EBARA

Looking ahead,
going beyond expectations

Ahead > Beyond

Japanese Technology since 1912

## Vertical Multistage Pumps with Inverters

# EVMS-K


**AS/NZS 4020**
Approved for drinking water

www.ebara.com.au

# Features

K series are energy saving pumps equipped with a new inverter E-SPD. This new product allow users to save on energy costs with optimised operations according to the system's requirements and contribute to a sustainable society. The E-SPD+ is installable on the motor terminal board.


- Innovative LCD display for viewing and changing operating parameters and for keeping track of the history of the key parameters, faults and alarms. Its cover can be rotated 180° for easier reading.
- System protection against overcurrents, input voltage fluctuations, dry running and losses in the system.
- Easy installation and programming thanks to the highly intuitive and user-friendly software.
- Connectivity is provided by four configurable digital inputs, two ports for configurable digital outputs, two ports for analogue 4-20 mA inputs, one port for 0-10 V input, and one port for a motor thermistor PTC input.
- Two RS485 ports for communication and parallel operation of up to eight pumps.
- Connecting to monitoring systems with Modbus connection.

# Applications

### Industry

- Reverse Osmosis
- Micro or Ultra-filtration
- Softening, ionizing and demineralizing systems
- Boiler feed and condensate systems
- Industrial parts washing
- Food or bottle washing systems
- Handling of refrigerant for cooling
- Thermal control systems

### Commercial building service

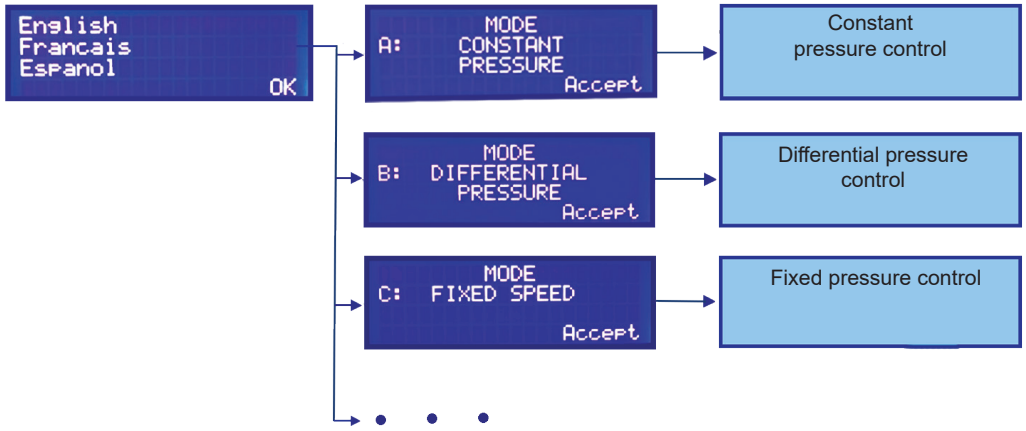
- Pressure Boosting for buildings
- Air conditioning systems
- District heating

### Irrigation

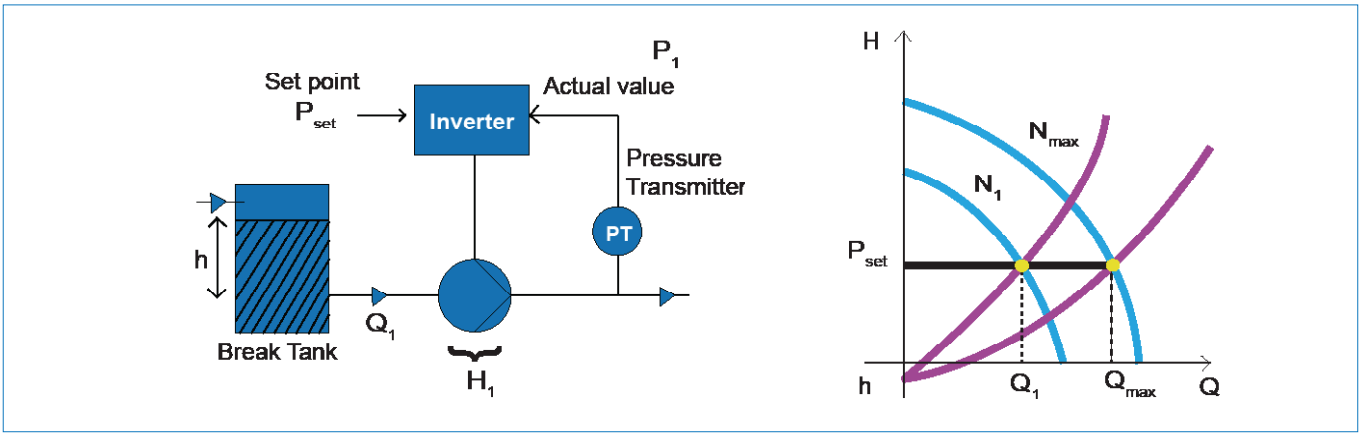
- Field Irrigation
- Sprinkler Irrigation
- Drip Irrigation

