

## 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. KV-S model with impellers and diffusers made of AISI 304 with special voltage and relative ambient temperature range up to +50°C.

## 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.

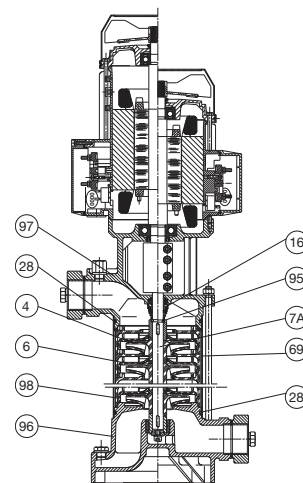
## CONSTRUCTION FEATURES OF THE MOTOR

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).

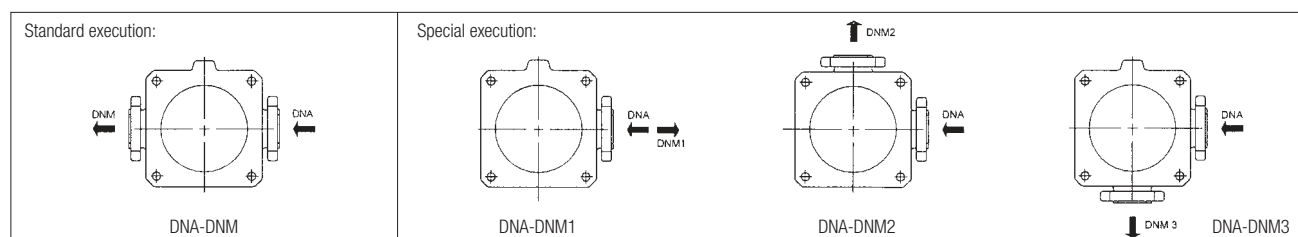
## MATERIALS

No.	PARTS*	MATERIALS
4	IMPELLER	TECHNOPOLYMER B
6	DIFFUSER	TECHNOPOLYMER B
7A	PUMP SHAFT	AISI 416 STAINLESS STEEL X12 CrS 13 UNI 6900/71
16	MECHANICAL SEAL	CARBON / CERAMIC
28	OR RING	EPDM RUBBER
69	LINER	AISI 304 STAINLESS STEEL 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:



