

# PROGRESSIVE CAVITY

## ELECTRIC SUBMERSIBLE PUMP SYSTEM

Designed specifically for coalbed methane and shale gas applications, Franklin's progressive cavity pump and CBM+ motor are designed to meet the harshest conditions, providing the most dependable system available in the industry.





# PROGRESSIVE CAVITY PUMP SYSTEMS

Franklin Electric’s newest system solution combines years of tested technology to create a packaged system designed specifically for coalbed methane and shale gas applications, as well as oil stripper oil wells. Traditionally, progressive cavity pumps are known to operate in the harshest conditions. Now as a Franklin system, together the progressive cavity pump and CBM+ motor provide the confidence needed to know that you have the most robust, dependable system available in the industry.

Franklin Electric Artificial Lift offers two depths of pumps: B-depth (1,000m or 3,280’), and C-depth (1,500m or 4,920’). The B-depth version runs at speeds between 15 and 40 Hz. The C-depth pumps must be purchased and installed along with a flex hose kit (part #: 305593001). These C-depth pumps are operated at speeds between 15 and 30 Hz. To optimally control the pump throughout its operating envelope, we recommend the use of our Artificial Lift FluidWise™ drive and control, which protects the pump in adverse conditions and ensures that it operates in its most optimum manner. The FluidWise™ drive and control also incorporates superior protection algorithms and are designed to handle the varying motor load required with these pumps.

## FEATURES

- High head design allows for operation in depths to 4900 ft/1500 meters
- Abrasive-resistant progressive cavity technology
- Stainless steel rotor is chrome plated for extra abrasion resistance

### ESPCP Standard NBR Low Temp Pumps

- The Standard ESPCP pumps are ideal for coalbed methane and shale gas applications. These models have an ambient temperature rating of 122 °F/50 °C.

### ESPCP HNBR Low Temp Pumps

- Ideal for coalbed methane and shale gas applications where sour gas (H2S) is present. These models have an ambient temperature rating of 122 °F/50 °C to aid where abrasives are present.

### ESPCP HNBR High Temp Pumps

- Ideal for high temperature coalbed methane and shale gas applications where sour gas (H2S) is present. The 5-10 hp High Temp ESPCP pumps have an ambient temperature range of 113 °F/45 °C to 176 °F/80 °C. The 15 hp High Temp ESPCP pump has an ambient temperature range of 113 °F/45 °C to 158 °F/70 °C.

### ESPCP X7 HNBR Oil Resistant Pumps

- Ideal for applications with oil cuts as high as 15%. The low temperature versions of these pumps have an ambient temperature rating from 71 °F/22 °C to 125 °F/52 °C, and the high temperature version is rated at 176 °F/80 °C.

## MODEL NOMENCLATURE

### 150 FPC 07/5.5 B4 HT

- 150 = Nominal Flow Rate at Maximum Rated Speed (55, 75, 110, 150, 300 BPD)
- FPC = Pump Series (Franklin Progressive Cavity)
- 07/5.5 = Motor Rating (07/5.5 = 7.5 hp/5.5 kW, 10/7.5 = 10 hp/7.5 kW, 15/11.2 = 15 hp/11.2 kW)
- B = Pumping Depth, 4 = 4" Pump (B = 3,300 ft/1,000 m, C = 4900 ft/1,500 m)
- HT = Pump Model (Blank = Standard HBR, H = HNBR, HT = High Temp HNBR, X7 - Oil resistant elastomer)



# PROGRESSIVE CAVITY PUMP SYSTEMS

## ORDERING INFORMATION

Progressive Cavity Pumps - B-Depths 3300 ft/1000 m					
Model	Description	Order No.	BPD	US GPM	LPM
75FPC 07/5.5 B4	Standard NBR Low Temp	83078	75	2.2	7.5
150FPC 10/7.5 B4		87257	150	4.4	15
300FPC 15/11.2 B4		87262	300	8.8	30
75FPC 07/5.5 B4 H	HNBR Low Temp	83077	75	2	7.5
150FPC 10/7.5 B4 H		83054	150	4	15
300FPC 15/11.2 B4 H		83056	300	8	30
75FPC 07/5.5 B4 HT	HNBR High Temp	83075	75	2	7.5
150FPC 10/7.5 B4 HT		83060	150	4	15
300FPC 15/11.2 B4 HT		83062	300	8	30
75FPC 07/5.5 B4 H-X7 FINAL ASSY.	X7 Standard Temp	83083	75	2	7.5
150FPC 10/7.5 B4 H-X7 FINAL ASSY.		83079	150	4	15
300FPC 15/11 B4 H-X7 FINAL ASSY.		83091	300	8	30
75FPC 07/5.5 B4 HT-X7 FINAL ASSY.	X7 High Temp	83084	75	2	7.5
150FPC 10/7.5 B4 HT-X7 FINAL ASSY.		83082	150	4	15
300FPC 15/11 B4 HT-X7 FINAL ASSY.		83092	300	8	30

Progressive Cavity Pumps - C-Depths 4900 ft/1500 m					
Model	Description	Order No.	BPD	US GPM	LPM
55FPC 15/11.2 C4*	Standard NBR Low Temp	83072*	55	2	8
110FPC 15/11.2 C4*		83073*	110	3	11
55FPC 15/11.2 C4 H*	HNBR Low Temp	83063*	55	2	8
110FPC 15/11.2 C4 H*		83067*	110	3	11
55FPC 15/11.2 C4 HT*	HNBR High Temp	83065*	55	2	8
110FPC 15/11.2 C4 HT*		83068*	110	3	11
55FPC 15/11 C4 H-X7 FINAL ASSY.	X7 Standard Temp	83085	55	2	8
110FPC 15/11 C4 H-X7 FINAL ASSY.		83087	110	3	11
55FPC 15/11 C4 HT-X7 FINAL ASSY.	X7 High Temp	83086	55	2	8
110FPC 15/11 C4 HT-X7 FINAL ASSY.		83089	110	3	11

\* A flex hose kit (order no. 305593001) must be purchased and installed with all 1500m pumps

