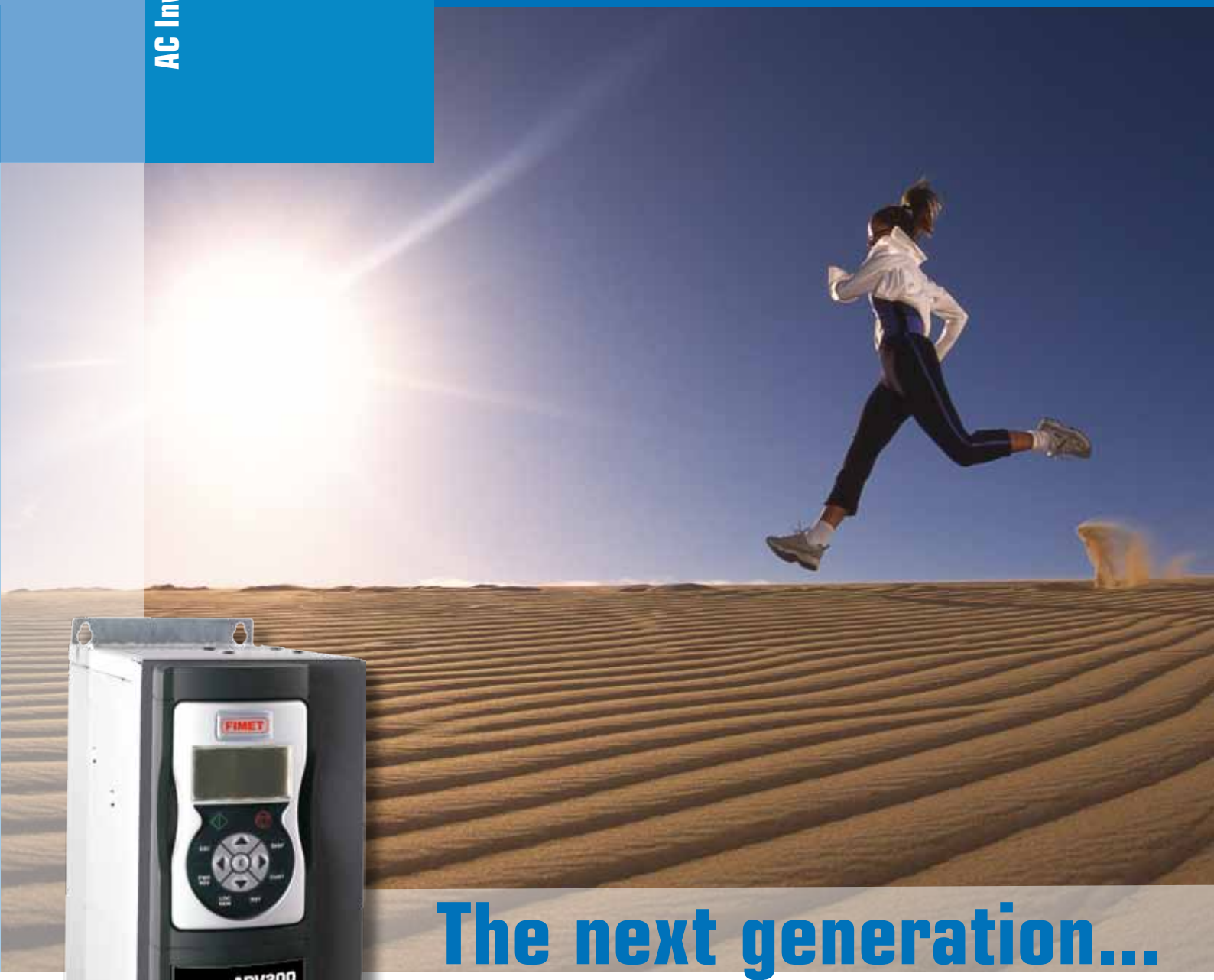
2010

AC Inverter • System series

FIMET

ADV200



The next generation...

