FLOW Range

Range Specification

Features

- On demand operation
- Auto rotation of duty pump
- Auto changeover on duty pump trip
- Advanced electronic controllers
- Flow through controllers
- BMS I/O connection
- Digitally adjustable cut-in and cut-out pressure
- Working pressure range 0.8 - 9 bar
- Low friction losses through pump controllers
- Anti-vibration mounts for base plate

Protection

- Dry run protection
- Overload protection
- Feed tank low level alarm

Components

- Controller per pump
- Pressure vessel
- Electronic pressure & flow sensors built into controllers
- Baseplate & manifolds in 304 Stainless Steel (SS)
- Connection box c/w alarm output connection - IP55 enclosure
- GSM dial out alarm (Optional)

Pumps:	Pedrollo Range
Max head:	9.7 bar
Number of pumps:	1 - 3
Capacity:	1 x duty pump - up to 12m^3/h 2 x duty pump - up to 24m^3/h 3 x duty pump - up to 36m^3/h
kW range:	≤ 2.2kW
Power input:	230V/1PH/50Hz 400V/3PH/50Hz
Temperature range:	
Liquid -	up to +40°C
Ambient -	up to +40°C
Pressure rating:	PN10

Control Options

A series of small horizontal pumps operating in a cascade system enables high flow demands to be met whilst being efficient during periods of low use.

Flow-F - Easy Adjust - Multi Preset

- Electronic management of pumps to meet varying demand
- Advanced electronic controller per pump
- Simple "single entry" setup of operating parameters
- Digitally adjustable pressure setting (0.8 - 9 bar)
- Thermal overload protection

Flow-V - Constant Pressure - Steadypres

- Constant working pressure - selectable/adjustable
- Variable speed drive (VSD) per pump
- Drives are water cooled
- Advanced power management
- Operation log including; alarms & hours run

Flow F -Fixed Speed Control Philosophy

The Powerboost Flow-F is made up from two or three pumps in parallel, managed by an electronic control unit that acts as a pressure switch to keep the system within the desired pressure range and provides protection against over current and dry running.

When the pressure in the system falls below the cut in set point the control unit will start one pump to bring the system pressure back into the programmed working range. If one pump is not sufficient to keep the system pressure above the cut-in set point as the flow increases then the control unit will start the second pump (in three pump systems the third pump will start when the pressure drops again as described.)

As the flow decreases and the pressure builds each pump has an individual cut-out pressure so that they shut down in sequence.

The control unit alternates the order in which pumps start to balance the hours run on each pump. There is an input for a float switch to be installed in the feed tank and a volt free BMS connection for general alarm signals. In the event of an alarm condition the controller makes several attempts to automatically reset.

Flow V - Variable Speed Control Philosophy

The Powerboost Flow-V is made up from two or three pumps in parallel, managed by a variable speed controller on each pump to keep the system pressure constant and provide protection against over current and dry running.

