

**MULTISTAGE VERTICAL CENTRIFUGAL ELECTRIC PUMPS WITH COUPLING****TECHNICAL DATA****Operating range:**

from 1,8 to 13,5 m<sup>3</sup>/h with head up to 139 metres.

**Pumped liquid:** clean, free of solids and abrasives, non-viscous, non-aggressive, non-crystallised and chemically neutral, with properties similar to water.

**Pumped liquid temperature range:** from 0 °C to +35 °C for domestic use (EN 60335-2-41).

from -15°C to +110°C for other uses.

**Maximum ambient temperature:** +40 °C.

**Maximum operating pressure:** 18 bar (1800 kPa).

**Protection class:** IP 55

**Insulation class:** F

**Standard voltage:** single-phase 220-240 V / 50 Hz.  
three-phase 230-400 V / 50 Hz  
IE2 ≥ 0,75 kW

**Installation:** fixed, vertical position.

**Special executions on requests:** alternative voltages and frequencies.

**APPLICATIONS**

Vertical multistage centrifugal pump suitable for small to medium user water systems. Suitable for pressurisation units, boiler supply, hot water circulation, channelling of condensate and cooling water, fire fighting and washing systems, drinking water supply and filling of pressure vessels, sprinkler and watering systems.

**CONSTRUCTION FEATURES OF THE PUMP**

Cast iron delivery and suction bodies treated against corrosion. Impellers, diffuser bodies and diffusers in technopolymer. AISI 304 stainless steel pump liner and adjustment rings. Pump shaft in AISI 416 stainless steel. AISI 316 stainless steel sliding bushing.

Bronze sliding bushing guide, self-lubricated using the pumped liquid itself. Carbon/ceramic mechanical seal. Rigid coupling motor shaft to pump shaft connection. Threaded counter-flanges supplied as standard.

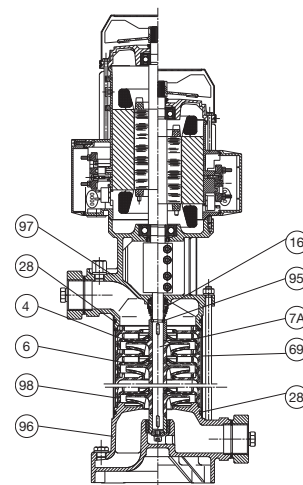
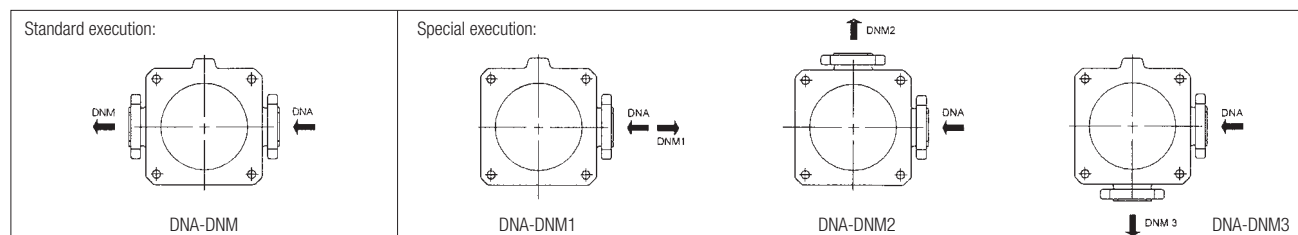
**CONSTRUCTION FEATURES OF THE MOTOR**

Closed asynchronous type, external ventilation cooling. Rotor running on permanently lubricated ball bearings, oversized to ensure low noise and durability. Standard built-in thermo-amperometric protection. Capacitor permanently fitted on single phase versions. Overload protection to be provided by the user for the three-phase version. Construction according to CEI 2-3 / CEI 61-69 (EN 60335-2-41).

**MATERIALS**

| No. | PARTS*          | MATERIALS  |
|-----|-----------------|--|
| 4   | IMPELLER        | TECHNOPOLYMER B                                      |
| 6   | DIFFUSER        | TECHNOPOLYMER B                                      |
| 7A  | PUMP SHAFT      | AISI 416 STAINLESS STEEL<br>X12 CrS 13 UNI 6900/71   |
| 16  | MECHANICAL SEAL | CARBON / CERAMIC                                     |
| 28  | OR RING         | EPDM RUBBER  |
| 69  | LINER           | AISI 304 STAINLESS STEEL<br>X5 CrNi 1810 UNI 6900/71 |
| 95  | OR RING         | EPDM RUBBER  |
| 96  | SUCTION BODY    | CAST IRON 200 UNI ISO 185                            |
| 97  | DELIVERY BODY   | CAST IRON 200 UNI ISO 185                            |
| 98  | DIFFUSER BODY   | TECHNOPOLYMER B                                      |

\* In contact with the liquid.

