PEDROLLO VSP2 Variable Speed Pressure Units Installation Guide

Contents

VSP2 Variable Speed Pressure Units

INSTALLATION AND USE

Clean water
Domestic use
Civil use

INSTALLATION AND USE

VSP2 is a pre-assembled system intended for connecting to water mains or a primary collection tank. It provides water supply and pressurization and is ideal for residential, commercial, and public buildings. It's also suitable for hotels, park irrigation, as well as industrial water handling and treatment.
VSP2 is compatible with clean water and aqueous solutions that do not chemically or mechanically harm the materials used and are free from abrasive or fibrous substances.

PRODUCT DESCRIPTION

VSP2 is a pressurization system comprising two pumping units connected in parallel. Integrated inverter devices automatically adjust their operation to varying water demands while ensuring constant pressure.
When system pressure drops due to water withdrawal, the first VSP unit starts working to provide the necessary water flow rate, maintaining pressure. Once the maximum rotation speed is reached, the second VSP unit starts to fulfill the system's water demand.

COMPONENTS

※ TWO VSP PUMPING UNITS connected in parallel via suction and discharge manifolds. Each unit is equipped with ball valves on the supply and suction side, non-return valves on the suction side (FCR, PLURIJET, MK) or on the supply side (HT-PRO). The electronics integrated in VSP can manage the alternating operation of individual units.

VSP2 is designed to protect the system from:

※ dry running
※ overvoltage and under voltage

※ combustion chamber
※ BASE made of metal profile and equipped with adjustable vibration-damping feet.
※ PRESSURE TRANSDUCER (4-20mA) installed on the supply manifold, which enables command and control of the pressurization unit.
※ ELECTRICAL PANEL with thermal-magnetic circuit breakers for three-phase versions and thermal-magnetic circuit breakers for single-phase versions.

VSP2 – FCR
Pressurization units comprise two multistage centrifugal pumps with an integrated
inverter in the motor, capable of maintaining constant pressure in the system.
They are used for water supply in residential, commercial, and public buildings, as
well as for garden irrigation and general clean water movement.

TECHNICAL DATA
• Liquid temperature between -10 °C and +60 °C
• Ambient temperature between -5 °C and +40 °C
• Max. pressure in the pump body 10 bar
• Continuous running duty S1

VSP2 – PLURIJET
Pressurization units comprise two self-priming multistage centrifugal pumps with
an integrated inverter in the motor, capable of maintaining a constant pressure in
the system. They are utilized for water supply, including from underground reservoirs,
in residential, commercial, and public buildings, as well as for garden irrigation
and general clean water movement.

TECHNICAL DATA
• Liquid temperature between -10 °C and +40 °C
• Ambient temperature between -5 °C and +40 °C
• Max. pressure in the pump body 10 bar
• Continuous running duty S1

VSP2 – MK
Pressurization units comprise two vertical multistage pumps with an integrated inverter in the motor, capable of maintaining a constant pressure in the system.
They are used for water supply in residential, commercial, and public buildings, as well as for handling clean water.

TECHNICAL DATA
• Liquid temperature between -10 °C and +60 °C
• Ambient temperature between -5 °C and +40 °C
• Max. pressure in pump body 11 bar
• Continuous running duty S1