# Pump control system

E-SPD+ setup wizard easily guide different parameter according to the control mode




Constant Pressure Control




Examples of advanced parameters

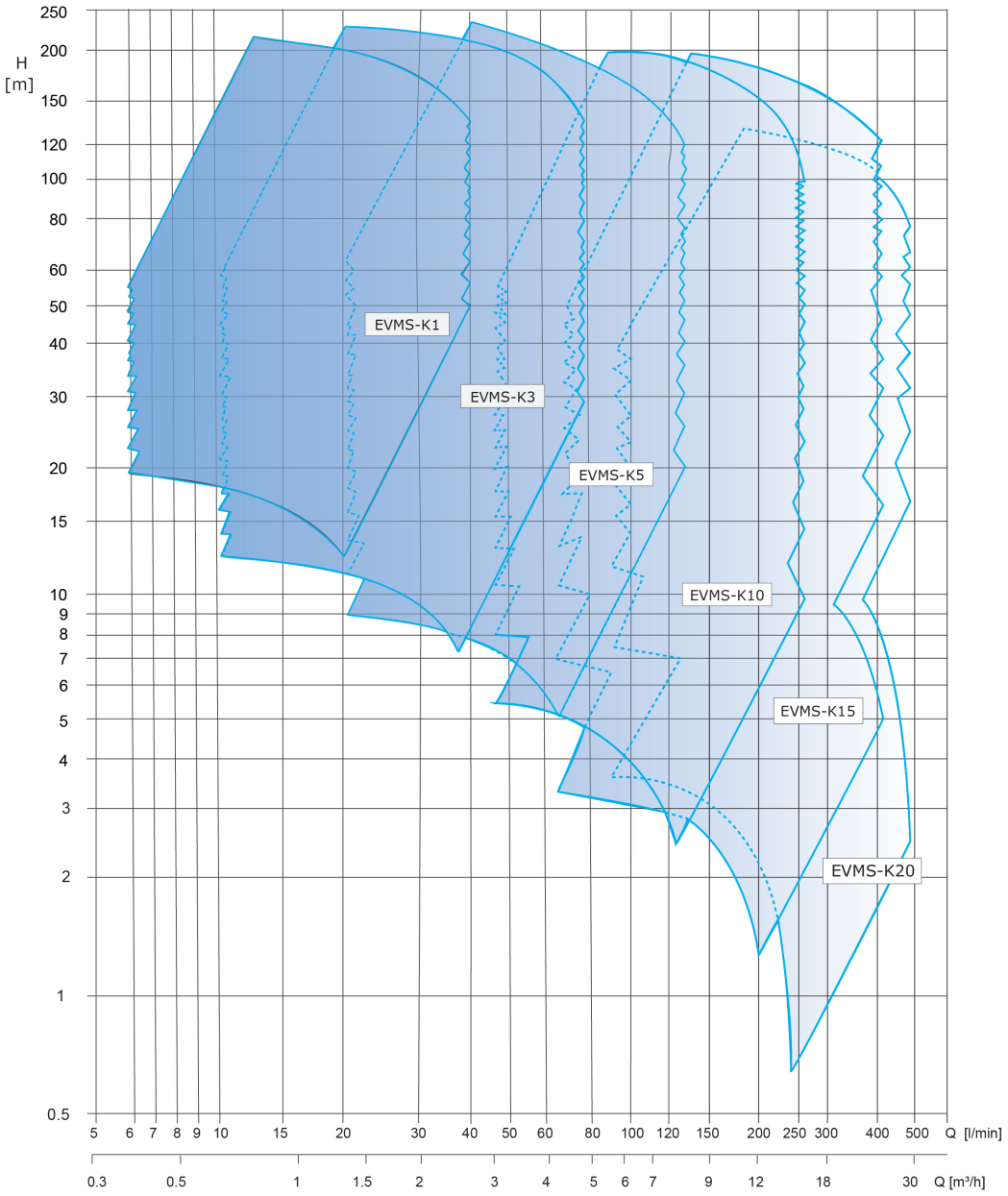
| Parameter | Descriptions |
|---|---|
| 1. Overpressure alarm | To set maximum pressure level |
| 2. Pump kick | After a set period time, pump will rotate for 2-3 times |
| 3. Changeover | Changeover between multiple pumps to have similar working hours |
| 4. Proportional Boost | To compensate for the pressure loss in the pipeline |