**ORIENTATION OF THE SUCTION AND DELIVERY CONNECTORS:**

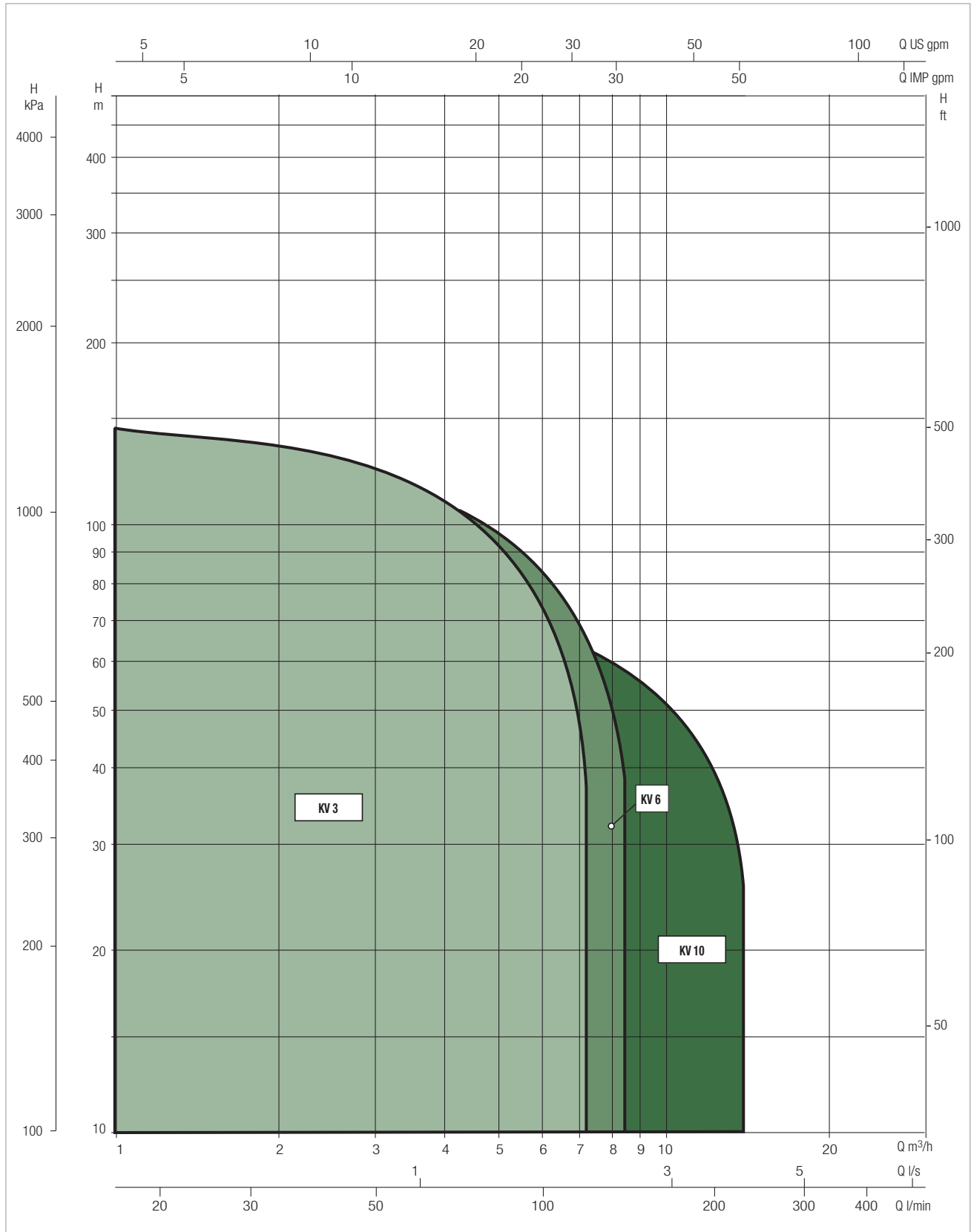
# KV 3-6-10 RANGE

## MULTISTAGE VERTICAL CENTRIFUGAL ELECTRIC PUMPS WITH COUPLING

### PERFORMANCE RANGE

The performance curves are based on kinematic viscosity values = 1 mm<sup>2</sup>/s and density equal to 1000 kg/m<sup>3</sup>. Curve tolerance according to ISO 9906.

