

1/2/3 KV 3-6-10

PRESSURE BOOSTER SETS WITH ONE VERTICAL PUMP

TECHNICAL DATA

Operating range: from 1,8 to 43 m³/h

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 -15 °C to +70 °C.

Maximum ambient temperature: +40 °C.

Maximum operating pressure: PN16.

Special executions on request: contact our sales network.

Protection class: IP44

IE2 motors as standard from 0,75 kW to 5,5 kW - IE3 ≥ 7,5 kW



APPLICATIONS

Water lifting sets particularly suited for domestic use, and small civil, agricultural, or industrial systems. The use of vertical axis multistage centrifugal electric pumps ensures high performance results. Their main features are limited space requirements, sturdiness, absolute reliability, and extremely quiet operation.

CONSTRUCTION FEATURES

SETS WITH 1 PUMP

HYDRAULIC SECTION

1 KV 3 - KV 6 - KV 10 vertical multistage electric pumps.

1 membrane tank.

Radial manometer.

Tropicalized galvanised steel threaded delivery manifold.

Ball valves with unions on the suction and delivery ports.

Isolator valve on the suction.

Radial manometer with isolator valve.

Flexible anti-vibration hose.

Tropicalized galvanized cast iron female plug for closing the manifold.

ELECTRICAL SECTION

Single phase power input

1 2-pole pressure switch with cable gland connected to the motor and complete with power input cable and plug.

Three phase power input

Remote motor protection control panel with reset pushbutton, secured to the motor by means of a tropicalized steel bracket, and also electrically connected to the motor, with terminal box for connection to the power input line -

1 2-pole pressure switch with cable gland connected to the remote motor protector control panel.

The sets are supplied in a sturdy cardboard packaging on wooden pallet and instruction leaflet with electric diagram.

SETS WITH 2 3 PUMPS

HYDRAULIC SECTION

2 - 3 KV 3-6-10 vertical multistage electric pumps.

Tropicalized galvanized sheet steel base complete with 4 rubber anti-vibration feet.

Galvanised steel suction and delivery manifolds, threaded for 2 KV 3-6-10 and 3 KV 3-6 sets, flanged for 3 KVE 10 sets.

Plugs or blind flanges for closing the manifolds.

Ball valves with unions on the suction and delivery ports of each pump.

Check valves on the suction port of each pump.

2 membrane tanks.

Radial manometer with isolator valve.

Electric control panel support in galvanised steel.

1/2/3 KV 3-6-10

PRESSURE BOOSTER SETS WITH ONE VERTICAL PUMP

2 KV ELECTRIC COMPONENTS

IP 55 protection class self-extinguishing, shock-resistant plastic electric control panel. The control panel protects the electric pumps and controls the sequence, keeping the system at an average pressure value already preset at the factory. The average pressure value may be changed using a trimmer found inside the control panel. The pump starting order is switched at each operating cycle. The pressure is measured through a pressure transmitter on the delivery manifold.

FRONT PANEL COMPONENTS:

General disconnecter with padlockable door lock.
AUT-MAN operation selection points.
Alarm RESET pushbutton.
Operation, stop, and alarm notification lamps.

PANEL INTERNAL COMPONENTS:

Electronic control card with protection fuses and contactors.
Power input connection terminal (single phase or three phase).
- Dry run or overpressure pressure switch connection terminals (optional).
Alarm notification N.O. contacts.
Function selection mini dip switch (pressure transmitter or pressure switches, standard or additional tanks).

3KV ELECTRIC COMPONENTS

IP 55 protection class self-extinguishing, shock-resistant plastic electric control panel. The control panel includes the general switch, the electric pump protection thermal magnetic circuit breakers, the electric pump start order switch system, the 24 V low voltage circuit for the control of the pressure switches, MAN-O-AUT selectors (single phase operation control panel pushbuttons), notification lamps at the front of the panel. Installed on appropriate support on the pump base. Pump start/stop pre-calibrated pressure switches.

The electric control panel is ready for the connection of:

Dry run protection float or pressure switch kit (*).

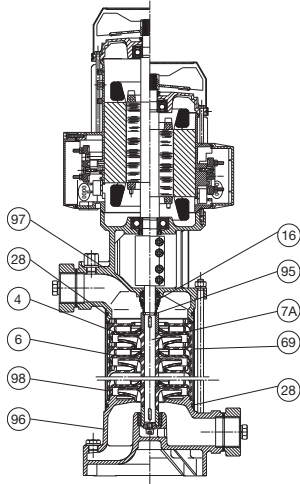
Overpressure stop pressure switch kit (*).

(*) available separately as optional.

The sets are supplied in a sturdy cardboard packaging on wooden pallet and installation / maintenance manual with electric diagram.

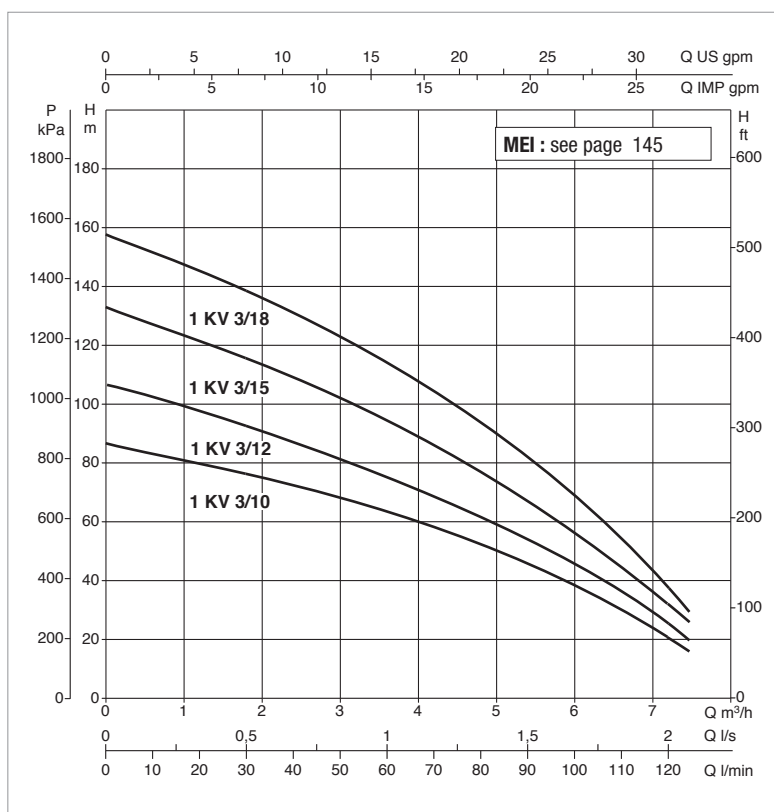
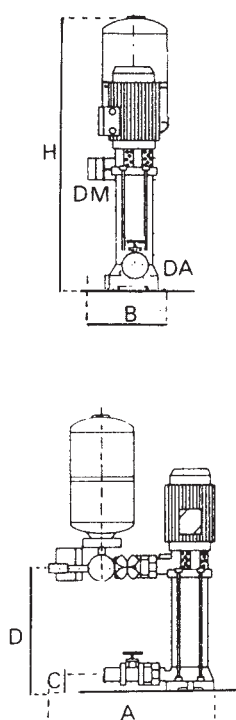
MATERIALS

