection kit + gas valve MCA 160	EH680	<b>7637550</b>
Modulating primary heating pump MCA 160	EH651	<b>7637223</b>
Decoupling cylinder 120/80 - 2" (MCA 160)	GV47	<b>100019348</b>
Propane conversion kit	EH693	<b>7656909</b>
Gas pressure regulator:		
• GDJ 20 (from 150 to 340 kW) Ø 3/4"	SA12	<b>7628753</b>
• GDJ 25 (from 340 to 700 kW) Ø 1"	AD245	<b>100011223</b>
• GDJ 50 (from 700 to 1400 kW) Ø 2"	AD246	<b>88027177</b>
Gravity flow condensate neutralisation station DN 2.0 (up to 450 kW) MCA 160	SA3	<b>7613609</b>
Condensate neutralisation station with lift pump:		
• boiler up to 300 kW	SA4	<b>7613610</b>
• boiler up to 1300 kW	DU15	<b>83877011</b>
Granulate recharge for neutralisation station (10 kg)*	-	<b>94225601</b>
Granulate recharge for neutralisation station (25 kg)	SA7	<b>7613613</b>
Concentric air-flue gas connection conversion kit	EH692	<b>7619539</b>
Ø 150 to Ø 200 mm adapter	EH645	<b>7627596</b>
Air filter	EH646	<b>7624821</b>

\* To order at the spare parts department

### DHW PRODUCTION

	PACKAGE	REF.
With solar calorifier		see chapter 12
With independent water calorifier		see chapter 10
DHW temperature sensor	AD212	<b>100000030</b>
MCA 45 to 115/independent or solar calorifier kit	EA121	<b>100007827</b>

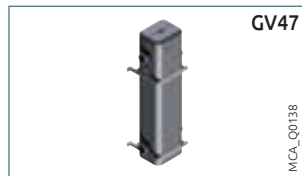
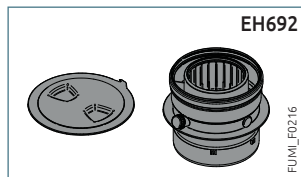
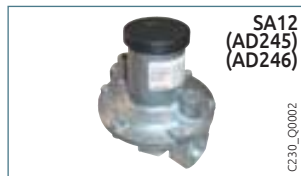
### ACCESSORIES

(CASCADE SYSTEMS)

	PACKAGE	REF.
Gas filter Ø 50 mm	HC255	<b>S101655</b>
Gas filter Ø 65 mm	HC256	<b>S101656</b>
Set of elbows Ø 65 mm	HC209	<b>111788</b>
Set of elbows Ø 100 mm	HC210	<b>111790</b>
Set of counter flanges to be welded Ø 65 mm	EH669	<b>7638518</b>
Set of counter flanges to be welded Ø 100 mm	HC218	<b>112633</b>
Manifold insulation	EH647	<b>7613401</b>
Boiler hydraulic connection kit insulation	HC648	<b>7611804</b>
Rear insulation for boiler connection kit	EH649	<b>7631858</b>
Decoupling cylinder insulation < 350 kW	HC224	<b>115269</b>
Decoupling cylinder insulation > 350 kW	HC215	<b>111067</b>
Insulation 90° elbow	HC216	<b>111167</b>
DN 65 to DN 100 flange adapter insulation	EH650	<b>7622201</b>
Adjustable foot	HC219	<b>111807</b>
S-BUS cable with plugs, 1.5 m	AD308	<b>7663618</b>
S-BUS cable with plugs, 12 m	AD309	<b>7663561</b>
S-BUS cable with plugs, 20 m	AD310	<b>7663619</b>


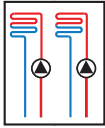


### BOILER ROOM EQUIPMENT

See chapter 17



## CONTROL UNITS OPTIONS

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

		Boiler self-standing or boiler 1 of a cascade						Boiler 2 to 8 of a cascade for additional boiler: (2)		
Circuit type		DHW	direct	valve	2 x valve	direct + 2 x valve	3 x valve	valve	2 x valve	3 x valve
		2 x direct	direct + 1 valve							
Innovens Pro MCA 160 with control panel		no	no	no	no	no	no	no	no	no
		1 x AD212	as standard (1)	1 x AD199	2 x AD199	1 x AD199 1 x AD249	2 x AD199 1 x AD249	no * with control panel DIEMATIC Evolution (2)	2 x AD199	2 x AD199 + 1 x AD249

(1) + Package FM46 (outside temperature sensor) to control an installation of a single boiler according to the outside temperature.

(2) According to the number of heating circuits to be connected, it will be necessary to insert 1 or more MCA... EVOLUTION slave boilers in the cascade, the other boilers of the cascade being fitted with the iniControl2 control panel.