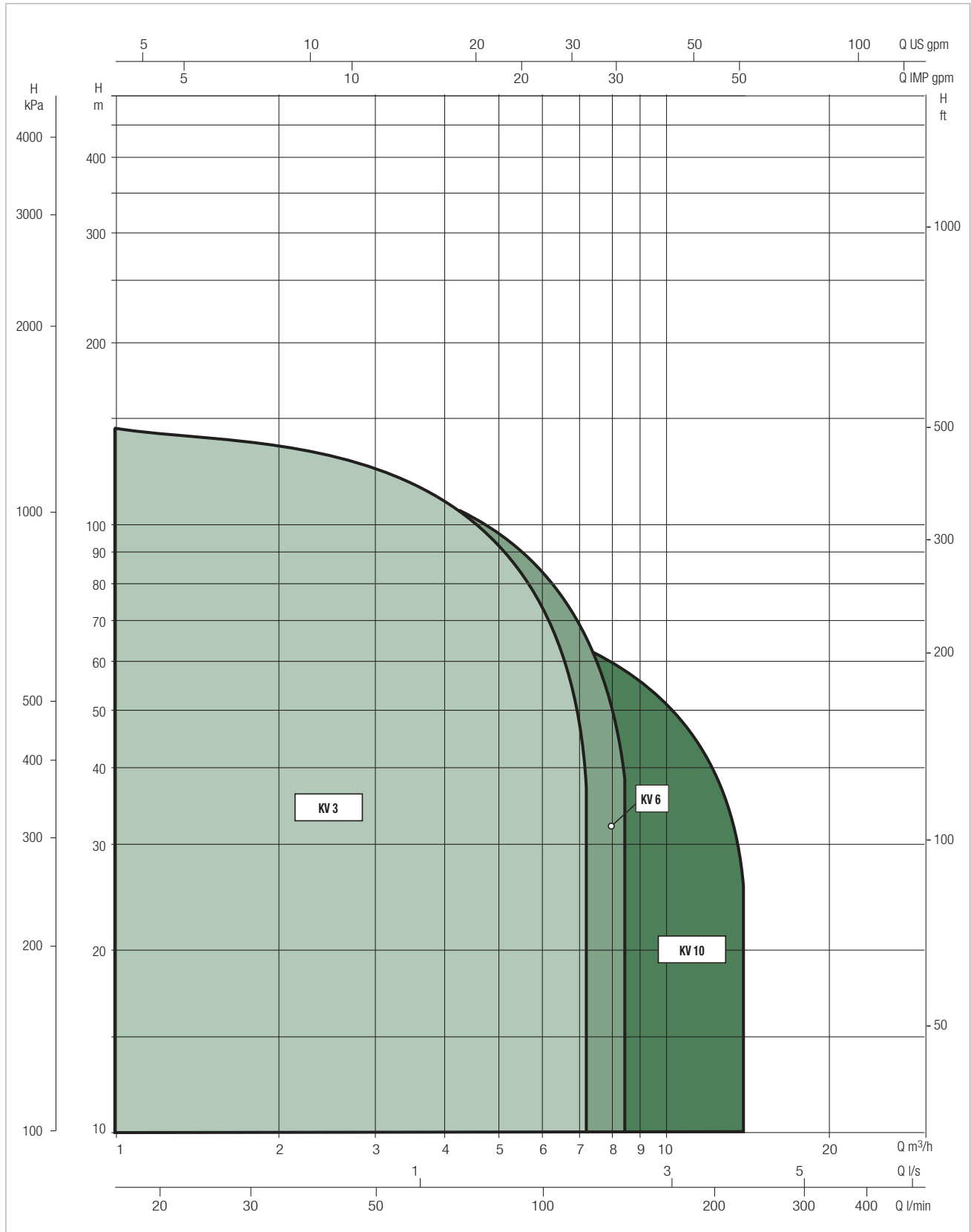
# KV 3-6-10 RANGE

## 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 (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**

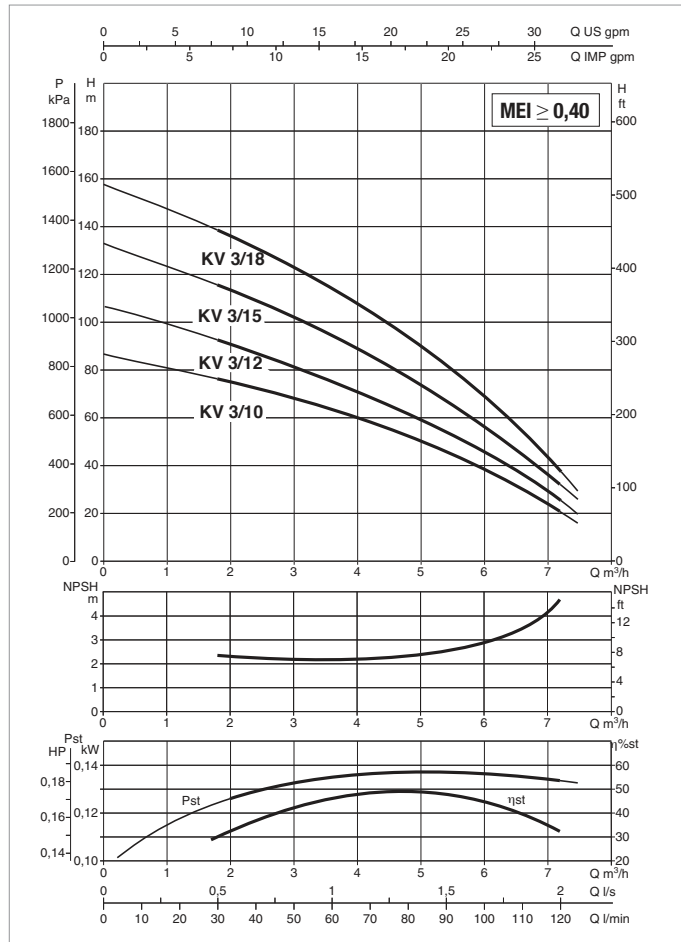
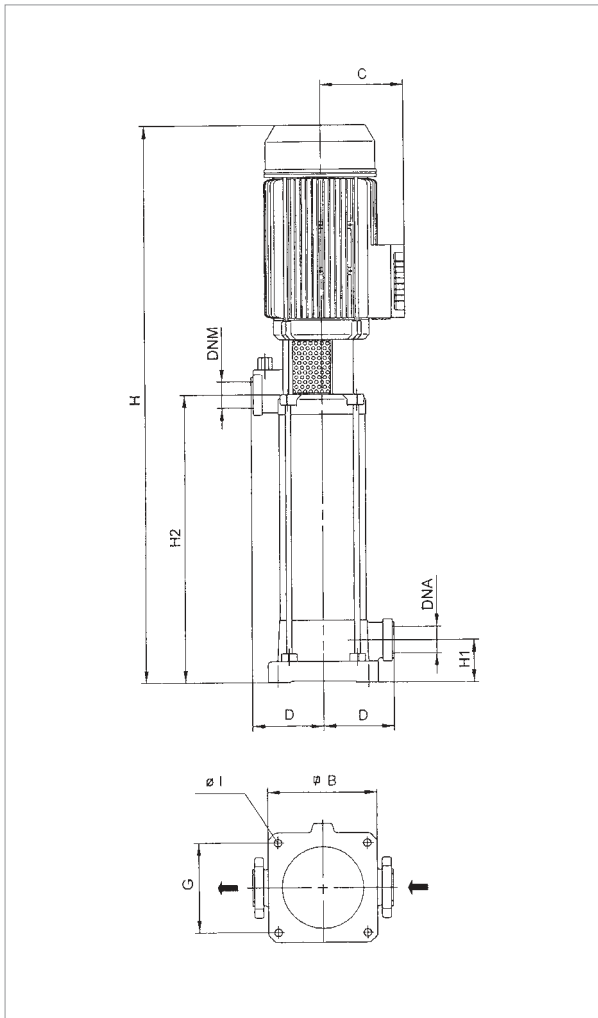
MODEL		P2 NOMINAL		Q=m <sup>3</sup> /h	0	1.8	3.6	5.4	7.2	8.4
SINGLE-PHASE	THREE-PHASE	kW	HP	Q=l/min	0	30	60	90	120	140
KV 6/7 M	KV 6/7 T	1.1	1.5	H (m)	62.3	57.8	51.5	42.5	29.5	18.6
KV 6/9 M	KV 6/9 T	1.5	2		80.1	74.3	66.2	54.6	38	23.9
KV 6/11 M	KV 6/11 T	1.85	2.5		97.9	90.8	81	66.8	46.4	29.2
-	KV 6/15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