English

ADV200

The "Powerful Platform" for advanced automation

The new inverter series "**ADV200**" represents an innovative concept in drive technology, as a result of the constant technological research and of the experience acquired keeping a constant presence aside that of the major sector players.

The new range has been engineered and developed to satisfy the real needs of System Integrators and OEM's in order to provide them the best innovations and economical competitiveness in the international markets.

Based on full mechanical modularity and on a powerful, intuitive and "fully open" programming platform, **ADV200** offers absolute integration flexibility with high-end performance in any system architectures of the most advanced automation environments.

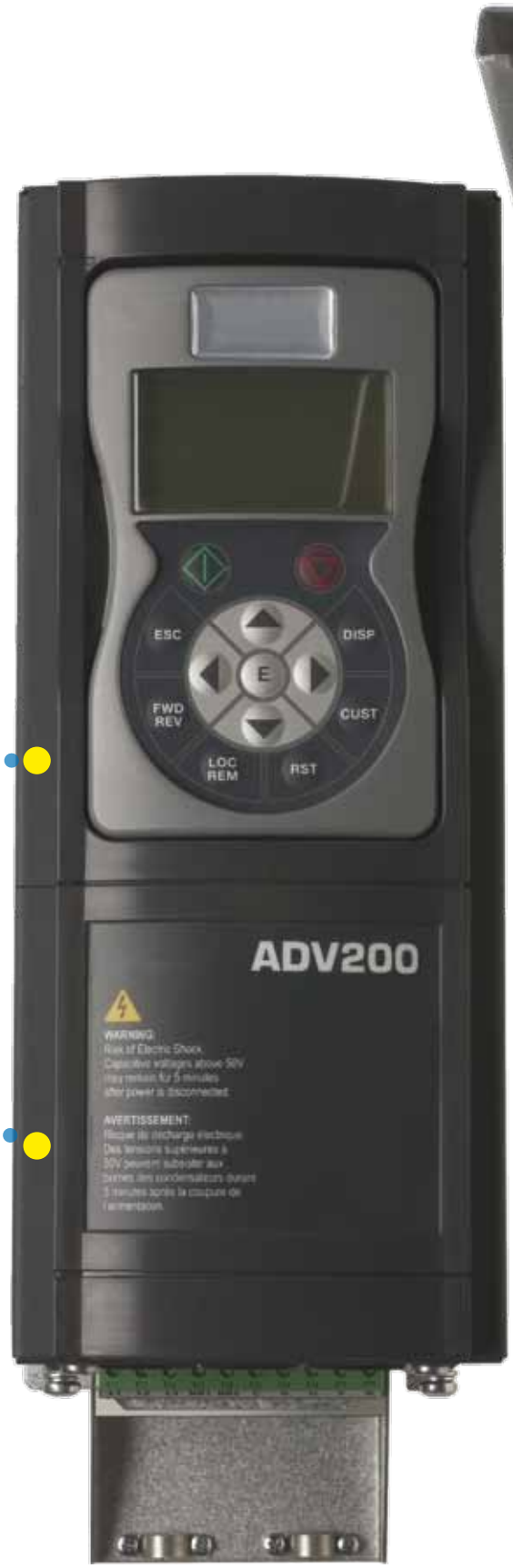
3 years Warranty

AC mains supply (V)	Power range ADV200 (kW)																								
	0.75	1.5	2.2	3.0	4.0	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	200	250	315	355	...
230																									
400	Size 1					Size 2			Size 3			Size 4			Size 5			Size 6			Size 7				
575																									
690																									

On progress powers up to 1.5MW.

Modularity

An innovative concept of integrated technology that offers full modularity. Mountable side by side and with accessories specifically dedicated to system solutions , **ADV200** has been engineered to make installation easy for any operator, both in existing systems and in specific machine solutions, always offering a real reduction of required space in the cabinet and the best manageability.