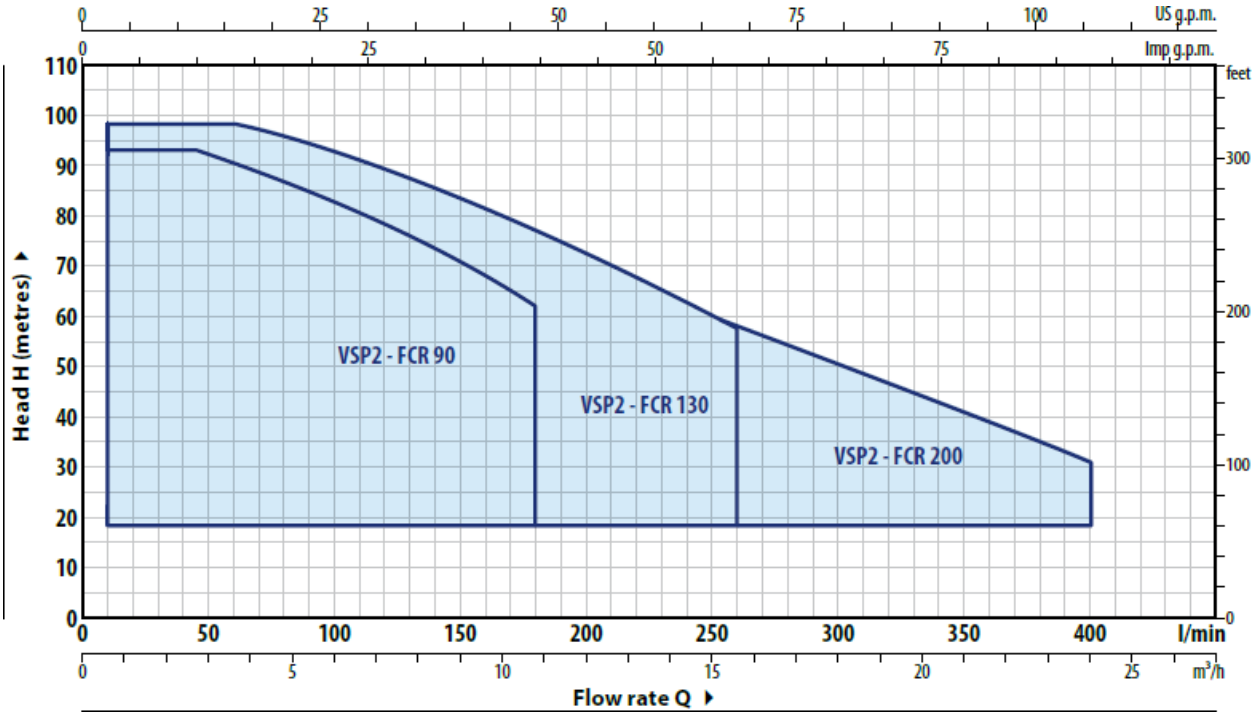
VSP2 – HT PRO

Pressurization units comprise two vertical multistage pumps with integrated inverters in the motor to maintain consistent pressure in the system. They're commonly used for water supply in commercial and public buildings, irrigation in parks and athletic fields, and for industrial water treatment.

TECHNICAL DATA

- Liquid temperature between -10 °C and +60 °C
- Ambient temperature between -5 °C and +40 °C
- Max. pressure in pump body 11 bar
- Continuous running duty S1

VSP2 – FCR
FIELD AND PERFORMANCE DATA



TYPE	POWER P2		Q	m³/h	0	0.6	1.2	2.4	4.8	6	7.2	9.6	10.8	12	14.4	15.6	18	20.4	24
Single-phase	kW	HP		l/min	0	10	20	40	80	100	120	160	180	200	240	260	300	340	400
VSP2m - FCR 75/90	2x1.5	2x2	H	metres	71.5	71.5	71.5	71	66	63	59.5	49.5	43.5						
VSP2m - FCR 80/130	2x1.5	2x2			74.5	74.5	74.5	74.5	69.5	66	62	52.5	48	43	34	30			
VSP2m - FCR 70/200	2x1.5	2x2			65.5	65.5	65.5	65.5	65	62.5	60	53.5	50	46	38.5	35	27.5	21	14

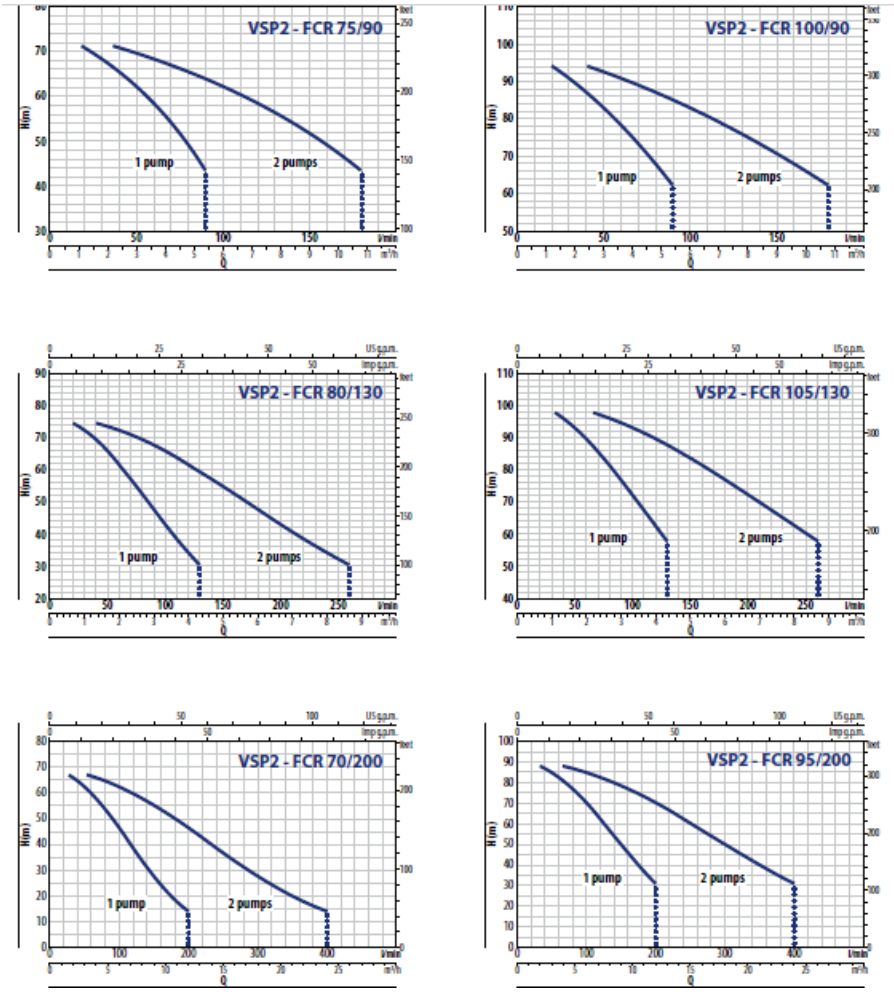
TYPE	POWER P2		Q	m³/h	0	0.6	1.2	2.4	4.8	6	7.2	9.6	10.8	12	14.4	15.6	18	20.4	24
Three-phase	kW	HP		l/min	0	10	20	40	80	100	120	160	180	200	240	260	300	340	400
VSP2 - FCR 75/90	2x1.5	2x2	H	metres	71.5	71.5	71.5	71	66	63	59.5	49.5	43.5						
VSP2 - FCR 100/90	2x2.2	2x3			94	94	94	94	87.5	83	78.5	68	62.5						
VSP2 - FCR 80/130	2x1.5	2x2			74.5	74.5	74.5	74.5	69.5	66	62	52.5	48	43	34	30			
VSP2 - FCR 105/130	2x2.2	2x3			98	98	98	98	96	93	89.5	81	76.5	72	62	57.5			
VSP2 - FCR 70/200	2x1.5	2x2			65.5	65.5	65.5	65.5	65	62.5	60	53.5	50	46	38.5	35	27.5	21	14
VSP2 - FCR 95/200	2x2.2	2x3			87.5	87.5	87.5	87.5	87	85	82.5	76.5	73.5	70	62.5	58.5	50.5	42	31

Q = Flow rate **H** = Total manometric head

Performance curves comply with EN ISO 9906 Grade 3B tolerance limits.