N.	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



1 KV 3 - CIVIL USE PRESSURE BOOSTER SETS

Pumped liquid temperature range: from -15°C to +70°C - Maximum ambient temperature: +40 °C - Max flow rate: 7.2 m³/h



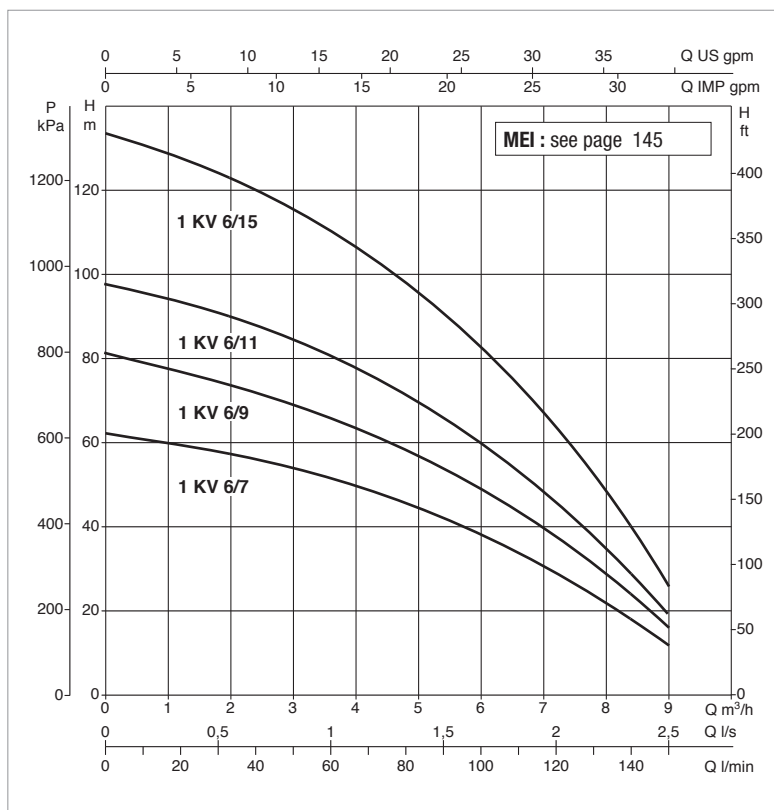
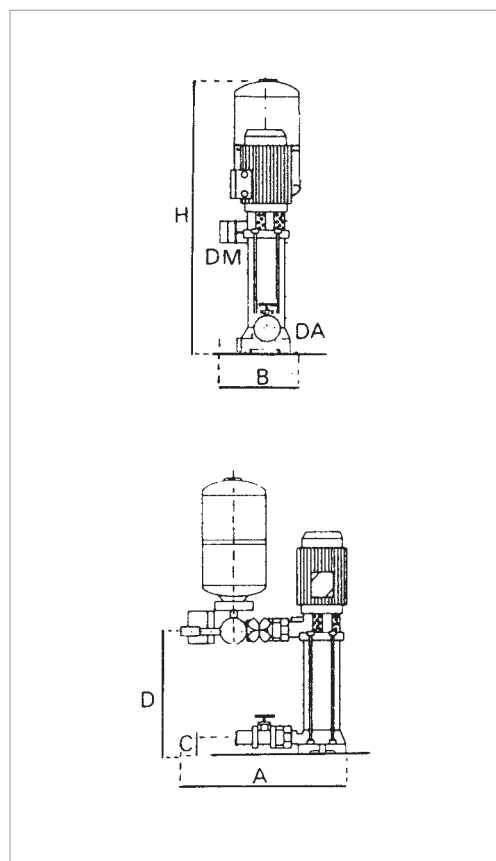
The performance curves are based on kinematic viscosity values = 1 mm²/s and density equivalent to 1000 kg/m³
Curve tolerance according to ISO 9906.

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In A	FLOW m³/h	PRESSURE SWITCH CALIBRATION BAR	MAX OBTAINABLE PRESSURE BAR
		kW	HP				
1 KV 3/10 M	1x220-240 V ~	1.1	1.5	7.8	7.2-1.8	5÷6	8.2
1 KV 3/12 M	1x220-240 V ~	1.5	2	9.6	7.2-1.8	6÷1	10.2
1 KV 3/10 T	3x400 V ~	1.1	1.5	3.2	7.2-1.8	5÷6	8.2
1 KV 3/12 T	3x400 V ~	1.5	2	3.7	7.2-1.8	6÷1	10.2
1 KV 3/15 T	3x400 V ~	1.85	2.5	4.3	7.2-1.8	8÷9	13
1 KV 3/18 T	3x400 V ~	2.2	3	5.8	7.2-1.8	10÷11	15.8

MODEL	A	B	C	D	H	Ø MANIFOLDS		WEIGHT kg
						DNA (suc.)	DNM (del.)	
1 KV 3/10 M	760	300	120	473	993	1 1/4"	1 1/2"	39
1 KV 3/12 M	760	300	120	596	1116	1 1/4"	1 1/2"	40
1 KV 3/10 T	760	300	120	473	993	1 1/4"	1 1/2"	39
1 KV 3/12 T	760	300	120	596	1116	1 1/4"	1 1/2"	40
1 KV 3/15 T	760	300	120	692	1212	1 1/4"	1 1/2"	41
1 KV 3/18 T	760	300	120	788	1318	1 1/4"	1 1/2"	47