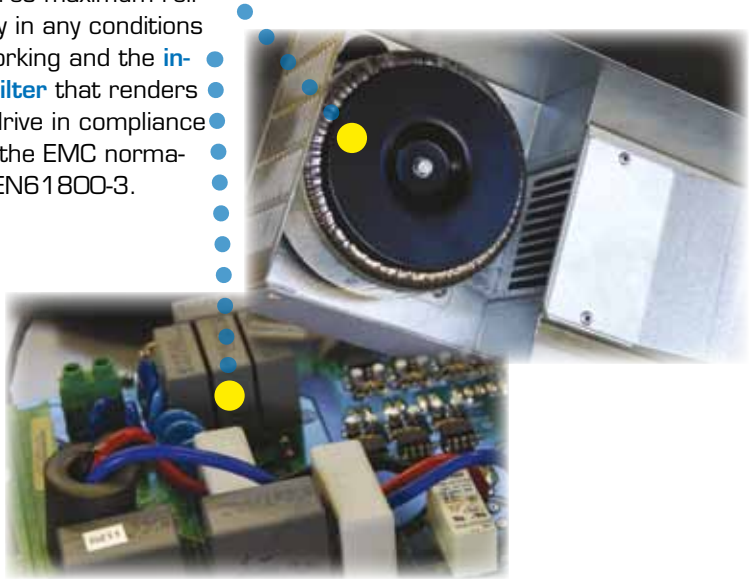
Fast Access

Structured to offer simple and fast management of the product in any situation of installation and mounting.

From the **terminal** access to the rack assembling of the **options**, each operation is quick and easy.