※ The data shown in the diagram and tables indicate performance with 2 pumps in operation

PERFORMANCE CURVES 50 Hz

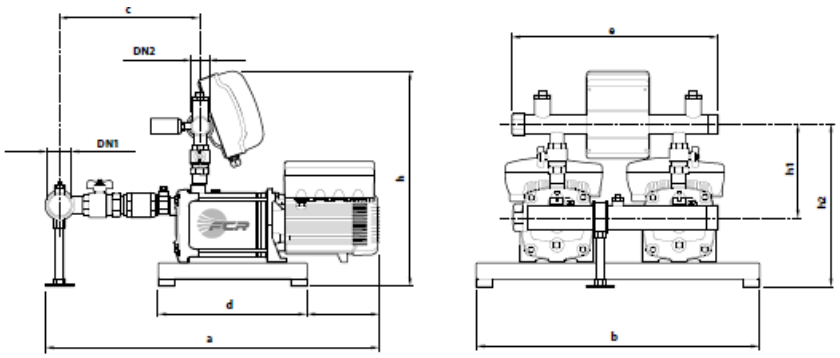


VSP2 – FCR

ABSORPTION
TYPE VOLTAGE
Single-phase 230 V
VSP2m – FCR 75/90 2 x 9.8 A
VSP2m – FCR 80/130 2 x 9.8 A
VSP2m – FCR 70/200 2 x 9.8 A

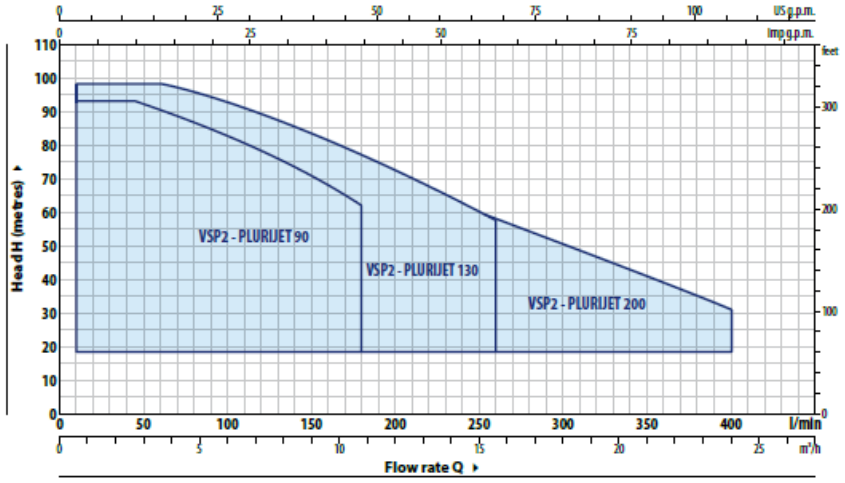
TYPE VOLTAGE
Three-phase 400 V
VSP2 – FCR 75/90 2 x 3.6 A
VSP2 – FCR 100/90 2 x 4.9 A
VSP2 – FCR 80/130 2 x 3.6 A
VSP2 – FCR 105/130 2 x 4.9 A
VSP2 – FCR 70/200 2 x 3.6 A
VSP2 – FCR 95/200 2 x 4.9 A

DIMENSIONS AND WEIGHT



TYPE		PORTS		DIMENSIONS mm								kg	
Single-phase	**Three-phase**	DN1	DN2	a	b	c	d	e	h	h1	h2	1~	3~
VSP2m - FCR 75/90	**VSP2 - FCR 75/90**	2"	1½"	760	700	339	370	510	560	205	394	80	80
–	**VSP2 - FCR 100/90**			786								–	81
VSP2m - FCR 80/130	**VSP2 - FCR 80/130**			760								81	81
–	**VSP2 - FCR 105/130**			786								–	81
VSP2m - FCR 70/200	**VSP2 - FCR 70/200**	2½"	1½"	803		375						87	87
–	**VSP2 - FCR 95/200**			829								–	87

VSP2 – PLURIJET
FIELD AND PERFORMANCE DATA 50 Hz



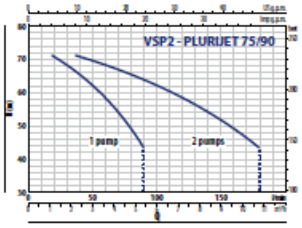
TYPE	POWER P2		Q m³/h	0	0.6	1.2	2.4	4.8	6	7.2	9.6	10.8	12	14.4	15.6	18	20.4	24
Single-phase	**kW**	**HP**	l/min	**0**	**10**	**20**	**40**	**80**	**100**	**120**	**160**	**180**	**200**	**240**	**260**	**300**	**340**	**400**
VSP2m - PLURIJET 75/90	2x1.5	2x2		71.5	71.5	71.5	71	66	63	59.5	49.5	43.5						
VSP2m - PLURIJET 80/130	2x1.5	2x2	H metres	74.5	74.5	74.5	74.5	69.5	66	62	52.5	48	43	34	30			
VSP2m - PLURIJET 70/200	2x1.5	2x2		65.5	65.5	65.5	65.5	65	62.5	60	53.5	50	46	38.5	35	27.5	21	14