# Product specifications

| Items | | EVMS(G,L)-K | | | | | |
|---|---|---|---|---|---|---|---|
| Operating range | Nominal flow rate [m3/h] | 1 | 3 | 5 | 10 | 15 | 20 |
| | Max. operating pressure | 16/25 bar | | | 16 bar | | |
| | Liquid temperature | -30 to 125° C | | | | | |
| | Ambient operating temperature (no higher than 1000 m above sea level) | -10 to 40° C | | | | | |
| Pump | EVMS with AISI 304 bottom casting and AISI 304 hydraulic | • | • | • | • | • | • |
| | EVMSL with AISI 316L bottom casting and AISI 316L hydraulic | • | • | • | • | • | • |
| | EVMSG with Cast iron bottom casting and AISI 304 hydraulic | • | • | • | • | • | • |
| Motor | Model | ETM | | | | | |
| | Frequency | 50 Hz | | | | | |
| | Output power | 2.2 to 11 kW as standard<br>0.75 to 1.5 kW on request | | | | | |
| | Motor Voltage | Three-phase x 400 V | | | | | |
| | Number of poles | 2 | | | | | |
| | Protection degree | IP55 | | | | | |
| | Insulation class | F (temperature rise class B) | | | | | |
| | Thermal protection | PTC sensor pre-installed from 1.5 kW motors | | | | | |

| Items | | E-SPD+ | | |
|---|---|---|---|---|
| Inverter | Model | MT2200 | TT4000 | TT11000 |
| | Max power rating | 2.2 kW | 4.0 kW | 11 kW |
| | Power supply voltage | Single-phase 230 V | Three-phase 400 V | Three-phase 400 V |
| | Output voltage | Three-phase 230 V | Three-phase 400 V | Three-phase 400 V |
| | Max current in/out | 20 A / 11 A | 12 A / 11 A | 31 A / 30 A |
| | Protection rating | IP55 | | |
| | Analog ports | 2 ports for 4-20 mA<br>1 port for 0-10 V<br>1 port for PTC sensor | | |
| | Digital inputs | 4 ports for<br>Not used, All pumps/Single pump Stop with external control,<br>In Setpoints, Flow sensor, Slave 0-10 V | | |
| | Digital outputs | 2 ports for<br>OFF Alarm, Start Clock, Dry running external stop, Overpressure | | |
| | Communication | Two RS485 ports | | |
| | | - for communication and parallel operation of up to eight pumps<br>- for monitoring systems with Modbus connection | | |
| Accessories | Pressure transmitter | 10/16/25 bar:Type 520 (Huba Control) | | |
| | Cable with connector for pressure transmitter | M12 2M | | |
| | Cable RS485 | 2x0.5mm$^2$ L=900 mm | | |