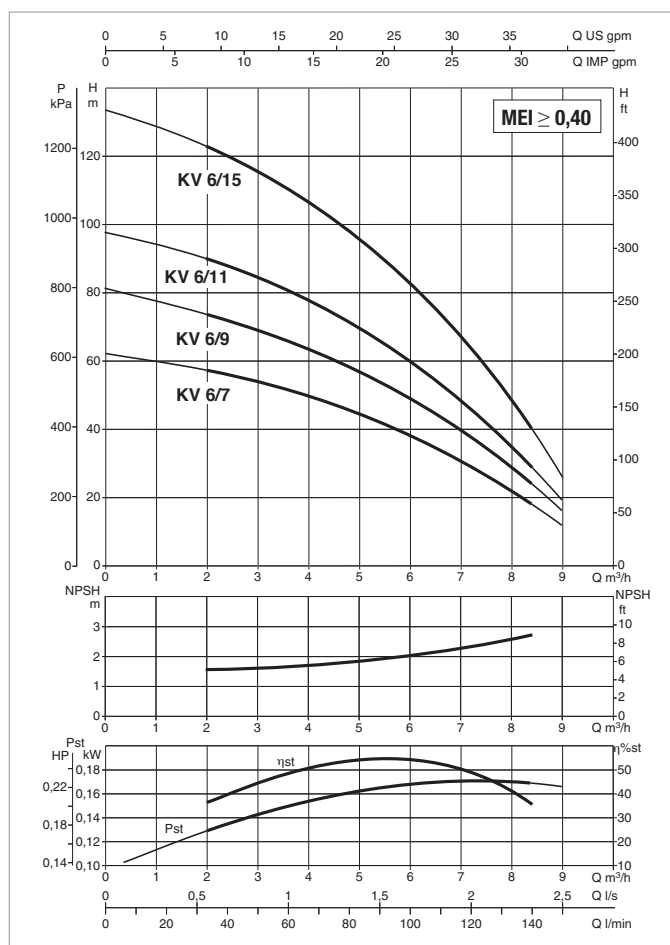
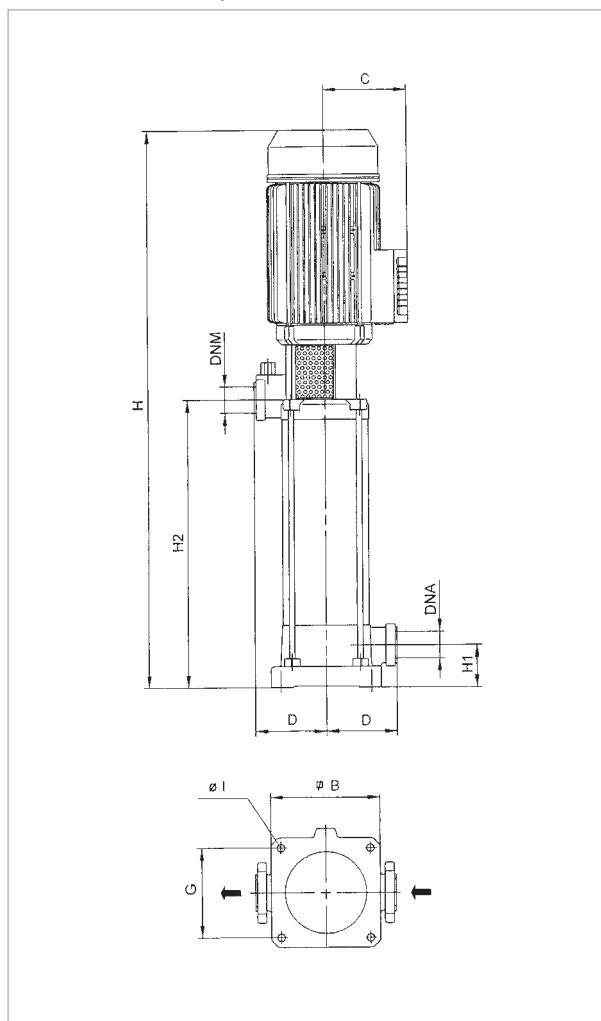
MODEL	POWER INPUT 50 Hz	P1 MAX kW	P2 NOMINAL		In A	MOTOR TYPE	I st. A	1/min.	CAPACITOR	
			kW	HP					µF	Vc
KV 3/10 M	1x220-240 V ~	1.77	1.1	1.5	7.8	-	29	2800	31.5	450
KV 3/10 T	3x230-400 V ~	1.8	1.1	1.5	7.4	IE2	21	2850	-	-
KV 3/12 M	1x220-240 V ~	2.34	1.5	2	9.6	-	38	2750	40	450
KV 3/12 T	3x230-400 V ~	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 (m <sup>3</sup> )	WEIGHT 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.