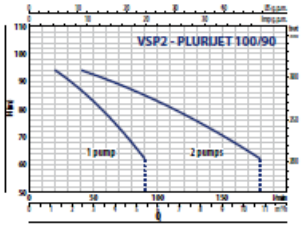
TYPE	POWER P2		Q m³/h	0	0.6	1.2	2.4	4.8	6	7.2	9.6	10.8	12	14.4	15.6	18	20.4	24
Three-phase	**kW**	**HP**	l/min	**0**	**10**	**20**	**40**	**80**	**100**	**120**	**160**	**180**	**200**	**240**	**260**	**300**	**340**	**400**
VSP2 - PLURIJET 75/90	2x1.5	2x2		71.5	71.5	71.5	71	66	63	59.5	49.5	43.5						
VSP2 - PLURIJET 100/90	2x2.2	2x3		94	94	94	94	87.5	83	78.5	68	62.5						
VSP2 - PLURIJET 80/130	2x1.5	2x2		74.5	74.5	74.5	74.5	69.5	66	62	52.5	48	43	34	30			
VSP2 - PLURIJET 105/130	2x2.2	2x3	H metres	98	98	98	98	96	93	89.5	81	76.5	72	62	57.5			
VSP2 - PLURIJET 70/200	2x1.5	2x2		65.5	65.5	65.5	65.5	65	62.5	60	53.5	50	46	38.5	35	27.5	21	14
VSP2 - PLURIJET 95/200	2x2.2	2x3		87.5	87.5	87.5	87.5	87	85	82.5	76.5	73.5	70	62.5	58.5	50.5	42	31

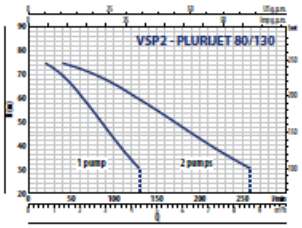
Q = Flow rate H = Total manometric head

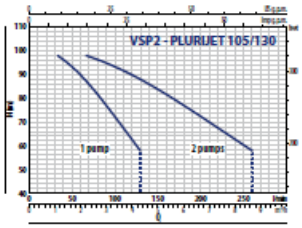
Performance curves comply with EN ISO 9906 Grade 3B tolerance limits.

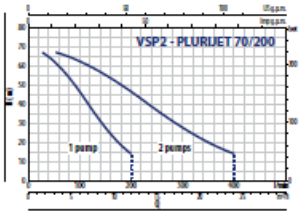
※ The data shown in the diagram and tables indicate performance with 2 pumps in operation

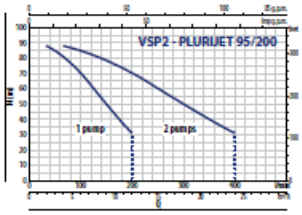








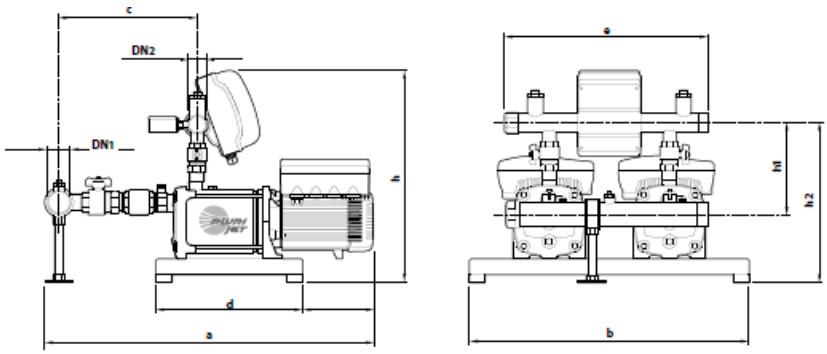




ABSORPTION
TYPE VOLTAGE
Single-phase 230 V
VSP2m – PLURIJET 75/90 2 x 9.8 A
VSP2m – PLURIJET 80/130 2 x 9.8 A
VSP2m – PLURIJET 70/200 2 x 9.8 A

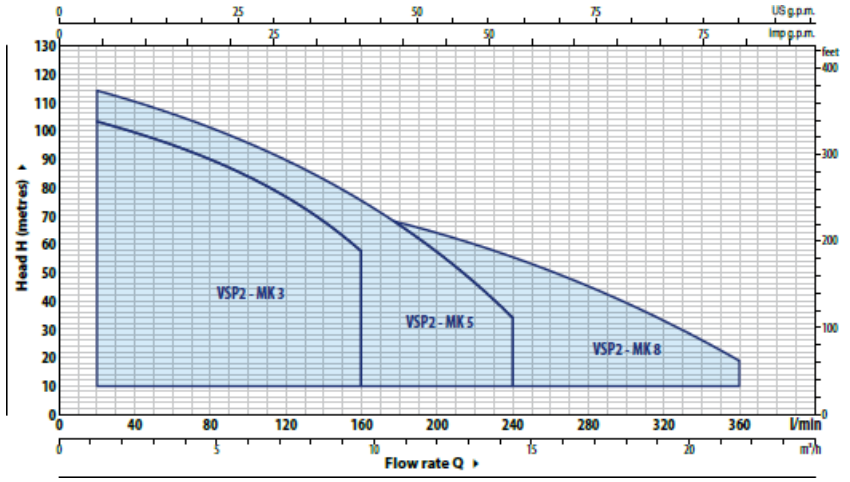
TYPE VOLTAGE
Three-phase 400 V
VSP2 – PLURIJET 75/90 2 x 3.6 A
VSP2 – PLURIJET 100/90 2 x 4.9 A
VSP2 – PLURIJET 80/130 2 x 3.6 A
VSP2 – PLURIJET 105/130 2 x 4.9 A
VSP2 – PLURIJET 70/200 2 x 3.6 A
VSP2 – PLURIJET 95/200 2 x 4.9 A