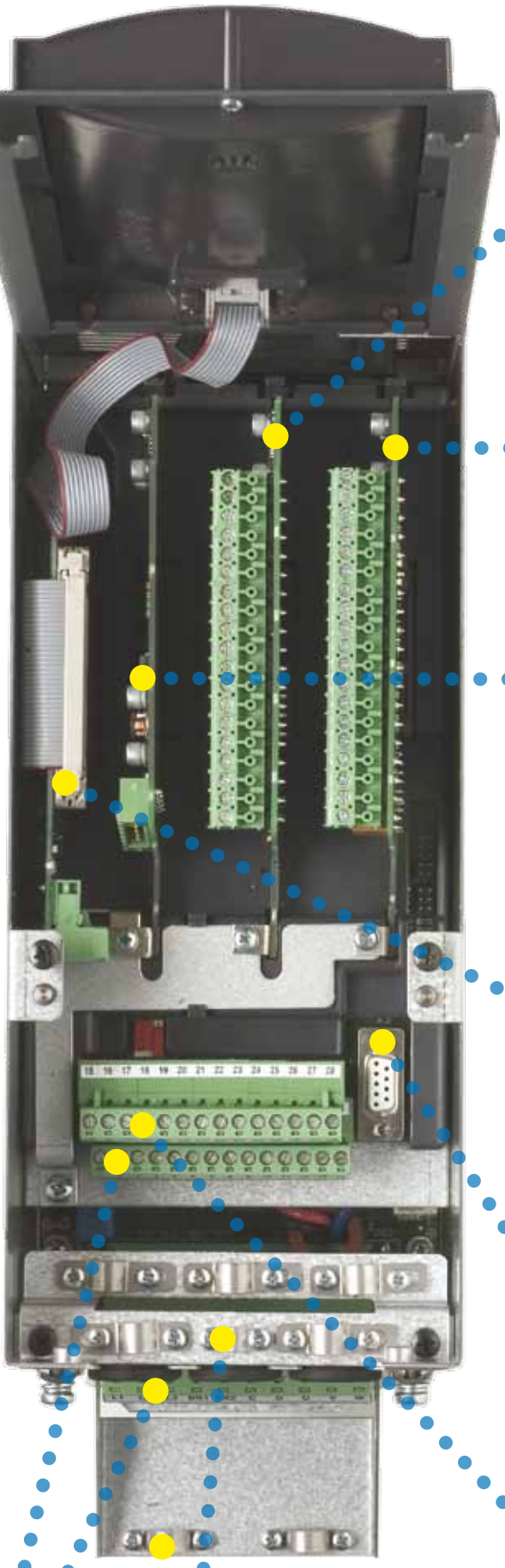
Integrated Quality

ADV200 **integrates** the fundamental devices for an absolute quality level, such as the **DC choke** that ensures maximum reliability in any conditions of working and the **input filter** that renders the drive in compliance with the EMC normative EN61800-3.



Smart Connections

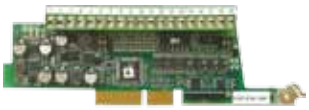
Dedicated accessories and fully removable terminals, ensure simple and fast installation and start-up in compliance with the EMC normative.



Options

ADV200 manages up to 3 option cards:

- **Encoder interface**



- **Fieldbus interface**

PROFIBUS DP DeviceNet CANopen GDNET

- **I/O expansions**

Safety Card

Integrated on board the drive as the 4th option, the **EXP- SFTy** card allows the motor to be disabled without the use of a safety contactor on the drive output. It guarantees compliance with the machine safety directive and meets the following standards:

- PL=d under EN ISO 13849-1
- SIL 2 under IEC 61508
- EN 954-1 Cat. 3.

Serial Line

Integrated standard RS485 serial line with **Modbus RTU** protocol, for peer-to-peer or multidrop connections (with **OPT-485-ADV** card).

Modbus

Back-Up Supply

ADV200 can be supplied through an external +24Vdc supply in order to be kept active in case of mains input loss, ensuring in this situation the operation of all monitoring functions, programming and any connected fieldbus network.

Cables shield

OMEGA clamp to grounding 360° of shielded cables.

Programming Software

Structured with 2 setting modes **Easy** and **Export**, to satisfy each level of user's skill and programming needs both for complex or easy installation.

A powerful platform but at the same time with a structure of menu/parameters that offers quick understanding, also facilitated by functionality of the keypad and the display.

Intuitive navigation and easy start-up function thanks to the "Wizard" tool.

ADV200 offers as standard 5 language programming (IT-ENG-FR-GER-SP) and the setup of "**customizable menu**"

Programming Keypad

The man/machine interface is simple, fast and very functional thanks to the programming keypad **KB_ADV.**

- 4 lines display for 25 characters
- Clear alphanumeric text
- Full information of any parameters
- Fast Navigating Keys
- Custom Menu recalling Key
- Upload - Download and storage of 5 complete sets of drive parameters
- Remotable up to 10 meters

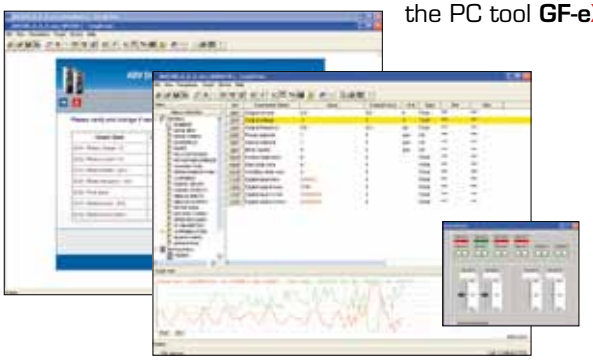
Advanced Development Environment "MDPLC"

The advanced environment MDPLC is an integrated tool for the development of sophisticated application solutions, downloadable directly into the drive control board.

The MDPLC structure is in compliance with all the PLC languages according to the international standard **IEC 61131-3**.

PC Configuration Tool "GF-eXpress"

All drives series and the automation devices (PLC, HMI, Instrumentation, etc) can be programmed by the use of the PC tool **GF-eXpress**.



