

# VSP

Electric pumps with variable frequency driver



**MADE IN ITALY**

 **PEDROLLO**<sup>®</sup>  
the spring of life





# Electric pumps with variable frequency driver

- Clean water
- Domestic use
- Civic use
- Industrial use

## ● ELECTRIC PUMPS WITH BUILT-IN VARIABLE FREQUENCY DRIVER

Compact pumping units, complete with electric pump, variable frequency driver, and pressure sensor

## ● QUIET HIGH-PERFORMING OPERATION

VSP runs particularly quietly thanks to smooth starts and stops that eliminate water hammering while drastically reducing power consumption.

Electronic Power Factor Corrector (PFC) technology ensures compliance with the most stringent European regulations by always providing the maximum performance stated on the rating plate, regardless of any, even significant, deviation of the supply voltage from the rated value (+/- 20%).



## INSTALLATION AND USE

Ideal for domestic and civic pressurization systems, the VSP pumping unit, thanks to its variable frequency driver speed regulator, allows modulating the motor speed according to the amount of water used by the system, reducing energy consumption and keeping the system pressure constant at all times, even when the number of points of delivery changes.

The incorporated speed regulator, powered by a single-phase or three-phase voltage, delivers a three-phase output voltage that powers a motor of efficiency class IE3.

## PROTECTIONS

### Dry running

Microchip action stops the pump after a few seconds and attempts scheduled restarts to check water availability.

### Currents - voltages - temperatures

VSP limits currents, alerts if the voltage exceeds the allowed limits, and protects from overheating as well as short circuits between the output phases.

### Dynamic sensor monitoring

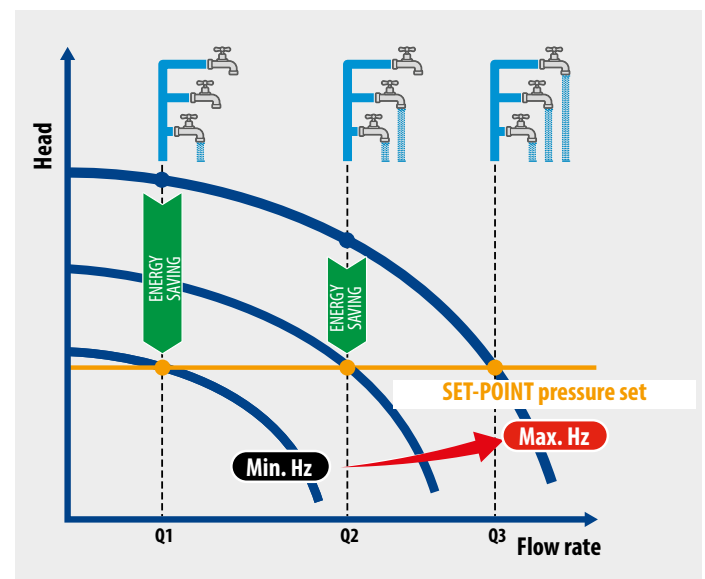
Continuous monitoring of the state of the sensors in the system allows VSP to dynamically adjust the operation of the pump and, in the event of faults, shut down the pumping unit.

## WARRANTY

2 years as per our general terms and conditions of sale

## ENERGY SAVING

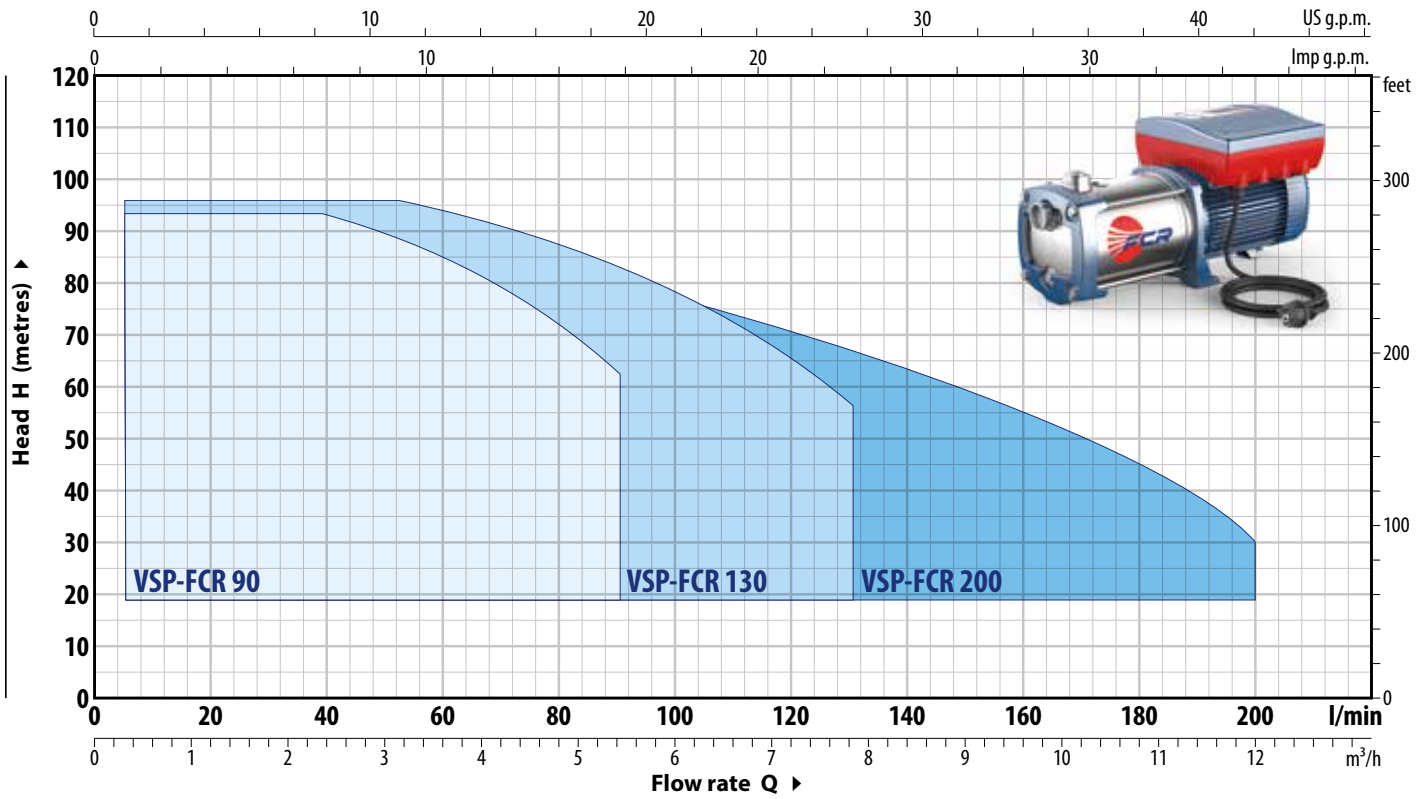
As it works at variable speed, VSP uses only the necessary energy demand required by the system according to the water demand.



Variable frequency driver protection rating: IP 55

# VSP-FCR

## PERFORMANCE RANGE



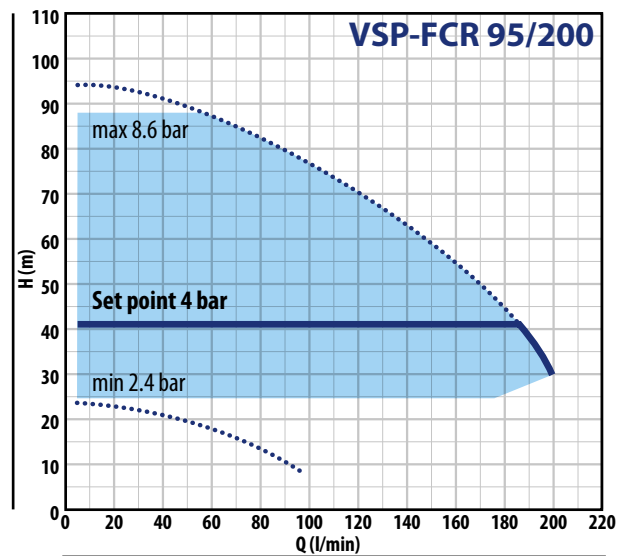
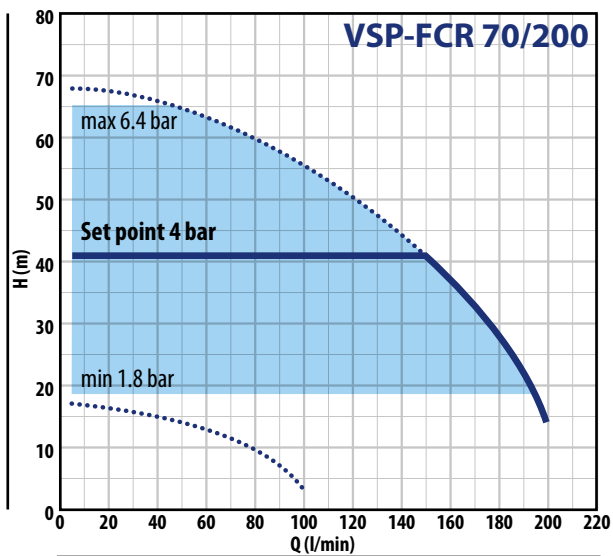
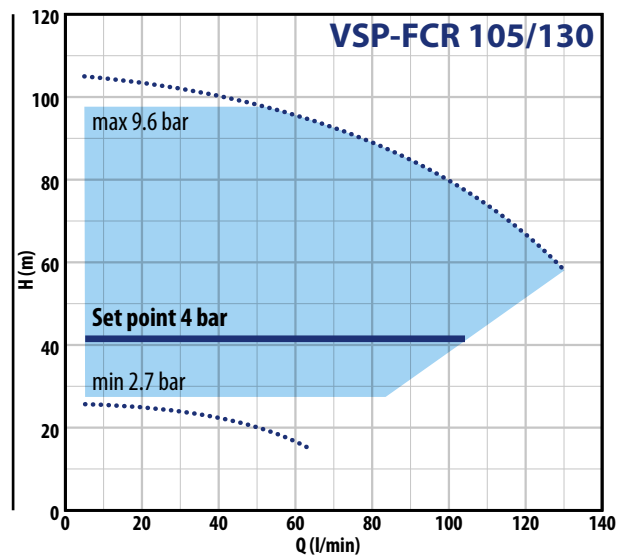
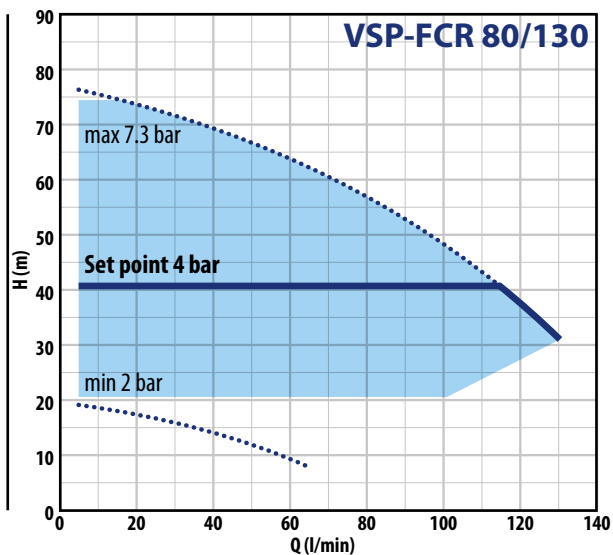
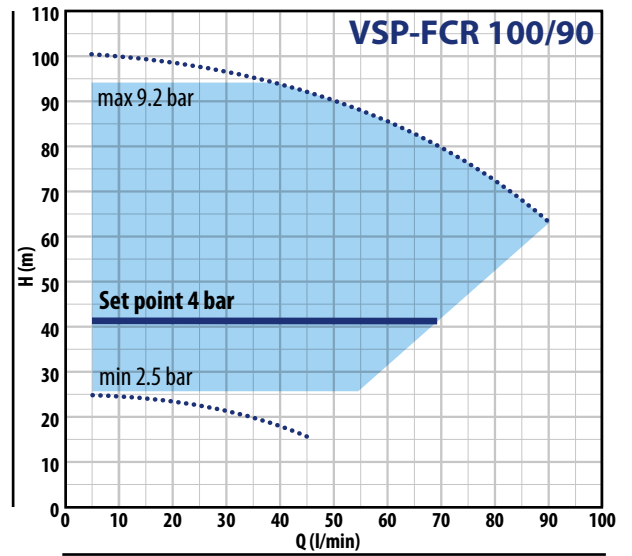
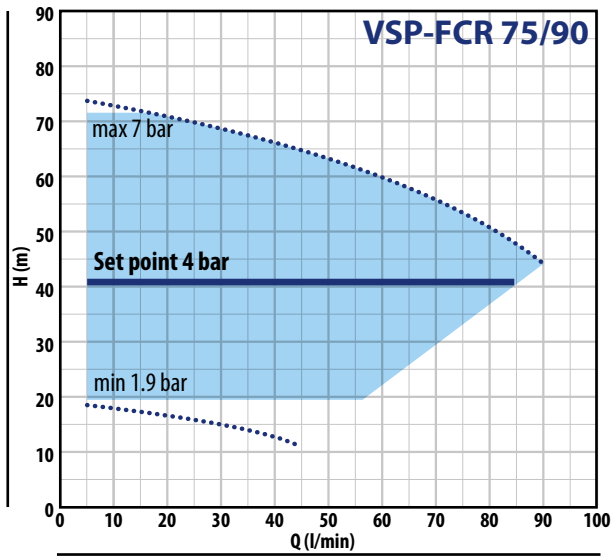
MODEL	POWER			ABSORPTION	MAX PERFORMANCE		PERFORMANCE (ADJUSTABLE SET POINT)					
	P2		▲		Q	H	Min. Set Point		Set Point Std. Setting		Max. Set Point	
SINGLE-PHASE	kW	HP		230 V			litres/min	metres	bar	l/min	bar	l/min
VSPm-FCR 75/90	1.5	2	IE3	9.8 A	5 – 90	73 – 44	1.9	5 – 56	4.0	5 – 86	7.0	5 – 16
VSPm-FCR 80/130	1.5	2		9.8 A	10 – 130	76 – 31	2.0	5 – 100	4.0	5 – 114	7.3	5 – 18
VSPm-FCR 70/200	1.5	2		9.8 A	20 – 200	67 – 14	1.8	5 – 194	4.0	5 – 152	6.4	5 – 48