DIMENSIONS AND WEIGHT



TYPE		PORTS		DIMENSIONS mm								kg	
Single-phase	**Three-phase**	DN1	DN2	a	b	c	d	e	h	h1	h2	1~	3~
VSP2m - PLURIJET 75/90	**VSP2 - PLURIJET 75/90**	2"	1½"	812	700	339	370	510	560	205	394	80	80
–	**VSP2 - PLURIJET 100/90**			838								–	85
VSP2m - PLURIJET 80/130	**VSP2 - PLURIJET 80/130**			812								80	81
–	**VSP2 - PLURIJET 105/130**			838								–	85
VSP2m - PLURIJET 70/200	**VSP2 - PLURIJET 70/200**	2½"	1½"	855		375						83	83
–	**VSP2 - PLURIJET 95/200**			881								–	87

FIELD AND PERFORMANCE DATA 50 Hz



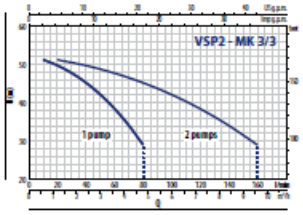
TYPE		POWER P_2		Q m³/h	0	1.2	2.4	4.8	7.2	9.6	12.0	14.4	16.8	19.2	21.6
Single-phase	**Three-phase**	**kW**	**HP**	l/min	**0**	**20**	**40**	**80**	**120**	**160**	**200**	**240**	**280**	**320**	**360**
VSP2m - MK 3/3	**VSP2 - MK 3/3**	2x0.75	2x1	H metres	52.5	51.5	50	45	38.5	29					
VSP2m - MK 3/5	**VSP2 - MK 3/5**	2x1.1	2x1.5		87	85	83	75	64	48					
VSP2m - MK 3/6	**VSP2 - MK 3/6**	2x1.5	2x2		105	103	100	90	77	58					
VSP2m - MK 5/4	**VSP2 - MK 5/4**	2x0.75	2x1		57	–	54	50	45	37.5	28.5	17			
VSP2m - MK 5/5	**VSP2 - MK 5/5**	2x1.1	2x1.5		71	–	67.5	62.5	56	47	35.5	21.5			
VSP2m - MK 5/7	**VSP2 - MK 5/7**	2x1.5	2x2		99	–	95	88	78	66	50	30			
–	**VSP2 - MK 5/8**	2x2.2	2x3		114	–	108	100	90	75	57	34			
VSP2m - MK 8/4	**VSP2 - MK 8/4**	2x1.1	2x1.5		56	–	–	53.5	51	47.5	43	37.5	30.5	22.1	12
VSP2m - MK 8/5	**VSP2 - MK 8/5**	2x1.5	2x2		70	–	–	67	64	59.5	54	47	38	27.5	15.5
–	**VSP2 - MK 8/6**	2x2.2	2x3		84	–	–	80	77	72	64.5	56	45.5	33	18.5

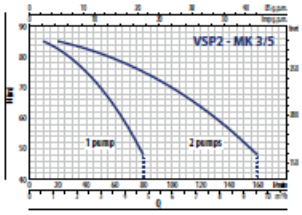
Q = Flow rate H = Total manometric head

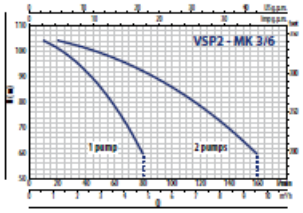
Performance curves comply with EN ISO 9906 Grade 3B tolerance limits.

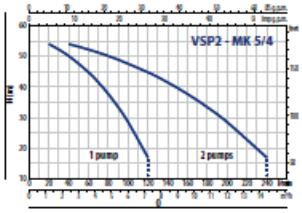
※ The data shown in the diagram and table indicate performance with 2 pumps in operation

