

WAT Industrial Drives





WAT

Industrial

Drives

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Integrated System Solutions with High Efficiency WAT motors

Special solutions for your applications with WAT motors and drives

WAT Drives

WF 80



WD 70



WAT Motors

Induction motor



Special design
induction motor



WF 80 series drive solutions for ventilation, air conditioning, pump and general applications

Economical WD 70 series drive solutions that require compactness as well as functionality

IEC standard IE2, IE3 and IE4 energy efficiency class induction motor solutions

Three and single-phase induction motor solutions specifically designed for your application

WAT motor and drive solutions that fulfill energy efficiency regulations [SGM - 2012/2]

WAT Motors and Drives

IE2 Motor and drive



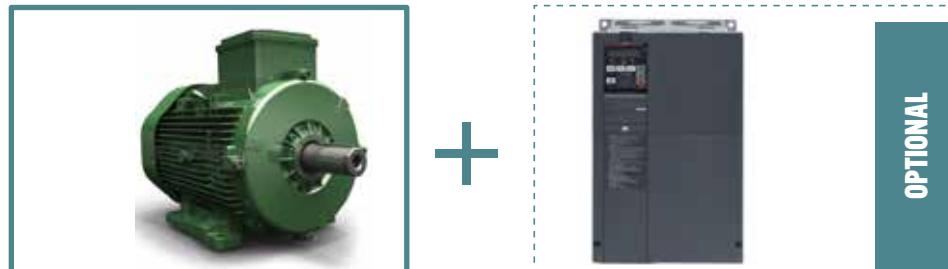
Minimum level of energy efficiency regulation compliance

IE3 Motor



Regulation compliance and energy saving using premium efficiency motors

IE4 Motor



Regulation compliance and high energy saving using super premium efficiency motors