MODEL	POWER			ABSORPTION	MAX PERFORMANCE		PERFORMANCE (ADJUSTABLE SET POINT)					
	P2		▲		Q	H	Min. Set Point		Set Point Std. Setting		Max. Set Point	
THREE-PHASE	kW	HP		400 V			litres/min	metres	bar	l/min	bar	l/min
VSP-FCR 75/90	1.5	2	IE3	3.6 A	5 – 90	73 – 44	1.9	5 – 56	4.0	5 – 86	7.0	5 – 16
VSP-FCR 100/90	2.2	3		4.9 A	5 – 90	100 – 63	2.5	5 – 54	4.0	5 – 69	9.2	5 – 40
VSP-FCR 80/130	1.5	2		3.6 A	10 – 130	76 – 31	2.0	5 – 100	4.0	5 – 114	7.3	5 – 18
VSP-FCR 105/130	2.2	3		4.9 A	10 – 130	104 – 58	2.7	5 – 85	4.0	5 – 105	9.6	5 – 46
VSP-FCR 70/200	1.5	2		3.6 A	20 – 200	67 – 14	1.8	5 – 194	4.0	5 – 152	6.4	5 – 48
VSP-FCR 95/200	2.2	3		4.9 A	20 – 200	93 – 30	2.4	5 – 175	4.0	5 – 185	8.6	5 – 56

▲ Three-phase motor efficiency class (IEC 60034-30-1)