### GRAPHIC SELECTION TABLE



**SELECTION TABLE - KV 3**

| MODEL        |             | P2 NOMINAL |     | Q=m <sup>3</sup> /h | 0     | 1.8   | 3.6   | 5.4  | 7.2  |
|--------------|-------------|------------|-----|---------------------|-------|-------|-------|------|------|
| SINGLE-PHASE | THREE-PHASE | kW         | HP  | Q=l/min             | 0     | 30    | 60    | 90   | 120  |
| KV 3/10 M    | KV 3/10 T   | 1.1        | 1.5 | H<br>(m)            | 88    | 77    | 63.5  | 45.7 | 21   |
| KV 3/12 M    | KV 3/12 T   | 1.5        | 2   |                     | 105.6 | 92.4  | 76.2  | 54.8 | 25.2 |
| KV 3/15 M    | KV 3/15 T   | 1.85       | 2.5 |                     | 132   | 115.5 | 95.3  | 68.6 | 31.5 |
| -            | KV 3/18 T   | 2.2        | 3   |                     | 158.4 | 138.6 | 114.3 | 82.3 | 37.8 |

**SELECTION TABLE - KV 6**

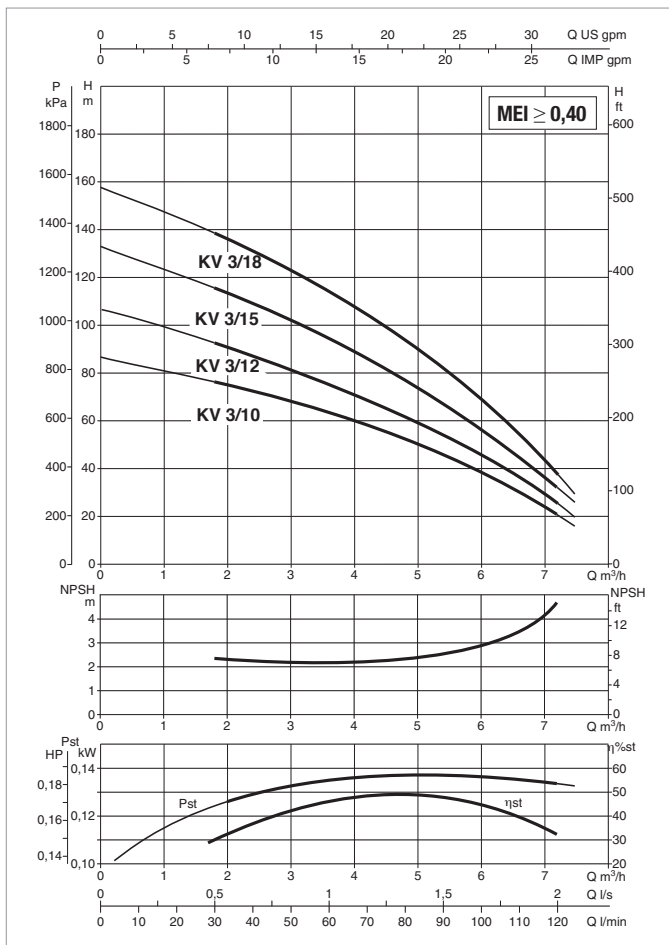
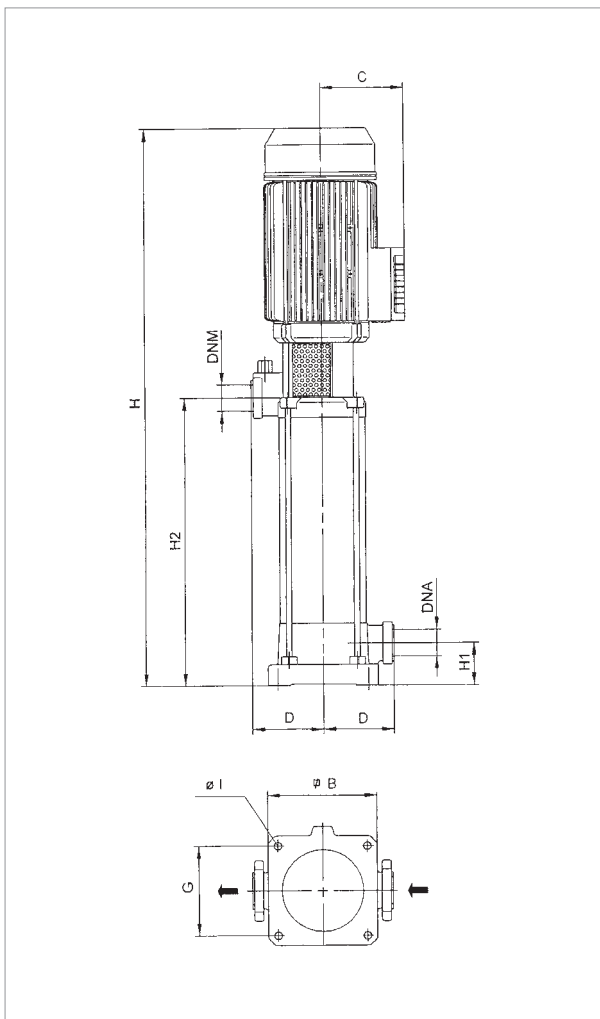
| MODEL        |             | P2 NOMINAL |     | Q=m <sup>3</sup> /h | 0     | 1.8   | 3.6   | 5.4  | 7.2  | 8.4  |
|--------------|-------------|------------|-----|---------------------|-------|-------|-------|------|------|------|
| SINGLE-PHASE | THREE-PHASE | kW         | HP  | Q=l/min             | 0     | 30    | 60    | 90   | 120  | 140  |
| KV 6/7 M     | KV 6/7 T    | 1.1        | 1.5 | H<br>(m)            | 62.3  | 57.8  | 51.5  | 42.5 | 29.5 | 18.6 |
| KV 6/9 M     | KV 6/9 T    | 1.5        | 2   |                     | 80.1  | 74.3  | 66.2  | 54.6 | 38   | 23.9 |
| KV 6/11 M    | KV 6/11 T   | 1.85       | 2.5 |                     | 97.9  | 90.8  | 81    | 66.8 | 46.4 | 29.2 |
| -            | KV 6/15 T   | 2.2        | 3   |                     | 133.5 | 123.8 | 110.4 | 91.1 | 63.3 | 39.8 |

