

HYDRA-CELL KALVOPUMPUT P200

Annostelupumppu

P200MSESSA10S
PUMP WITH GEARBOX AND BASEPLATE



- Virtaus 1 - 300 l/h
- Paine max. 70 bar
- Muovi- ja metallirakenne
- Tiivisteetön rakenne

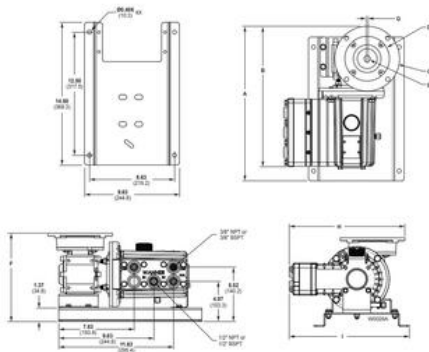
TUOTEKUVAUS

Hydra-Cell Metering Solutions P200 -pumpeissa käytetään kolmea kalvoa yhdessä pumppupäässä. Tämän ainutlaatuisen rakenteen ansiosta Hydra-Cell tuottaa käytännössä "pulsittoman" virtauksen ilman että, on tarvetta käyttää kalliita pulsaationvaimentimia.

TEKNISET TIEDOT

1098_Particle size (mm)	Max. 0,2mm
Akselimitta	Ontto akseli 14 mm
Hydrauliöljyn määrä	0,95 l
Jousipidikkeen materiaali	Hastelloy C
Kalvon materiaali	EPDM
Liitännän sisääntulo	BSPT 1/2"
Liitännän ulostulo	BSPT 3/8"
Max. järjestelmän paine	17 bar
Max. käyttölämpötila	120 °C
Max. paine	70 bar
Max. virtaus	76 l/h
Max. viskositeetti	1000 cP
Paino	19 kg
Pohjalevyn materiaali	Ruostumaton teräs
Pumpun materiaali	SS 316
Pyörimissuunta	Valinnainen
Venttiilien materiaali	Nitronic 50
Venttiin istukan materiaali	SS 316
Venttiin jousen materiaali	Elgiloy

P200 Models: Metallic and Non-Metallic

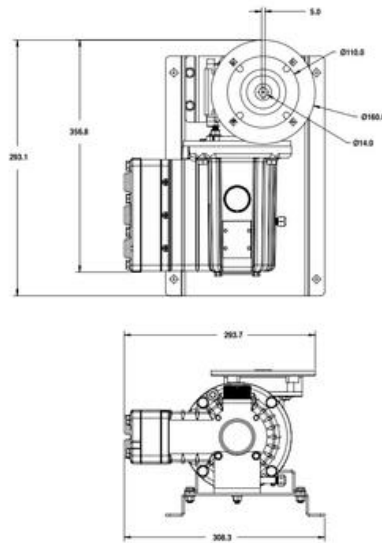


Dimensions in Inches (Millimeters)

Pump Frame Size	A	B	C	D	E	F	G (Flange Key)	H (Motor Pump Head)	I (Motor Pump Head)	J (Motor Pump Head)	K (Motor Pump Head)
MENSA SMC	10.50 (267)	10.17 (258)	10.50 (267)	10.50 (267)	10.50 (267)	10.50 (267)	0.31 (8)	11.00 (280)	11.00 (280)	11.00 (280)	11.00 (280)
REC-71 80	10.50 (267)	10.17 (258)	10.50 (267)	10.50 (267)	10.50 (267)	10.50 (267)	0.31 (8)	11.00 (280)	11.00 (280)	11.00 (280)	11.00 (280)
REC-80 80	10.50 (267)	10.17 (258)	10.50 (267)	10.50 (267)	10.50 (267)	10.50 (267)	0.31 (8)	11.00 (280)	11.00 (280)	11.00 (280)	11.00 (280)

Representative Drawings (mm)

Metallic Pump Heads



P200 Specifications (Cont'd)