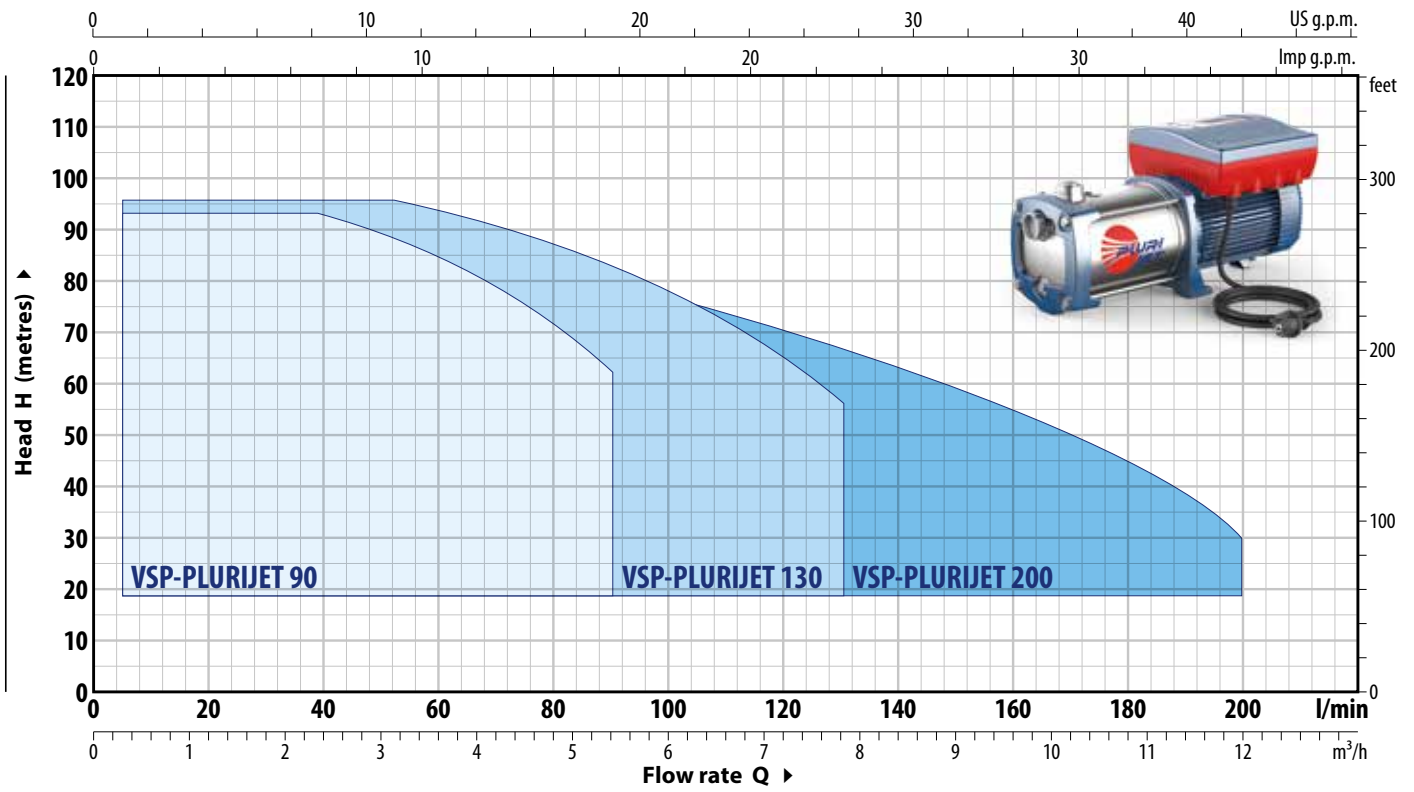
# VSP-FCR

## PERFORMANCE CURVES



# VSP-PLURIJET

## PERFORMANCE RANGE



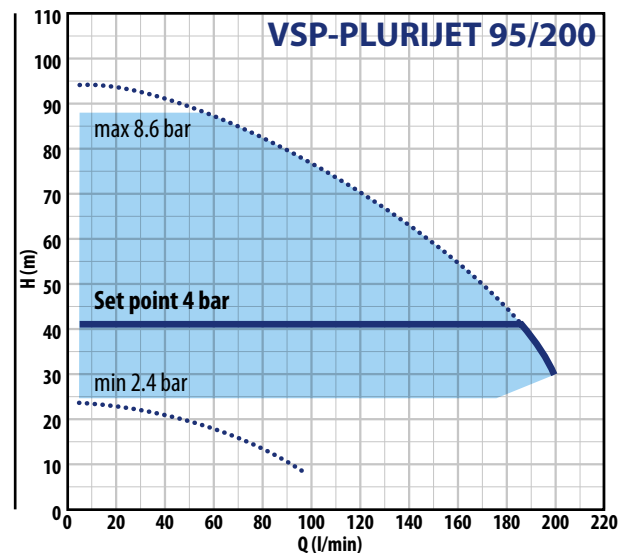
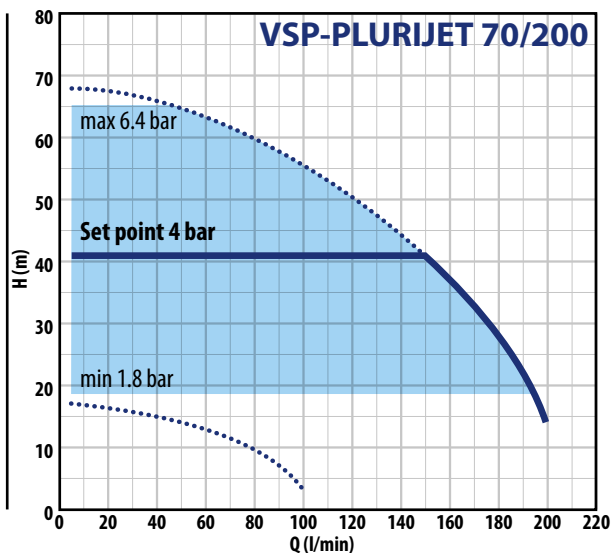
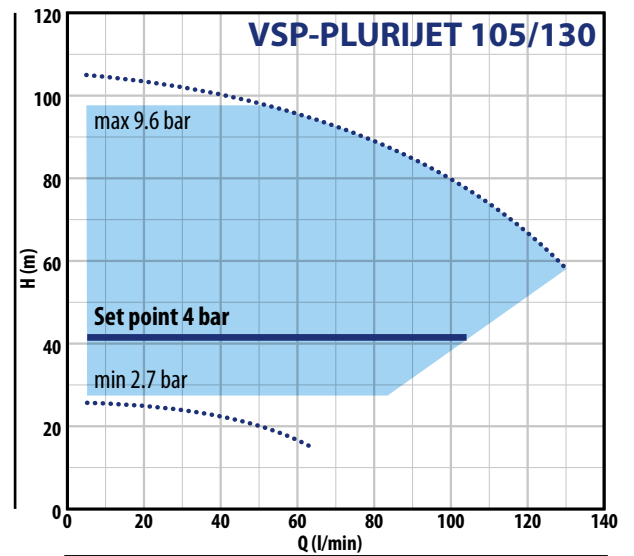
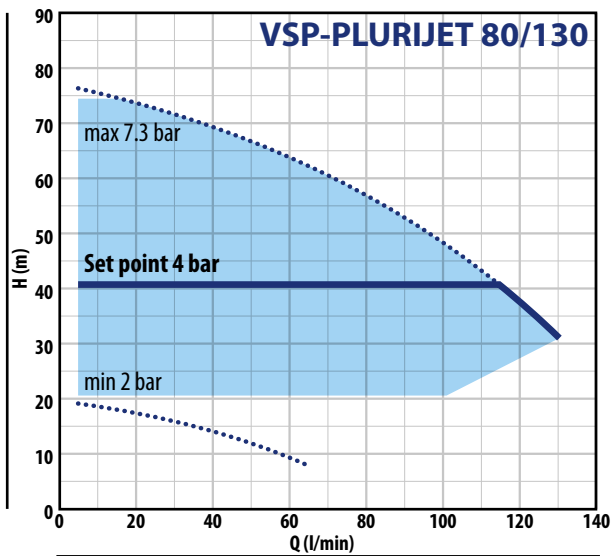
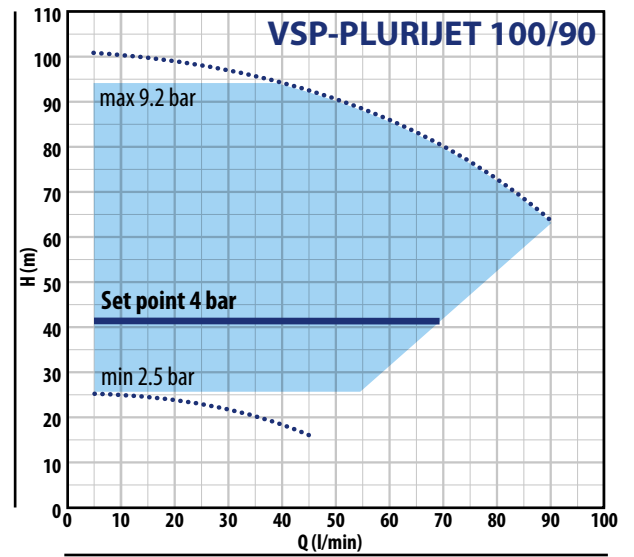
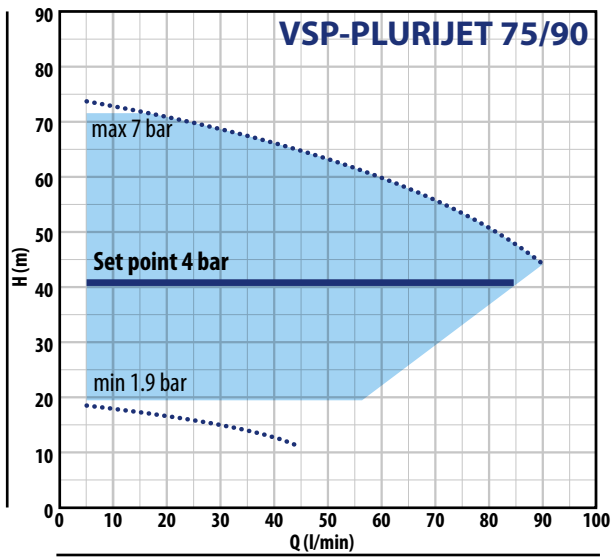
MODEL	POWER			ABSORPTION	MAX PERFORMANCE		PERFORMANCE (ADJUSTABLE SET POINT)					
	P2		▲		Q	H	Min. Set Point		Set Point Std. Setting		Max. Set Point	
SINGLE-PHASE	kW	HP					litres/min	metres	bar	l/min	bar	l/min
VSPm-PLURIJET 75/90	1.5	2	IE3	9.8 A	5 – 90	73 – 44	1.9	5 – 56	4.0	5 – 86	7.0	5 – 16
VSPm-PLURIJET 80/130	1.5	2		9.8 A	10 – 130	76 – 31	2.0	5 – 100	4.0	5 – 114	7.3	5 – 18
VSPm-PLURIJET 70/200	1.5	2		9.8 A	20 – 200	67 – 14	1.8	5 – 194	4.0	5 – 152	6.4	5 – 48

MODEL	POWER			ABSORPTION	MAX PERFORMANCE		PERFORMANCE (ADJUSTABLE SET POINT)					
	P2		▲		Q	H	Min. Set Point		Set Point Std. Setting		Max. Set Point	
THREE-PHASE	kW	HP					litres/min	metres	bar	l/min	bar	l/min
VSP-PLURIJET 75/90	1.5	2	IE3	3.6 A	5 – 90	73 – 44	1.9	5 – 56	4.0	5 – 86	7.0	5 – 16
VSP-PLURIJET 100/90	2.2	3		4.9 A	5 – 90	100 – 63	2.5	5 – 54	4.0	5 – 69	9.2	5 – 40
VSP-PLURIJET 80/130	1.5	2		3.6 A	10 – 130	76 – 31	2.0	5 – 100	4.0	5 – 114	7.3	5 – 18
VSP-PLURIJET 105/130	2.2	3		4.9 A	10 – 130	104 – 58	2.7	5 – 85	4.0	5 – 105	9.6	5 – 46
VSP-PLURIJET 70/200	1.5	2		3.6 A	20 – 200	67 – 14	1.8	5 – 194	4.0	5 – 152	6.4	5 – 48
VSP-PLURIJET 95/200	2.2	3		4.9 A	20 – 200	93 – 30	2.4	5 – 175	4.0	5 – 185	8.6	5 – 56

▲ Three-phase motor efficiency class (IEC 60034-30-1)