**SELECTION TABLE - KV 10**

| MODEL        |             | P2 NOMINAL |     | Q=m <sup>3</sup> /h | 0    | 1.8  | 3.6  | 5.4  | 7.2 | 8.4  | 10.2 | 12  | 13.8 |
|--------------|-------------|------------|-----|---------------------|------|------|------|------|-----|------|------|-----|------|
| SINGLE-PHASE | THREE-PHASE | kW         | HP  | Q=l/min             | 0    | 30   | 60   | 90   | 120 | 140  | 170  | 200 | 230  |
| KV 10/4 M    | KV 10/4 T   | 1.1        | 1.5 | H<br>(m)            | 38.2 | 37.4 | 36.2 | 34.4 | 32  | 29.7 | 25.5 | 20  | 12.6 |
| KV 10/5 M    | KV 10/5 T   | 1.5        | 2   |                     | 47.8 | 46.8 | 45.2 | 43   | 40  | 37.2 | 31.9 | 25  | 15.8 |
| -            | KV 10/6 T   | 1.85       | 2.5 |                     | 57.3 | 56.1 | 54.2 | 51.6 | 48  | 44.6 | 38.2 | 30  | 18.9 |
| -            | KV 10/8 T   | 2.2        | 3   |                     | 76.4 | 74.8 | 72.3 | 68.8 | 64  | 59.4 | 51   | 40  | 25.2 |

# KV 3 - MULTISTAGE VERTICAL CENTRIFUGAL ELECTRIC PUMPS WITH COUPLING FOR CIVIL AND INDUSTRIAL PRESSURISATION SYSTEMS, PRESSURE UNITS

Pumped liquid temperature range: from 0 °C to +35 °C for domestic use (EN 60335-2-41). From -15°C to +110°C for other uses.  
 Maximum ambient temperature: +40°C



See hydraulic efficiency details on page 291.  
 The performance curves are based on kinematic viscosity values = 1 mm<sup>2</sup>/s and density equal to 1000 kg/m<sup>3</sup>. Curve tolerance according to ISO 9906.