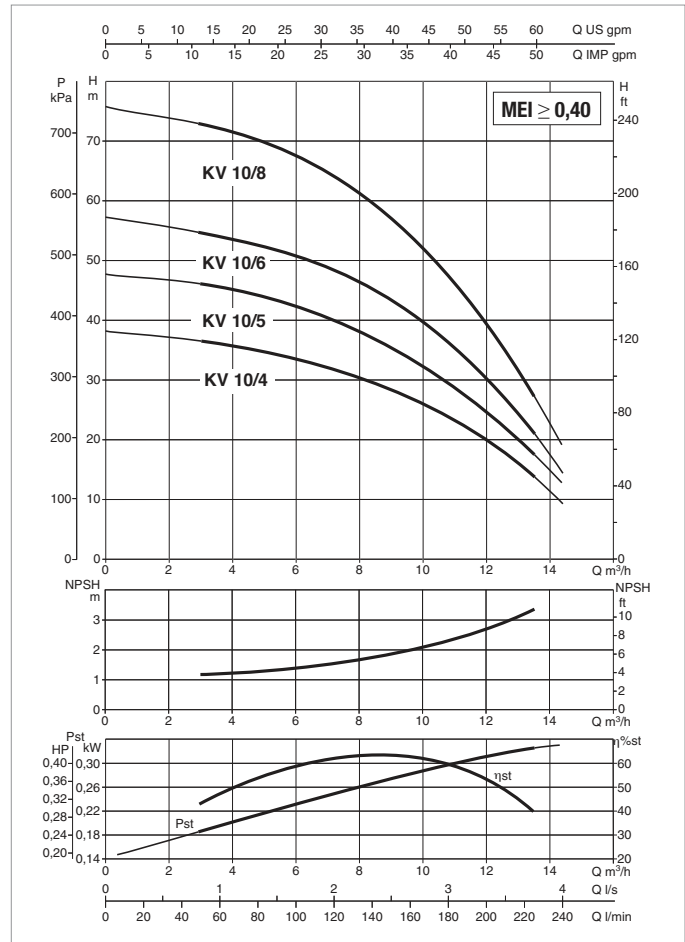
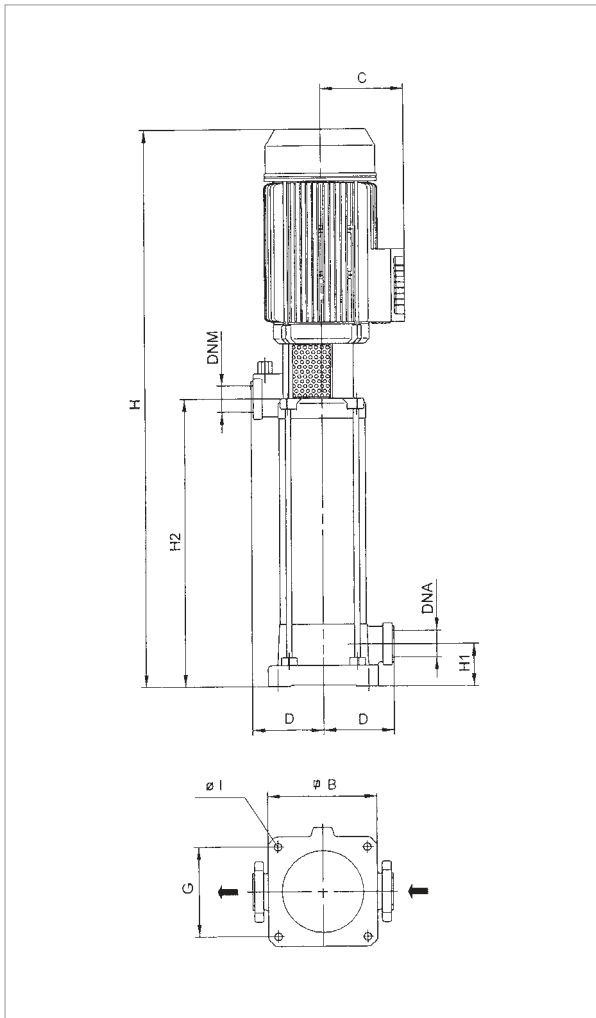
The performance curves are based on kinematic viscosity values = 1 mm<sup>2</sup>/s and density equal to 1000 kg/m<sup>3</sup>. Curve tolerance according to ISO 9906.

MODEL	POWER INPUT 50 Hz	P1 MAX kW	P2 NOMINAL		In A	MOTOR 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 (m <sup>3</sup> )	WEIGHT 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 50 Hz	P1 MAX kW	P2 NOMINAL		In A	MOTOR 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 (m <sup>3</sup> )	WEIGHT 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