# VSP-PLURIJET

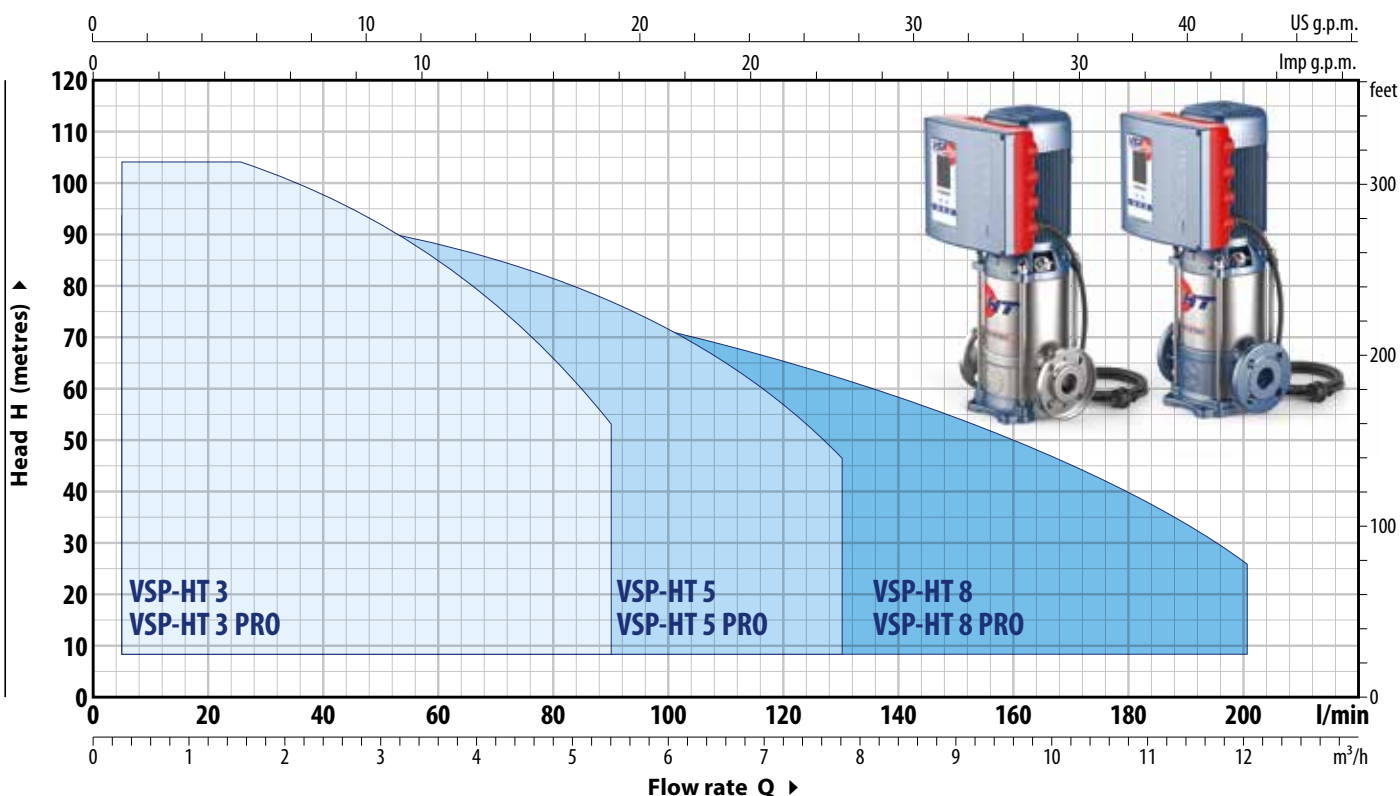
## PERFORMANCE CURVES





# VSP-HT / VSP-HT PRO

## PERFORMANCE RANGE



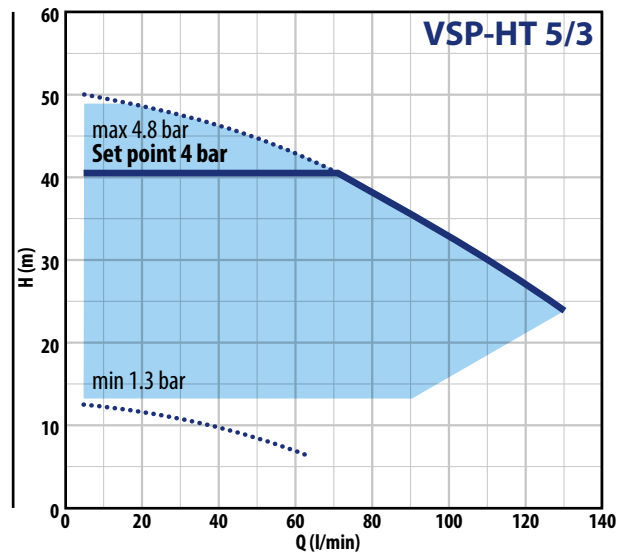
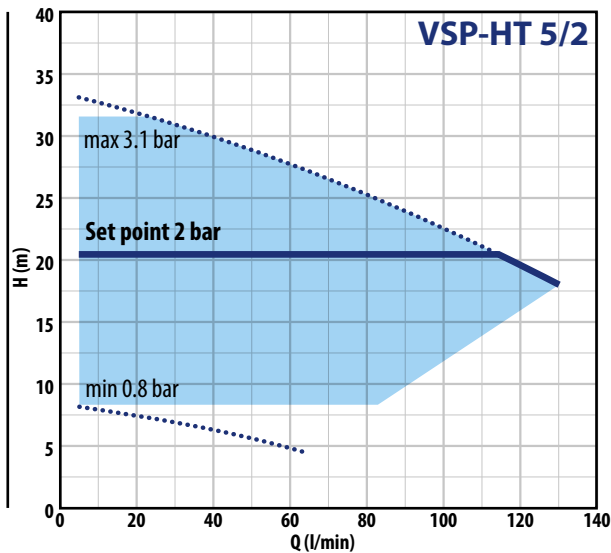
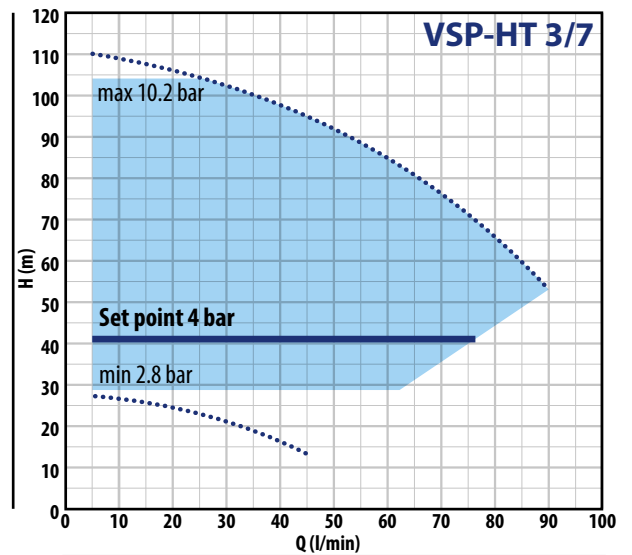
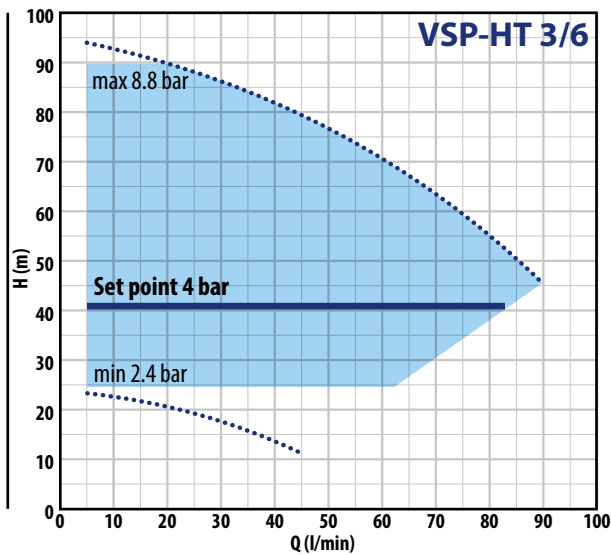
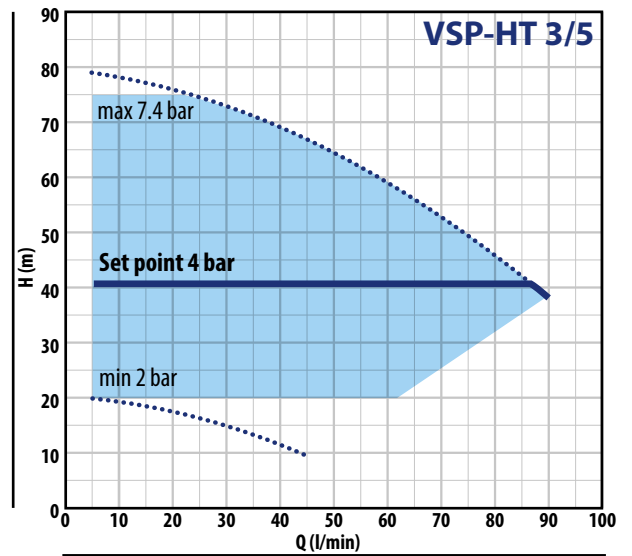
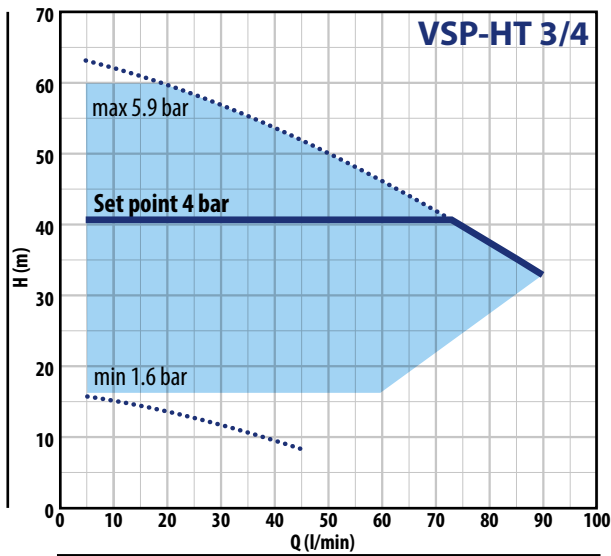
MODEL		POWER		ABSORPTION	MAX PERFORMANCE		PERFORMANCE (ADJUSTABLE SET POINT)						
							230 V		Q	H	Min. Set Point		Set Point Std. Setting
SINGLE-PHASE		kW	HP ▲		litres/min	metres	bar	l/min	bar	l/min	bar	l/min	
VSPm-HT 3/4	VSPm-HT 3/4 - PRO	0.75	1	IE3	7.3 A	5 - 90	63 - 33	1.6	5 - 59	4.00	5 - 73	5.9	5 - 19
VSPm-HT 3/5	VSPm-HT 3/5 - PRO	1.1	1.5		8.5 A	5 - 90	79 - 38	2.0	5 - 62	4.00	5 - 86	7.4	5 - 22
VSPm-HT 3/6	VSPm-HT 3/6 - PRO	1.5	2		9.6 A	5 - 90	94 - 45.5	2.4	5 - 62	4.00	5 - 84	8.8	5 - 20
VSPm-HT 5/2	VSPm-HT 5/2 - PRO	0.75	1		6.8 A	5 - 130	33 - 18	0.8	5 - 83	2.00	5 - 114	3.1	5 - 22
VSPm-HT 5/3	VSPm-HT 5/3 - PRO	1.1	1.5		7.8 A	5 - 130	49 - 24	1.3	5 - 91	4.00	5 - 71	4.8	5 - 14
VSPm-HT 5/4	VSPm-HT 5/4 - PRO	1.5	2		9.6 A	5 - 130	65 - 32	1.7	5 - 90	4.00	5 - 108	6.1	5 - 26
VSPm-HT 8/3	VSPm-HT 8/3 - PRO	1.1	1.5		8.2 A	20 - 200	43 - 13	1.1	5 - 182	4.00	5 - 58	4.1	5 - 28
VSPm-HT 8/4	VSPm-HT 8/4 - PRO	1.5	2		9.8 A	20 - 200	58 - 18	1.5	5 - 180	4.00	5 - 128	5.4	5 - 48

MODEL		POWER		ABSORPTION	MAX PERFORMANCE		PERFORMANCE (ADJUSTABLE SET POINT)						
							400 V		Q	H	Min. Set Point		Set Point Std. Setting
THREE-PHASE		kW	HP ▲		litres/min	metres	bar	l/min	bar	l/min	bar	l/min	
VSP-HT 3/4	VSP-HT 3/4 - PRO	0.75	1	IE3	4.2 A	5 - 90	63 - 33	1.6	5 - 59	4.00	5 - 73	5.9	5 - 19
VSP-HT 3/5	VSP-HT 3/5 - PRO	1.1	1.5		4.9 A	5 - 90	79 - 38	2.0	5 - 62	4.00	5 - 86	7.4	5 - 22
VSP-HT 3/6	VSP-HT 3/6 - PRO	1.5	2		5.6 A	5 - 90	94 - 45.5	2.4	5 - 62	4.00	5 - 84	8.8	5 - 20
VSP-HT 3/7	VSP-HT 3/7 - PRO	1.8	2.5		6.7 A	5 - 90	110 - 53	2.8	5 - 62	4.00	5 - 76	10.2	5 - 25
VSP-HT 5/2	VSP-HT 5/2 - PRO	0.75	1		3.9 A	5 - 130	33 - 18	0.8	5 - 83	2.00	5 - 114	3.1	5 - 22
VSP-HT 5/3	VSP-HT 5/3 - PRO	1.1	1.5		4.5 A	5 - 130	49 - 24	1.3	5 - 91	4.00	5 - 71	4.8	5 - 14
VSP-HT 5/4	VSP-HT 5/4 - PRO	1.5	2		5.6 A	5 - 130	65 - 32	1.7	5 - 90	4.00	5 - 108	6.1	5 - 26
VSP-HT 5/5	VSP-HT 5/5 - PRO	1.8	2.5		7.0 A	5 - 130	81 - 39	2.1	5 - 91	4.00	5 - 128	7.5	5 - 42
VSP-HT 5/6	VSP-HT 5/6 - PRO	2.2	3		7.3 A	5 - 130	97 - 47	2.6	5 - 92	4.00	5 - 118	9.3	5 - 25
VSP-HT 8/3	VSP-HT 8/3 - PRO	1.1	1.5		4.7 A	20 - 200	43 - 13	1.1	5 - 182	4.00	5 - 58	4.1	5 - 28
VSP-HT 8/4	VSP-HT 8/4 - PRO	1.5	2		5.9 A	20 - 200	58 - 18	1.5	5 - 180	4.00	5 - 128	5.4	5 - 48
VSP-HT 8/5	VSP-HT 8/5 - PRO	1.8	2.5		7.0 A	20 - 200	71.5 - 21.5	1.8	5 - 181	4.00	5 - 156	6.7	5 - 44
VSP-HT 8/6	VSP-HT 8/6 - PRO	2.2	3	7.7 A	20 - 200	85.5 - 26	2.3	5 - 186	4.00	5 - 179	8.2	5 - 32	