## MATERIALS

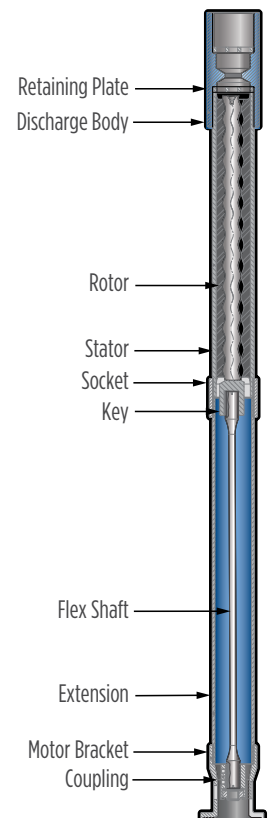
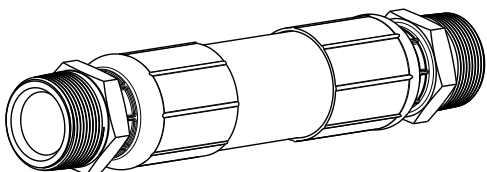
Component	Material
Coupling	304 Stainless Steel
Motor bracket	CF8M Investment Casting (316 SS)
Extension	ASTM 312 - 316 Stainless Steel
Flex shaft	EN57 ANSI 431 Stainless Steel
Socket	316 Stainless Steel
Stator	Nitrile Rubber/Epoxy-Coated Steel Housing
Rotor	304 Stainless Steel
Key	304 Stainless Steel
Discharge body	CF8M Investment Casting (316 SS)
Retaining plate	Bronze

## FLEX HOSE KIT

A flex hose can help to isolate and mitigate the inherent vibration produced by the pump, and is required for all 1500m (C-depth) pumps. If a shroud is being used, the flex hose is connected to a shroud hanger. If a shroud is not being used, the flex hose is connected to the pump discharge. The kit includes two reducer bushing couplings (2" NPT M, 1.5" NPT F).

Order No.	Description	Connection Type	Length (in)	Pressure Rating (bar/psi)
305593001	Flex Hose/Hydraulic Hose Kit	1.5" NPT male on both ends*	12	175 (2,500)

\* Kit comes with two reducer bushing couplings (2" NPT M, 1.5" NPT F)