WF 80

Scalar control and
sensorless vector control

**Automatic motor
parameter identification**
[induction motor and
permanent magnet
synchronous motor]

Built-in PLC functions

Quiet operation

High speed
[up to 590Hz]
application compatibility

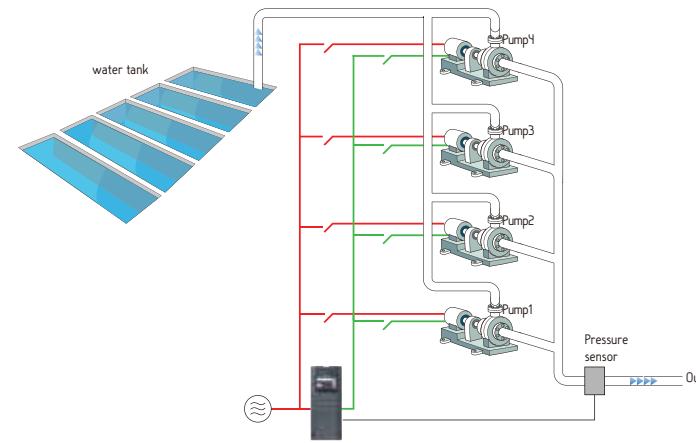


WF 80 features

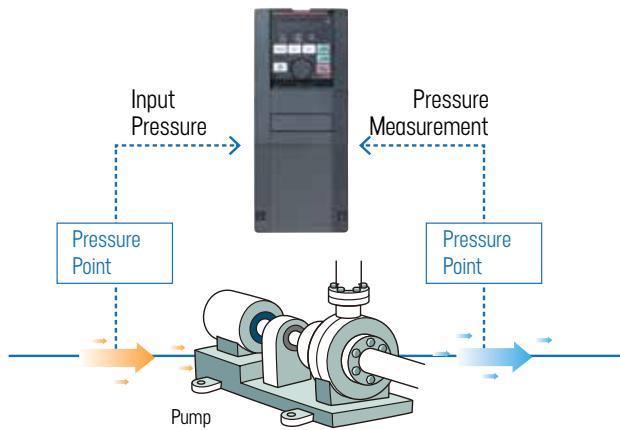


