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.

Features

· 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.

CV50

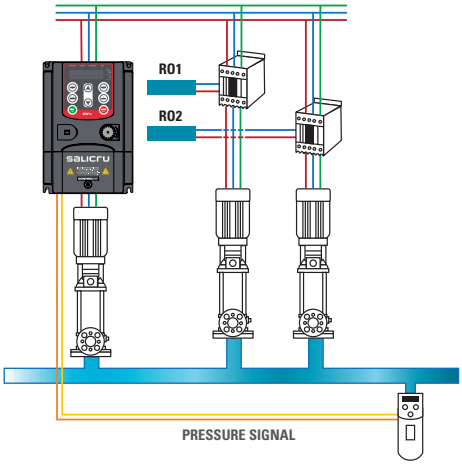
Applications:

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.

CV50

Variable frequency drives from 0.75 kW to 500 kW

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.

Services

- Pre- and after-sales service.
- Telephone technical support.
- Maintenance contracts.
- Training courses.

Salicru warranty

- Online registration at www.salicru.com.
- 2-year warranty.

TECHNICAL SPECIFICATIONS

MODEL		CV50
INPUT	Voltage	Three-phase 380 V (-15%) ÷ 440 V (+10%)
	Frequency	50/60 Hz Allowed range: 47 ÷ 63 Hz
OUTPUT	Voltage	Three-phase, 0 ÷ 100% of input voltage
	Frequency	0 ÷ 400 Hz
	Maximum overload	Constant torque: 150% for 1 min; 180% for 10 s; 200% for 1s 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 1 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
	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
	Analogue	2 selectable outputs 0 ÷ 10 V / 0 ÷ 20 mA, proportional to frequency, current, speed, voltage, torque, etc
	Communication port	RS485 Modbus RTU
	Power supply	24 V (±10%) 200 mA
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	Protection degree	IP20
	Cooling	By easy-to-maintain fans
	Ambient temperature	-10° ÷ 50°C (3% derating per degree exceeding 40°C)
	Installation	Wall, flange and floor mounting for ≥ 220 kW
STANDARDS	Operation and safety	EN 61800-5-1:2007
	Electromagnetic compatibility (EMC)	EN 61800-3 C3
	Quality and Environmental Management	ISO 9001 and ISO 14001

Information subject to change without notice.

RANGE

MODEL	CONSTANT TORQUE			VARIABLE TORQUE			DIMENSIONS (D x W x H mm)	WEIGHT (kg)
	POWER (kW)	I INPUT (A)	I OUTPUT (A)	POWER (kW)	I INPUT (A)	I OUTPUT (A)		
CV50-008-4F	0.75	3.4	2.5	-	-	-	175 x 126 x 186	2.5
CV50-015-4F	1.5	5	3.7	-	-	-		
CV50-022-4F	2.2	5.8	5	-	-	-		
CV50-040-4F	4	13.5	9.5	5.5	19.5	14	181 x 146 x 256	4.1
CV50-055-4F	5.5	19.5	14	7.5	25	18.5		
CV50-075-4F	7.5	25	18.5	11	32	25	216 x 170 x 320	7.4
CV50-110-4F	11	32	25	15	40	32		
CV50-150-4F	15	40	32	18.5	47	38		
CV50-185-4F	18.5	47	38	22	56	45	216 x 230 x 342	9
CV50-220-4F	22	56	45	30	70	60	245 x 255 x 407	11
CV50-300-4F	30	70	60	37	80	75		
CV50-370-4F	37	80	75	45	94	92	325 x 270 x 555	32
CV50-450-4F	45	94	92	55	128	115		
CV50-550-4F	55	128	115	75	160	150		

Power supply voltage: Three-phase 400 V

MODEL	CONSTANT TORQUE			VARIABLE TORQUE			DIMENSIONS (D x W x H mm)	WEIGHT (kg)
	POWER (kW)	I INPUT (A)	I OUTPUT (A)	POWER (kW)	I INPUT (A)	I OUTPUT (A)		
CV50-750-4F	75	160	150	90	190	180	365 x 325 x 680	67
CV50-900-4F	90	190	180	110	225	215		
CV50-1100-4F	110	225	215	132	265	260		
CV50-1320-4F	132	265	260	160	310	305	360 x 500 x 870	110
CV50-1600-4F	160	310	305	185	345	340		
CV50-1850-4F	185	345	340	200	385	380		
CV50-2000-4F	200	385	380	220	430	425		
CV50-2200-4F	220	430	425	250	485	480	Wall: 379 x 680 x 960 Floor: 380 x 750 x 1410 (includes installation base)	165
CV50-2500-4F	250	485	480	280	545	530		
CV50-2800-4F	280	545	530	315	610	600		
CV50-3150-4F	315	610	600	350	625	650		
CV50-3500-4F	350	625	650	400	715	720	Floor: 560 x 620 x 1700 (includes installation base)	450
CV50-4000-4F	400	715	720	-	-	-		
CV50-5000-4F	500	890	860	-	-	-		

Power supply voltage: Three-phase 400 V