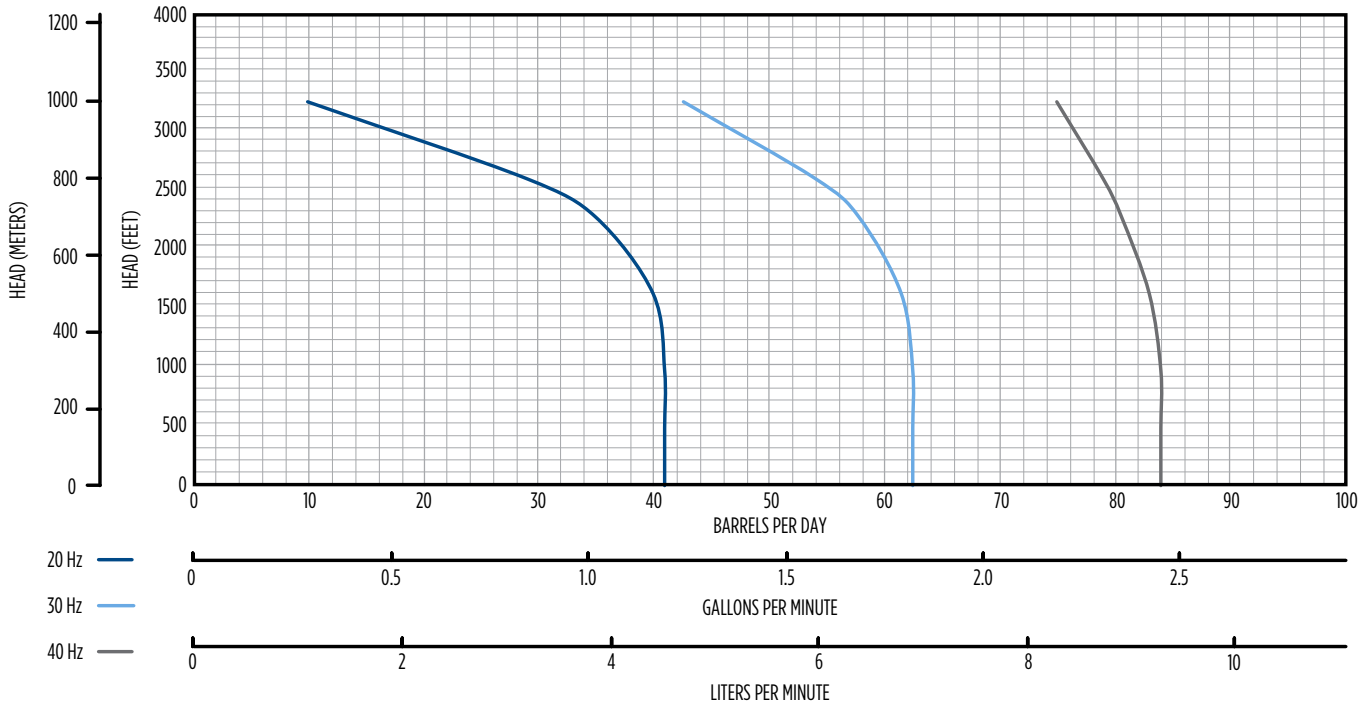




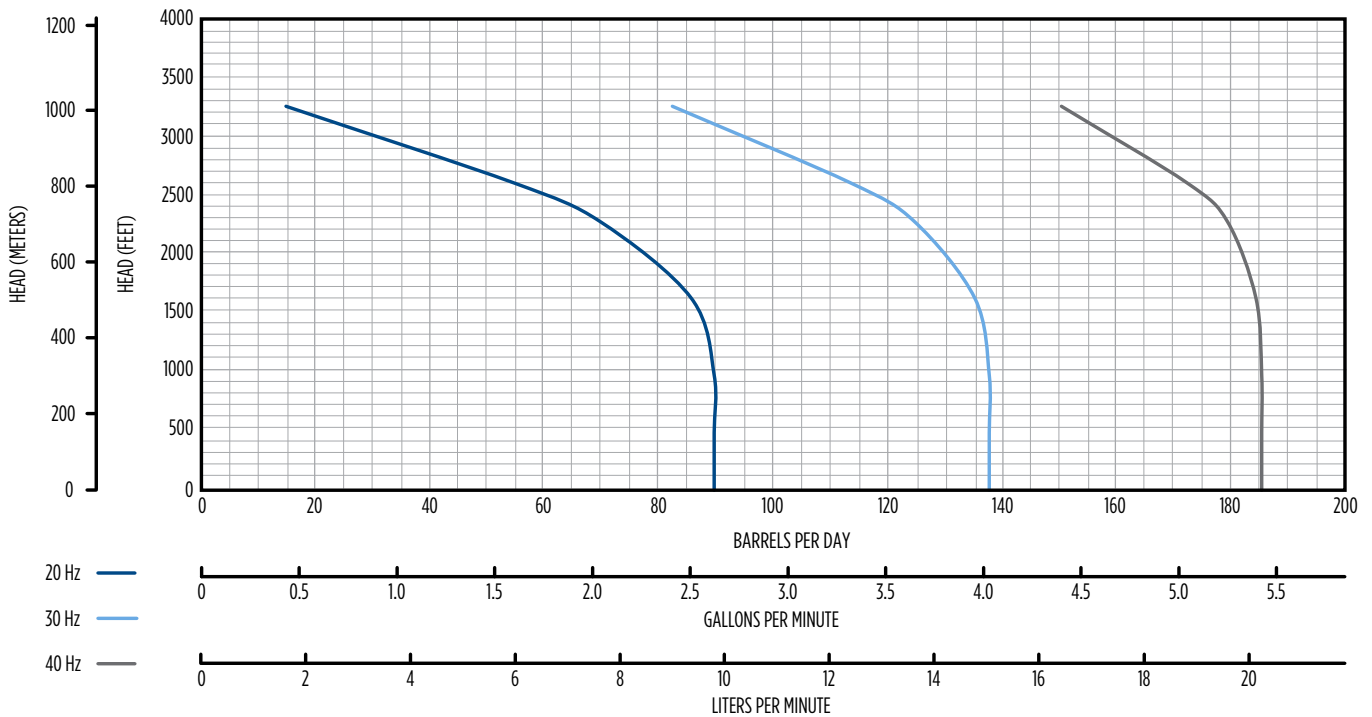


# PROGRESSIVE CAVITY PUMP SYSTEMS

PERFORMANCE: STANDARD NBR-75FPC 07/5.5 B

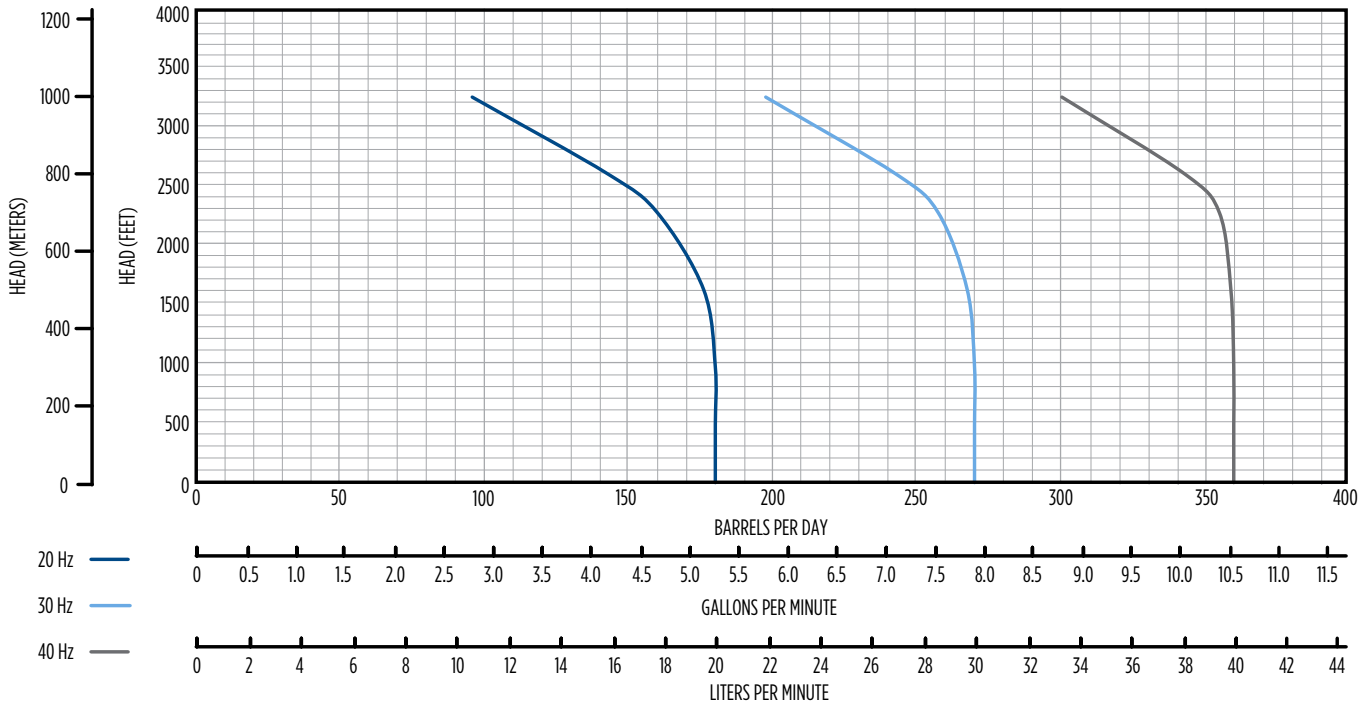


PERFORMANCE: STANDARD NBR-150FPC 10/7.5 B