1 KV 6 - CIVIL USE PRESSURE BOOSTER SETS

Pumped liquid temperature range: from -15°C to +70°C - Maximum ambient temperature: +40 °C - Max flow rate: 9 m³/h



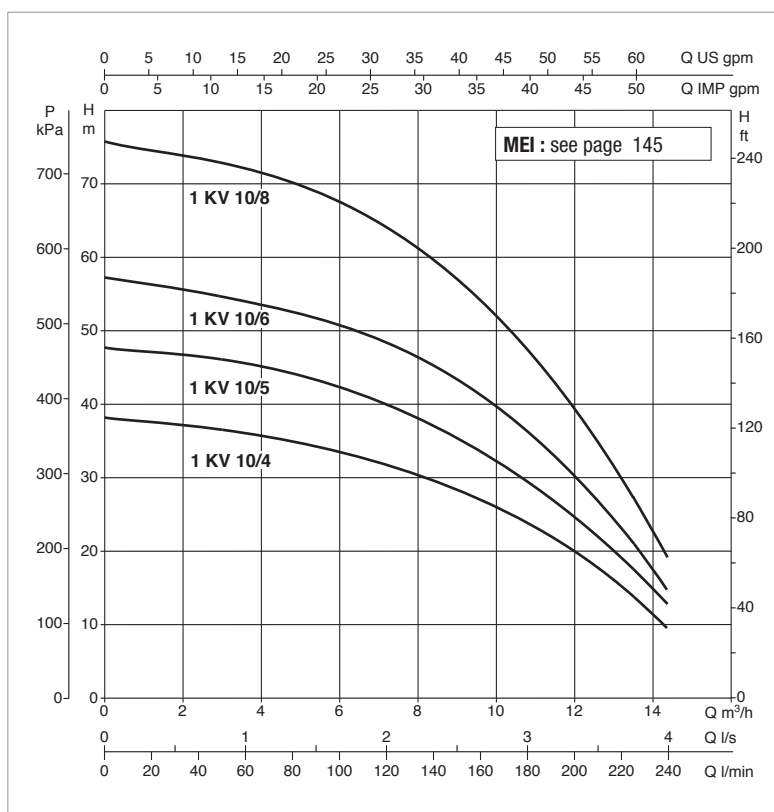
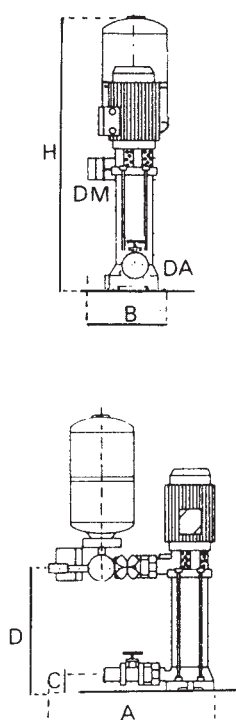
The performance curves are based on kinematic viscosity values = 1 mm²/s and density equivalent to 1000 kg/m³
Curve tolerance according to ISO 9906.

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In A	FLOW m³/h	PRESSURE SWITCH CALIBRATION BAR	MAX OBTAINABLE PRESSURE BAR
		kW	HP				
1 KV 6/7 M	1x220-240 V ~	1.1	1.5	7.5	8.5-2.4	4÷5	6
1 KV 6/9 M	1x220-240 V ~	1.5	2	9.4	8.5-2.4	5÷6	8
1 KV 6/7 T	3x400 V ~	1.1	1.5	2.9	8.5-2.4	4÷5	6
1 KV 6/9 T	3x400 V ~	1.5	2	3.6	8.5-2.4	5÷6	8
1 KV 6/11 T	3x400 V ~	1.85	2.5	4.2	8.5-2.4	6÷7	9.8
1 KV 6/15 T	3x400 V ~	2.2	3	6.3	8.5-2.4	8÷9	13

MODEL	A	B	C	D	H	Ø MANIFOLDS		WEIGHT kg
						DNA (suc.)	DNM (del.)	
KV 6/7 M	760	300	120	436	956	1 1/4"	1 1/2"	37
1 KV 6/9 M	760	300	120	500	1020	1 1/4"	1 1/2"	40
1 KV 6/7 T	760	300	120	436	956	1 1/4"	1 1/2"	37
1 KV 6/9 T	760	300	120	500	1020	1 1/4"	1 1/2"	40
1 KV 6/11 T	760	300	120	564	1084	1 1/4"	1 1/2"	38
1 KV 6/15 T	760	300	120	692	1212	1 1/4"	1 1/2"	45

1 KV 10 - CIVIL USE PRESSURE BOOSTER SETS

Pumped liquid temperature range: from -15 °C to +70 °C - Maximum ambient temperature: +40 °C - Max flow rate: 14.5 m³/h