(3) -The IniControl 2 panel is used:

- for the slave boilers in a cascade, managed with a master boiler equipped with a DIEMATIC Evolution control panel.
- for systems using the 0-10 V contact to a control cabinet in the boiler room,

#### DESCRIPTION

	PACKAGE	REF.
• For DIEMATIC Evolution control panel		
PCB + sensor for mixing valve	AD249	100013304
Room thermostat (wireless)	AD200	88017018
Non-programmable room thermostat	AD140	88017859
Sensor for mixing valve	AD199	88017017
DHW sensor	AD212	100000030
Cascade flow sensor or sensor for storage tank	AD250	100013305
Room thermostat:		
• programmable (wire)	AD137	88017855
• programmable (wireless)	AD200	88017018
• non-programmable	AD140	88017859

#### DESCRIPTION

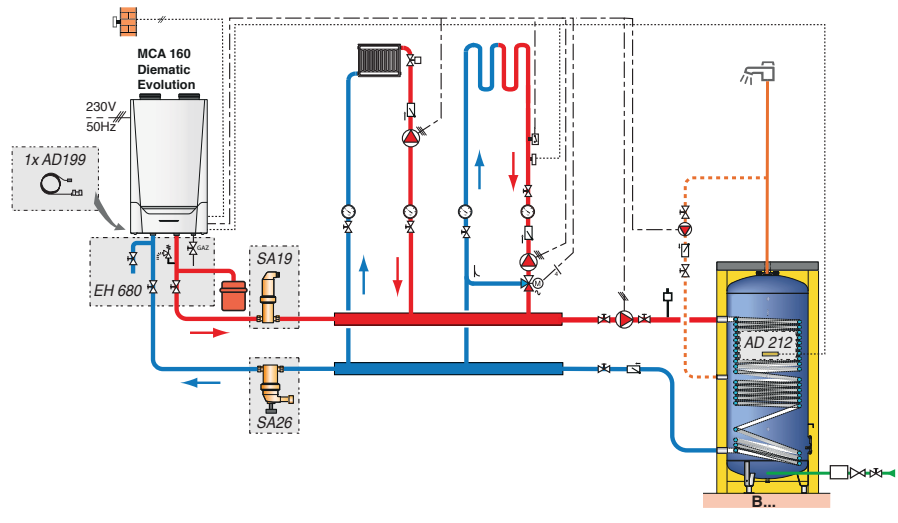
	PACKAGE	REF.
S-BUS cable:		
• with plug (1.5 m)	AD308	7663618
• with plug (12 m)	AD309	7663561
• with plug (20 m)	AD310	7663619
S-BUS plug	AD321	7688305
ModBus cable:		
• 1.5 m	AD124	88017836
• 12 m	AD134	88017851
• 40 m	DB119	81887720
Communication gateway GTW08 L-BUS-ModBus	AD332	7721982

AVAILABILITY JULY 2019

# EXAMPLES OF INSTALLATION

FOR INNOVENS PRO MCA 160

## Innovens Pro MCA 160 Diematic Evolution

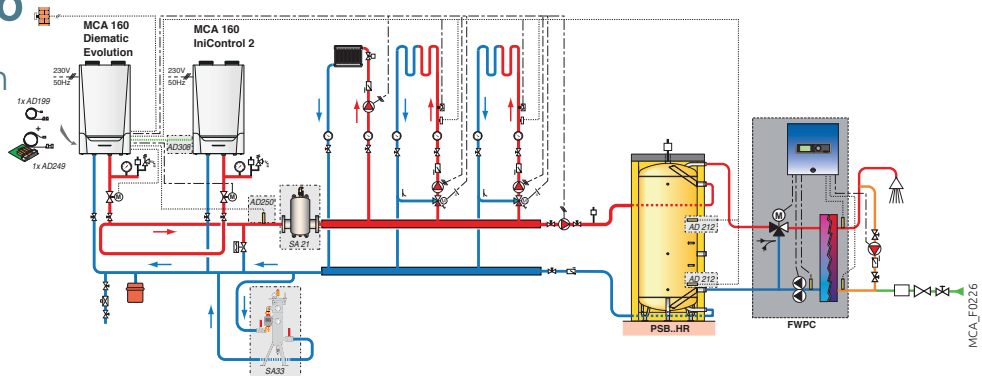


- 1 direct circuit
- 1 circuit with mixing valve
- 1 DHW calorifier

### DESCRIPTION

	PACKAGE	REF
Boiler MCA 160 DIEMATIC Evolution	-	7674142
Sensor for mixing valve	AD199	88017017
Calorifier B650 (tank)	AJ78	7650480
Rigid casing for B650	AJ94	7650496
DHW sensor	AD212	100000030
<b>Options</b>		
- Hydraulic connection kit + gas valve MCA	EH680	7637550
- Microbubble degasser Rp 2"	SA19	7650334
- Sludge separator Rp 2" (8.0 m³/h)	SA26	7650378

## Innovens Pro MCA 160 Diematic Evolution + MCA 160 IniControl 2



- 2 circuits with mixing valve
- 1 direct circuit
- 1 DHW circuit

### DESCRIPTION

	PACKAGE	REF
Boiler MCA 160 DIEMATIC Evolution	-	7674142
Boiler MCA 160 IniControl 2	-	7674140
Sensor for mixing valve	AD199	88017017
PCB + sensor for mixing valve	AD249	100013304
Plate exchanger for instant DHW FWPC 5037 - 350	EC771	7661873
Storage tank PSB 1000	AJ54	7650456
Rigid casing for PSB 1000	AJ89	7650491
2 x DHW sensor	2 x AD212	2 x 100000030
Cascade flow sensor	AD250	100013305
S-BUS cable with plugs, 1.5 m	AD308	7663618
<b>Options</b>		
- Microbubble degasser DN65	SA21	7650338
- Clarifier unit DN32 (4.0 m³/h)	SA33	7651695