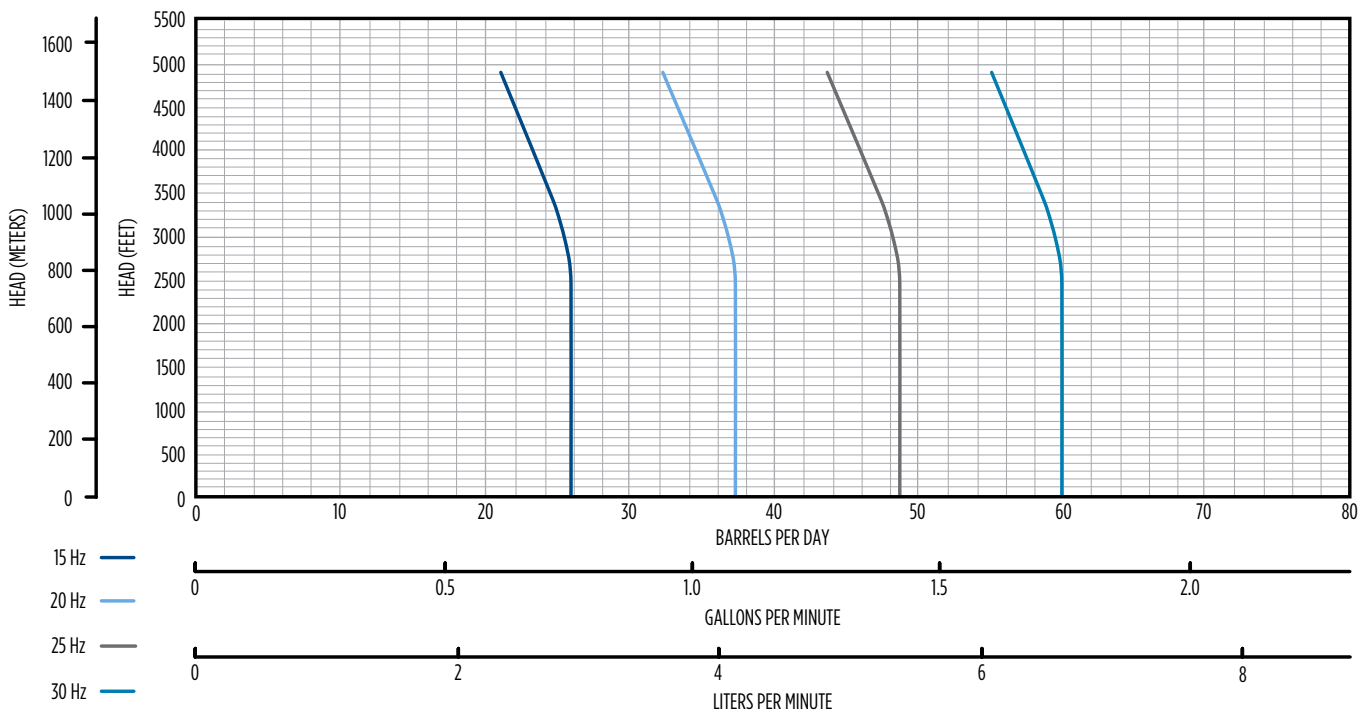


# PROGRESSIVE CAVITY PUMP SYSTEMS

## PERFORMANCE: STANDARD NBR-300FPC 15/11.2 B



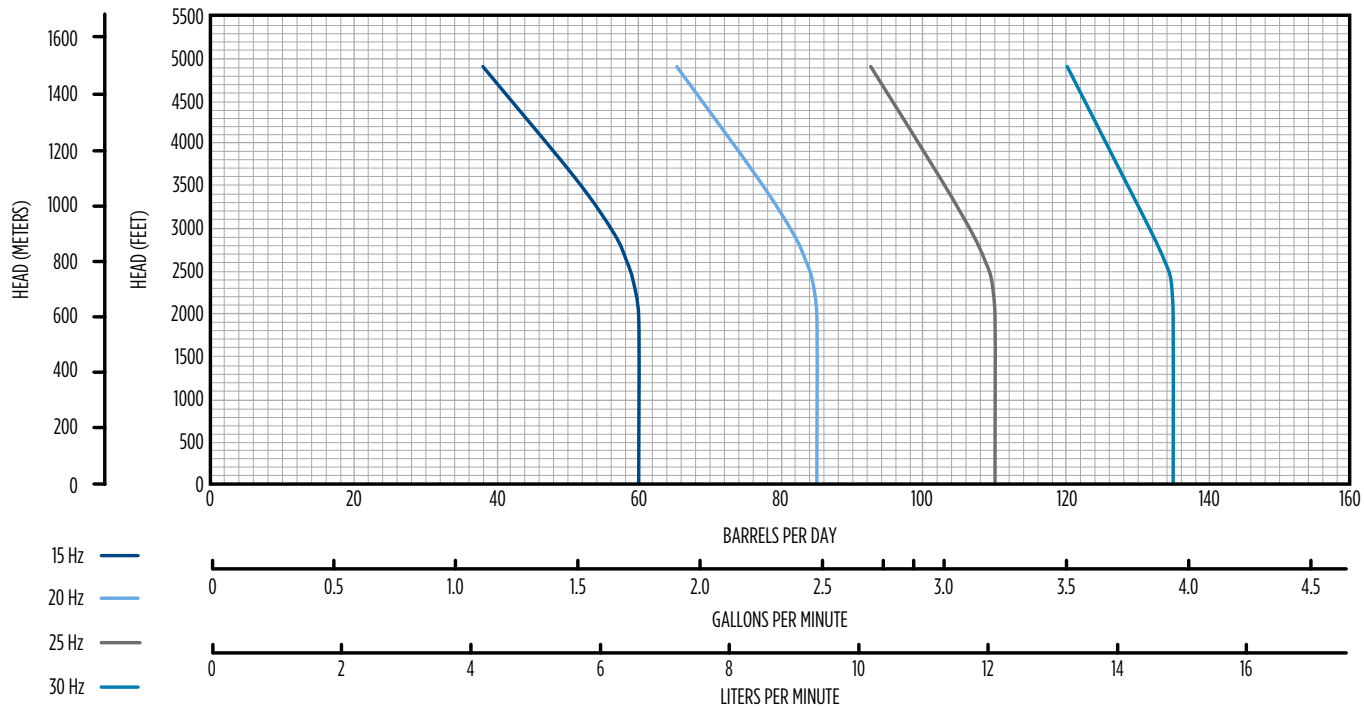
## PERFORMANCE: STANDARD NBR-55FPC 15/11.2 C