Performance Maximum Flow at Designated Pressure - Imperial

All Pumps (gph)	Metallic Pump Heads Only (gph)			Pump rpm	Gear Ratio	Motor rpm
	100 psi	250 psi	500 psi			
3,378 (128)	3,321 (125)	3,249 (121)	3,128 (116)	30	60:1	1500
4,059 (153)	3,994 (148)	3,911 (145)	3,776 (142)	36	50:1	
5,072 (192)	5,015 (190)	4,908 (185)	4,748 (180)	45	40:1	
6,758 (256)	6,686 (252)	6,555 (248)	6,353 (241)	60	30:1	
8,107 (308)	8,022 (304)	7,873 (299)	7,637 (290)	72	25:1	
10,130 (387)	10,027 (379)	9,849 (372)	9,563 (361)	90	20:1	
13,503 (511)	13,369 (506)	13,14 (500)	12,77 (483)	120	15:1	
20,248 (766)	20,052 (757)	19,73 (743)	19,19 (726)	180	10:1	
28,903 (1092)	28,735 (1087)	28,32 (1072)	27,62 (1047)	240	7.5:1	
40,483 (1524)	40,101 (1513)	39,49 (1495)	38,48 (1471)	360	5:1	
53,97 (2005)	53,47 (2025)	52,66 (2034)	51,30 (2019)	480	7.5:1	3600
80,95 (3072)	80,20 (3071)	79,01 (3071)	78,08 (3071)	720	5:1	

(1) Required Motor hp

Performance Maximum Flow at Designated Pressure - Metric

All Pumps (lph)	Metallic Pump Heads Only (lph)			Pump rpm	Gear Ratio	Motor rpm
	7 bar	17 bar	34 bar			
10.65 (0.18)	10.48 (0.18)	10.25 (0.18)	9.868 (0.20)	25	60:1	1500
12.81 (0.18)	12.60 (0.18)	12.34 (0.18)	11.91 (0.37)	30	50:1	
16.00 (0.18)	15.82 (0.18)	15.48 (0.18)	14.98 (0.37)	37.5	40:1	
21.32 (0.18)	21.09 (0.18)	20.68 (0.18)	20.04 (0.37)	45	30:1	
25.57 (0.18)	25.31 (0.18)	24.83 (0.18)	24.09 (0.37)	60	25:1	
31.96 (0.18)	31.63 (0.18)	31.07 (0.18)	30.17 (0.37)	72	20:1	
42.59 (0.18)	42.17 (0.18)	41.46 (0.18)	40.29 (0.37)	90	15:1	
63.97 (0.18)	63.25 (0.18)	62.23 (0.25)	60.55 (0.35)	120	10:1	
85.15 (0.18)	84.34 (0.18)	83.01 (0.25)	80.80 (0.30)	180	7.5:1	
127.7 (0.18)	126.5 (0.18)	124.6 (0.37)	121.3 (0.70)	240	5:1	
170.3 (0.18)	168.7 (0.37)	166.1 (0.55)	161.8 (0.75)	360	7.5:1	3000
255.4 (0.18)	253.0 (0.55)	249.2 (0.55)	242.8 (0.75)	600	5:1	

(1) Required Motor kW

Performance - Flow Capacities and Pressure Ratings

For Synchronous Speed, Self-cooled Motors
L/hr Maximum Flow at Designated Pressure

L/hr All Pumps 2 Bar - 17 Bar	L/hr Metallic Pump Heads Only 2 Bar - 17 Bar	Flow Rating	Motor RPM
10.8	10.5	10.2	1500
12.8	12.6	12.3	1800
16.0	15.8	15.5	2250
21.3	21.1	20.7	2700
25.6	25.3	24.8	3300
31.9	31.6	31.1	3900
42.6	42.2	41.5	4650
53.9	53.2	52.0	5550
85.1	84.3	83.0	8250
127.7	126.5	124.6	10950
170.3	168.7	166.1	14625
255.4	253.0	249.2	19500

Required Motor kW
0.18 0.20 0.25 0.30 0.37 0.45 0.51

- 1. The motor will not exceed an ambient temperature condition of 40°C. For ambient temperatures above 40°C, please contact Banner International.
- 2. Motor failure for performance specifications.
- 3. Based on using 60 Hz power.
- 4. Maximum continuous motor speed is 1800 rpm at full pressure.
- 5. For information on reduced pressure ratings, please contact Banner International.