▲ Three-phase motor efficiency class (IEC 60034-30-1)

# VSP-HT / VSP-HT PRO

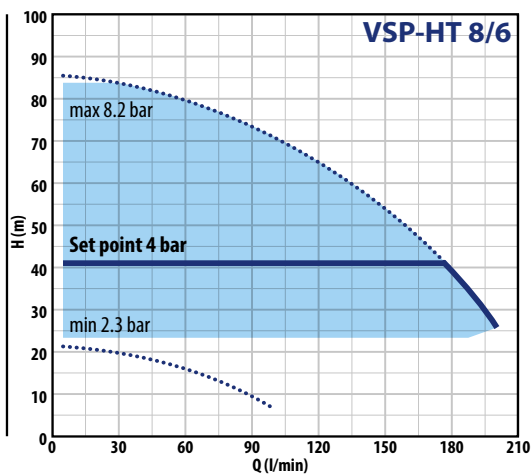
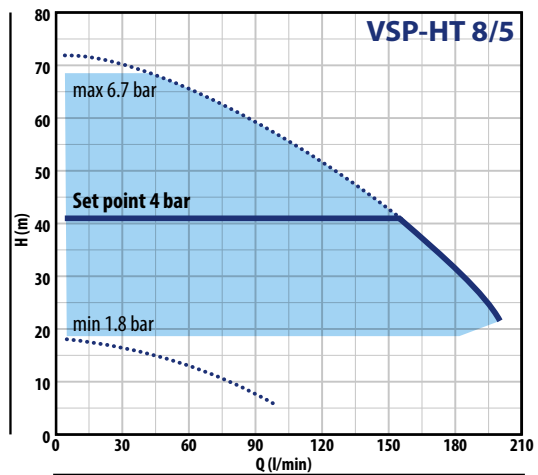
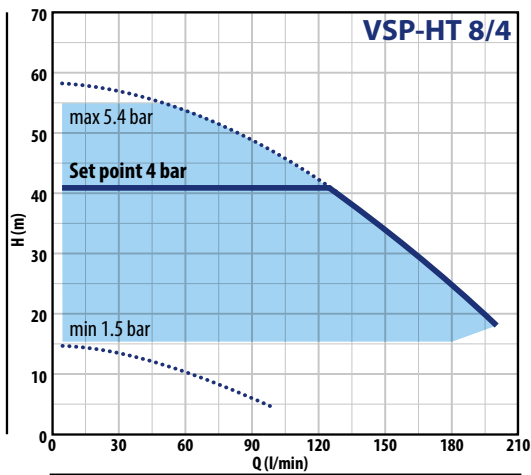
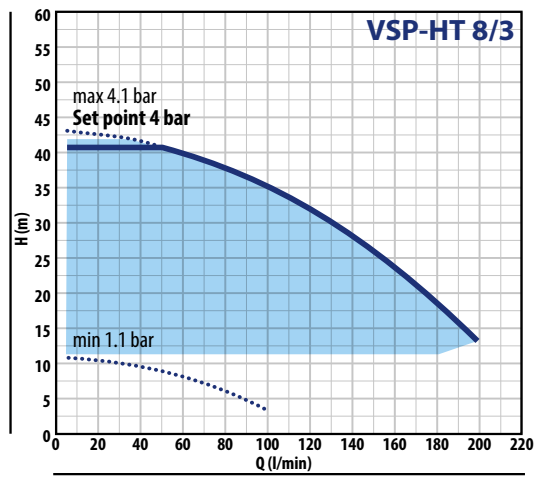
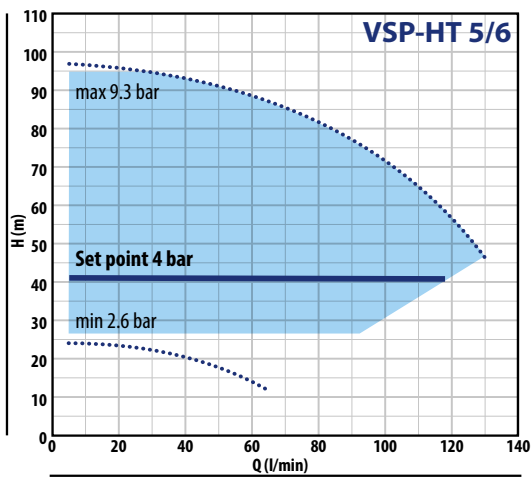
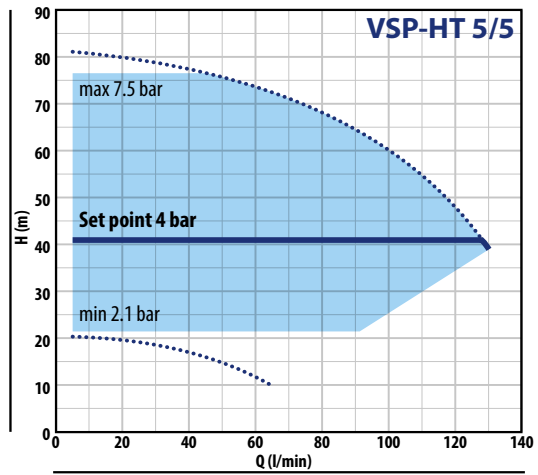
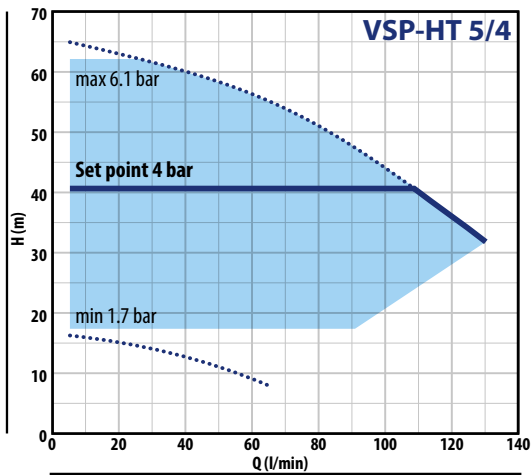
## PERFORMANCE CURVES