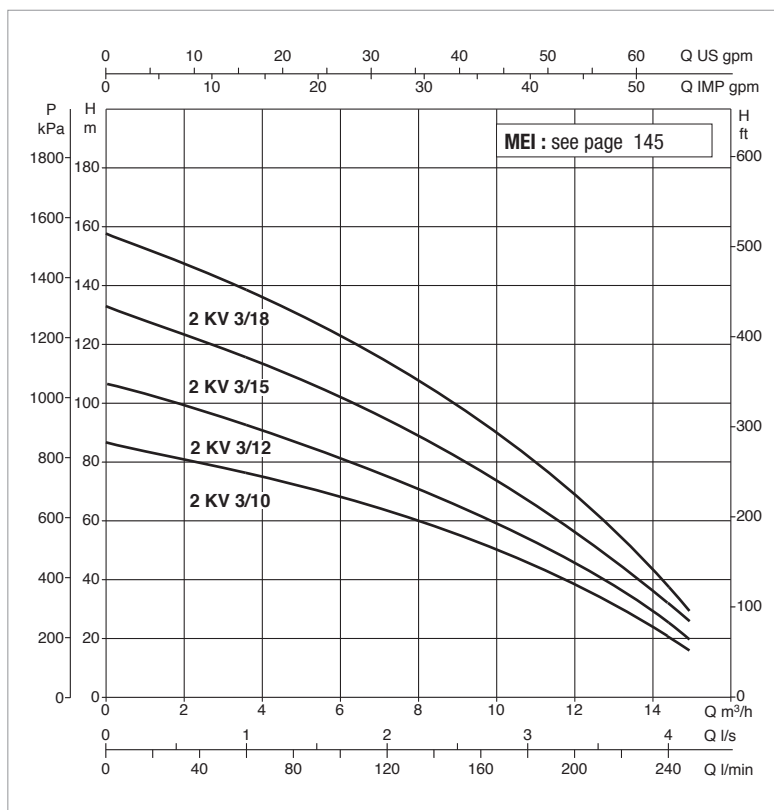
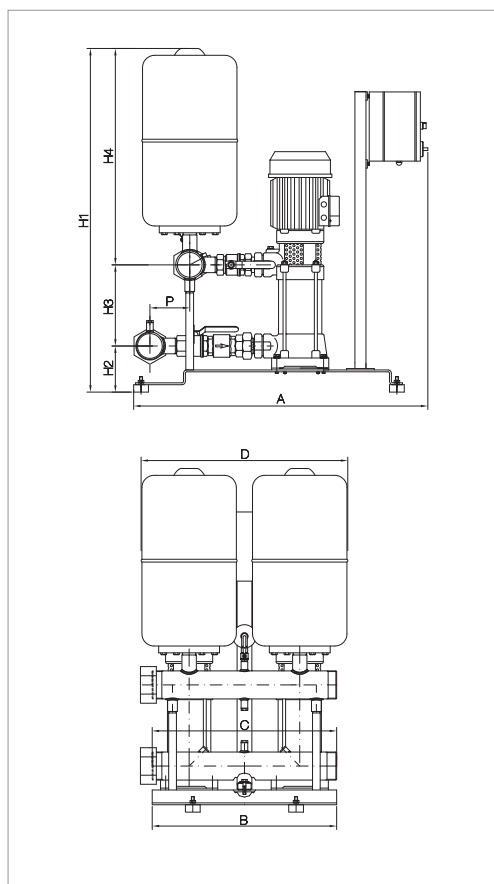
The performance curves are based on kinematic viscosity values = 1 mm²/s and density equivalent to 1000 kg/m³
Curve tolerance according to ISO 9906.

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In A	FLOW m³/h	PRESSURE SWITCH CALIBRATION BAR	MAX OBTAINABLE PRESSURE BAR
		kW	HP				
1 KV 10/4 M	1x220-240 V ~	1.1	1.5	8.3	13.2-3.0	2÷3	3.8
1 KV 10/5 M	1x220-240 V ~	1.5	2	10.4	13.2-3.0	3÷4	4.8
1 KV 10/4 T	3x400 V ~	1.1	1.5	3.5	13.2-3.0	2÷3	3.8
1 KV 10/5 T	3x400 V ~	1.5	2	3.9	13.2-3.0	3÷4	4.8
1 KV 10/6 T	3x400 V ~	1.85	2.5	5	13.2-3.0	4÷5	5.5
1 KV 10/8 T	3x400 V ~	2.2	3	6.8	13.2-3.0	5÷6	7.2

MODEL	A	B	C	D	H	Ø MANIFOLDS		WEIGHT kg
						DNA (suc.)	DNM (del.)	
1 KV 10/4 M	760	300	120	340	860	1 1/4"	1 1/2"	35
1 KV 10/5 M	760	300	120	372	892	1 1/4"	1 1/2"	40
1 KV 10/4 T	760	300	120	340	860	1 1/4"	1 1/2"	35
1 KV 10/5 T	760	300	120	372	892	1 1/4"	1 1/2"	40
1 KV 10/6 T	760	300	120	404	920	1 1/4"	1 1/2"	38
1 KV 10/8 T	760	300	120	468	988	1 1/4"	1 1/2"	43

2 KV 3 - CIVIL USE PRESSURE BOOSTER SETS

Pumped liquid temperature range: from -15 °C to +70 °C - Maximum ambient temperature: +40 °C - Max flow rate: 14.4 m³/h



The performance curves are based on kinematic viscosity values = 1 mm²/s and density equivalent to 1000 kg/m³

Curve tolerance according to ISO 9906.

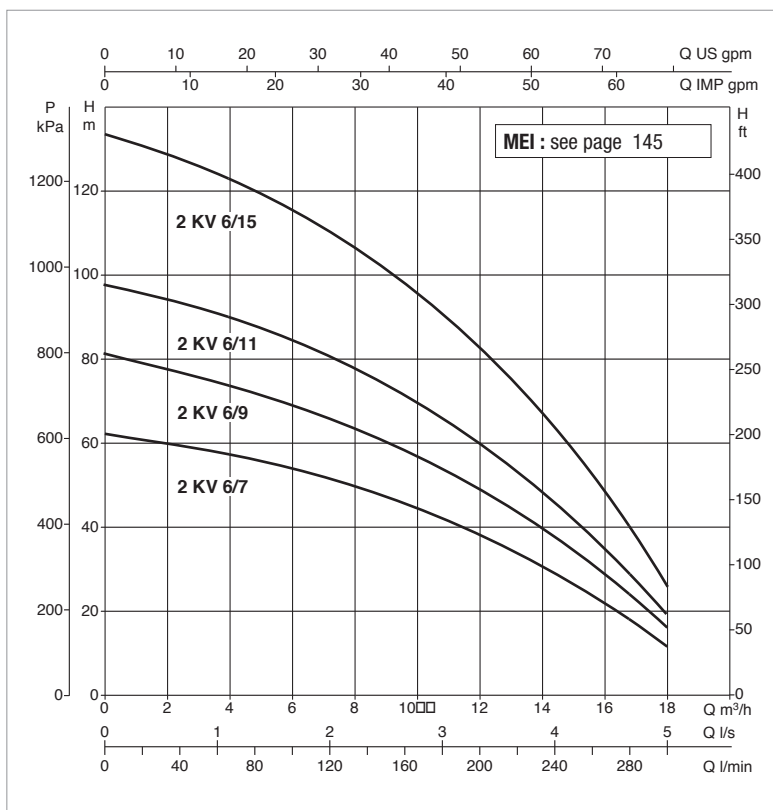
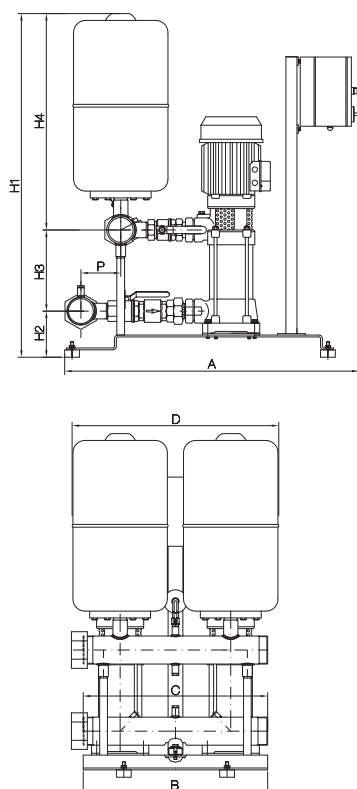
Overall performance taking into account TWO pumps working at the same time.