- Programming through parameter list or block diagrams
- Modbus RTU interface
- Management of the file from the drive or the memory keypad
- Integrated oscilloscope
- Tool configurable in 5 languages.

Technical Data

Performance

ADV200 offers the most advanced control technology thanks to a powerful 32 bit microcontroller, able to provide high performances in terms of motor control and accuracy contemporary with the management of today's sophisticated application systems.

	Control mode	Speed regulation accuracy (*)	Control Range
⇨ Accuracy	• FOC with Speed feedback	± 0,01% Rated motor speed	1 : 1000
	• FOC open loop	± 30% Rated motor slip	1 : 100
(*) referred to standard 4 poles motor	• V/F	± 60% Rated motor slip	1 : 30

Standard Configuration Setting

⇨ KB_ADV programming keypad integrated	
⇨ Regulation Stage	• 2 Bipolar Analogue Inputs (Voltage/Current)
	• 2 Bipolar Analogue Outputs (1: Voltage/Current, 1: Voltage)
	• 6 Digital Inputs (PNP / NPN)
	• 2 Digital Outputs (PNP / NPN)
	• 2 Relay Outputs, single contact
	• RS485 Serial Line (Modbus RTU protocol)
⇨ Power Stage	• DC Choke integrated
	• EMC Filter integrated
	• Dynamic Braking Module integrated (up to 55kW)

Standards

⇨ Immunity / Emissions	CEE - EN 61800-3
⇨ Programming	according to IEC 61131-3
⇨ Safety standard	STO (Safe Torque Off): EN ISO 13849-1 PL=d, IEC 61508 SIL 2, EN 954-1 Cat. 3

Environmental Condition

⇨ Enclosures	IP20 (IP54 dedicated series)
⇨ Ambient temperature	-10°C ...+40°C, +40°C...+50°C with derating
⇨ Altitude	Max 2000 m (up to 1000 m without current limitation)

Approvals

CE	in compliance with CEE directives, for low voltage devices.
UL, c UL us	in compliance with American and Canadian market directives

