

CV50

Variable frequency drives from 0.75 kW to 500 kW

CV50: High-performance multifunction vector frequency drives

Salicru's **Controlvit CV50** variable frequency drive series covers power ratings that range from 0.75 kW to 500 kW. They are suitable for both constant and variable torque applications (power duality), and therefore allow the costs of the system to be optimised by adapting to the type of load to be regulated.

They stand out for their design, reliability, ease of use and versatility, being suitable both for low-power applications, where it is necessary to have good control precision, and high-power applications, where it is important to maintain the appropriate torque and ensure continuity of operation.

Thanks to their automatic energy-saving function, they achieve significant consumption reductions, mainly in ventilation, water treatment and irrigation applications.



Applications:

The **CV50** is a dual inverter, meaning that it can work in constant and variable torque applications. For this reason, they are suitable for use in the following applications: pumps, fans, HVAC applications, compressors, extruders, mills, presses, mining industry and machinery in general.

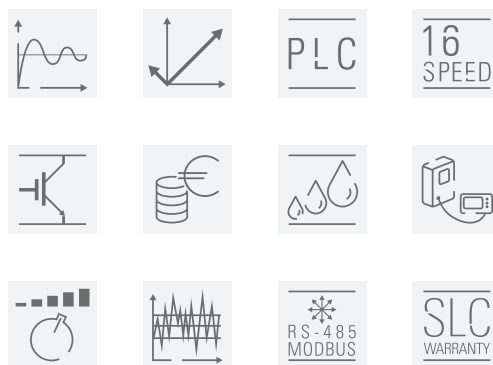


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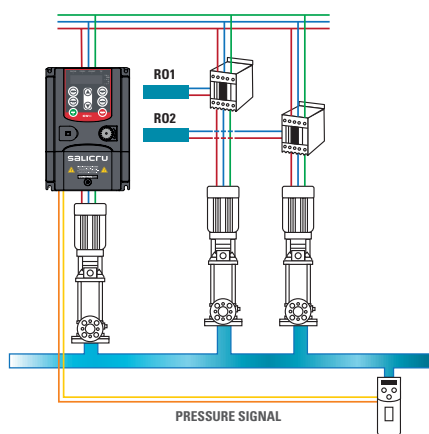
Performances

- Selectable control: V/f, sensorless vector or torque control.
- Built-in EMC filter.
- Power duality: constant torque / variable torque.
- Advanced sleep/wake function for control of up to 3 pumps.
- Motor auto-tuning motor tuning (static and dynamic).
- 150% torque at 0.5 Hz.
- Advanced PID process control.
- Simple PLC (automatic cycle) and 16-speed multi-step control.
- RS485 Modbus RTU communication.
- Built-in potentiometer.
- Remote control with removable or optional keypad.
- Intuitive parameter setting.
- Compact size.
- Built-in dynamic braking unit (≤ 30 kW).
- DC braking.
- Automatic energy saving and kWh meter.
- Pulse train input (max. 50 kHz).
- Fly start function.
- Numerous inputs/outputs (8 digital inputs, 1 pulse input, 2 analogue inputs and 2 analogue outputs, 2 relay outputs, 1 transistor output, 1 pulse output).
- Cooling fans with On/Off control and easy replacement.
- Monitoring and parameter setting using VITdrive software.
- SLC Greenergy solution.



Pumping systems

- The CV50 inverter enables the creation of a pressure unit with up to three pumps (main pump + two fixed auxiliary pumps).
- By means of a signal provided by the transducer, automatic PID pressure control is performed.
- The setpoint can be set via keypad, an analogue signal or RS485 Modbus communication.
- Features two level parameter setting modes for sleep or wake: % of sensor pressure or by frequency.



Advanced vector control

In the event of a sudden change in load with the motor running at 0.5 Hz, the speed remains constant and the assembly is capable of providing the torque demanded at full load.

Technical support and service

- Pre- and after-sales service.
- Telephone technical support.
- Maintenance contracts.
- Training courses.
- Online registration at www.salicru.com.