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In A	FLOW m³/h	MAX OBTAINABLE PRESSURE BAR	STANDARD PRESSURE BAR
		kW	HP				
2 KV 3/10 M	1x220-240 V ~	2x1,1	2x1,5	2x7,8	14.4-3.6	8.2	5
2 KV 3/12 M	1x220-240 V ~	2x1,5	2x2	2x9,6	14.4-3.6	10.2	6
2 KV 3/10 T	3x400 V ~	2x1,1	2x1,5	2x3,2	14.4-3.6	8.2	5
2 KV 3/12 T	3x400 V ~	2x1,5	2x2	2x3,7	14.4-3.6	10.2	6
2 KV 3/15 T	3x400 V ~	2x1,85	2x2,5	2x4,3	14.4-3.6	13	7
2 KV 3/18 T	3x400 V ~	2x2,2	2x3	2x5,8	14.4-3.6	15.8	9

MODEL	A	B	C	D	P	H1	H2	H3	H4	Ø MANIFOLDS		WEIGHT kg
										DNA (suc.)	DNM (del.)	
2 KV 3/10 M	798	500	500	560	108	1117	125	412	580	2"	2"	118
2 KV 3/12 M	798	500	500	560	108	1181	125	476	580	2"	2"	124
2 KV 3/10 T	798	500	500	560	108	1117	125	412	580	2"	2"	123
2 KV 3/12 T	798	500	500	560	108	1117	125	476	580	2"	2"	129
2 KV 3/15 T	798	500	500	560	108	1277	125	572	580	2"	2"	134
2 KV 3/18 T	798	500	500	560	108	1373	125	668	580	2"	2"	141

2 KV 6 - CIVIL USE PRESSURE BOOSTER SETS

Pumped liquid temperature range: from -15 °C to +70 °C - Maximum ambient temperature: +40 °C - Max flow rate: 18 m³/h



The performance curves are based on kinematic viscosity values = 1 mm²/s and density equivalent to 1000 kg/m³

Curve tolerance according to ISO 9906.

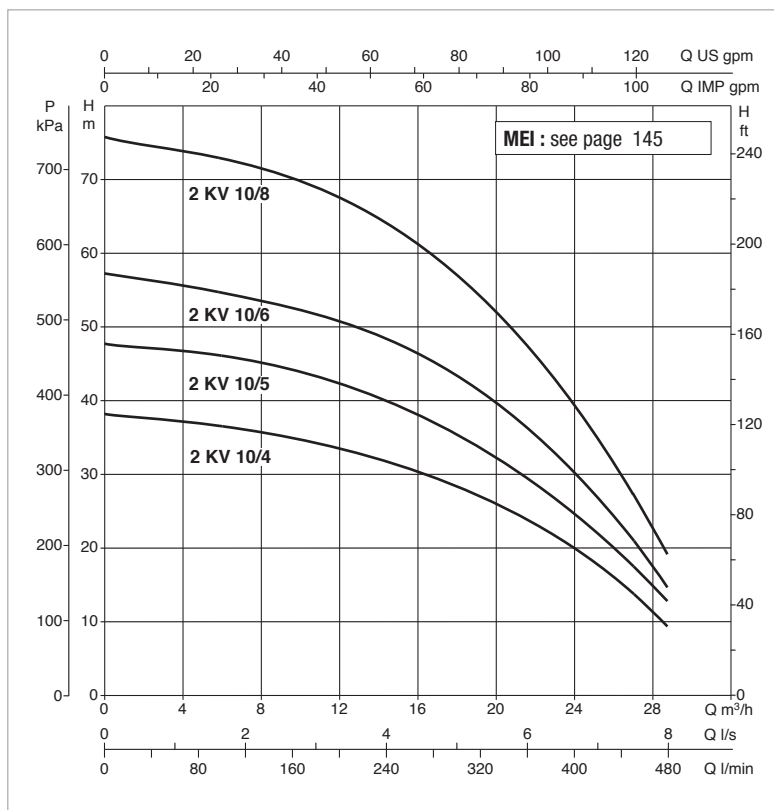
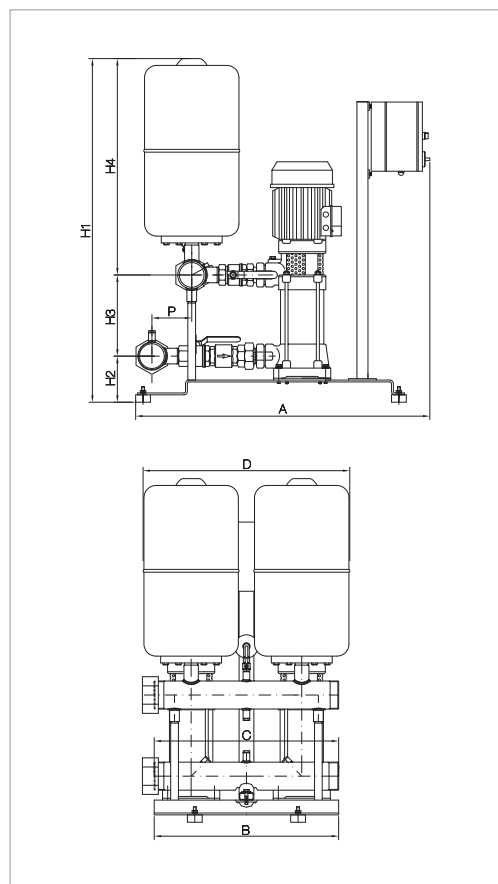
Overall performance taking into account TWO pumps working at the same time.