Sizes - ADV		1007	1015	1022	1030	1040	2055	2075	2110	3150	3185	3220	4300	4370	4450	5550	5750	5900	61100	61320	71600	72000	72500	73150	73550
ULN AC input voltage	VAC	400 VAC -15% ... 480 VAC +10%, 3 ph																							
AC input frequency	Hz	50/60 Hz, ± 5%																							
• CT : Costant Torque (150% overload)																									
AC Input Current for continuous service	A	2.1	3.7	4.9	6.5	8.1	11.1	14	19.6	26.4	32.3	39	53	64	74	100	143	171	200	238	300	350	420	580	640
Inverter Output for continuous service	kVA	1.7	3	4	5.3	6.6	9	11.4	15.9	21.5	26.3	32	43	52	60	73	104	125	145	173	208	267	319	409	450
PN mot (Recommended motor output, fSW = default):																									
@ ULN = 400 VAC	kW	0.75	1.5	2.2	3	4	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	200	250	315	355
@ ULN = 460 VAC	Hp	1	2	3	5	5	7.5	10	15	20	25	30	40	50	60	75	100	125	150	175	200	250	300	400	450
I2N Rated Output current:																									
@ ULN = 400 VAC	A	2.5	4.3	5.8	7.6	9.5	13	16.5	23	31	38	46	62	75	87	105	150	180	210	250	300	385	460	590	650
@ ULN = 460 VAC	A	2.3	3.9	5.2	6.8	8.6	11.7	14.9	20.7	27.9	34.2	41.4	55.8	67.5	78	94.5	135	162	189	225	270	347	414	531	585
• VT : Variable Torque (110% overload)																									
AC Input Current for continuous service	A	3.7	4.9	6.5	8.1	11.1	14	19.6	26.4	32.3	39	53	64	74	89	143	171	200	238	285	350	420	540	640	710
Inverter Output for continuous service	kVA	3	4	5.3	6.6	9	11.4	15.9	21.5	26.3	32	43	52	60	73	104	125	145	173	208	267	319	409	450	506
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@ ULN = 460 VAC	Hp	2	3	5	5	7.5	10	15	20	25	30	40	50	60	75	100	125	150	175	200	250	300	400	450	500
I2N Rated Output current:																									
@ ULN = 400 VAC	A	4.3	5.8	7.6	9.5	13	16.5	23	31	38	46	62	75	87	105	150	180	210	250	300	385	460	590	650	730
@ ULN = 460 VAC	A	3.9	5.2	6.8	8.6	11.7	14.9	20.7	27.9	34.2	41.4	55.8	67.5	78.3	94.5	135	162	189	225	270	347	414	531	585	657
• Overload : Heavy duty																									
150% * IN (1 ' each 5')	A	3.75	6.5	8.7	11.4	14.3	19.5	24.7	34.5	46.5	57	69	93	113	131	157	225	270	315	375	450	578	690	885	975
180% * IN (0.5 " each 5')	A	4.5	7.7	10.4	13.7	17.1	23.4	29.7	41.4	55.8	68.4	82.8	111.6	135	157	189	270	324	378	450	540	693	828	1062	1170
• Overload : Normal duty																									
110% * IN (1 ' each 5')	A	4.7	6.4	8.4	10.5	14.3	18.1	25.3	34.1	41.8	50.6	68.2	82.5	95.7	116	165	198	231	275	330	424	506	649	715	803
U2 Max output voltage	V	0.98 x ULN (AC Input voltage)																							
f2 Max output frequency	Hz	500																							
fsw Switching frequency (Default)		8	8	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	2	2	2
fsw Switching frequency (Max)		12	12	12	12	12	12	12	12	12	12	12	12	12	8	8	8	8	8	8	4	4	2	2	2

Dimensions											
(width x heigth x depth)	mm	120 x 320 x 235.1		150 x 392 x 250.1	180 x 517 x 250.1		268 x 616 x 270	300 x 680 x 325	410 x 894 x 359	400 x 1200 x 485		417 x 1264 x 485	
	inches	4.72 x 12.6 x 9.26		5.91 x 15.43 x 9.85	7.09 x 20.35 x 9.85		10.55 x 24.25 x 10.63	11.81 x 26.77 x 12.8	16.1 x 35.2 x 14.1	15.75 x 47.24 x 19.09		16.42 x 49.76 x 19.09	
Weight	kg	5.8		10.2	16.4	22	32	60	90	130	140	150	
	lbs	12.8		22.5	36.2	48.5	70.6	132.3	198.4	286.6	308.7	330.7	

... Versatile, Powerful, Reliable

General Characteristics	
⇨ AC mains supply	400VAC...690VAC, 50/60Hz
⇨ Power range	from 0.75kW to 1.2MW
⇨ Control mode	• FOC Open Loop
	• FOC with Speed Feedback
	• V/f and V/f with feedback
	• PM Synchronous (on development)
⇨ Overload according with IEC146 Class 1 and Class 2	
⇨ Heavy and Light overload management	
⇨ Up to 4 options on board	
⇨ Fieldbus	• CANopen ®
	• DeviceNet
	• Profibus DP
	• Ethernet real.time GDNet
⇨ The "Safety Stop" card is compliant with machine safety directives and meets the following standards: PL=d under EN ISO 13849-1, SIL 2 under IEC 61508 and EN 954-1 Cat. 3.	
⇨ Multilanguage programming software (5 languages)	
⇨ Advanced PLC according with the IEC61131-3 Standard	
⇨ IP20 standard protection degree	
⇨ IP54 protection degree with external heatsink	
⇨ NEMA 1 protection degree with optional kit	

Applications






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