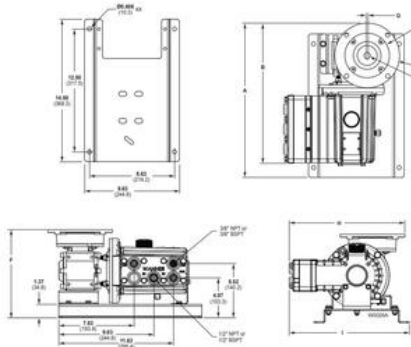
For 10:1 Turndown, Self-cooled Motors
L/hr Maximum Flow at Designated Pressure

L/hr All Pumps 2 Bar - 17 Bar	L/hr Metallic Pump Heads Only 2 Bar - 17 Bar	Flow Rating	Motor RPM
10.8	10.5	10.2	1500
12.8	12.6	12.3	1800
16.0	15.8	15.5	2250
21.3	21.1	20.7	2700
25.6	25.3	24.8	3300
31.9	31.6	31.1	3900
42.6	42.2	41.5	4650
53.9	53.2	52.0	5550
85.1	84.3	83.0	8250
127.7	126.5	124.6	10950
170.3	168.7	166.1	14625
255.4	253.0	249.2	19500

Required Motor kW
0.18 0.20 0.25 0.30 0.37 0.45 0.51

- 1. The motor will not exceed an ambient temperature condition of 40°C. For ambient temperatures above 40°C, please contact Banner International.
- 2. Motor failure for performance specifications.
- 3. Based on using 60 Hz power.
- 4. Maximum continuous motor speed is 1800 rpm at full pressure.
- 5. For information on reduced pressure ratings, please contact Banner International.

P200 Models: Metallic and Non-Metallic

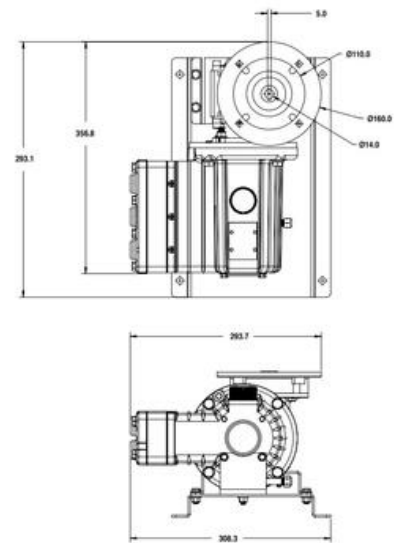


Dimensions in Inches (Millimeters)

Pump Frame Size	A	B	C	D	E	F	G (Flange Key)	H (Motor Pump Head)	I (Motor Pump Head)	J (Motor Pump Head)	K (Motor Pump Head)
MENSA SMC	10.50 (267)	10.17 (258)	10.50 (267)	10.50 (267)	10.50 (267)	10.50 (267)	0.31 (8)	11.00 (280)	11.00 (280)	11.00 (280)	11.00 (280)
REC-71 80	10.50 (267)	10.17 (258)	10.50 (267)	10.50 (267)	10.50 (267)	10.50 (267)	0.31 (8)	11.00 (280)	11.00 (280)	11.00 (280)	11.00 (280)
REC-80 80	10.50 (267)	10.17 (258)	10.50 (267)	10.50 (267)	10.50 (267)	10.50 (267)	0.31 (8)	11.00 (280)	11.00 (280)	11.00 (280)	11.00 (280)

Representative Drawings (mm)

Metallic Pump Heads



Mechanical Adjustment Controller for ATEX/Explosive Areas

All Min/Max flow rates in liters/hour

Flow Rate	17 bar		34 bar		42 bar		Pump rpm	Gear Ratio	Model Number	Required Motor Size & Frame
	Min	Max	Min	Max	Min	Max				
10.2	10.5	9.9	11.4	11.24	10.1					
12.8	13.1	12.5	14.1	13.96	12.8					
16.0	16.3	15.7	17.6	17.46	16.3					
21.3	21.7	20.9	23.5	23.31	21.7					
25.6	26.1	25.3	27.4	27.19	25.6					
31.9	32.5	31.5	33.7	33.45	31.9					
42.6	43.3	42.2	44.6	44.28	42.6					
53.9	54.7	53.4	55.9	55.53	53.9					
85.1	86.1	84.8	88.1	87.64	85.1					
127.7	128.8	127.4	130.6	130.12	127.7					
170.3	171.5	170.0	172.8	172.26	170.3					
255.4	256.7	255.0	257.9	257.29	255.4					