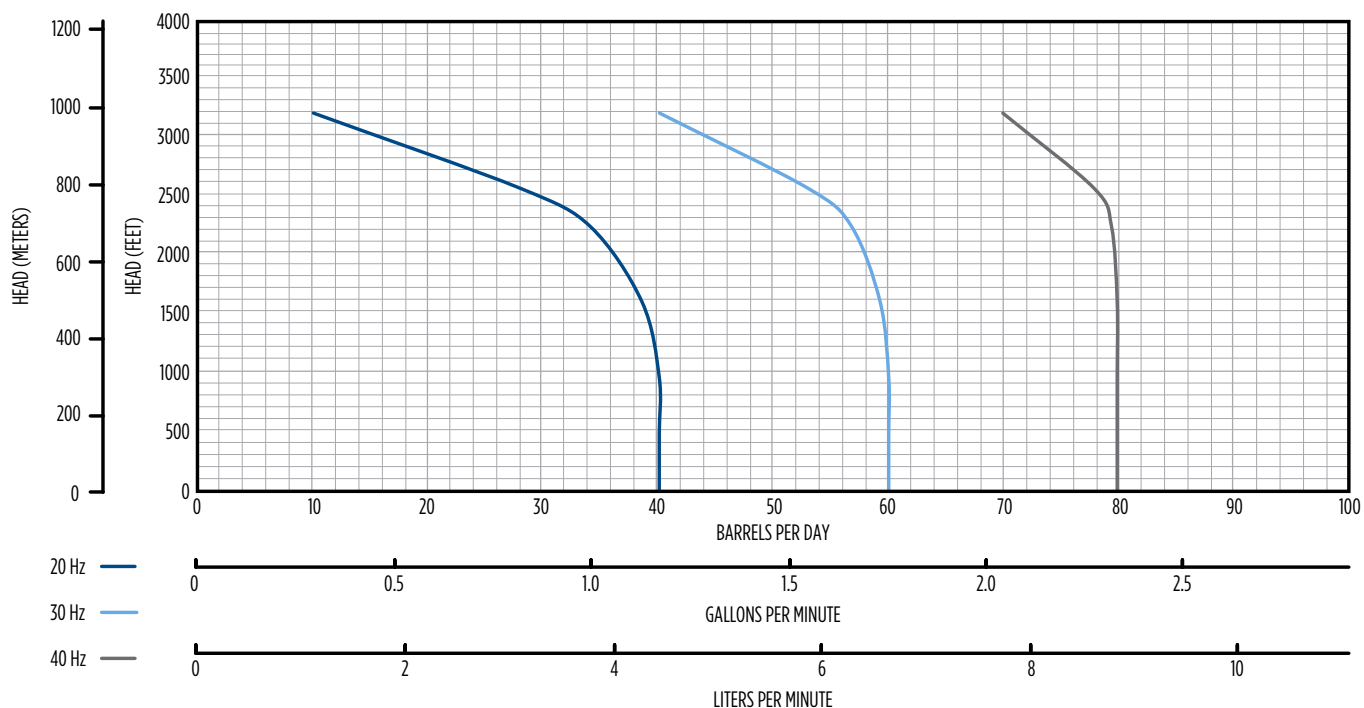


# PROGRESSIVE CAVITY PUMP SYSTEMS

PERFORMANCE: STANDARD NBR-110FPC 15/11.2 C

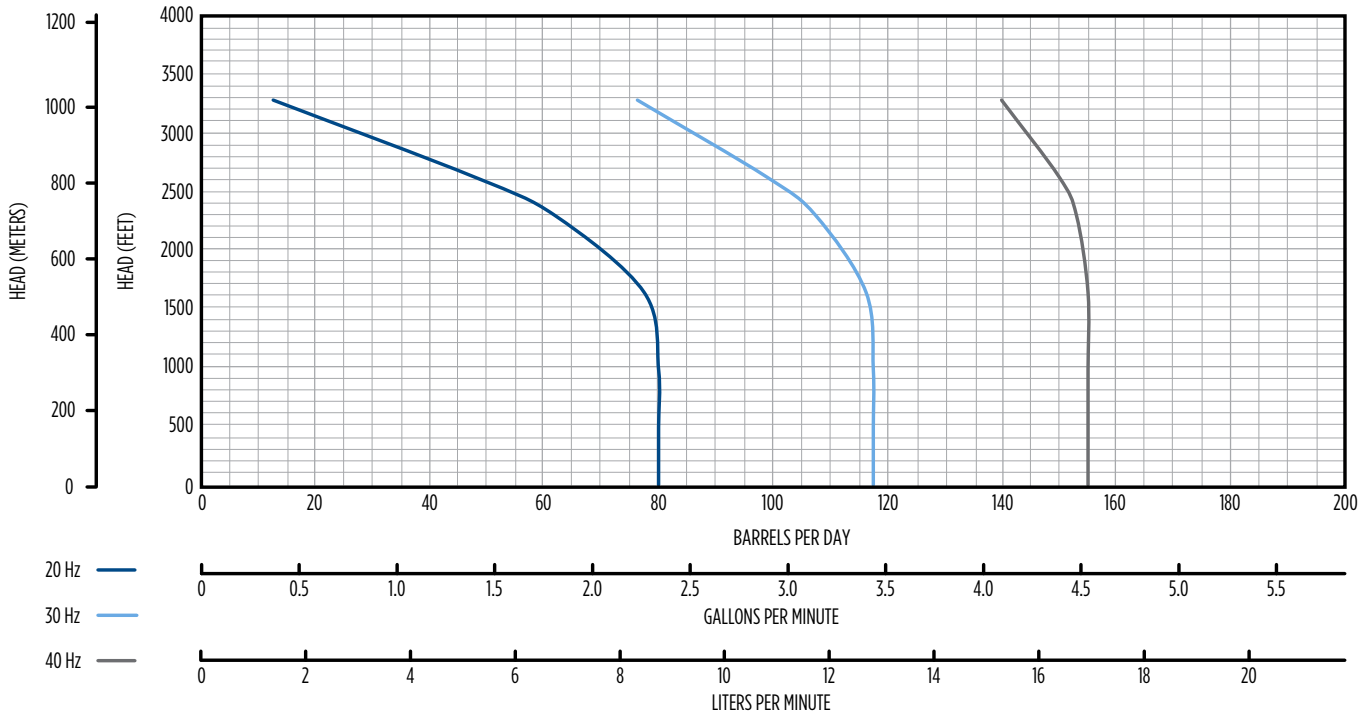


PERFORMANCE: LOW & HIGH TEMP 75FPC 07/5.5 B