WF 80 pump specific functions

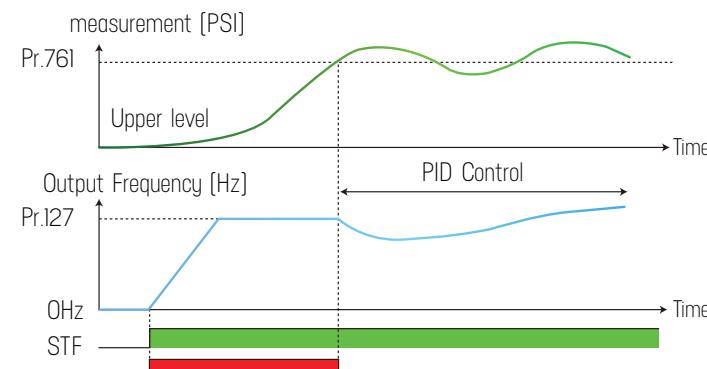
Sequential pump, pump alternation



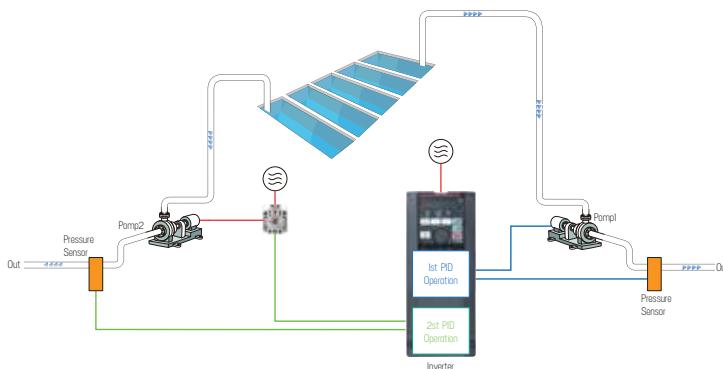
Protection against waterless operation



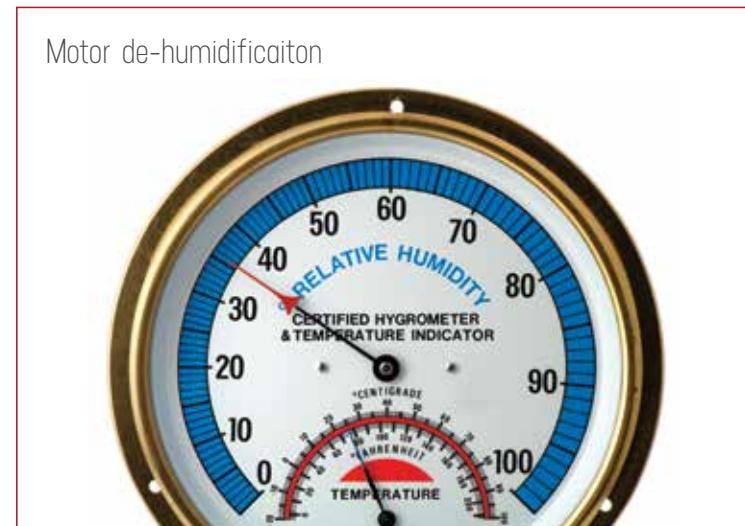
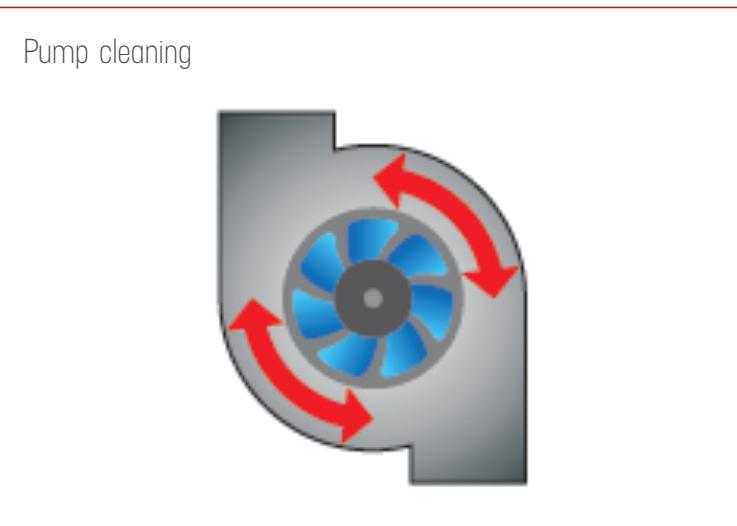
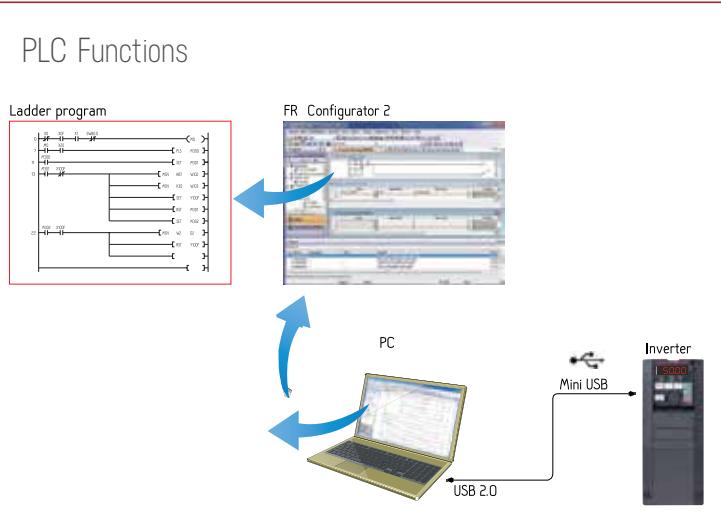
Controlled filling