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In A	FLOW m³/h	MAX OBTAINABLE PRESSURE BAR	STANDARD PRESSURE BAR
		kW	HP				
2 KV 6/7 M	1x220-240 V ~	2x1,1	2x1,5	2x7,5	17.0-4.8	6	4
2 KV 6/9 M	1x220-240 V ~	2x1,5	2x2	2x9,4	17.0-4.8	8	5
2 KV 6/7 T	3x400 V ~	2x1,1	2x1,5	2x2,9	17.0-4.8	6	4
2 KV 6/9 T	3x400 V ~	2x1,5	2x2	2x3,6	17.0-4.8	8	5
2 KV 6/11 T	3x400 V ~	2x1,85	2x2,5	2x4,2	17.0-4.8	9.8	6
2 KV 6/15 T	3x400 V ~	2x2,2	2x3	2x6,3	17.0-4.8	13	8

MODEL	A	B	C	D	P	H1	H2	H3	H4	Ø MANIFOLDS		WEIGHT kg
										DNA (suc.)	DNM (del.)	
2 KV 6/7 M	798	500	500	560	108	1021	125	316	580	2"	2"	116
2 KV 6/9 M	798	500	500	560	108	1085	125	380	580	2"	2"	121
2 KV 6/7 T	798	500	500	560	108	1021	125	316	580	2"	2"	121
2 KV 6/9 T	798	500	500	560	108	1085	125	380	580	2"	2"	126
2 KV 6/11 T	798	500	500	560	108	1149	125	414	580	2"	2"	128
2 KV 6/15 T	798	500	500	560	108	1277	125	572	580	2"	2"	140

2 KV 10 - CIVIL USE PRESSURE BOOSTER SETS

Pumped liquid temperature range: from -15 °C to +70 °C - Maximum ambient temperature: +40 °C - Max flow rate: 28.5 m³/h



The performance curves are based on kinematic viscosity values = 1 mm²/s and density equivalent to 1000 kg/m³

Curve tolerance according to ISO 9906.

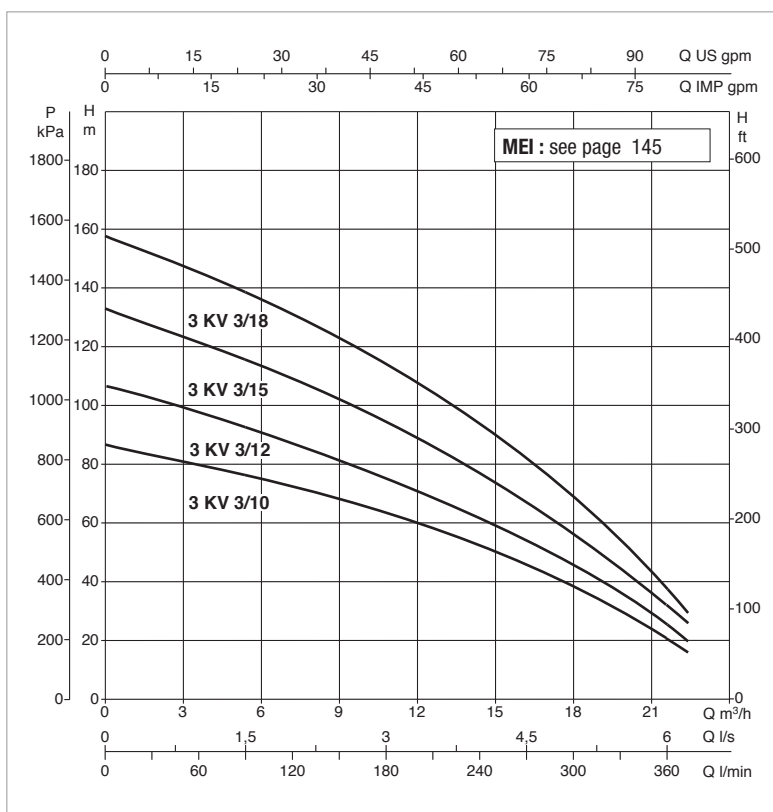
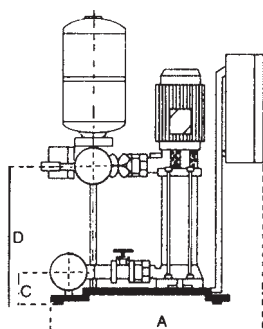
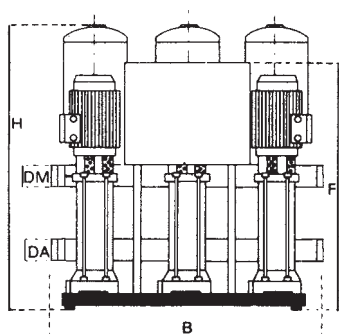
Overall performance taking into account TWO pumps working at the same time.

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In A	FLOW m³/h	MAX OBTAINABLE PRESSURE BAR	STANDARD PRESSURE BAR
		kW	HP				
2 KV 10/4 M	1x220-240 V ~	2x1,1	2x1,5	2x8,3	26.4-6.0	3.8	2.5
2 KV 10/5 M	1x220-240 V ~	2x1,5	2x2	2x10,4	26.4-6.0	4.8	3
2 KV 10/4 T	3x400 V ~	2x1,1	2x1,5	2x3,5	26.4-6.0	3.8	2.5
2 KV 10/5 T	3x400 V ~	2x1,5	2x2	2x3,9	26.4-6.0	4.8	3
2 KV 10/6 T	3x400 V ~	2x1,85	2x2,5	2x5	26.4-6.0	5.5	4
2 KV 10/8 T	3x400 V ~	2x2,2	2x3	2x6,8	26.4-6.0	7.2	5

MODEL	A	B	C	D	P	H1	H2	H3	H4	Ø MANIFOLDS		WEIGHT kg
										DNA (suc.)	DNM (del.)	
2 KV 10/4 M	798	500	500	560	108	925	125	220	580	2 1/2"	2 1/2"	112
2 KV 10/5 M	798	500	500	560	108	957	125	252	580	2 1/2"	2 1/2"	115
2 KV 10/4 T	798	500	500	560	108	925	125	220	580	2 1/2"	2 1/2"	117
2 KV 10/5 T	798	500	500	560	108	957	125	252	580	2 1/2"	2 1/2"	120
2 KV 10/6 T	798	500	500	560	108	989	125	284	580	2 1/2"	2 1/2"	126
2 KV 10/8 T	798	500	500	560	108	1053	125	348	580	2 1/2"	2 1/2"	132

3 KV 3 - CIVIL USE PRESSURE BOOSTER SETS

Pumped liquid temperature range: from -15 °C to +70 °C - Maximum ambient temperature: +40 °C - Max flow rate: 22 m³/h



The performance curves are based on kinematic viscosity values = 1 mm²/s and density equivalent to 1000 kg/m³

Curve tolerance according to ISO 9906.