Range

MODEL	CODE	CONSTANT TORQUE			VARIABLE TORQUE			DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
		POWER (kW)	CURRENT INPUT (A)	CURRENT OUTPUT (A)	POWER (kW)	CURRENT INPUT (A)	CURRENT OUTPUT (A)		
CV50-008-4F	6B1CA000001	0.75	3.4	2.5	-	-	-	175 × 126 × 186	2.5
CV50-015-4F	6B1CA000002	1.5	5	3.7	-	-	-	175 × 126 × 186	2.5
CV50-022-4F	6B1CA000003	2.2	5.8	5	-	-	-	175 × 126 × 186	2.5
CV50-040-4F	6B1CA000004	4	13	9	5.5	19.5	14	181 × 146 × 256	4.1
CV50-055-4F	6B1CA000005	5.5	19.5	14	7.5	25	18.5	181 × 146 × 256	4.1
CV50-075-4F	6B1CA000006	7.5	25	18.5	11	32	25	216 × 170 × 320	7.4
CV50-110-4F	6B1CA000007	11	32	25	15	40	32	216 × 170 × 320	7.4
CV50-150-4F	6B1CA000008	15	40	32	18.5	47	38	216 × 170 × 320	7.4
CV50-185-4F	6B1CA000009	18.5	47	38	22	56	45	216 × 230 × 342	9
CV50-220-4F	6B1CA000010	22	56	45	30	70	60	245 × 255 × 407	11
CV50-300-4F	6B1CA000011	30	70	60	37	80	75	245 × 255 × 407	11
CV50-370-4F	6B1CA000012	37	80	75	45	94	92	325 × 270 × 555	32
CV50-450-4F	6B1CA000013	45	94	92	58	128	115	325 × 270 × 555	32
CV50-550-4F	6B1CA000014	55	128	115	75	160	150	325 × 270 × 555	32
CV50-750-4F	6B1CA000015	75	160	150	90	190	180	365 × 325 × 680	67
CV50-900-4F	6B1CA000016	90	190	180	110	225	215	365 × 325 × 680	67
CV50-1100-4F	6B1CA000017	110	225	215	132	265	260	365 × 325 × 680	67
CV50-1320-4F	6B1CA000018	132	265	260	160	310	305	360 × 500 × 870	110
CV50-1600-4F	6B1CA000019	160	310	305	185	345	340	360 × 500 × 870	110
CV50-1850-4F	6B1CA000020	185	345	340	200	385	380	360 × 500 × 870	110
CV50-2000-4F	6B1CA000021	200	385	380	220	430	425	360 × 500 × 870	110
CV50-2200-4F	6B1CA000022	220	430	425	250	485	480	380 × 750 × 1410	165
CV50-2500-4F	6B1CA000023	250	485	480	280	545	530	380 × 750 × 1410	165
CV50-2800-4F	6B1CA000024	280	545	530	315	610	600	380 × 750 × 1410	165
CV50-3150-4F	6B1CA000025	315	610	600	350	625	650	380 × 750 × 1410	165
CV50-3500-4F	6B1CA000026	350	625	650	400	715	720	560 × 620 × 1700	450
CV50-4000-4F	6B1CA000027	400	715	720	-	-	-	560 × 620 × 1700	450
CV50-5000-4F	6B1CA000028	500	890	860	-	-	-	560 × 620 × 1700	450

Power supply voltage: Three-phase 400 V

Dimensions



CV50-040/055-4F



CV50-075÷150-4F



CV50-220/300-4F

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Technical specifications

MODEL		CV50
INPUT	Rated voltage	Three-phase 380 V (-15%) ÷ 440 V (+10%)
	Rated frequency	50/60 Hz / Allowed range: 47 ÷ 63 Hz
OUTPUT	Rated voltage	Three-phase, 0 ÷ 100% of input voltage
	Frequency	0 ÷ 400 Hz
	Admissible overloads	Constant torque: 150% for 1 min; 180% for 10 s; 200% for 1 s Variable torque: 120% for 1 min
	Maximum distance	<50 m without filter / between 50 and 100 m install chokes / >100 m LC filter
CONTROL SPECIFICATIONS	Type of motor	Asynchronous
	Method of control	V/f, sensorless vector control, torque control
	V/f characteristics	Linear, quadratic (3 types), user defined
	Degree of control	1% of maximum output frequency
	Speed fluctuation	±0.3% (in vector control mode)
	Braking unit	Built-in for ≤30 kW, external (optional) for ≥37 kW
INPUT SIGNALS	Digital	8 programmable inputs, PNP or NPN logic, pulse input, maximum frequency 50 kHz, selectable polarity, virtual activation, On/Off delay times
	Analogue	2 inputs, AI2: 0 ÷ 10 V / 0 ÷ 20 mA and AI3: -10 ÷ 10V Built-in potentiometer
OUTPUT SIGNALS	Relay	2 multifunction NO/NC switching outputs Maximum 3 A / 250 VAC, 1 A / 30 VDC Selectable polarity and on/off delay
	Power Supply	24 V (±10%) 200 mA
	Analogue	2 selectable outputs 0 ÷ 10 V / 0 ÷ 20 mA, proportional to frequency, current, speed, voltage, torque, etc
	Digital	1 multifunction open collector output (200 mA / 30 V) 1 selectable output between pulses (max. 50 kHz) and open collector Selectable polarity and on/off delay
	Communication port	RS-485 Modbus-RTU
OPERATION	Method	Keypad, control terminal and communication Removable keypad up to 200 m for models ≥ 18.5 kW For other models, remote keypad (up to 200 m) as optional extra
	Frequency setting	Digital, analogue, pulse train, multi-step, simple PLC, PID, Modbus communication
	Protection	Overcurrent, overvoltage, low voltage, inverter overheating, phase loss, overload, underload, etc
FILTERING	EMC filter	Built-in. Category C3
	DC reactor	Installable in inverters ≥37 kW
GENERAL	Ambient temperature	-10° ÷ 50°C (3% derating per degree exceeding 40°C)
	Degree of protection	IP20
	Cooling	By easy-to-maintain fans
	Installation	Wall, flange and floor mounting for ≥ 220 kW
STANDARDS	Safety	EN 61800-5-1
	Electromagnetic compatibility (EMC)	EN 61800-3 C3
	Corporate certification	ISO 9001, ISO 14001, ISO 45001

Information subject to change without notice.