Two different system control with double PID

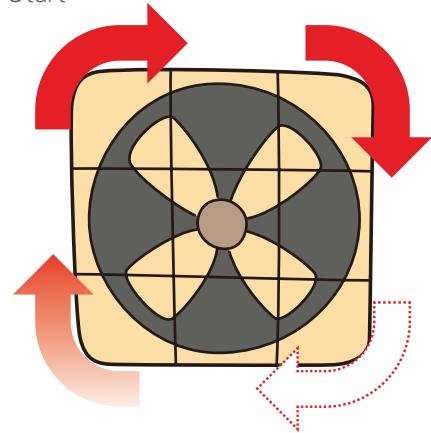


WF 80 pump specific functions

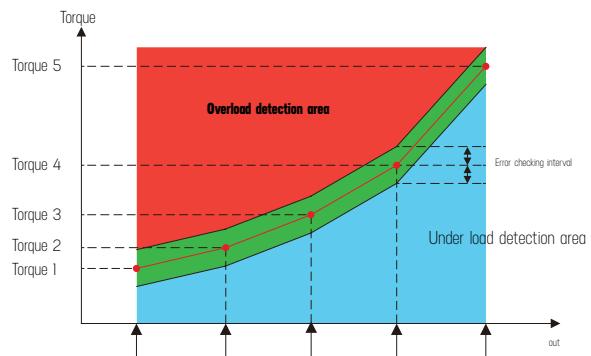


WF 80 application specific functions

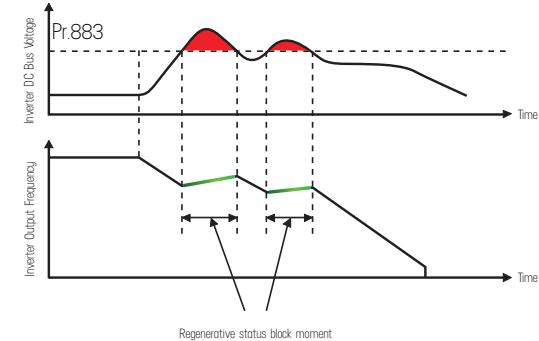
Emergency Stop
Flying Start



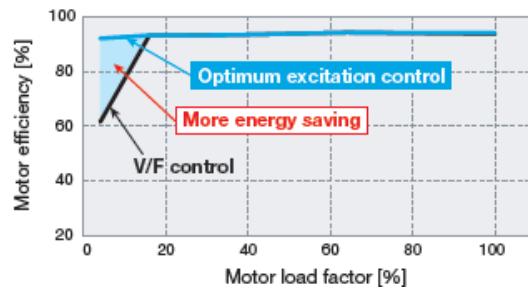
Programmable overload protection at different speeds



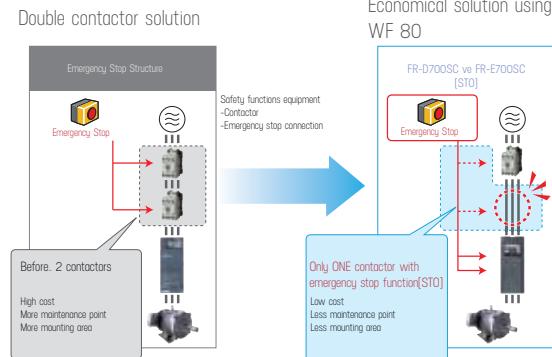
Automatic ramp time setting for smooth fan [or similar load] operation



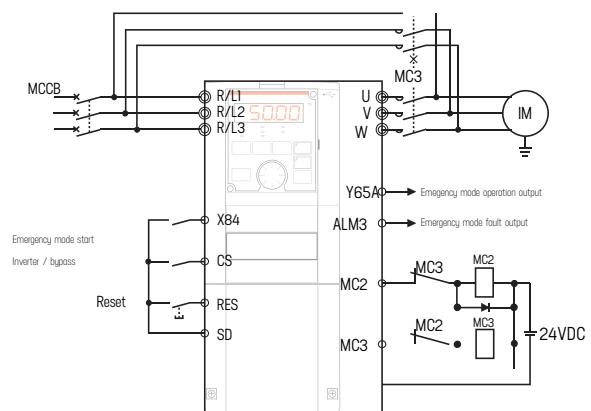
Energy saving by reduction of motor losses at partial and no-load conditions



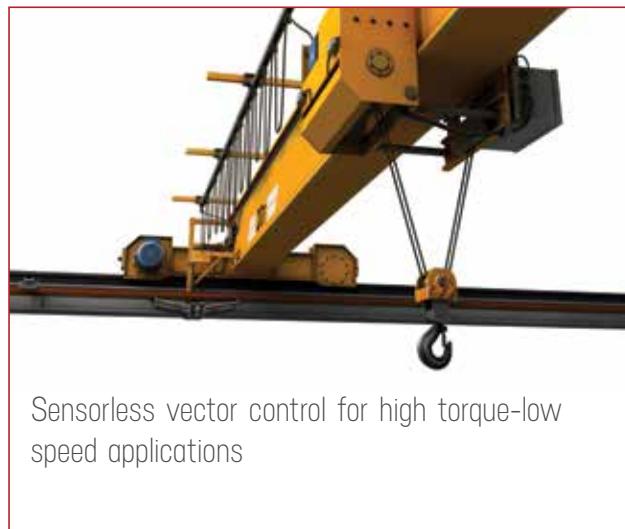
Machine Safety [Safe Stop and Safe Torque Off] functions