# Performance range




Oval flange
AISI 304/AISI 316L

Round flange
AISI 304/AISI 316L

Victaulic flange
AISI 304/AISI 316L

Oval flange
Cast iron

Round flange
Cast iron

# Selection Chart

| | Model | Motor size [kW] | Inverter model for Power supply | | Max operating pressure [bar] | Q=Capacity | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Single phase | Three phase | | [L/min] 0 | 12 | 20 | 40 | 60 | 75 | 130 |
| | | | | | | [m³/h] 0 | 0.72 | 1.2 | 2.4 | 3.6 | 4.5 | 7.8 |
| | | | | | | H=Total head [m] at full speed in 50 Hz | | | | | | |
| 1 | EVMS(G,L)-K1 14/0.75 | (0.75) | MT2200 | TT4000 | 16 | 83.5 | 78.5 | 73 | 49.5 | - | - | - |
| | EVMS(G,L)-K1 16/0.75 | (0.75) | MT2200 | TT4000 | 16 | 95.5 | 89.5 | 83 | 56.5 | - | - | - |
| | EVMS(G,L)-K1 18/1.1 | (1.1) | MT2200 | TT4000 | 16 | 107 | 101 | 93.5 | 63.5 | - | - | - |
| | EVMS(G,L)-K1 20/1.1 | (1.1) | MT2200 | TT4000 | 16 | 119 | 112 | 104 | 71 | - | - | - |
| | EVMS(G,L)-K1 22/1.1 | (1.1) | MT2200 | TT4000 | 16 | 131 | 123 | 114 | 78 | - | - | - |
| | EVMS(G,L)-K1 24/1.1 | (1.1) | MT2200 | TT4000 | 16 | 143 | 135 | 125 | 85 | - | - | - |
| | EVMS(G,L)-K1 26/1.1 | (1.1) | MT2200 | TT4000 | 16 | 155 | 146 | 135 | 92 | - | - | - |
| | EVMS(G,L)-K1 27/1.5 | (1.5) | MT2200 | TT4000 | 25 | 161 | 151 | 140 | 95.5 | - | - | - |
| | EVMS(G,L)-K1 29/1.5 | (1.5) | MT2200 | TT4000 | 25 | 173 | 163 | 151 | 103 | - | - | - |
| | EVMS(G,L)-K1 32/1.5 | (1.5) | MT2200 | TT4000 | 25 | 191 | 179 | 166 | 113 | - | - | - |
| | EVMS(G,L)-K1 34/1.5 | (1.5) | MT2200 | TT4000 | 25 | 203 | 191 | 177 | 120 | - | - | - |
| | EVMS(G,L)-K1 37/2.2 | 2.2 | MT2200 | TT4000 | 25 | 221 | 207 | 192 | 131 | - | - | - |
| | EVMS(G,L)-K1 39/2.2 | 2.2 | MT2200 | TT4000 | 25 | 232 | 219 | 203 | 138 | - | - | - |
| 3 | EVMS(G,L)-K3 7/0.75 | (0.75) | MT2200 | TT4000 | 16 | 51.5 | - | 49.5 | 45 | 38.3 | 29.2 | - |
| | EVMS(G,L)-K3 8/0.75 | (0.75) | MT2200 | TT4000 | 16 | 59 | - | 56.5 | 51.5 | 44 | 33.4 | - |
| | EVMS(G,L)-K3 9/1.1 | (1.1) | MT2200 | TT4000 | 16 | 66.5 | - | 63.5 | 58 | 49 | 37.6 | - |
| | EVMS(G,L)-K3 10/1.1 | (1.1) | MT2200 | TT4000 | 16 | 73.5 | - | 70.5 | 64.5 | 54.5 | 41.5 | - |
| | EVMS(G,L)-K3 11/1.1 | (1.1) | MT2200 | TT4000 | 16 | 81 | - | 77.5 | 71 | 60 | 46 | - |
| | EVMS(G,L)-K3 12/1.1 | (1.1) | MT2200 | TT4000 | 16 | 88.5 | - | 84.5 | 77.5 | 65.5 | 50 | - |
| | EVMS(G,L)-K3 13/1.5 | (1.5) | MT2200 | TT4000 | 16 | 96 | - | 91.5 | 84 | 71 | 54.5 | - |
| | EVMS(G,L)-K3 14/1.5 | (1.5) | MT2200 | TT4000 | 16 | 103 | - | 98.5 | 90.5 | 76.5 | 58.5 | - |
| | EVMS(G,L)-K3 15/1.5 | (1.5) | MT2200 | TT4000 | 16 | 111 | - | 106 | 97 | 82 | 62.5 | - |