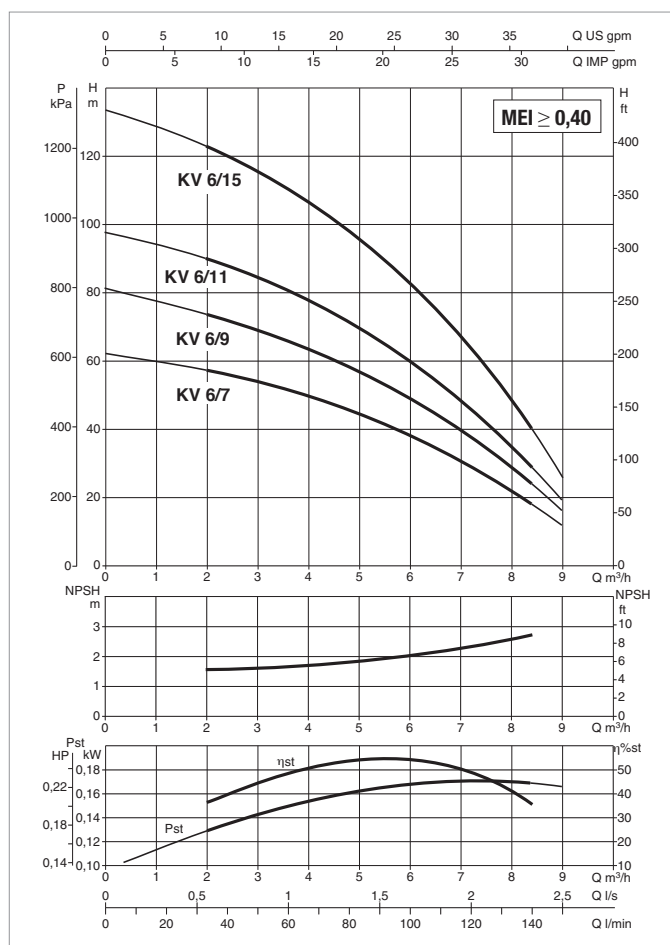
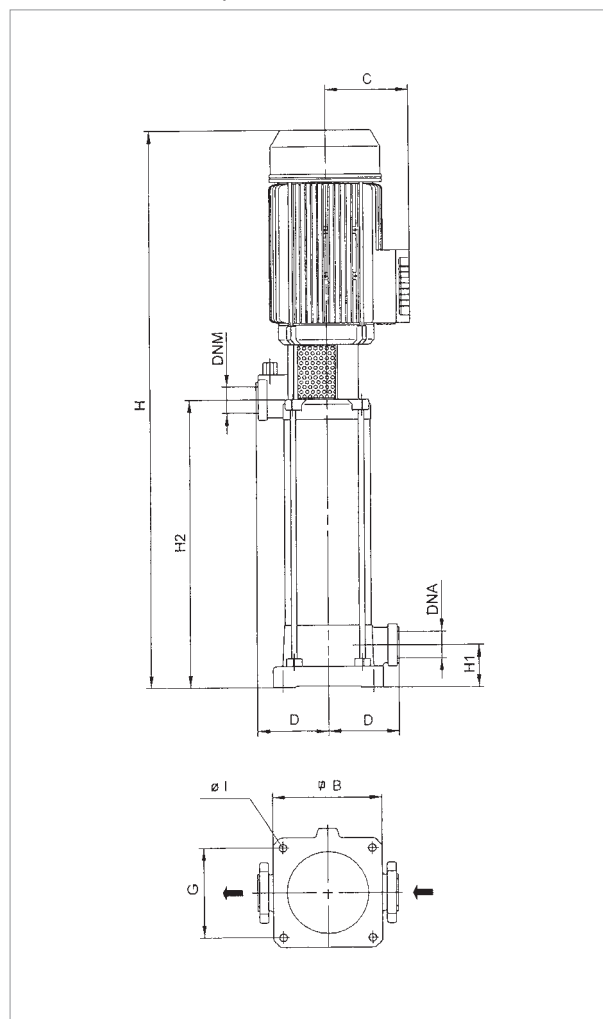
| MODEL     | POWER INPUT<br>50 Hz | P1<br>MAX<br>kW | P2 NOMINAL |     | In A    | MOTOR<br>TYPE | I st. A | 1/min. | CAPACITOR |     |
|-----------|----------------------|-----------------|------------|-----|---------|---------------|---------|--------|-----------|-----|
|           |                      |                 | kW         | HP  |         |               |         |        | µF        | Vc  |
| KV 3/10 M | 1x220-240 V ~        | 1.77            | 1.1        | 1.5 | 7.8     | -             | 29      | 2800   | 31.5      | 450 |
| KV 3/10 T | 3x230-400 V ~        | 1.8             | 1.1        | 1.5 | 7.4     | IE2           | 21      | 2850   | -         | -   |
| KV 3/12 M | 1x220-240 V ~        | 2.34            | 1.5        | 2   | 9.6     | -             | 38      | 2750   | 40        | 450 |
| KV 3/12 T | 3x230-400 V ~        | 2.06            | 1.5        | 2   | 7.5-4   | IE2           | 22      | 2750   | -         | -   |
| KV 3/15 M | 1x220-240 V ~        | 2.5             | 1.85       | 2.5 | 11.3    | -             | 48      | 2850   | 40        | 450 |
| KV 3/15 T | 3x230-400 V ~        | 2.6             | 1.85       | 2.5 | 7.5-4.3 | IE2           | 57-33   | 2850   | -         | -   |
| KV 3/18 T | 3x230-400 V ~        | 3.3             | 2.2        | 3   | 10-5.8  | IE2           | 78-45   | 2850   | -         | -   |