Emergency run [Fire Start] mode



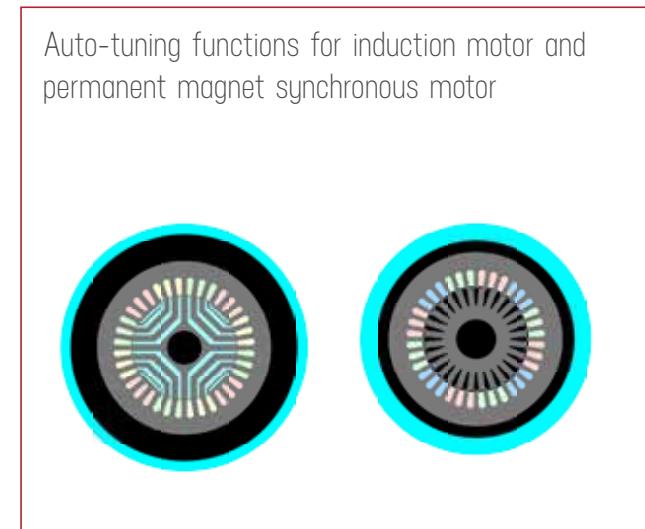
WF 80 industrial applications



Sensorless vector control for high torque-low speed applications



Soft start and stop with programmable S-ramp



Auto-tuning functions for induction motor and permanent magnet synchronous motor



Operation without filter up to 500m motor cable distance



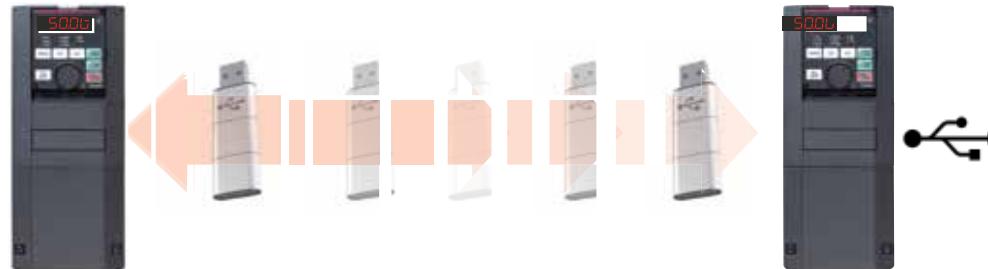
Food industry applications



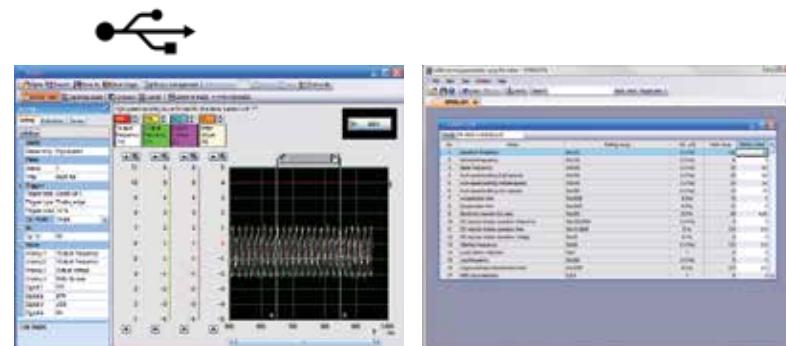
Quieter operation with soft PWM technology

WF 80 interface and communication functions

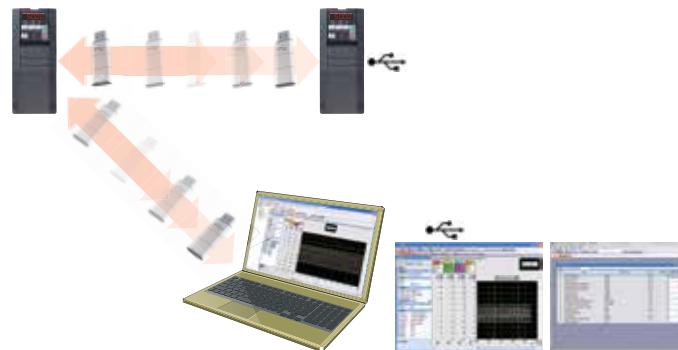
Fast parameter registry with USB inputs



Easy troubleshooting with maintenance functions



Automation systems integration
using BacNet, RS485 communication and optional
communication cards