| | EVMS(G,L)-K3 16/1.5 | (1.5) | MT2200 | TT4000 | 16 | 118 | - | 113 | 103 | 87.5 | 67 | - |
| | EVMS(G,L)-K3 17/2.2 | 2.2 | MT2200 | TT4000 | 16 | 125 | - | 120 | 110 | 93 | 71 | - |
| | EVMS(G,L)-K3 19/2.2 | 2.2 | MT2200 | TT4000 | 16 | 140 | - | 134 | 123 | 104 | 79.5 | - |
| | EVMS(G,L)-K3 21/2.2 | 2.2 | MT2200 | TT4000 | 16 | 155 | - | 148 | 136 | 115 | 87.5 | - |
| | EVMS(G,L)-K3 23/2.2 | 2.2 | MT2200 | TT4000 | 25 | 170 | - | 162 | 149 | 126 | 96 | - |
| | EVMS(G,L)-K3 24/2.2 | 2.2 | MT2200 | TT4000 | 25 | 177 | - | 169 | 155 | 131 | 100 | - |
| | EVMS(G,L)-K3 25/3.0 | 3.0 | - | TT4000 | 25 | 184 | - | 176 | 161 | 137 | 104 | - |
| | EVMS(G,L)-K3 27/3.0 | 3.0 | - | TT4000 | 25 | 199 | - | 190 | 174 | 148 | 113 | - |
| | EVMS(G,L)-K3 29/3.0 | 3.0 | - | TT4000 | 25 | 214 | - | 204 | 187 | 159 | 121 | - |
| | EVMS(G,L)-K3 31/3.0 | 3.0 | - | TT4000 | 25 | 229 | - | 218 | 200 | 170 | 129 | - |
| | EVMS(G,L)-K3 33/3.0 | 3.0 | - | TT4000 | 25 | 243 | - | 232 | 213 | 181 | 138 | - |
| 5 | EVMS(G,L)-K5 4/0.75 | (0.75) | MT2200 | TT4000 | 16 | 37.9 | - | - | 35.9 | 34.1 | 31.9 | 20.4 |
| | EVMS(G,L)-K5 5/1.1 | (1.1) | MT2200 | TT4000 | 16 | 47.5 | - | - | 45 | 42.5 | 39.9 | 25.5 |
| | EVMS(G,L)-K5 6/1.5 | (1.5) | MT2200 | TT4000 | 16 | 57 | - | - | 54 | 51 | 48 | 30.6 |
| | EVMS(G,L)-K5 7/1.5 | (1.5) | MT2200 | TT4000 | 16 | 66.5 | - | - | 63 | 59.5 | 56 | 35.7 |
| | EVMS(G,L)-K5 8/2.2 | 2.2 | MT2200 | TT4000 | 16 | 76 | - | - | 72 | 68 | 64 | 41 |
| | EVMS(G,L)-K5 9/2.2 | 2.2 | MT2200 | TT4000 | 16 | 85.5 | - | - | 81 | 77 | 72 | 46 |
| | EVMS(G,L)-K5 10/2.2 | 2.2 | MT2200 | TT4000 | 16 | 95 | - | - | 90 | 85.5 | 80 | 51 |
| | EVMS(G,L)-K5 11/2.2 | 2.2 | MT2200 | TT4000 | 16 | 104 | - | - | 98.5 | 94 | 87.5 | 56 |
| | EVMS(G,L)-K5 12/3.0 | 3.0 | - | TT4000 | 16 | 114 | - | - | 108 | 102 | 95.5 | 61 |
| | EVMS(G,L)-K5 13/3.0 | 3.0 | - | TT4000 | 16 | 123 | - | - | 117 | 111 | 104 | 66.5 |
| | EVMS(G,L)-K5 14/3.0 | 3.0 | - | TT4000 | 16 | 133 | - | - | 126 | 119 | 112 | 71.5 |
| | EVMS(G,L)-K5 15/3.0 | 3.0 | - | TT4000 | 16 | 142 | - | - | 135 | 128 | 120 | 76.5 |
| | EVMS(G,L)-K5 17/4.0 | 4.0 | - | TT4000 | 16 | 161 | - | - | 153 | 145 | 136 | 86.5 |
| | EVMS(G,L)-K5 19/4.0 | 4.0 | - | TT4000 | 25 | 180 | - | - | 171 | 162 | 152 | 97 |
| | EVMS(G,L)-K5 20/4.0 | 4.0 | - | TT4000 | 25 | 190 | - | - | 179 | 171 | 160 | 102 |
| | EVMS(G,L)-K5 23/5.5 | 5.5 | - | TT11000 | 25 | 218 | - | - | 206 | 196 | 183 | 117 |
| | EVMS(G,L)-K5 25/5.5 | 5.5 | - | TT11000 | 25 | 237 | - | - | 224 | 213 | 199 | 127 |
| | EVMS(G,L)-K5 27/5.5 | 5.5 | - | TT11000 | 25 | 256 | - | - | 242 | 230 | 215 | 138 |