| MODEL     | B   | C   | D   | G   | I  | H    | H1 | H2  | DNA    | DNM    | PACKING DIMENSIONS |     |     | VOLUME<br>(m <sup>3</sup> ) | WEIGHT<br>kg |
|-----------|-----|-----|-----|-----|----|------|----|-----|--------|--------|--------------------|-----|-----|-----------------------------|--------------|
|           |     |     |     |     |    |      |    |     |        |        | L/A                | L/B | H   |                             |              |
| KV 3/10 M | 155 | 111 | 100 | 127 | 11 | 782  | 60 | 472 | 1" 1/4 | 1" 1/4 | 972                | 232 | 232 | 0.052                       | 27.2         |
| KV 3/10 T | 155 | 111 | 100 | 127 | 11 | 782  | 60 | 472 | 1" 1/4 | 1" 1/4 | 972                | 232 | 232 | 0.052                       | 26.3         |
| KV 3/12 M | 155 | 116 | 100 | 127 | 11 | 846  | 60 | 536 | 1" 1/4 | 1" 1/4 | 972                | 232 | 232 | 0.052                       | 30.6         |
| KV 3/12 T | 155 | 111 | 100 | 127 | 11 | 846  | 60 | 536 | 1" 1/4 | 1" 1/4 | 972                | 232 | 232 | 0.052                       | 28           |
| KV 3/15 M | 155 | 116 | 100 | 127 | 11 | 942  | 60 | 632 | 1" 1/4 | 1" 1/4 | 1212               | 232 | 232 | 0.065                       | 33           |
| KV 3/15 T | 155 | 116 | 100 | 127 | 11 | 942  | 60 | 632 | 1" 1/4 | 1" 1/4 | 1212               | 232 | 232 | 0.065                       | 31.9         |
| KV 3/18 T | 155 | 116 | 100 | 127 | 11 | 1116 | 60 | 728 | 1" 1/4 | 1" 1/4 | 1212               | 232 | 232 | 0.065                       | 35.8         |

## KV 6 - MULTISTAGE VERTICAL CENTRIFUGAL ELECTRIC PUMPS WITH COUPLING FOR CIVIL AND INDUSTRIAL PRESSURISATION SYSTEMS, PRESSURE UNITS

Pumped liquid temperature range: from 0 °C to +35 °C for domestic use (EN 60335-2-41). From -15°C to +110°C for other uses.

Maximum ambient temperature: +40°C



See hydraulic efficiency details on page 291.

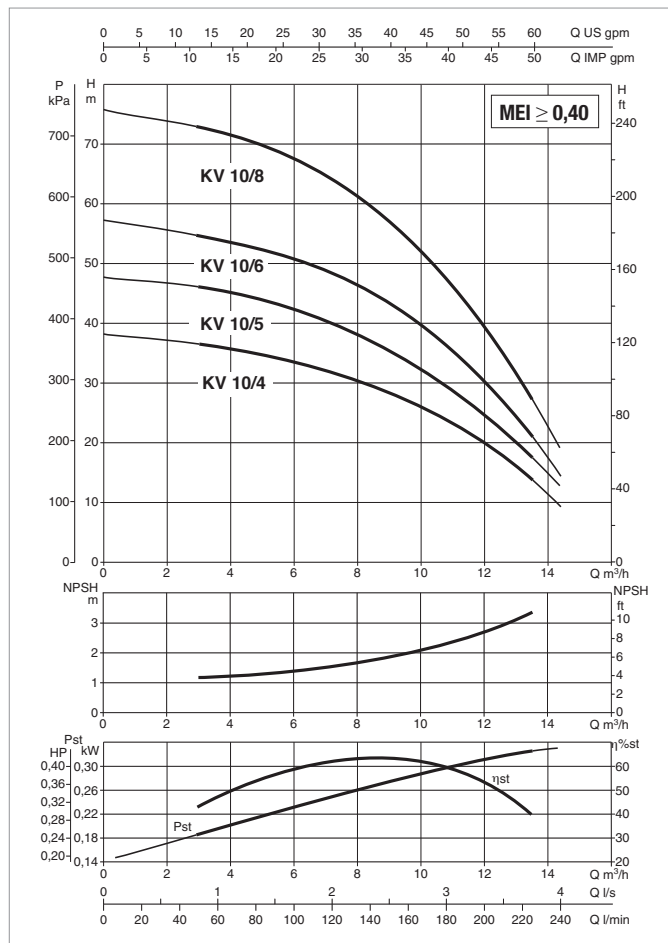
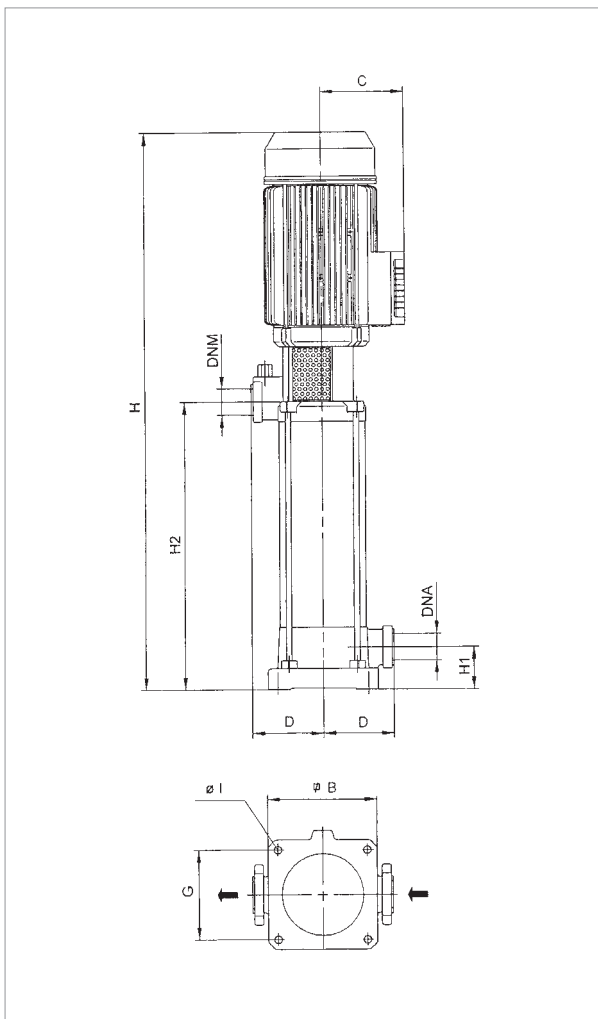
The performance curves are based on kinematic viscosity values = 1 mm<sup>2</sup>/s and density equal to 1000 kg/m<sup>3</sup>. Curve tolerance according to ISO 9906.