WF 80 technical specifications

Model No ARF-WF84-XXXXX-2-60	00023	00038	00052	00083	00126	00170	00250	00310	00380	00470	00620	00770	0930	1160	01800
Output power - light duty [kW]	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75/90
Output power - light duty [kW]	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75
Output current - light duty [A]	2.3	3.8	5.2	8.3	12.6	17	25	31	38	47	62	77	93	116	180
Output current - normal duty [A]	2.1	3.5	4.8	7.6	11.5	16	23	29	35	43	57	70	85	106	144
Overload capacity - light duty	60 second % 110, 3 second % 120; 40 degree ambient temperature														
Overload capacity - normal duty	60 second % 120, 3 second % 150; 50 degree ambient temperature														
Output frequency	0.2 Hz- 590 Hz														
Output voltage	3 Phase 0 V - Input Voltage [V]														
Input voltage	3 Phase 380 V-500 V														
Input frequency	50 Hz - 60 Hz														
Standart drive functions	Motor autotuning , flying start, current limiting depending on frequency														
	Automatic ramp time adjustment during acceleration and deceleration [dc bus overvoltage control]														
Control modes	V/f control, Sensorless vector control														
Motor types	Induction motor and permanent magnet synchronous motor														
U/f characteristic	Constant torque and variable torque														
Starting torque	%150 moment at 1 Hz [sensorless vector control]														
Standard drive protections	Overcurrent, overvoltage, thermal protection, input/output phase interruption														
Application specific special functions	Pump functions, safe stop, safe torque off, dancer control for winder, external PID, energy saving function for low loads														
Built-in PLC	6K														
PWM Modulation functions	Quieter operation with soft PWM technology														
Communication functions	2 x RS-485, Modbus-RTU, BacNet, Trend, USB 2.0 port for backup														
Analog inputs - outputs	2 analog input [4-20 mA , 0-10 V DC], 1 analog output [0-10 V DC]														
Digital inputs - outputs	Programmable 5 digital input, 4 digital output														
EMC Filter	Built-in EMC filter [EN 61800-3 C3]														
Approximate weight [kg]	2.5	2.5	2.5	3.0	3.0	6.3	6.3	8.3	8.3	15	15	23	41	41	43

*Above table is just a summary. Detailed information can be found in product manuals.
WAT reserves the right to alter the product data without prior notice. Possible mistyping is not binding.



WD 70 features

WD 70

Scalar and sensorless vector control

Automatic motor parameter identification [auto-tuning]

Machine safety [safe stop and safe torque-off] functions

Industrial application specific functions

Optimum efficiency control depending on the load

WD 70 features

Quiet operation
[soft PWM function]



High speed
[up to 400Hz]
application compatibility



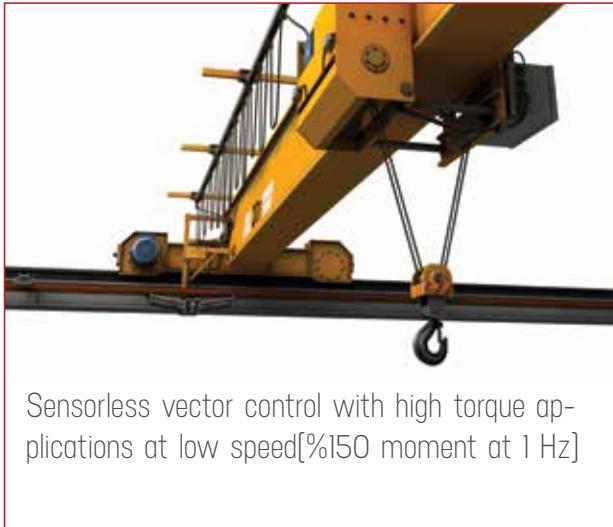
**Winder application
dancer control functions**