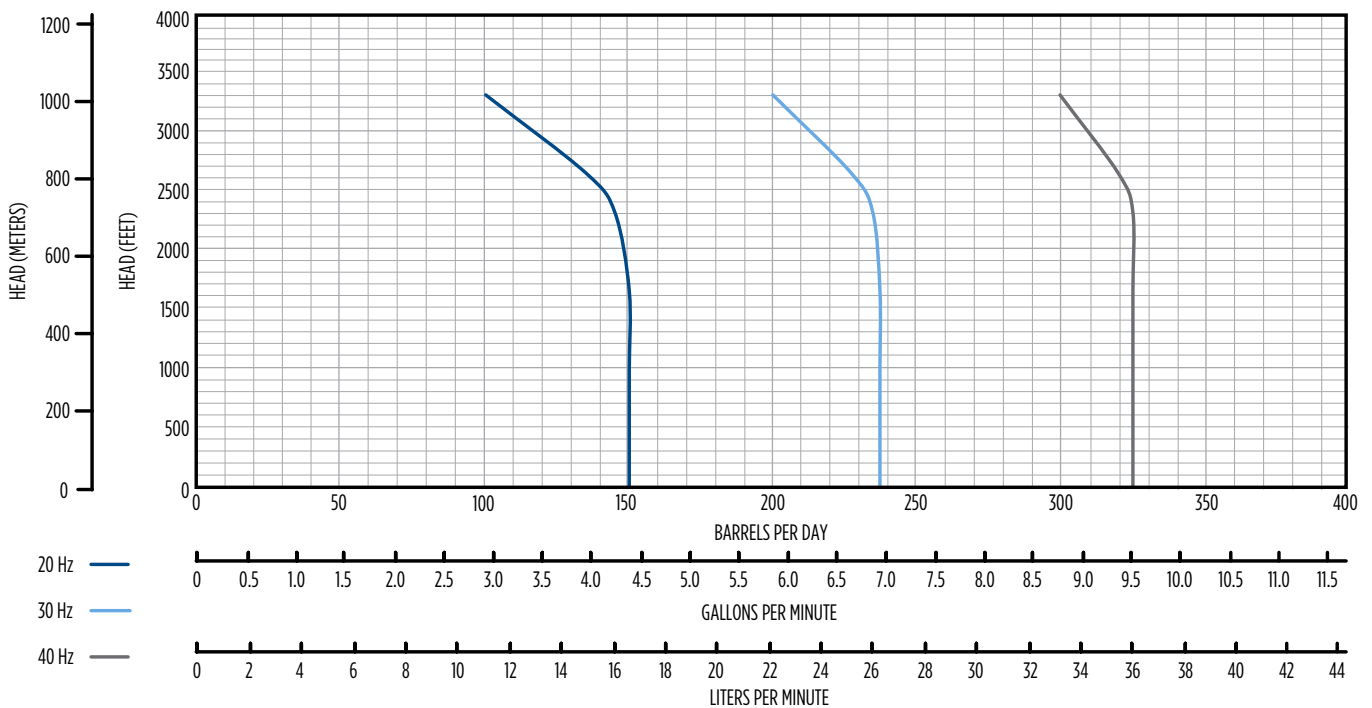


# PROGRESSIVE CAVITY PUMP SYSTEMS

## PERFORMANCE: LOW & HIGH TEMP 150FPC 10/7.5 B



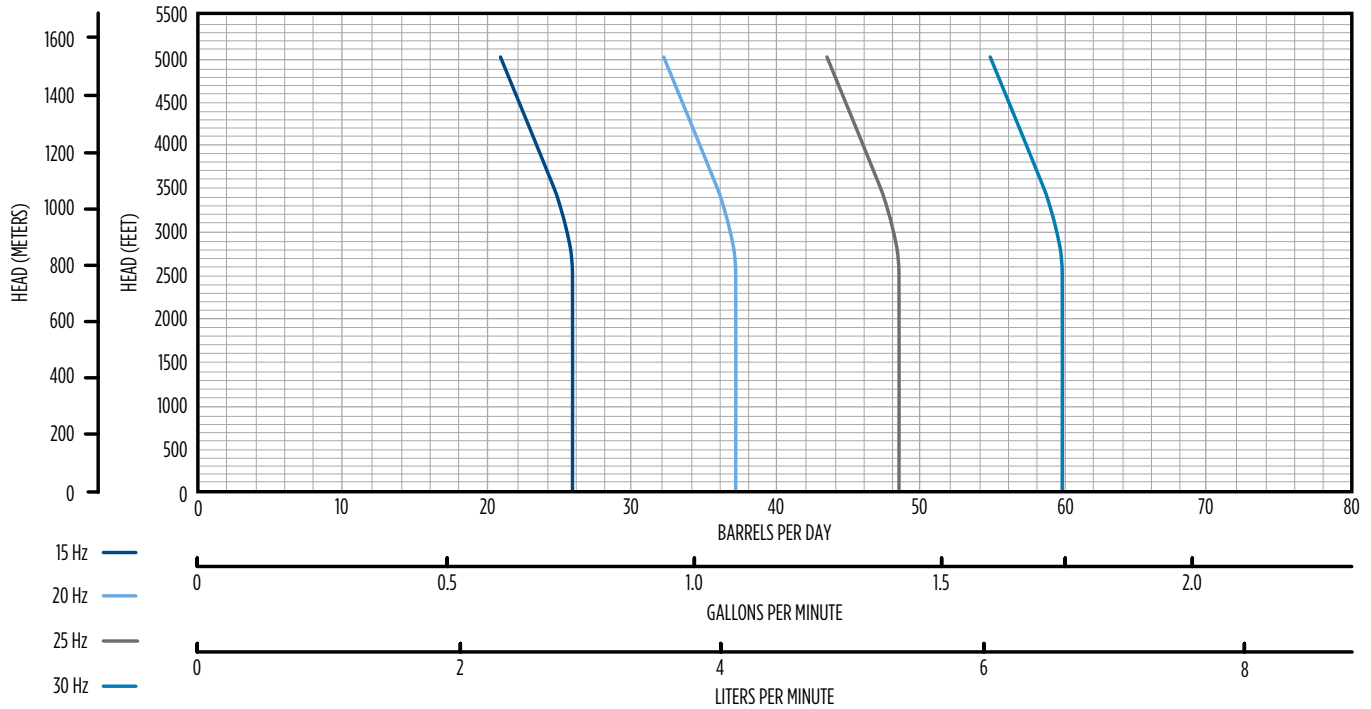
## PERFORMANCE: LOW & HIGH TEMP 300FPC 15/11.2 B