| MODEL     | POWER INPUT<br>50 Hz | P1<br>MAX<br>kW | P2 NOMINAL |     | In A    | MOTOR<br>TYPE | I st. A | 1/min. | CAPACITOR |     |
|-----------|----------------------|-----------------|------------|-----|---------|---------------|---------|--------|-----------|-----|
|           |                      |                 | kW         | HP  |         |               |         |        | μF        | Vc  |
| KV 6/7 M  | 1x220-240 V ~        | 1.68            | 1.1        | 1.5 | 7.5     | -             | 29      | 2800   | 31.5      | 450 |
| KV 6/7 T  | 3x230-400 V ~        | 1.6             | 1.1        | 1.5 | 5-2.9   | IE2           | 38-22   | 2850   | -         | -   |
| KV 6/9 M  | 1x220-240 V ~        | 2.1             | 1.5        | 2   | 9.4     | -             | 38      | 2850   | 40        | 450 |
| KV 6/9 T  | 3x230-400 V ~        | 2               | 1.5        | 2   | 7.5-4.2 | IE2           | 22      | 2850   | -         | -   |
| KV 6/11 M | 1x220-240 V ~        | 2.5             | 1.85       | 2.5 | 11.1    | -             | 48      | 2850   | 40        | 450 |
| KV 6/11 T | 3x230-400 V ~        | 2.3             | 1.85       | 2.5 | 7.3-4.2 | IE2           | 43-25   | 2850   | -         | -   |
| KV 6/15 T | 3x230-400 V ~        | 3.3             | 2.2        | 3   | 11-6.3  | IE2           | 78-45   | 2850   | -         | -   |

| MODEL     | B   | C   | D   | G   | I  | H    | H1 | H2  | DNA    | DNM    | PACKING DIMENSIONS |     |     | VOLUME<br>(m <sup>3</sup> ) | WEIGHT<br>kg |
|-----------|-----|-----|-----|-----|----|------|----|-----|--------|--------|--------------------|-----|-----|-----------------------------|--------------|
|           |     |     |     |     |    |      |    |     |        |        | L/A                | L/B | H   |                             |              |
| KV 6/7 M  | 155 | 111 | 100 | 127 | 11 | 685  | 60 | 376 | 1" 1/4 | 1" 1/4 | 972                | 232 | 232 | 0.052                       | 26.1         |
| KV 6/7 T  | 155 | 111 | 100 | 127 | 11 | 685  | 60 | 376 | 1" 1/4 | 1" 1/4 | 972                | 232 | 232 | 0.052                       | 25.2         |
| KV 6/9 M  | 155 | 116 | 100 | 127 | 11 | 750  | 60 | 440 | 1" 1/4 | 1" 1/4 | 972                | 232 | 232 | 0.052                       | 29           |
| KV 6/9 T  | 155 | 111 | 100 | 127 | 11 | 750  | 60 | 440 | 1" 1/4 | 1" 1/4 | 972                | 232 | 232 | 0.052                       | 26.8         |
| KV 6/11 M | 155 | 116 | 100 | 127 | 11 | 815  | 60 | 504 | 1" 1/4 | 1" 1/4 | 972                | 232 | 232 | 0.052                       | 31.3         |
| KV 6/11 T | 155 | 116 | 100 | 127 | 11 | 815  | 60 | 504 | 1" 1/4 | 1" 1/4 | 972                | 232 | 232 | 0.052                       | 27.7         |
| KV 6/15 T | 155 | 116 | 100 | 127 | 11 | 1020 | 60 | 632 | 1" 1/4 | 1" 1/4 | 1212               | 232 | 232 | 0.065                       | 34.5         |