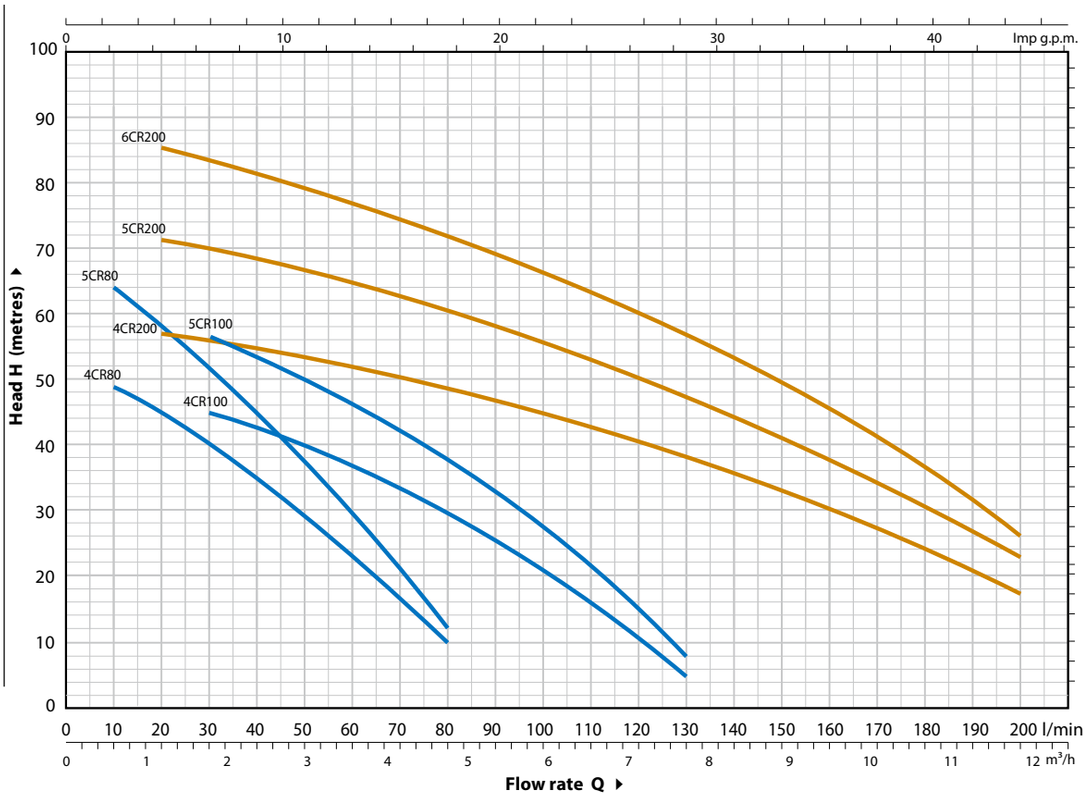
When the pressure in the system falls below the cut in set point the system will start one pump at minimum speed and gradually increase its speed to maintain the pre-set system pressure as the flow increases. If one pump is not sufficient to maintain the system pressure at the set point as the flow increases then the control unit will start the second pump and in three pump systems the third pump in turn varying their speed as required to maintain the set pressure whilst minimising energy usage and excessive pressure in the system.

As the flow decreases the system will slow down each pump in turn to maintain the pre-set pressure. As each pump reaches minimum speed it will switch off until only one pump is running, this final pump will run on for ten seconds to pressurise the vessel and ensure that the pump set does not cycle excessively.

The control unit alternates the order in which pumps start to balance the hours run on each pump. There is an input for a float switch to be installed in the feed tank and a volt free BMS connection for general alarm signals. In the event of an alarm condition the controller attempts to automatically reset after 10 minutes.

Characteristic Curves & Performance Data

50 Hz **n= 2900 rpm** HS= 0 m



Flow V - CR Range

Code		Model	Power (P2)		Q l/min	1x	0	05	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
			(Per Pump)			2x	0	10	20	30	40	50	60	80	100	120	140	160	180	200	220	240	260
2 Pump	3 Pump		kW	HP	Pump	3x	0	15	30	45	60	75	90	120	150	180	210	240	270	300	330	360	390
1029560	1029561	4CR80	0.55	0.75	H Meters		52	50	49	47	44.5	42	40	34	28.5	22.5	16	10					
1029562	1029563	5CR80	0.75	1			67	66	64	62	59	56	53	45.5	37.5	29.5	20.5	12					
1029564	1029565	4CR100	0.75	1			50	50	49	48	47	46	45	42	39.5	37	34	30.5	26.5	22	17	11	5
1035355	1035353	5CR100	1.1	1.5			63	62	61.5	60.5	59.5	58	57	53.5	50.5	46.5	42.5	38	33	28	22	15	8

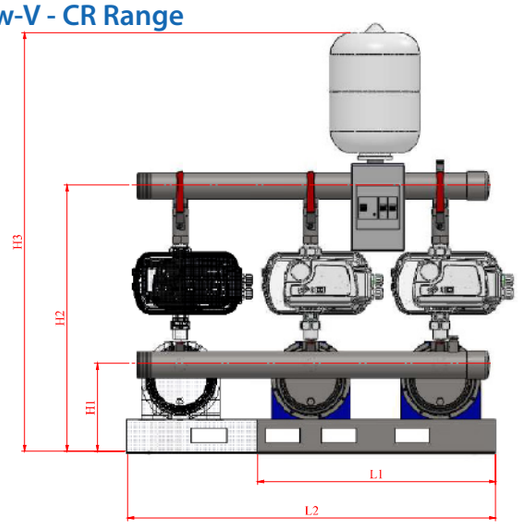
Code		Model	Power (P2)		Q l/min	1x	0	05	10	20	40	60	80	100	130	140	160	180	200			
			(Per Pump)			2x	0	10	20	40	80	120	160	200	260	280	320	360	400			
2 Pump	3 Pump		kW	HP	Pump	3x	0	15	30	60	120	180	240	300	390	420	480	540	600			
1029566	1029567	4CR200	1.5	2	H Meters		58	57.5	57.5	57	55	52.5	49.5	45	38	35.5	30	24	17			
1029568	1029569	5CR200	1.8	2.5			73	72	71.5	71	69	65.5	62	56.5	48	44.5	38	30	22			
1029570	1029571	6CR200	2.2	3			87	86	85.5	85	82	78	73	67	57	53	45	36	26			