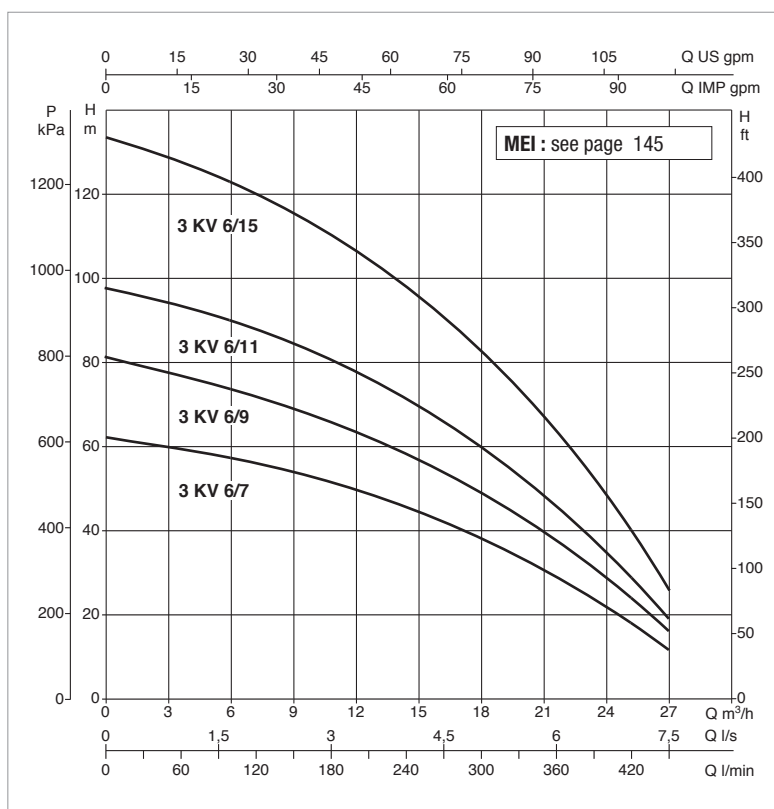
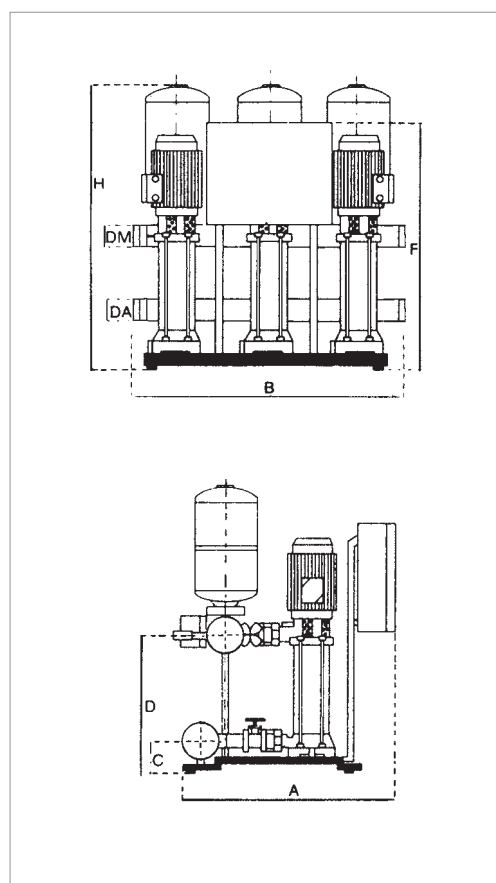
Overall performance taking into account THREE pumps working at the same time.

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In A	FLOW m³/h	MAX OBTAINABLE PRESSURE BAR	PRESSURE SWITCH CALIBRATION BAR
		kW	HP				
3 KV 3/10 M	1x220-240 V ~	3x1,1	3x1,5	3x7,8	21.6-5.4	8.2	4÷6
3 KV 3/12 M	1x220-240 V ~	3x1,5	3x2	3x9,6	21.6-5.4	10.2	6÷8
3 KV 3/10 T	3x400 V ~	3x1,1	3x1,5	3x3,2	21.6-5.4	8.2	4÷6
3 KV 3/12 T	3x400 V ~	3x1,5	3x2	3x3,7	21.6-5.4	10.2	6÷8
3 KV 3/15 T	3x400 V ~	3x1,85	3x2,5	3x4,3	21.6-5.4	13	8÷10
3 KV 3/18 T	3x400 V ~	3x2,2	3x3	3x5,8	21.6-5.4	15.8	10÷12

MODEL	A	B	C	D	F	H	Ø MANIFOLDS		WEIGHT kg
							DNA (suc.)	DNM (del.)	
3 KV 3/10 M	710	825	120	532	847	1122	2 1/2"	2 1/2"	156
3 KV 3/12 M	710	825	120	596	911	1186	2 1/2"	2 1/2"	168
3 KV 3/10 T	785	825	120	532	847	1122	2 1/2"	2 1/2"	156
3 KV 3/12 T	785	825	120	596	911	1186	2 1/2"	2 1/2"	165
3 KV 3/15 T	785	825	120	692	1007	1282	2 1/2"	2 1/2"	168
3 KV 3/18 T	785	825	120	788	1181	1378	2 1/2"	2 1/2"	183

3 KV 6 - CIVIL USE PRESSURE BOOSTER SETS

Pumped liquid temperature range: from -15 °C to +70 °C - Maximum ambient temperature: +40 °C - Max flow rate: 27 m³/h



The performance curves are based on kinematic viscosity values = 1 mm²/s and density equivalent to 1000 kg/m³

Curve tolerance according to ISO 9906.