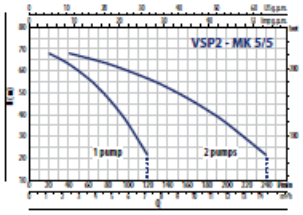
PERFORMANCE CURVES 50 Hz

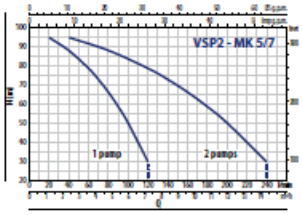


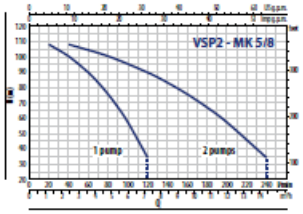


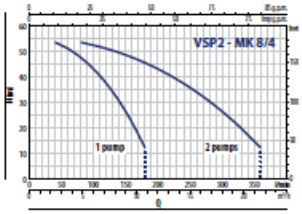




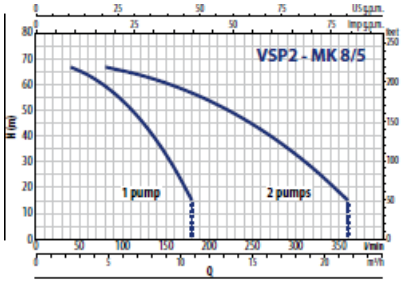


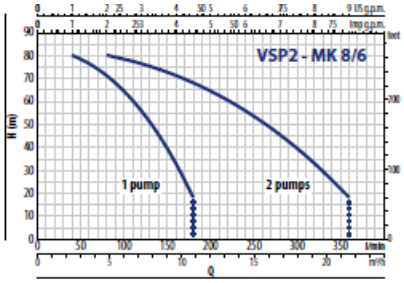






PERFORMANCE CURVES



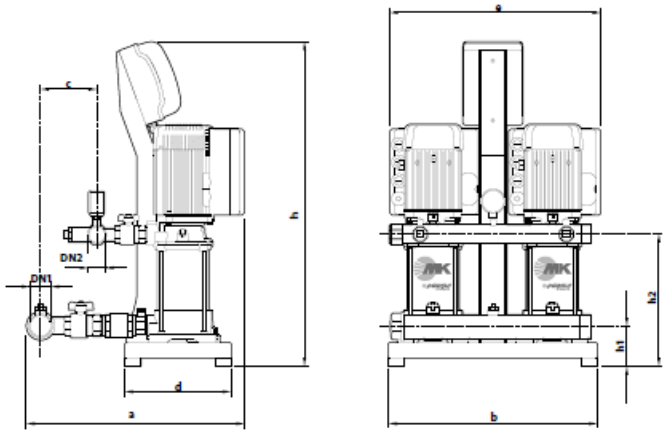


ABSORPTION

TYPE **Single-phase**	VOLTAGE **230 V**
VSP2m - MK 3/3	2 x 6.2 A
VSP2m - MK 3/5	2 x 7.8 A
VSP2m - MK 3/6	2 x 9.0 A
VSP2m - MK 5/4	2 x 6.4 A
VSP2m - MK 5/5	2 x 6.5 A
VSP2m - MK 5/7	2 x 9.0 A
VSP2m - MK 8/4	2 x 8.3 A
VSP2m - MK 8/5	2 x 10.0 A

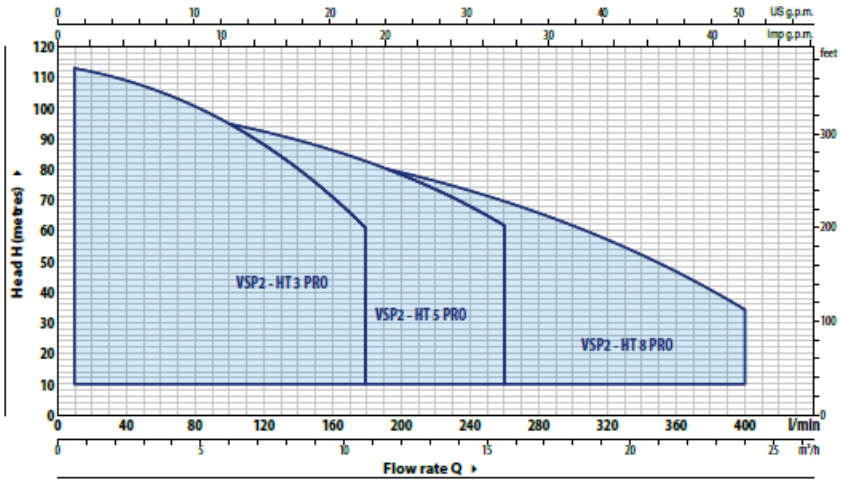
TYPE **Three-phase**	VOLTAGE **400 V**
VSP2 - MK 3/3	2 x 1.7 A
VSP2 - MK 3/5	2 x 2.3 A
VSP2 - MK 3/6	2 x 2.8 A
VSP2 - MK 5/4	2 x 2.0 A
VSP2 - MK 5/5	2 x 2.2 A
VSP2 - MK 5/7	2 x 3.0 A
VSP2 - MK 5/8	2 x 3.5 A
VSP2 - MK 8/4	2 x 2.8 A
VSP2 - MK 8/5	2 x 3.4 A
VSP2 - MK 8/6	2 x 3.8 A

DIMENSIONS AND WEIGHT



TYPE		PORTS		DIMENSIONS mm								kg	
Single-phase	**Three-phase**	DN1	DN2	a	b	c	d	e	h	h1	h2	1~	3~
VSP2m - MK 3/3	**VSP2 - MK 3/3**										235	75	75
VSP2m - MK 3/5	**VSP2 - MK 3/5**										289	79	79
VSP2m - MK 3/6	**VSP2 - MK 3/6**										316	83	83
VSP2m - MK 5/4	**VSP2 - MK 5/4**	**2"**	**1½"**	555		135					262	76	76
VSP2m - MK 5/5	**VSP2 - MK 5/5**										289	79	79
VSP2m - MK 5/7	**VSP2 - MK 5/7**				530		270	510	863	102	343	83	83
–	**VSP2 - MK 5/8**										370	-	84
VSP2m - MK 8/4	**VSP2 - MK 8/4**										316	82	82
VSP2m - MK 8/5	**VSP2 - MK 8/5**	**2½"**	**1½"**	600		171					262	83	83