** 230V/1PH/50Hz Power supply for all Flow V booster sets as standard*

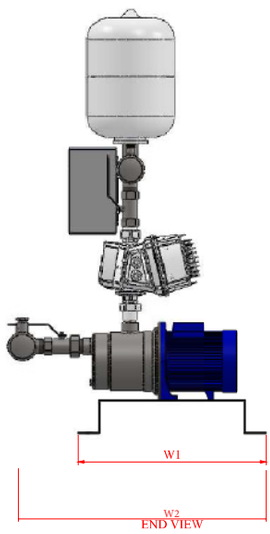
** 400V/3PH/50Hz Power supply option available on request.*

** Curves show individual pump performance. See tables for 2 & 3 pump performance details*

Flow-V - CR Range

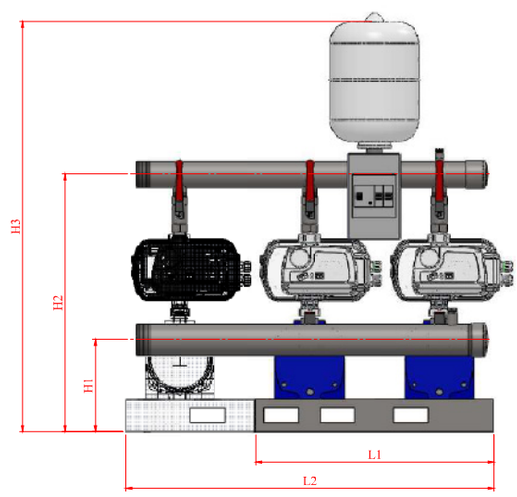


ELEVATION



END VIEW

Model	No. Of Pumps	FLC(A)		H1(mm)	H2(mm)	H3(mm)	L1(mm)	L2(mm)	W1(mm)	W2(mm)	PIPE CONNECTIONS	
		230V	400V								Inlet	Outlet
4CR80	2	6.8	4	200	610	1100	550		440	590	2"BSPP	
	3	10.2	6	200	610	1100		850	440	590	2"BSPP	
5CR80	2	8.6	5	200	610	1100	550		440	590	2"BSPP	
	3	12.9	7.5	200	610	1100		850	440	590	2"BSPP	
4CR100	2	9	5.2	200	610	1100	550		440	590	2"BSPP	
	3	13.5	7.8	200	610	1100		850	440	590	2"BSPP	
5CR100	2	8.4	4.8	200	610	1100	550		440	590	2"BSPP	
	3	12.6	7.2	200	610	1100		850	440	590	2"BSPP	



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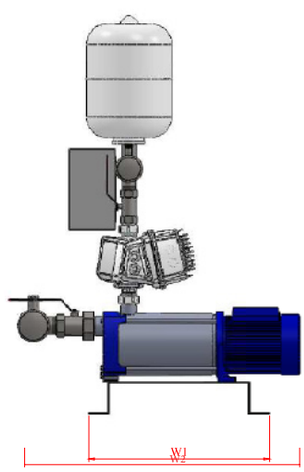

END VIEW

Model	No. Of Pumps	FLC(A)		H1(mm)	H2(mm)	H3(mm)	L1(mm)	L2(mm)	W1(mm)	W2(mm)	PIPE CONNECTIONS	
		230V	400V								Inlet	Outlet
4CR200	2	14.6	8.4	220	630	1130	550		440	720	2 1/2"BSPP	2"BSPP
	3	21.9	12.6	220	630	1130		850	440	720	2 1/2"BSPP	2"BSPP
5CR200	2	18.8	10.8	220	630	1130	550		440	746	2 1/2"BSPP	2"BSPP
	3	28.2	16.2	220	630	1130		850	440	746	2 1/2"BSPP	2"BSPP
6CR200	2	20.4	11.8	220	630	1130	550		440	772	2 1/2"BSPP	2"BSPP
	3	30.6	17.7	220	630	1130		850	440	772	2 1/2"BSPP	2"BSPP

** FLC - Full Load Current*