(.) on request as kW

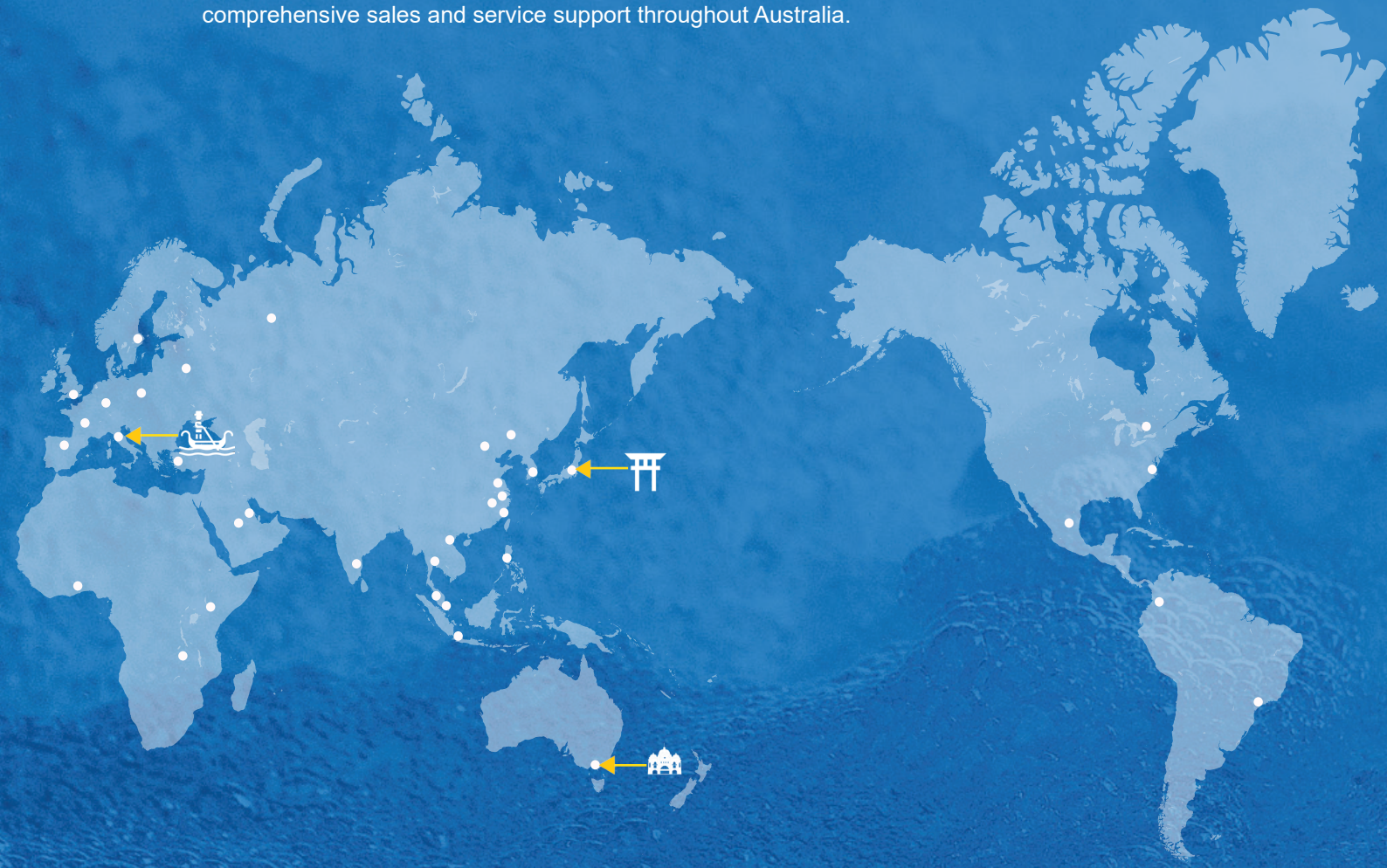
| Model | | Motor size [kW] | Inverter model for Power supply | | Max operating pressure [bar] | Q=Capacity [L/min] 0 | 75 | 130 | 180 | 250 | 300 | 400 | 480 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Single phase | Three phase | | [m³/h] 0 | 4.5 | 7.8 | 10.8 | 15.0 | 18.0 | 24.0 | 28.8 |
| | | | | | | H=Total head [m] at full speed in 50 Hz | | | | | | | |
| 10 | EVMS(G,L)-K10 2/0.75 | (0.75) | MT2200 | TT4000 | 16 | 21.8 | 21.2 | 19.7 | 16.6 | 9.8 | - | - | - |
| | EVMS(G,L)-K10 3/1.5 | (1.5) | MT2200 | TT4000 | 16 | 32.7 | 31.8 | 29.6 | 24.9 | 14.7 | - | - | - |
| | EVMS(G,L)-K10 4/2.2 | 2.2 | MT2200 | TT4000 | 16 | 43.6 | 42.4 | 39.5 | 33.2 | 19.6 | - | - | - |
| | EVMS(G,L)-K10 5/2.2 | 2.2 | MT2200 | TT4000 | 16 | 54.5 | 53 | 49.3 | 41.5 | 24.6 | - | - | - |
| | EVMS(G,L)-K10 6/2.2 | 2.2 | MT2200 | TT4000 | 16 | 65.5 | 63.5 | 59 | 50 | 29.5 | - | - | - |
| | EVMS(G,L)-K10 7/3.0 | 3.0 | - | TT4000 | 16 | 76.5 | 74 | 69 | 58 | 34.4 | - | - | - |
| | EVMS(G,L)-K10 8/3.0 | 3.0 | - | TT4000 | 16 | 87.0 | 84.5 | 79 | 66.5 | 39.3 | - | - | - |
| | EVMS(G,L)-K10 9/4.0 | 4.0 | - | TT4000 | 16 | 98 | 95.5 | 89 | 74.5 | 44 | - | - | - |
| | EVMS(G,L)-K10 10/4.0 | 4.0 | - | TT4000 | 16 | 109 | 106 | 98.5 | 83 | 49 | - | - | - |
| | EVMS(G,L)-K10 11/4.0 | 4.0 | - | TT4000 | 16 | 120 | 116 | 109 | 91.5 | 54 | - | - | - |
| | EVMS(G,L)-K10 12/5.5 | 5.5 | - | TT11000 | 16 | 131 | 127 | 118 | 99.5 | 59 | - | - | - |
| | EVMS(G,L)-K10 14/5.5 | 5.5 | - | TT11000 | 16 | 153 | 148 | 138 | 116 | 68.5 | - | - | - |
| | EVMS(G,L)-K10 15/5.5 | 5.5 | - | TT11000 | 16 | 163 | 159 | 148 | 124 | 73.5 | - | - | - |
| | EVMS(G,L)-K10 16/7.5 | 7.5 | - | TT11000 | 25 | 174 | 169 | 158 | 133 | 78.5 | - | - | - |
| | EVMS(G,L)-K10 18/7.5 | 7.5 | - | TT11000 | 25 | 196 | 191 | 178 | 149 | 88.5 | - | - | - |