VSP2 – HT-PRO
FIELD AND PERFORMANCE DATA



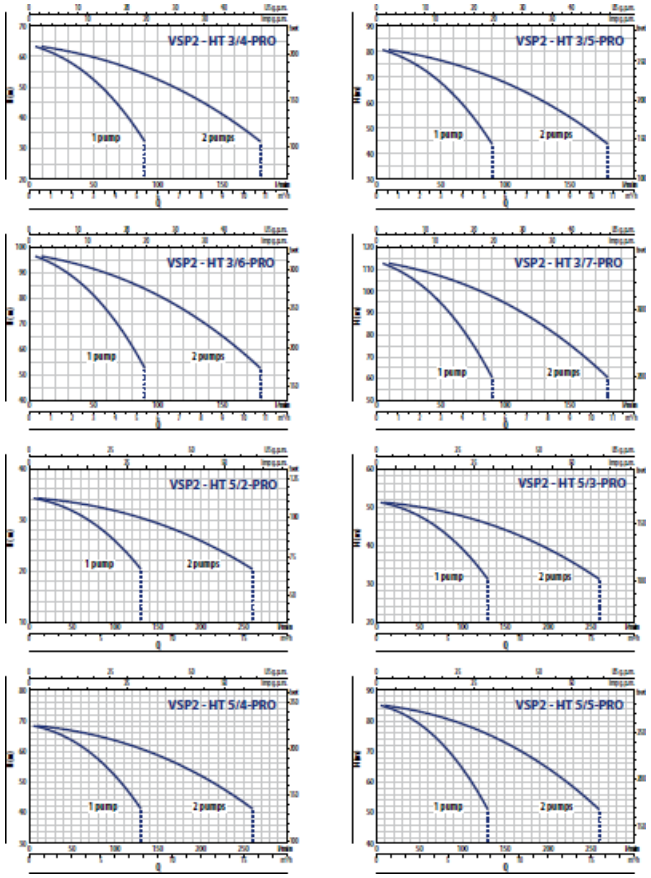
TYPE		POWER (P2)		Q m³/h	0	0.6	1.2	2.4	4.8	7.2	9.6	10.8
Single-phase	**Three-phase**	**kW**	**HP**	l/min	**0**	**10**	**20**	**40**	**80**	**120**	**160**	**180**
VSP2 - HTm 3/4 PRO	**VSP2 - HT 3/4 PRO**	2x0.75	2x1		65	65	63.5	62	57	50	40.5	35
VSP2 - HTm 3/5 PRO	**VSP2 - HT 3/5 PRO**	2x1.1	2x1.5	H metres	81	80	79	77	71	62.5	51	44
VSP2 - HTm 3/6 PRO	**VSP2 - HT 3/6 PRO**	2x1.5	2x2		97	96	95	93	86	75	61	52
–	**VSP2 - HT 3/7 PRO**	2x1.8	2x2.5		113	112	111	108	100	88	71	61

TYPE		POWER (P2)		Q m³/h	0	0.6	1.2	2.4	4.8	7.2	9.6	10.8	12	15.6
Single-phase	**Three-phase**	**kW**	**HP**	l/min	**0**	**10**	**20**	**40**	**80**	**120**	**160**	**180**	**200**	**260**
VSP2 - HTm 5/2 PRO	**VSP2 - HT 5/2 PRO**	2x0.75	2x1		35	35	32.7	32.3	32.5	31	25.5	27.5	26	16
VSP2 - HTm 5/3 PRO	**VSP2 - HT 5/3 PRO**	2x1.1	2x1.5		51.5	52	51	50.5	49	46.5	43	41	39	31
VSP2 - HTm 5/4 PRO	**VSP2 - HT 5/4 PRO**	2x1.5	2x2	H metres	68.5	68.5	68	67	65	62	57.5	55	52	41
–	**VSP2 - HT 5/5 PRO**	2x1.8	2x2.5		86	85	85	84	81	77	72	68.5	65	51.5
–	**VSP2 - HT 5/6 PRO**	2x2.2	2x3		103	103	102	101	98	93	86	82	78	62

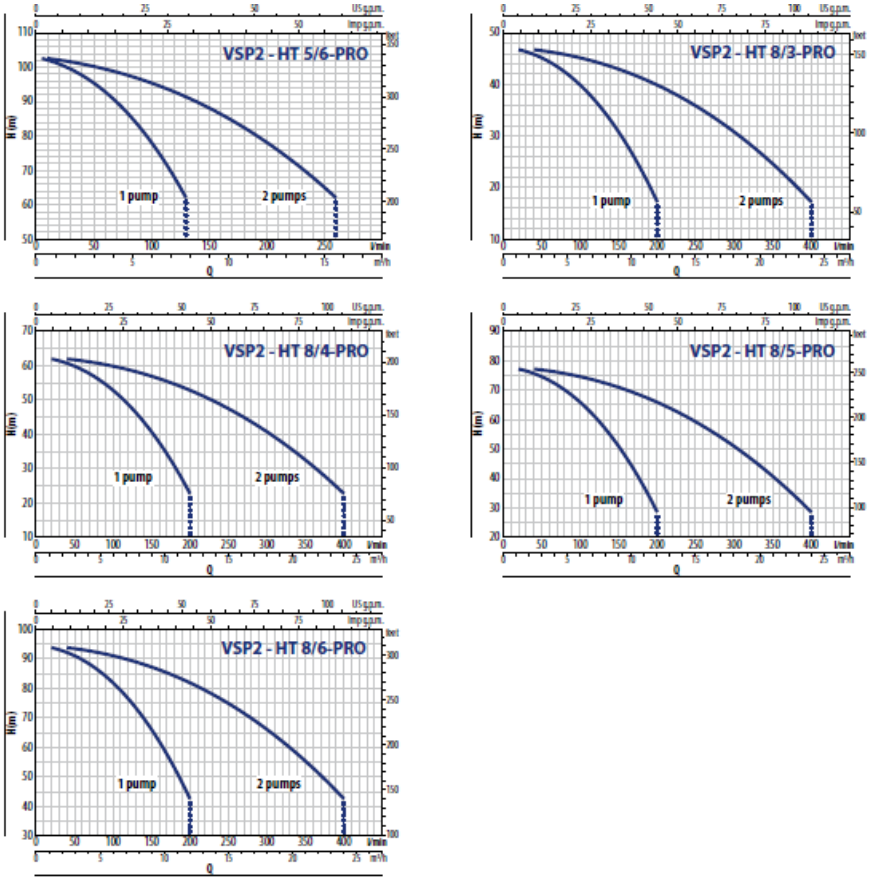
Q = Flow rate H = Total manometric head Performance curves comply with EN ISO 9906 Grade 3B tolerance limits.