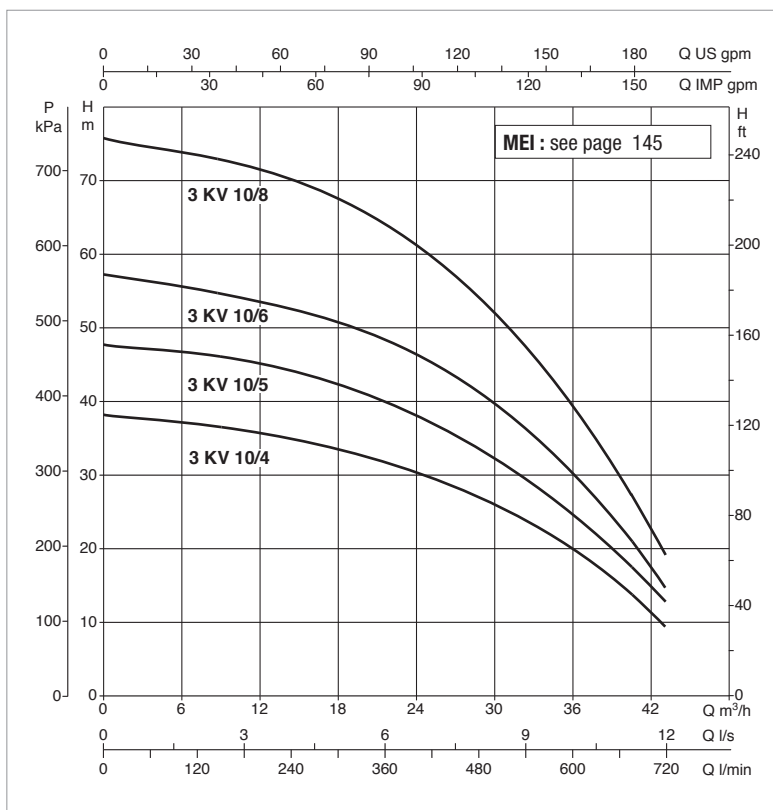
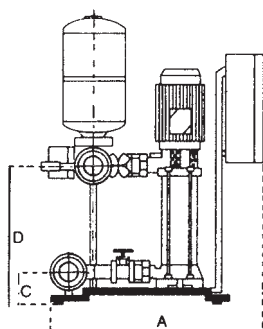
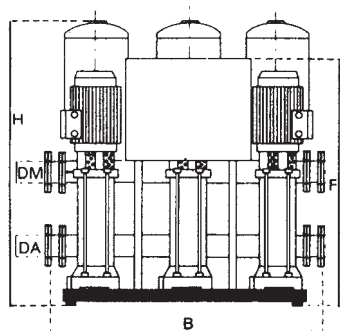
Overall performance taking into account THREE pumps working at the same time.

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In A	FLOW m³/h	PRESSURE SWITCH CALIBRATION BAR	MAX OBTAINABLE PRESSURE BAR
		kW	HP				
3 KV 6/7 M	1x220-240 V ~	3x1,1	3x1,5	3x7,5	25.5-7.2	3÷5	6
3 KV 6/9 M	1x220-240 V ~	3x1,5	3x2	3x9,4	25.5-7.2	5÷7	8
3 KV 6/7 T	3x400 V ~	3x1,1	3x1,5	3x2,9	25.5-7.2	3÷5	6
3 KV 6/9 T	3x400 V ~	3x1,5	3x2	3x3,6	25.5-7.2	5÷7	8
3 KV 6/11 T	3x400 V ~	3x1,85	3x2,5	3x4,2	25.5-7.2	6÷8	9.8
3 KV 6/15 T	3x400 V ~	3x2,2	3x3	3x6,3	25.5-7.2	8÷10	13

MODEL	A	B	C	D	F	H	Ø MANIFOLDS		WEIGHT kg
							DNA (suc.)	DNM (del.)	
3 KV 6/7 M	710	825	120	436	750	1026	2 1/2"	2 1/2"	153
3 KV 6/9 M	710	825	120	500	815	1090	2 1/2"	2 1/2"	162
3 KV 6/7 T	785	825	120	436	750	1026	2 1/2"	2 1/2"	153
3 KV 6/9 T	785	825	120	500	815	1090	2 1/2"	2 1/2"	162
3 KV 6/11 T	785	825	120	664	880	1154	2 1/2"	2 1/2"	170
3 KV 6/15 T	785	825	120	692	1065	1282	2 1/2"	2 1/2"	177

3 KV 10 - CIVIL USE PRESSURE BOOSTER SETS

Pumped liquid temperature range: from -15 °C to +70 °C - Maximum ambient temperature: +40 °C - Max flow rate: 43 m³/h



The performance curves are based on kinematic viscosity values = 1 mm²/s and density equivalent to 1000 kg/m³

Curve tolerance according to ISO 9906.

Overall performance taking into account THREE pumps working at the same time.

MODEL	POWER INPUT 50 Hz	P2 NOMINAL		In A	FLOW m³/h	PRESSURE SWITCH CALIBRATION BAR	MAX OBTAINABLE PRESSURE BAR
		kW	HP				
3 KV 10/4 M	1x220-240 V ~	3x1,1	3x1,5	3x8,3	39.6-9.0	2÷3	3.8
3 KV 10/5 M	1x220-240 V ~	3x1,5	3x2	3x10,4	39.6-9.0	3÷4	4.8
3 KV 10/4 T	3x400 V ~	3x1,1	3x1,5	3x3,5	39.6-9.0	2÷3	3.8
3 KV 10/5 T	3x400 V ~	3x1,5	3x2	3x3,9	39.6-9.0	3÷4	4.8
3 KV 10/6 T	3x400 V ~	3x1,85	3x2,5	3x5	39.6-9.0	4÷5	5.5
3 KV 10/8 T	3x400 V ~	3x2,2	3x3	3x6,8	39.6-9.0	5÷6	7.2

MODEL	A	B	C	D	F	H	Ø MANIFOLDS		WEIGHT kg
							DNA (suc.)	DNM (del.)	
3 KV 10/4 M	740	940	120	340	655	942	DN 80	DN 80	201
3 KV 10/5 M	740	940	120	372	690	974	DN 80	DN 80	216
3 KV 10/4 T	810	940	120	340	810	942	DN 80	DN 80	201
3 KV 10/5 T	810	940	120	372	810	974	DN 80	DN 80	216
3 KV 10/6 T	810	940	120	404	810	1006	DN 80	DN 80	210
3 KV 10/8 T	810	940	120	468	855	1070	DN 80	DN 80	225