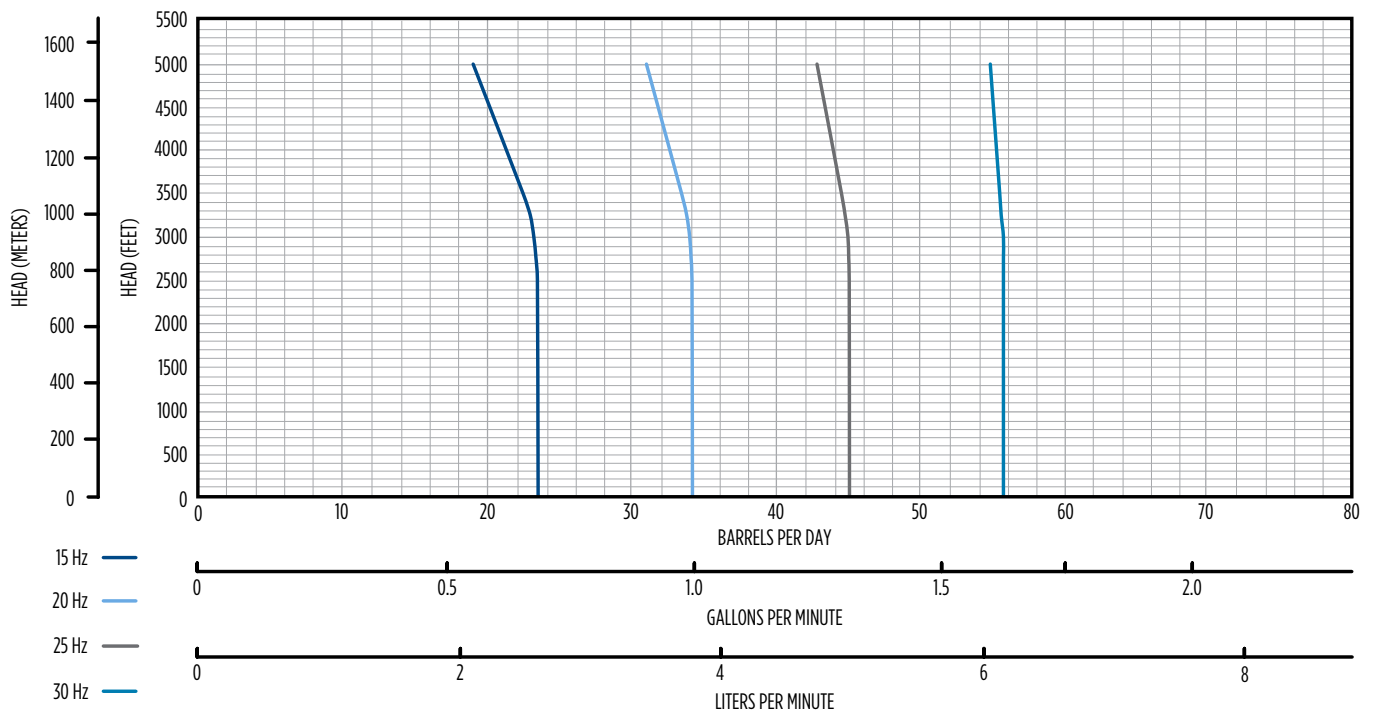


# PROGRESSIVE CAVITY PUMP SYSTEMS

PERFORMANCE: LOW TEMP 55FPC 15/11.2 C



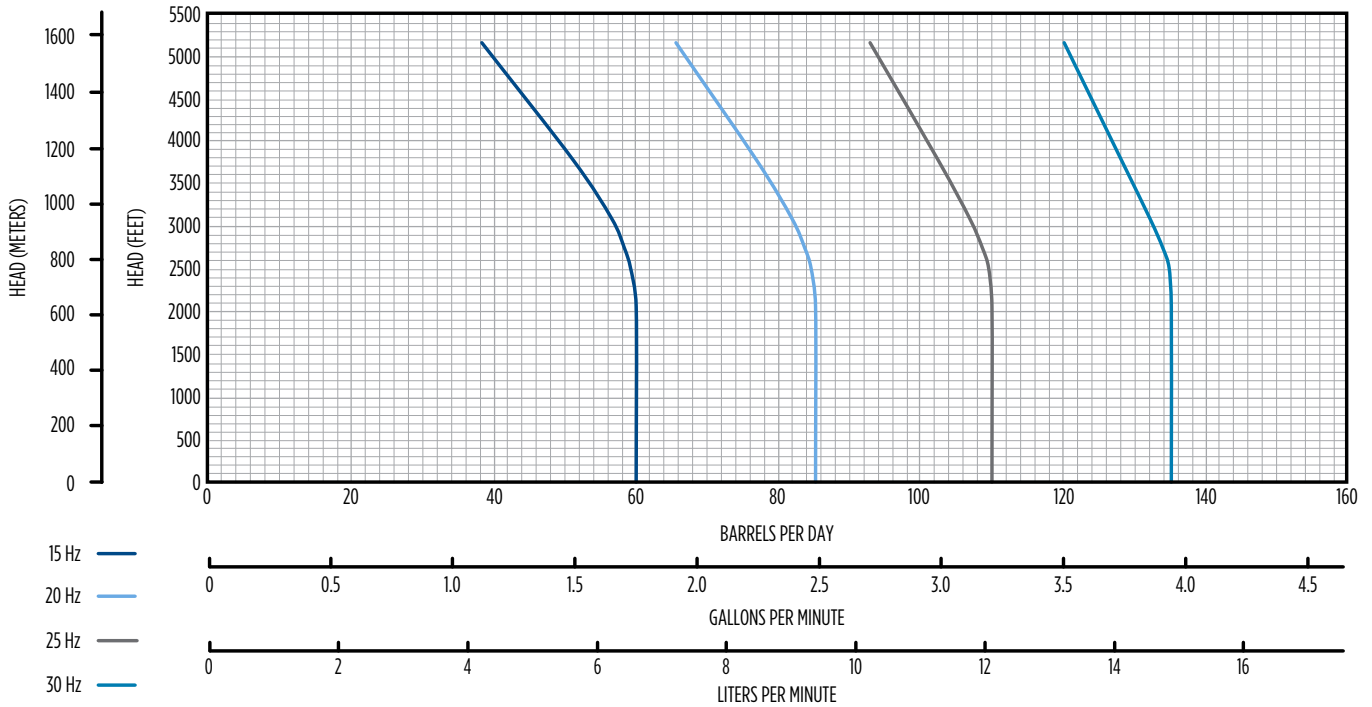
PERFORMANCE: HIGH TEMP 55FPC 15/11.2 C



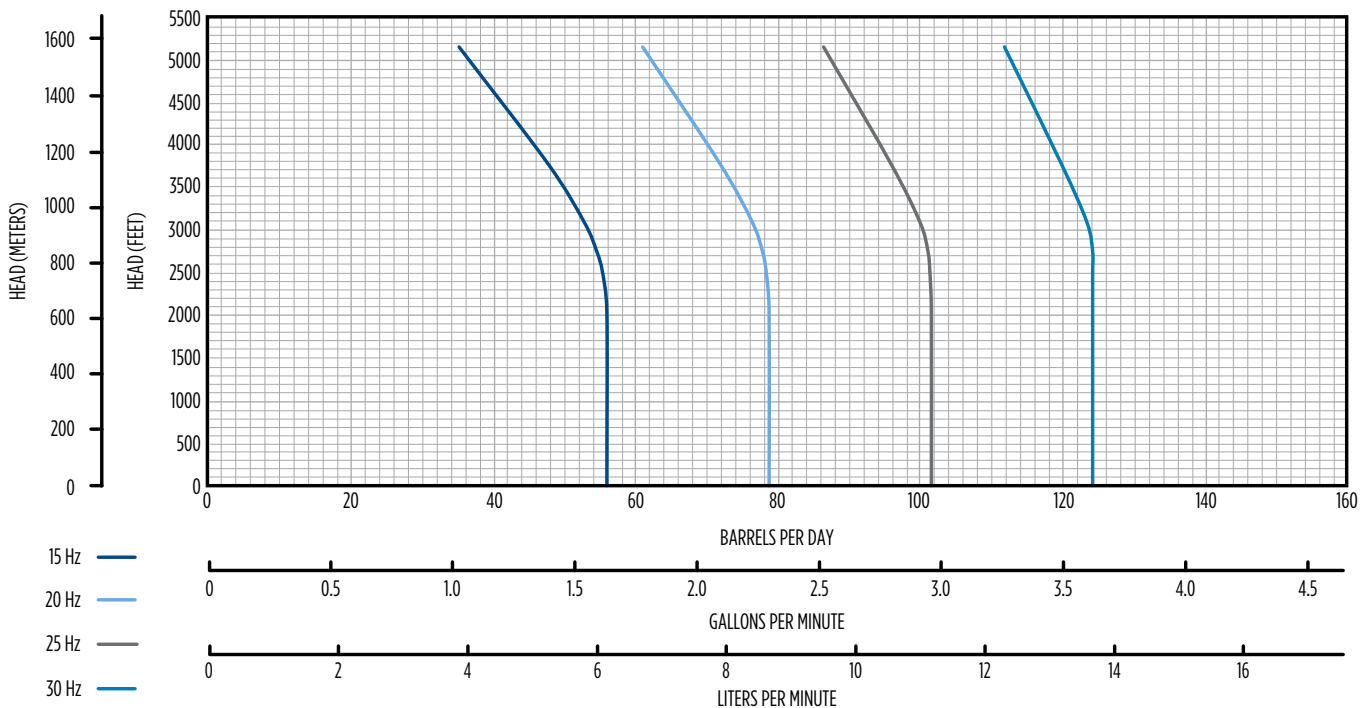


# PROGRESSIVE CAVITY PUMP SYSTEMS

## PERFORMANCE: LOW TEMP 110FPC 15/11.2 C



## PERFORMANCE: HIGH TEMP 110FPC 15/11.2 C





# PROGRESSIVE CAVITY PUMP SYSTEMS

## DIMENSIONS: B PERFORMANCE

Model	Description	"A" Dimensions		"B" Dimensions		"LP" Dimensions		Shipping Wt.		Discharge (NPT)
		in	mm	in	mm	in	mm	lbs	kg	
75FPC 07/5.5 B4	Standard NBR Low Temp	3.75	95	3.07	78	63.94	1624	51	23	2"
150FPC 10/7.5 B4						61.50	1562	51	23	
300FPC 15/11.2 B4						75.00	1905	56	25.5	
75FPC 07/5.5 B4 H	HNBR Low Temp					63.94	1624	51	23	
150FPC 10/7.5 B4 H						61.50	1562	51	23	
300FPC 15/11.2 B4 H						75.00	1905	56	25.5	
75FPC 07/5.5 B4 HT	HNBR High Temp					63.94	1624	51	23	
150FPC 10/7.5 B4 HT						61.50	1562	51	23	
300FPC 15/11.2 B4 HT						74.92	1903	56	25.5	