P200 Specifications (Cont'd)

Performance Maximum Flow at Designated Pressure - Imperial

All Pumps (gph)		Metallic Pump Heads Only (gph)		Pump rpm	Gear Ratio	Motor rpm	
100 psi	250 psi	500 psi	1000 psi				
3.378 (5)	3.321 (5)	3.249 (5)	3.128 (5)	30	60:1	1500	
4.059 (5)	3.994 (5)	3.911 (5)	3.776 (5)	36	50:1		
5.072 (5)	5.015 (5)	4.906 (5)	4.748 (5)	45	40:1		
6.758 (5)	6.685 (5)	6.555 (5)	6.353 (5)	60	30:1		
8.107 (5)	8.022 (5)	7.873 (5)	7.637 (5)	72	25:1		
10.130 (5)	10.027 (5)	9.849 (5)	9.583 (5)	90	20:1		
13.503 (5)	13.369 (5)	13.14 (5)	12.77 (5)	120	15:1		
20.248 (5)	20.052 (5)	19.73 (5)	19.19 (5)	180	10:1		
28.953 (5)	29.725 (5)	29.32 (5)	25.82 (5)	240	7.5:1		
40.483 (5)	40.101 (5)	39.49 (5)	38.48 (5)	360	5:1		
53.97 (5)	53.47 (5)	52.66 (5)	51.30 (5)	480	7.5:1		3600
80.95 (5)	80.20 (5)	79.01 (5)	78.98 (5)	720	5:1		

Required Motor kW

Performance Maximum Flow at Designated Pressure - Metric

All Pumps (lph)		Metallic Pump Heads Only (lph)		Pump rpm	Gear Ratio	Motor rpm	
7 bar	17 bar	34 bar	69 bar				
10.65 (0.18)	10.48 (0.18)	10.25 (0.18)	9.868 (0.25)	25	60:1	1500	
12.81 (0.18)	12.60 (0.18)	12.34 (0.18)	11.91 (0.37)	30	50:1		
16.00 (0.18)	15.82 (0.18)	15.48 (0.18)	14.98 (0.37)	37.5	40:1		
21.52 (0.18)	21.09 (0.18)	20.68 (0.18)	20.04 (0.37)	50	30:1		
25.57 (0.18)	25.31 (0.18)	24.83 (0.18)	24.00 (0.37)	60	25:1		
31.96 (0.18)	31.63 (0.18)	31.07 (0.18)	30.17 (0.37)	75	20:1		
42.59 (0.18)	42.17 (0.18)	41.46 (0.18)	40.29 (0.37)	100	15:1		
63.87 (0.18)	63.25 (0.18)	62.23 (0.25)	60.55 (0.55)	150	10:1		
85.15 (0.18)	84.34 (0.18)	83.01 (0.25)	80.60 (0.55)	200	7.5:1		
127.7 (0.18)	126.5 (0.18)	124.6 (0.37)	121.3 (0.75)	300	5:1		
170.3 (0.18)	168.7 (0.37)	166.1 (0.55)	161.8 (0.75)	400	7.5:1		3600
255.4 (0.18)	253.0 (0.55)	249.2 (0.85)	242.8 (0.75)	600	5:1		

Required Motor kW

Performance - Flow Capacities and Pressure Ratings

For Synchronous Speed, Self-cooled Motors
L/hr Maximum Flow at Designated Pressure