| | EVMS(G,L)-K10 19/7.5 | 7.5 | - | TT11000 | 25 | 207 | 201 | 188 | 158 | 93.5 | - | - | - |
| | EVMS(G,L)-K10 21/7.5 | 7.5 | - | TT11000 | 25 | 229 | 222 | 207 | 174 | 103 | - | - | - |
| | EVMS(G,L)-K10 22/11 | 11 | - | TT11000 | 25 | 240 | 233 | 217 | 183 | 108 | - | - | - |
| | EVMS(G,L)-K10 23/11 | 11 | - | TT11000 | 25 | 251 | 244 | 227 | 191 | 113 | - | - | - |
| 15 | EVMS(G,L)-K15 1/1.1 | (1.1) | MT2200 | TT4000 | 16 | 14.9 | - | 13.3 | 12.4 | 10.8 | 9.5 | 4.8 | - |
| | EVMS(G,L)-K15 2/2.2 | 2.2 | MT2200 | TT4000 | 16 | 29.5 | - | 27.5 | 26 | 24.9 | 23.1 | 16.8 | - |
| | EVMS(G,L)-K15 3/3.0 | 3.0 | - | TT4000 | 16 | 44.5 | - | 41.5 | 39.7 | 37.3 | 34.7 | 25.2 | - |
| | EVMS(G,L)-K15 4/4.0 | 4.0 | - | TT4000 | 16 | 59 | - | 55 | 53 | 50 | 46.5 | 33.6 | - |
| | EVMS(G,L)-K15 5/5.5 | 5.5 | - | TT11000 | 16 | 73.5 | - | 69 | 66 | 62 | 58 | 42 | - |
| | EVMS(G,L)-K15 6/5.5 | 5.5 | - | TT11000 | 16 | 88.5 | - | 82.5 | 79.5 | 74.5 | 69.5 | 50.5 | - |
| | EVMS(G,L)-K15 7/7.5 | 7.5 | - | TT11000 | 16 | 103 | - | 96.5 | 92.5 | 87 | 81 | 58.5 | - |
| | EVMS(G,L)-K15 8/7.5 | 7.5 | - | TT11000 | 16 | 118 | - | 110 | 106 | 99.5 | 92.5 | 67 | - |
| | EVMS(G,L)-K15 9/11 | 11 | - | TT11000 | 16 | 133 | - | 124 | 119 | 112 | 104 | 75.5 | - |
| | EVMS(G,L)-K15 10/11 | 11 | - | TT11000 | 16 | 147 | - | 138 | 132 | 124 | 116 | 84 | - |
| | EVMS(G,L)-K15 11/11 | 11 | - | TT11000 | 16 | 162 | - | 151 | 146 | 137 | 127 | 92.5 | - |
| | EVMS(G,L)-K15 12/11 | 11 | - | TT11000 | 25 | 177 | - | 165 | 159 | 149 | 139 | 101 | - |
| | EVMS(G,L)-K15 13/11 | 11 | - | TT11000 | 25 | 191 | - | 179 | 172 | 162 | 150 | 109 | - |
| 20 | EVMS(G,L)-K20 1/1.5 | (1.5) | MT2200 | TT4000 | 16 | 17.2 | - | - | 14.3 | 12.8 | 11.3 | 7.3 | 2.4 |
| | EVMS(G,L)-K20 2/3.0 | 3.0 | - | TT4000 | 16 | 33.7 | - | - | 30.4 | 28.9 | 27.7 | 23.6 | 17.4 |