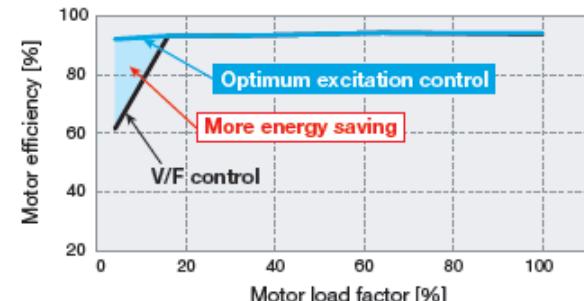
Buit-in EMC filter



WD 70 application specific special functions

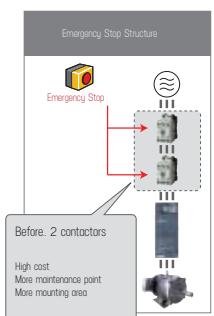


Energy saving by reduction of motor losses at partial and no-load conditions

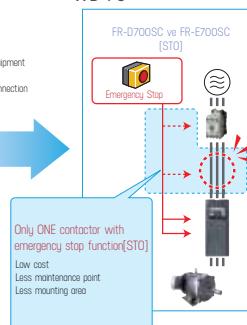


Machine safety
[safe stop and safe torque-off] functions

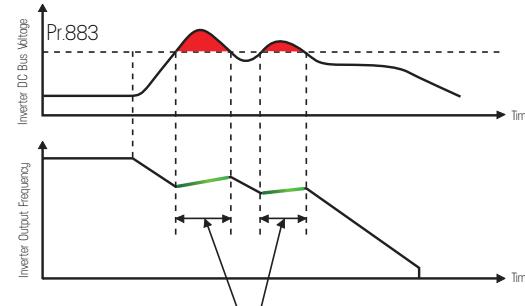
Double contactor solution



Economical solution using WD 70



Automatic ramp time setting for smooth fan
[or similar load] operation



WD 70 technical specifications

Model ARF-WD74-XXXSC-EC	022	036	050	080	120	160	230	295
Output motor power [kW]	0.75	1.5	2.2	3.7	5.5	7.5	11	15
Output current [A]	2.2	3.6	5.0	8.0	12.0	16.0	23.0	29.5
Overload capacity	% 150 60 second. % 200 0.5 second							
Output frequency	0.2 Hz- 400 Hz							
Output Voltage	3 Phase 0 V - input voltage [V]							
Input voltage	3 Phase 380 V- 480 V							
Input frequency	50 Hz - 60 Hz							
Standard drive functions	Motor autotuning, flying start, current limiting depending on frequency [DC bus overvoltage control] Automatic ramp adjustment during acceleration and deceleration							
Control modes	V/f control and sensorless vector control							
Motor types	Induction motor							
U/f characteristic	Adjustable for constant torque and variable torque							
Starting torque	%150 moment at 1 Hz [sensorless vector control]							
Standard drive protections	Overcurrent, overvoltage, thermal protection, input/output phase interruption							
Application specific special functions	Safe stop, safe torque-off, dancer control for winder, external PID, energy saving at low loads							
PWM functions	Quiet operation with soft PWM function							
Communication functions	RS-485, Modbus-RTU							
Analog I/O	2 analog input [4-20 mA, 0-10 V DC], 1 analog output [0-10 V DC]							
Digital I/O	Programmable 5 digital input, 4 digital output							
Approximate weight [kg]	1.3	1.4	1.5	1.5	3.3	3.3	6.0	6.0

*Above table is just a summary. Detailed information can be found in product manuals.
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WAT | ID en 18.0

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