L/hr All Pumps 2.3 Bar	L/hr All Pumps 17 Bar	L/hr Metallic Pump Heads Only 34 Bar		Pump RPM	Gear Ratio	Motor RPM*	
		Min	Max				
10.4	10.3	10.2	9.9	25	60:1	1500	
12.8	12.8	12.5	11.9	30	50:1		
16.0	15.9	15.5	15.0	37.5	40:1		
21.5	21.3	20.7	20.0	50	30:1		
25.6	25.5	24.8	24.1	60	25:1		
31.9	31.8	31.1	30.2	75	20:1		
42.6	42.2	41.5	40.6	100	15:1		
63.9	63.2	62.2	60.6	150	10:1		
85.1	84.4	83.0	80.9	200	7.5:1		
127.3	126.4	124.6	121.3	300	5:1		
170.3	168.7	166.1	161.8	400	7.5:1		3600
255.4	253.0	249.2	242.8	600	5:1		

Required Motor kW

0.4 0.7 1.2 1.7 2.3 3.0 3.7 4.5 5.4 6.3 7.2 8.1 9.0

Notes:

- The motor kW are based on ambient temperature conditions up to 40 °C. For ambient temperatures above 40 °C, contact Bunker Research International.
- Capacity factors for performance applications.
- Based on using 60 inches.
- Maximum continuous motor speed is also open at full pressure.
- For information on reduced pressure fluids, please contact Bunker International.

For 10:1 Turndown, Self-cooled Motors
L/hr Maximum Flow at Designated Pressure

L/hr All Pumps 2.3 Bar	L/hr All Pumps 17 Bar	L/hr Metallic Pump Heads Only 34 Bar		Pump RPM	Gear Ratio	Motor RPM*	
		Min	Max				
10.4	10.3	10.2	9.9	25	60:1	1500	
12.8	12.8	12.5	11.9	30	50:1		
16.0	15.9	15.5	15.0	37.5	40:1		
21.5	21.3	20.7	20.0	50	30:1		
25.6	25.5	24.8	24.1	60	25:1		
31.9	31.8	31.1	30.2	75	20:1		
42.6	42.2	41.5	40.6	100	15:1		
63.9	63.2	62.2	60.6	150	10:1		
85.1	84.4	83.0	80.9	200	7.5:1		
127.3	126.4	124.6	121.3	300	5:1		
170.3	168.7	166.1	161.8	400	7.5:1		3600
255.4	253.0	249.2	242.8	600	5:1		

Required Motor kW

0.4 0.7 1.2 1.7 2.3 3.0 3.7 4.5 5.4 6.3 7.2 8.1 9.0

Notes:

- The motor kW are based on ambient temperature conditions up to 40 °C. For ambient temperatures above 40 °C, contact Bunker Research International.
- Capacity factors for performance applications.
- Based on using 60 inches.
- Maximum continuous motor speed is also open at full pressure.
- For information on reduced pressure fluids, please contact Bunker International.

Mechanical Adjustment Controller for ATEX/Explosive Areas

All Min/Max flow rates in litres/hour

7 bar	17 bar		34 bar		45 bar	Pump rpm	Gear Ratio	Model Number	Required Motor Size & Frame
	Min	Max	Min	Max					
10.2	10.2	10.2	9.9	9.9	7.4	1.24	75:1	M12-71014	0.25kW / EC T1 / 4 Pole
12.8	12.8	12.8	12.5	12.5	11.8	1.30	80:1		
16.0	16.0	16.0	15.5	15.5	14.9	1.40	90:1		
21.5	21.5	21.5	20.9	20.9	20.1	1.48	100:1		
25.6	25.6	25.6	25.0	25.0	24.1	1.58	110:1		
31.9	31.9	31.9	31.1	31.1	30.2	1.68	120:1		
42.6	42.6	42.6	41.5	41.5	40.6	1.78	130:1		
63.9	63.9	63.9	62.2	62.2	60.6	1.88	140:1		
85.1	85.1	85.1	83.0	83.0	80.9	1.98	150:1		
127.3	127.3	127.3	124.6	124.6	121.3	2.08	160:1		
170.3	170.3	170.3	166.1	166.1	161.8	2.18	170:1		
255.4	255.4	255.4	249.2	249.2	242.8	2.28	180:1		
360.0	360.0	360.0	350.0	350.0	340.0	2.38	190:1		