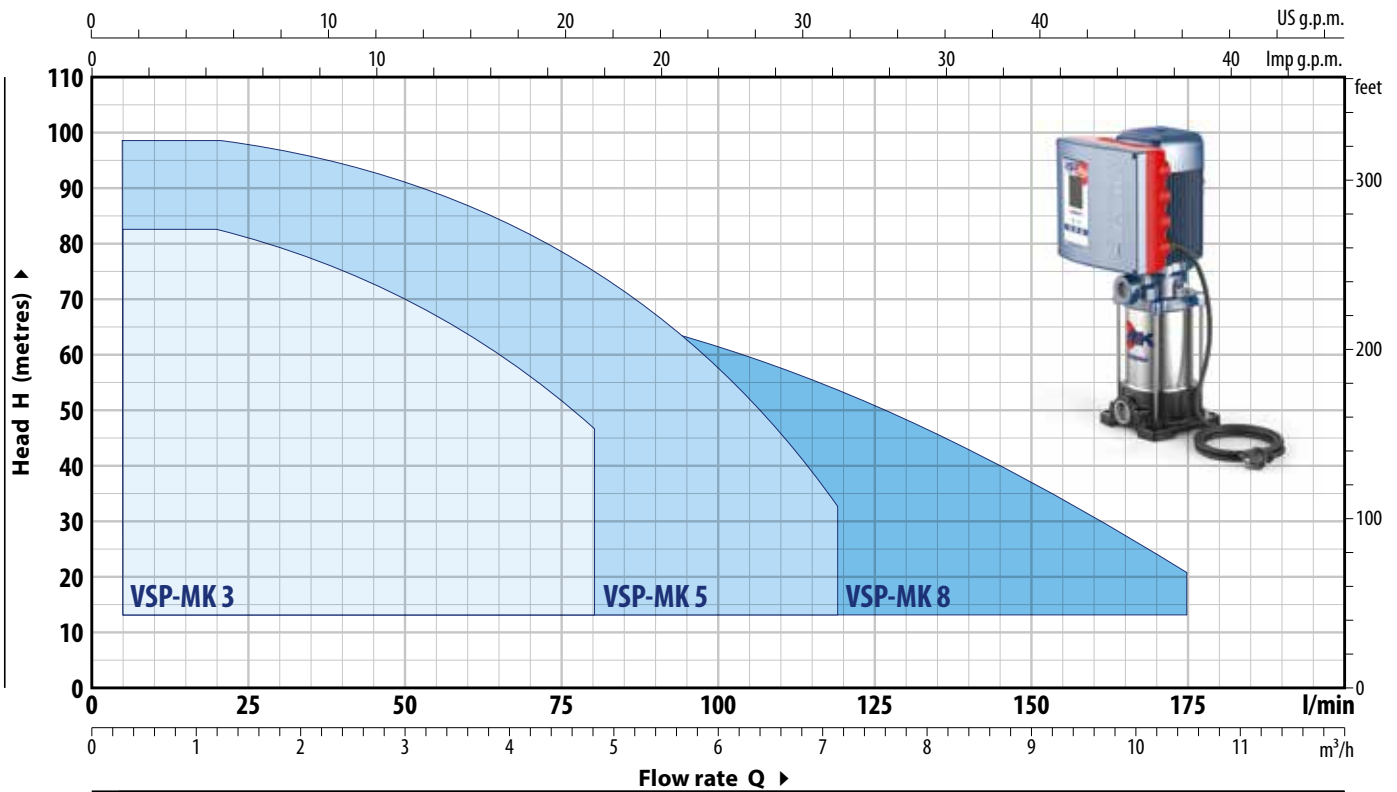
# VSP-HT / VSP-HT PRO

## PERFORMANCE CURVES



# VSP-MK

## PERFORMANCE CURVES



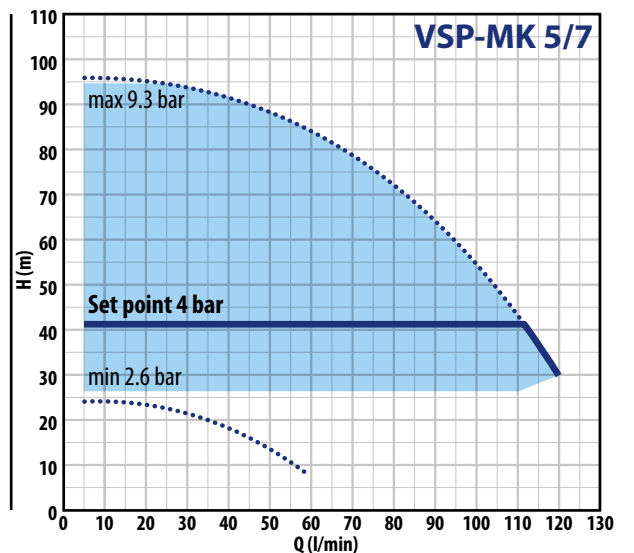
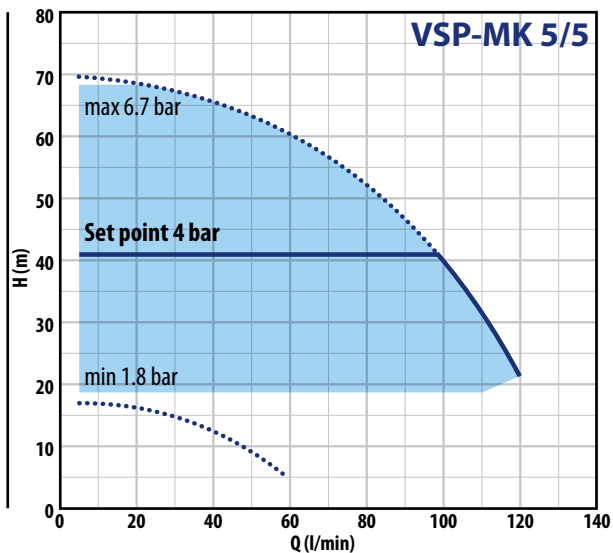
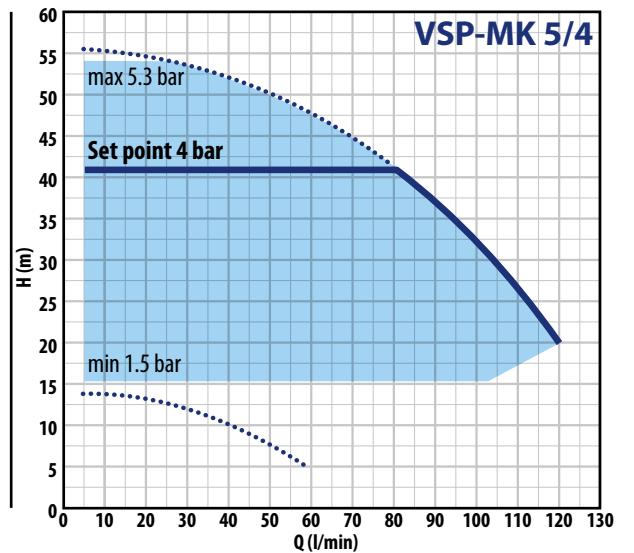
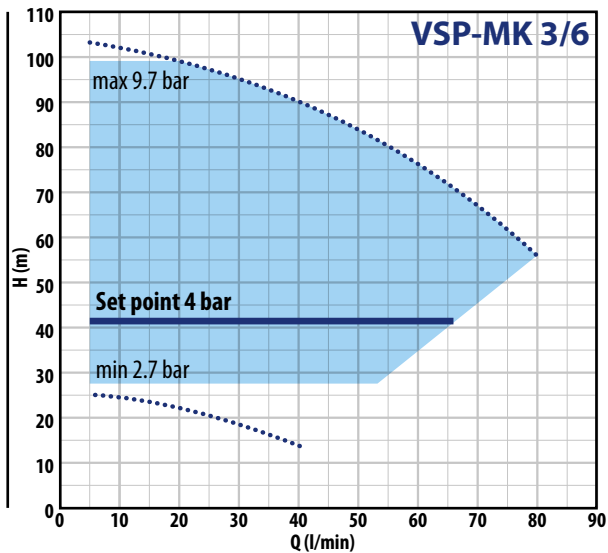
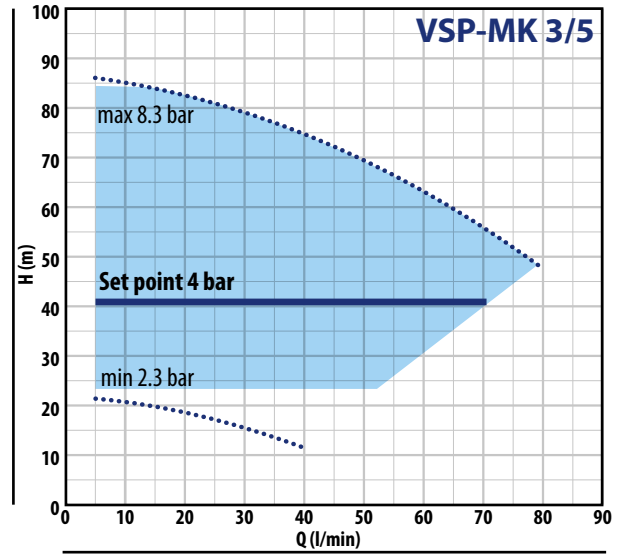
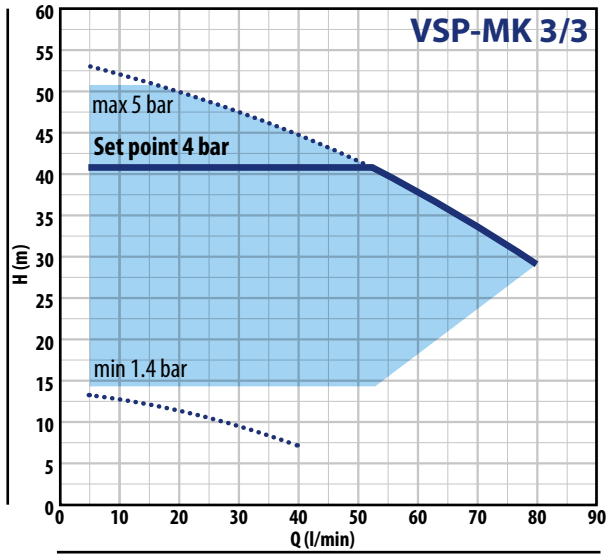
MODEL	POWER			ABSORPTION	MAX PERFORMANCE		PERFORMANCE (ADJUSTABLE SET POINT)					
	P2		▲		230 V	Q	H	Min. Set Point		Set Point Std. Setting		Max. Set Point
SINGLE-PHASE	kW	HP				litres/min	metres	bar	l/min	bar	l/min	bar
VSPm-MK 3/3	0.75	1	IE3	6.0 A	10 – 80	52 – 29	1.4	5 – 52	4.00	5 – 52	5.0	5 – 14
VSPm-MK 3/5	1.1	1.5		7.3 A	10 – 80	85 – 48	2.3	5 – 52	4.00	5 – 72	8.3	5 – 13
VSPm-MK 3/6	1.5	2		8.5 A	10 – 80	101 – 56	2.7	5 – 53	4.00	5 – 65	9.7	5 – 19
VSPm-MK 5/4	0.75	1		6.0 A	20 – 120	55 – 20	1.5	5 – 101	4.00	5 – 82	5.3	5 – 26
VSPm-MK 5/5	1.1	1.5		6.6 A	20 – 120	69 – 21.5	1.8	5 – 108	4.00	5 – 99	6.7	5 – 13
VSPm-MK 5/7	1.5	2		8.5 A	20 – 120	95 – 30	2.6	5 – 109	4.00	5 – 111	9.3	5 – 16
VSPm-MK 8/4	1.1	1.5		7.3 A	40 – 180	53 – 12	1.4	5 – 175	4.00	5 – 115	5.2	5 – 30
VSPm-MK 8/5	1.5	2		8.5 A	40 – 180	68 – 15.5	1.8	5 – 175	4.00	5 – 138	6.6	5 – 45

MODEL	POWER			ABSORPTION	MAX PERFORMANCE		PERFORMANCE (ADJUSTABLE SET POINT)					
	P2		▲		400 V	Q	H	Min. Set Point		Set Point Std. Setting		Max. Set Point
THREE-PHASE	kW	HP				litres/min	metres	bar	l/min	bar	l/min	bar
VSP-MK 3/3	0.75	1	IE3	3.5 A	10 – 80	52 – 29	1.4	5 – 52	4.00	5 – 52	5.0	5 – 14
VSP-MK 3/5	1.1	1.5		4.2 A	10 – 80	85 – 48	2.3	5 – 52	4.00	5 – 72	8.3	5 – 13
VSP-MK 3/6	1.5	2		4.9 A	10 – 80	101 – 56	2.7	5 – 53	4.00	5 – 65	9.7	5 – 19
VSP-MK 5/4	0.75	1		3.5 A	20 – 120	55 – 20	1.5	5 – 101	4.00	5 – 82	5.3	5 – 26
VSP-MK 5/5	1.1	1.5		3.8 A	20 – 120	69 – 21.5	1.8	5 – 108	4.00	5 – 99	6.7	5 – 13
VSP-MK 5/7	1.5	2		4.9 A	20 – 120	95 – 30	2.6	5 – 109	4.00	5 – 111	9.3	5 – 16
VSP-MK 5/8	2.2	3		6.0 A	20 – 120	108 – 34	2.9	5 – 109	4.00	5 – 115	10.6	5 – 14
VSP-MK 8/4	1.1	1.5		4.2 A	40 – 180	53 – 12	1.4	5 – 175	4.00	5 – 115	5.2	5 – 30
VSP-MK 8/5	1.5	2		4.9 A	40 – 180	68 – 15.5	1.8	5 – 175	4.00	5 – 138	6.6	5 – 45
VSP-MK 8/6	2.2	3		6.3 A	40 – 180	81 – 18.5	2.2	5 – 175	4.00	5 – 149	8.0	5 – 22

▲ Three-phase motor efficiency class (IEC 60034-30-1)