| | EVMS(G,L)-K20 3/4.0 | 4.0 | - | TT4000 | 16 | 50.5 | - | - | 46 | 43.4 | 41.6 | 35.5 | 26.2 |
| | EVMS(G,L)-K20 4/5.5 | 5.5 | - | TT11000 | 16 | 67.4 | - | - | 61 | 58 | 55.4 | 47.3 | 34.9 |
| | EVMS(G,L)-K20 5/7.5 | 7.5 | - | TT11000 | 16 | 84.2 | - | - | 76.0 | 72.3 | 69.3 | 59 | 43.6 |
| | EVMS(G,L)-K20 6/7.5 | 7.5 | - | TT11000 | 16 | 101 | - | - | 91.2 | 87 | 83.1 | 71 | 52.3 |
| | EVMS(G,L)-K20 7/11 | 11 | - | TT11000 | 16 | 118 | - | - | 106 | 101 | 97 | 82.7 | 61.1 |
| | EVMS(G,L)-K20 8/11 | 11 | - | TT11000 | 16 | 135 | - | - | 122 | 116 | 111 | 95 | 70 |
| | EVMS(G,L)-K20 9/11 | 11 | - | TT11000 | 16 | 152 | - | - | 137 | 130 | 125 | 106 | 79 |
| | EVMS(G,L)-K20 10/11 | 11 | - | TT11000 | 25 | 168 | - | - | 152 | 145 | 139 | 118 | 87 |

(.) on request as kW

Established as a Japanese pump manufacturer in 1912, EBARA CORPORATION has leveraged its roots in Japan to expand its business into diverse fields, including fans and blowers, chillers, environmental plants, and the precision machinery industry.

EBARA extends its production operations globally, including Italy. In Italy, EBARA boasts a state-of-the-art facility dedicated to the mass production of stamped stainless steel pumps. This facility utilizes cutting-edge manufacturing technologies, such as a patented stamping process, to ensure the consistent production of high-quality products.

EBARA'S presence extends to Australia, where EBARA PUMPS have been trusted and utilized for over 30 years, earning acclaim for their quality and reliability. In 2000, EBARA PUMPS AUSTRALIA PTY.Ltd. was founded to enhance market serviceability, offering an expanding array of top-tier products. Our extensive product line is bolstered by a robust network of dealers nationwide, ensuring comprehensive sales and service support throughout Australia.



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