※ The data shown in the diagram and tables indicate performance with 2 pumps in operation

PERFORMANCE CURVES



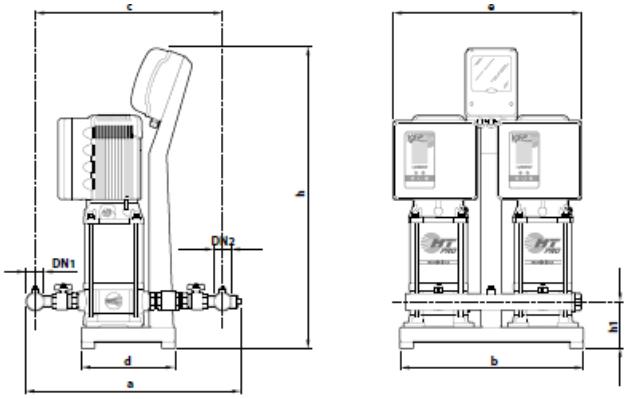
VSP2 – HT-PRO
PERFORMANCE CURVES



ABSORPTION
TYPE VOLTAGE
Single-phase 230 V
VSP2m – HT 3/4 PRO 2 x 7.5 A
VSP2m – HT 3/5 PRO 2 x 9.0 A
VSP2m – HT 3/6 PRO 2 x 10.5 A
VSP2m – HT 5/2 PRO 2 x 7.0 A
VSP2m – HT 5/3 PRO 2 x 8.0 A
VSP2m – HT 5/4 PRO 2 x 9.5 A
VSP2m – HT 8/3 PRO 2 x 8.5 A
VSP2m – HT 8/4 PRO 2 x 10.0 A

TYPE VOLTAGE
Three-phase 400 V
VSP2 – HT 3/4 PRO 2 x 2.5 A
VSP2 – HT 3/5 PRO 2 x 3.0 A
VSP2 – HT 3/6 PRO 2 x 3.5 A
VSP2 – HT 3/7 PRO 2 x 4.2 A
VSP2 – HT 5/2 PRO 2 x 2.3 A
VSP2 – HT 5/3 PRO 2 x 2.4 A
VSP2 – HT 5/4 PRO 2 x 3.2 A
VSP2 – HT 5/5 PRO 2 x 4.0 A
VSP2 – HT 5/6 PRO 2 x 4.3 A
VSP2 – HT 8/3 PRO 2 x 3.0 A
VSP2 – HT 8/4 PRO 2 x 3.4 A
VSP2 – HT 8/5 PRO 2 x 4.0 A
VSP2 – HT 8/6 PRO 2 x 4.5 A

DIMENSIONS AND WEIGHT



TYPE		PORTS		DIMENSIONS mm							kg	
Single-phase	**Three-phase**	DN1	DN2	a	b	c	d	e	h	h1	1~	3~
VSP2m-HT 3/4 PRO	**VSP2-HT 3/4 PRO**	**2"**	**2"**	694	530	576	270	542	863	135	97	97
VSP2m-HT 3/5 PRO	**VSP2-HT 3/5 PRO**										97	97
VSP2m-HT 3/6 PRO	**VSP2-HT 3/6 PRO**										100	100
–	**VSP2-HT 3/7 PRO**										–	110
VSP2m-HT 5/2 PRO	**VSP2-HT 5/2 PRO**	**2"**	**2"**	740		622					96	96
VSP2m-HT 5/3 PRO	**VSP2-HT 5/3 PRO**										96	96
VSP2m-HT 5/4 PRO	**VSP2-HT 5/4 PRO**										100	100
–	**VSP2-HT 5/5 PRO**										–	105
–	**VSP2-HT 5/6 PRO**										–	107
VSP2m-HT 8/3 PRO	**VSP2-HT 8/3 PRO**	**2½"**	**2½"**	833		698				140	101	101
VSP2m-HT 8/4 PRO	**VSP2-HT 8/4 PRO**										105	105
–	**VSP2-HT 8/5 PRO**										–	112
–	**VSP2-HT 8/6 PRO**										–	114

VSP2 – HT-PRO | 50 Hz

Documents / Resources

	**PEDROLLO VSP2 Variable Speed Pressure Units** [pdf] Installation Guide VSP2, VSP2 Variable Speed Pressure Units, VSP2 Pressure Units, Variable Speed Pressure Units, Pressure Units, Pressure

References

- **User Manual**