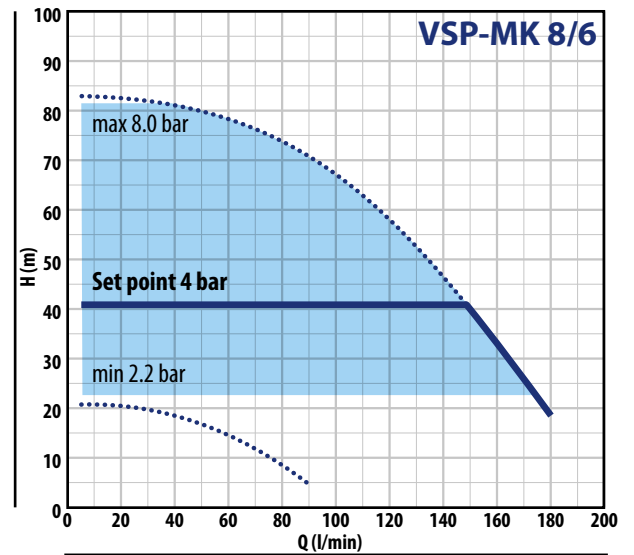
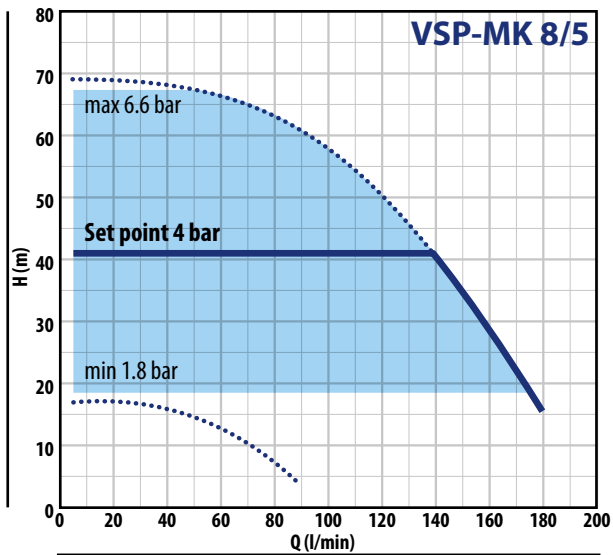
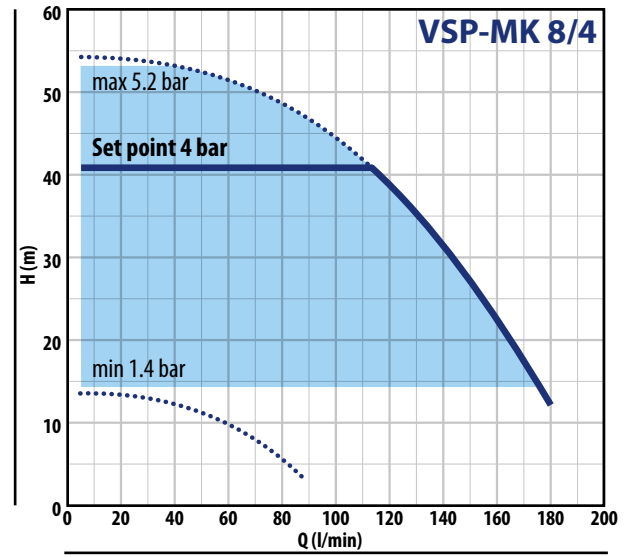
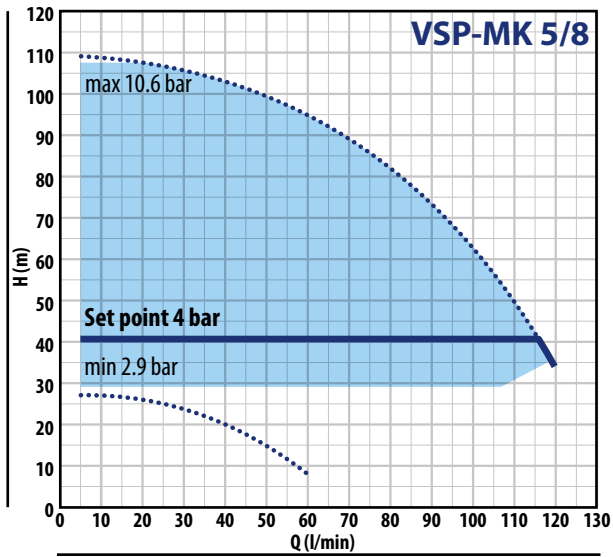
# VSP-MK

## PERFORMANCE CURVES



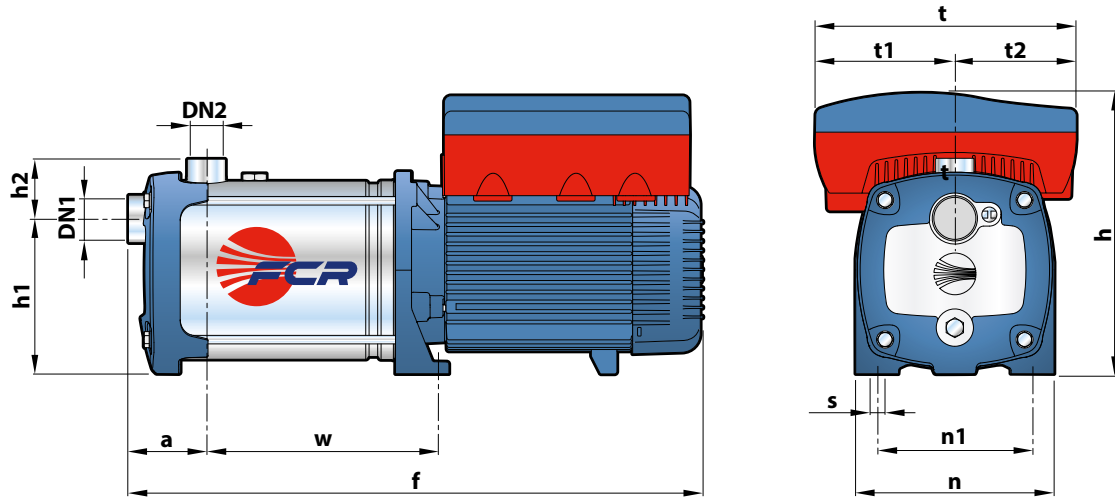
# VSP-MK

## PERFORMANCE CURVES

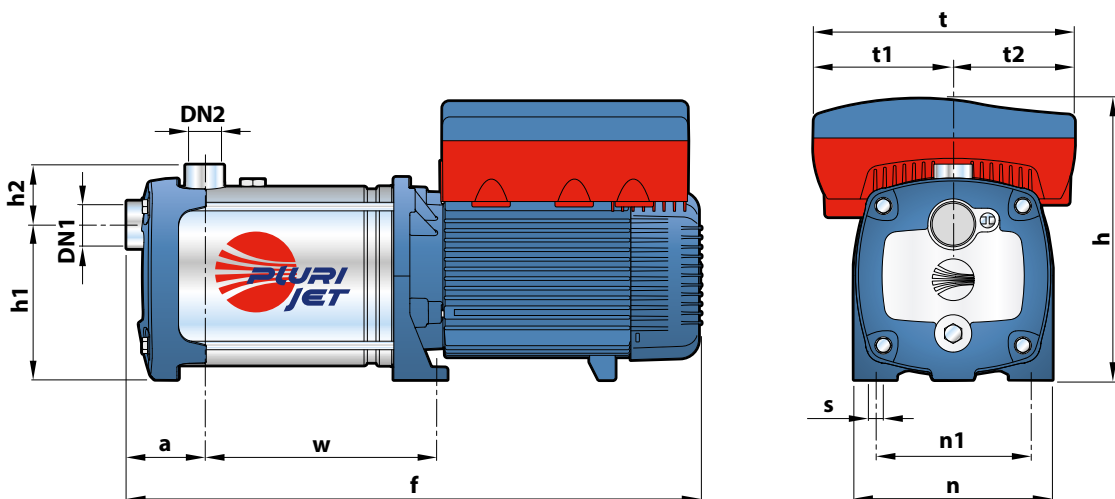


# VSP-FCR/ VSP-PLURIJET

## WEIGHT AND DIMENSIONS (mm)



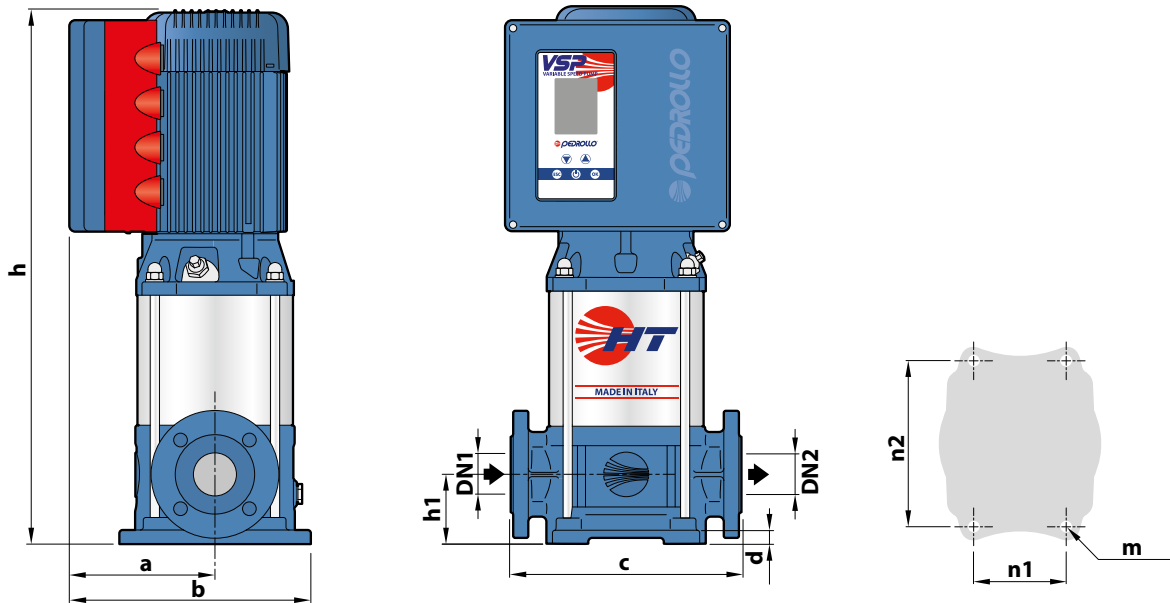
MODEL		PORTS		DIMENSIONS mm												kg	
Single-phase	Three-phase	DN1	DN2	f	a	w	h	h1	h2	t	t1	t2	n	n1	s	1~	3~
VSPm-FCR 75/90	VSP-FCR 75/90	1 1/4"	1"	445	75	139	260	145	59	242	129	113	185	145	11	21.7	21.7
-	VSP-FCR 100/90			471		165										-	21.9
VSPm-FCR 80/130	VSP-FCR 80/130			445		139										21.9	21.9
-	VSP-FCR 105/130			471		165										-	21.9
VSPm-FCR 70/200	VSP-FCR 70/200			445		139										24.1	23.9
-	VSP-FCR 95/200			471		165										-	24.0



MODEL		PORTS		DIMENSIONS mm												kg	
Single-phase	Three-phase	DN1	DN2	f	a	w	h	h1	h2	t	t1	t2	n	n1	s	1~	3~
VSPm-PLURIJET 75/90	VSP-PLURIJET 75/90	1 1/4"	1"	497	75	191	260	145	59	242	129	113	185	145	11	21.7	21.7
-	VSP-PLURIJET 100/90			523		217										-	23.9
VSPm-PLURIJET 80/130	VSP-PLURIJET 80/130			497		191										21.9	21.9
-	VSP-PLURIJET 105/130			523		217										-	24.1
VSPm-PLURIJET 70/200	VSP-PLURIJET 70/200			497		191										21.9	21.9
-	VSP-PLURIJET 95/200			523		217										-	24.0