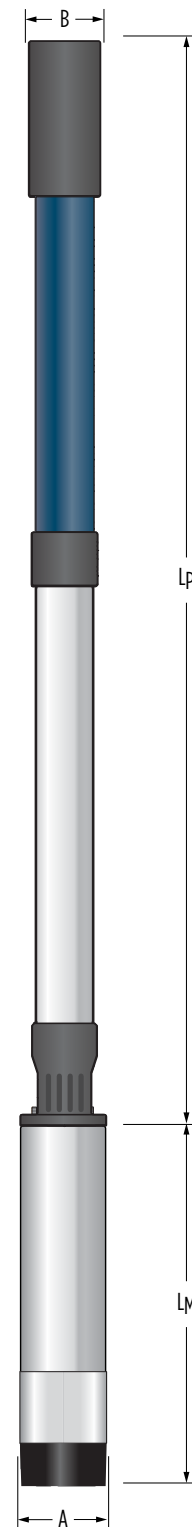
## DIMENSIONS: C PERFORMANCE

Model	Description	"A" Dimensions		"B" Dimensions		"LP" Dimensions		Shipping Wt.		Discharge (NPT)
		in	mm	in	mm	in	mm	lbs	kg	
55FPC 15/11.2 C4	Standard NBR Low Temp	3.75	95	3.07	78	81.2	2062.6	50	23	2"
110FPC 15/11.2 C4						82.9	2105.6			
55FPC 15/11.2 C4 H	HNBR Low Temp					81.2	2062.6			
110FPC 15/11.2 C4 H						82.9	2105.6			
55FPC 15/11.2 C4 HT	HNBR High Temp					81.2	2062.6			
110FPC 15/11.2 C4 HT						82.9	2105.6			

## MODEL AVAILABILITY

Model	HP	kW	Voltage	SFA	Dimensions		Shipping Wt.	
					in	mm	lbs	kg
CBM+ 2343283529G	7.5	5.5	60/380-400	50/60 - 12.6/12.3	27.8	707	74	33.6
CBM+ 2345953529G	10	7.5	460/380-400	60/50 - 15.4/16.5	33.15	842	77	35
CBM+ 2346268996	15	11.2	460/380-400	60/50 - 25.8/26.5	47.56	12.08	15	52.3

NOTE: Refer to the CBM+ Motor literature for more information on these motors; all weights and dimensions are for estimating purposes only





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