# KV 10 - MULTISTAGE VERTICAL CENTRIFUGAL ELECTRIC PUMPS WITH COUPLING FOR CIVIL AND INDUSTRIAL PRESSURISATION SYSTEMS, PRESSURE UNITS

Pumped liquid temperature range: from 0 °C to +35 °C for domestic use (EN 60335-2-41). From -15°C to +110°C for other uses.  
 Maximum ambient temperature: +40°C



See hydraulic efficiency details on page 291.  
 The performance curves are based on kinematic viscosity values = 1 mm<sup>2</sup>/s and density equal to 1000 kg/m<sup>3</sup>. Curve tolerance according to ISO 9906.

| MODEL     | POWER INPUT<br>50 Hz | P1<br>MAX<br>kW | P2 NOMINAL |     | In A     | MOTOR<br>TYPE | I st. A | 1/min. | CAPACITOR |     |
|-----------|----------------------|-----------------|------------|-----|----------|---------------|---------|--------|-----------|-----|
|           |                      |                 | kW         | HP  |          |               |         |        | µF        | Vc  |
| KV 10/4 M | 1x220-240 V ~        | 1.9             | 1.1        | 1.5 | 8.3      | -             | 29      | 2850   | 31.5      | 450 |
| KV 10/4 T | 3x230-400 V ~        | 1.9             | 1.1        | 1.5 | 6.1-3.5  | IE2           | 38-22   | 2850   | -         | -   |
| KV 10/5 M | 1x220-240 V ~        | 2.4             | 1.5        | 2   | 10.4     | -             | 45      | 2850   | 40        | 450 |
| KV 10/5 T | 3x230-400 V ~        | 2.3             | 1.5        | 2   | 8-4.5    | IE2           | 22      | 2850   | -         | -   |
| KV 10/6 M | 1x220-240 V ~        | 2.6             | 1.85       | 2.5 | 12.5     | -             | 54      | 2850   | 40        | 450 |
| KV 10/6 T | 3x230-400 V ~        | 2.8             | 1.85       | 2.5 | 8.7-5    | IE2           | 57-33   | 2850   | -         | -   |
| KV 10/8 T | 3x230-400 V ~        | 3.7             | 2.2        | 3   | 11.8-6.8 | IE2           | 78-45   | 2850   | -         | -   |

| MODEL     | B   | C   | D   | G   | I  | H   | H1 | H2  | DNA    | DNM    | PACKING DIMENSIONS |     |     | VOLUME<br>(m <sup>3</sup> ) | WEIGHT<br>kg |
|-----------|-----|-----|-----|-----|----|-----|----|-----|--------|--------|--------------------|-----|-----|-----------------------------|--------------|
|           |     |     |     |     |    |     |    |     |        |        | L/A                | L/B | H   |                             |              |
| KV 10/4 M | 155 | 111 | 100 | 127 | 11 | 590 | 60 | 280 | 1" 1/4 | 1" 1/4 | 712                | 232 | 232 | 0.038                       | 27.2         |
| KV 10/4 T | 155 | 111 | 100 | 127 | 11 | 590 | 60 | 280 | 1" 1/4 | 1" 1/4 | 712                | 232 | 232 | 0.038                       | 26.3         |
| KV 10/5 M | 155 | 116 | 100 | 127 | 11 | 625 | 60 | 312 | 1" 1/4 | 1" 1/4 | 712                | 232 | 232 | 0.038                       | 30.6         |
| KV 10/5 T | 155 | 111 | 100 | 127 | 11 | 625 | 60 | 312 | 1" 1/4 | 1" 1/4 | 972                | 232 | 232 | 0.052                       | 28           |
| KV 10/6 M | 155 | 116 | 100 | 127 | 11 | 738 | 60 | 344 | 1" 1/4 | 1" 1/4 | 972                | 232 | 232 | 0.052                       | 33           |
| KV 10/6 T | 155 | 111 | 100 | 127 | 11 | 738 | 60 | 344 | 1" 1/4 | 1" 1/4 | 972                | 232 | 232 | 0.052                       | 31.9         |
| KV 10/8 T | 155 | 116 | 100 | 127 | 11 | 798 | 60 | 408 | 1" 1/4 | 1" 1/4 | 972                | 232 | 232 | 0.052                       | 35.8         |