# VSP-HT

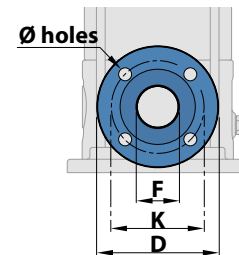
## WEIGHT AND DIMENSIONS (mm)



MODEL		PORTS		DIMENSIONS mm									kg			
Single-phase	Three-phase	DN1	DN2	a	b	c	d	h	h1	n1	n2	m	1~	3~		
VSPm-HT 3/4	VSP-HT 3/4	1"	1"					509	75				37.3	36.8		
VSPm-HT 3/5	VSP-HT 3/5							535							37.5	37.0
VSPm-HT 3/6	VSP-HT 3/6							561							38.2	39.1
-	VSP-HT 3/7							607							-	43.2
VSPm-HT 5/2	VSP-HT 5/2	1¼"	1¼"	164	269	250	15	457	80	100	180	Ø 13	36.3	36.3		
VSPm-HT 5/3	VSP-HT 5/3							483							36.5	36.5
VSPm-HT 5/4	VSP-HT 5/4							509							38.4	38.5
-	VSP-HT 5/5							555							-	42.1
-	VSP-HT 5/6	581	-	43.2												
VSPm-HT 8/3	VSP-HT 8/3	1½"	1½"			280		488	80				37.9	37.9		
VSPm-HT 8/4	VSP-HT 8/4							514							39.8	39.9
-	VSP-HT 8/5							560							-	43.4
-	VSP-HT 8/6							586							-	44.2

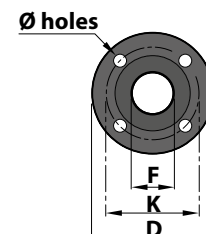
## FLANGES

MODEL	DN FLANGES mm	F mm	D mm	K mm	HOLES	
					No.	Ø mm
VSP-HT 3	25	1"	115	85	4	14
VSP-HT 5	32	1¼"	140	100		18
VSP-HT 8	40	1½"	150	110		18



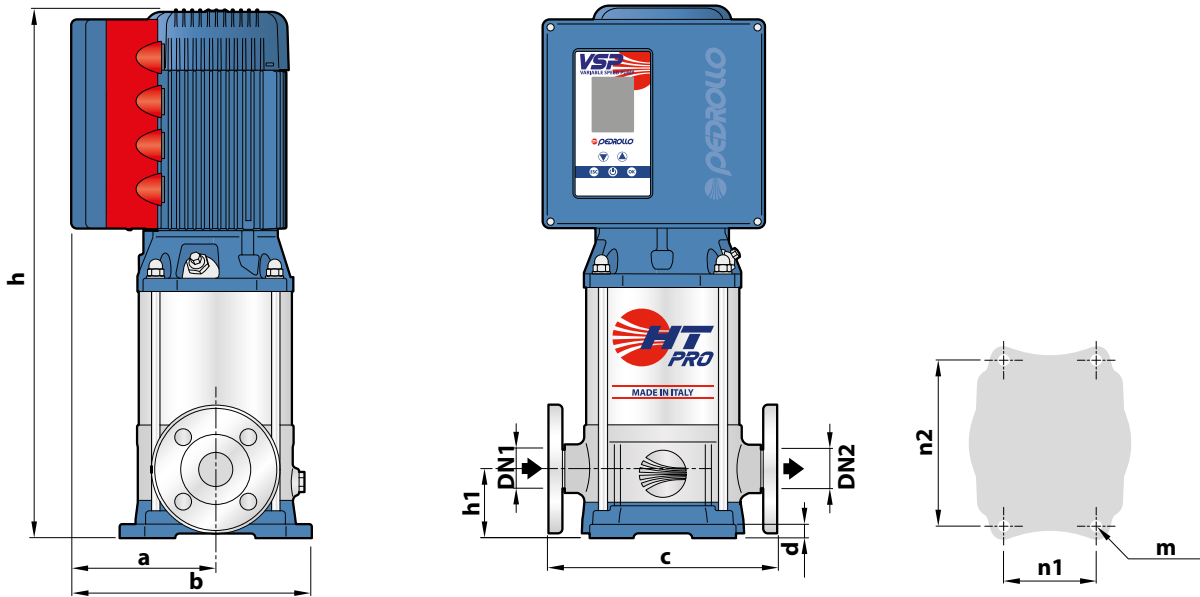
## COUNTERFLANGES

MODEL	DN FLANGES mm	F mm	D mm	K mm	HOLES	
					No.	Ø mm
VSP-HT 3	25	1"	115	85	4	14
VSP-HT 5	32	1¼"	140	100		18
VSP-HT 8	40	1½"	150	110		18



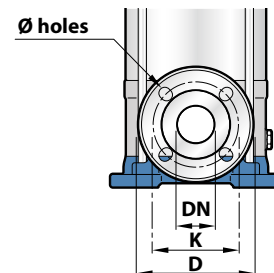
# VSP-HT PRO

## WEIGHT AND DIMENSIONS (mm)



MODEL		PORTS		DIMENSIONS mm									kg			
Single-phase	Three-phase	DN1	DN2	a	b	c	d	h	h1	n1	n2	m	1~	3~		
VSPm-HT 3/4 PRO	VSP-HT 3/4 PRO	1"	1"					509	75				35.3	34.8		
VSPm-HT 3/5 PRO	VSP-HT 3/5 PRO							535							35.5	35.0
VSPm-HT 3/6 PRO	VSP-HT 3/6 PRO							561							36.2	37.1
-	VSP-HT 3/7 PRO							607							-	41.2
VSPm-HT 5/2 PRO	VSP-HT 5/2 PRO	1 1/4"	1 1/4"	164	269	212	15	457	80	100	180	Ø 13	33.2	33.2		
VSPm-HT 5/3 PRO	VSP-HT 5/3 PRO							483							33.4	33.4
VSPm-HT 5/4 PRO	VSP-HT 5/4 PRO							509							35.3	35.4
-	VSP-HT 5/5 PRO							555							-	39.1
-	VSP-HT 5/6 PRO	581	-	40.1												
VSPm-HT 8/3 PRO	VSP-HT 8/3 PRO	1 1/2"	1 1/2"			240		488	80				33.9	33.9		
VSPm-HT 8/4 PRO	VSP-HT 8/4 PRO							514							35.8	35.9
-	VSP-HT 8/5 PRO							560							-	39.4
-	VSP-HT 8/6 PRO							586							-	40.2

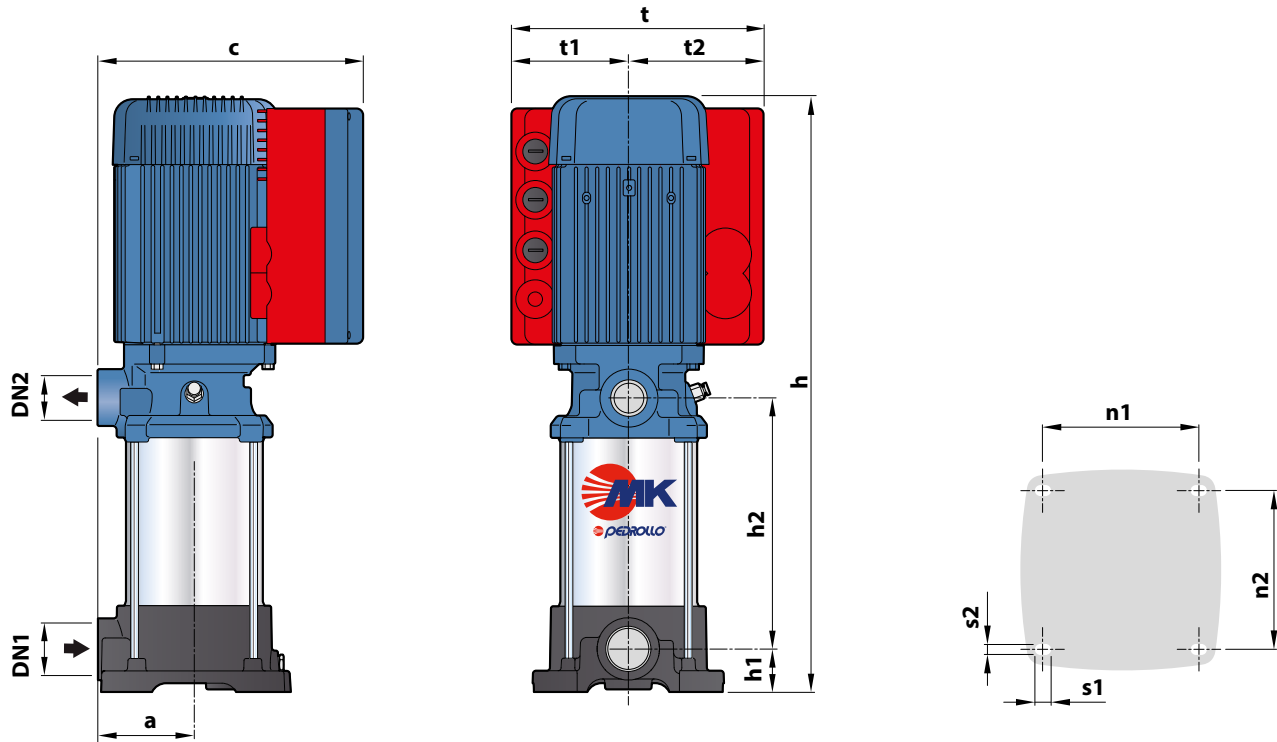
MODEL	DN FLANGES mm	D mm	K mm	HOLES	
				No.	Ø mm
VSP-HT 3 - PRO	25	115	85	4	14
VSP-HT 5 - PRO	32	140	100		18
VSP-HT 8 - PRO	40	150	110		





# VSP-MK

## WEIGHT AND DIMENSIONS (mm)



MODEL		PORTS		No. STAGES	DIMENSIONS mm												kg	
Single-phase	Three-phase	DN1	DN2		a	c	h	h1	h2	t	t1	t2	n1	n2	s1	s2	1~	3~
VSPm-MK 3/3	VSP-MK 3/3	1¼"	1"	3	93	255	41	132	242	113	129	143	146	14.5	10	23.3	23.3	
VSPm-MK 3/5	VSP-MK 3/5			5				186								25.5	25.5	
VSPm-MK 3/6	VSP-MK 3/6			6				213								27.3	27.3	
VSPm-MK 5/4	VSP-MK 5/4			4				159								23.8	23.8	
VSPm-MK 5/5	VSP-MK 5/5			5				186								25.2	25.2	
VSPm-MK 5/7	VSP-MK 5/7			7				240								28.3	28.3	
-	VSP-MK 5/8			8				267								-	28.6	
VSPm-MK 8/4	VSP-MK 8/4			4				159								26.6	26.6	
VSPm-MK 8/5	VSP-MK 8/5			5				186								27.0	27.0	
-	VSP-MK 8/6			6				213								-	29.4	

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