

# VARIABLE SPEED PUMP

## FOR USE WITH CREST, FTXL and KNIGHT XL BOILERS

*Boiler pump controlled by Lochinvar SMART SYSTEM™*

### STANDARD FEATURES

Lochinvar's variable speed pump integrates seamlessly with the Smart Touch™ and Smart System™ control keeping the boiler temperature rise at a designated temperature. Boiler systems are designed with a specific temperature rise across the boiler. Using a fixed speed pump on a modulating boiler causes the temperature rise to constantly change. Gain more system efficiency utilizing the new variable speed pump with the Crest, FTXL and KNIGHT XL boiler.

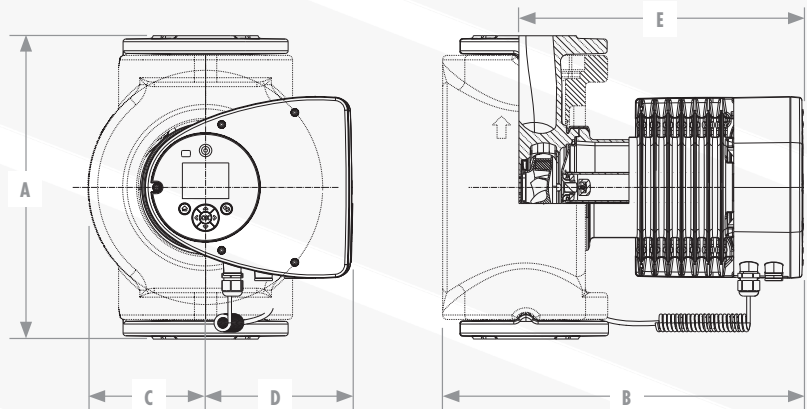
The internal control of the boiler sends a 0 – 10 VDC signal to control the pump speed. The pump speed signal is calculated by monitoring the system temperature, boiler modulation rate, inlet temperature and outlet temperature. Each pump has a digital display and operational indication light for simple pump set up and monitoring.



### VARIABLE SPEED PUMP DIMENSIONS & SPECIFICATIONS

#### STANDARD FEATURES

Digital Display  
Composite Rotor Can  
16 L Stainless Steel Shaft  
Composite Impeller  
Cast Iron Housing  
Pump Status Indicator  
Alarm Contacts



| SAP Part No. | Magna 3 Model | Volt            | Max Amps | Pipe Size | A       | B       | C      | D      | E       |
|--------------|---------------|-----------------|----------|-----------|---------|---------|--------|--------|---------|
| 100383121    | 32-60         | 115 VAC         | 1.01     | 1-1/4"    | 8.5"    | 10"     | 4"     | 4-1/2" | 7-1/4"  |
| 100208411    | 40-80         | 115 VAC         | 2.5      | 1-1/2"    | 8-1/2"  | 14-3/4" | 4-1/4" | 6-1/2" | 12.0"   |
| 100208412    | 50-150        | 115 VAC         | 5.6      | 2.0"      | 11.0"   | 15-3/4" | 5.0"   | 6-1/2" | 12.0"   |
| 100277760    | 80-100        | 208/230 VAC 1PH | 4.6      | 3.0"      | 14-1/4" | 17"     | 6-1/2" | 6-1/2" | 12-1/2" |
| 100327104    | 100-120       | 208/230 VAC 1PH | 7.0      | 4.0"      | 17-3/4" | 17-3/4" | 7.0"   | 6-1/2" | 13.0"   |

*Information subject to change without notice. Dimensions shown are approximate and should not be used for construction purposes.*

DESIGNED ★ ENGINEERED ★ ASSEMBLED  
**USA**

 **Lochinvar®**  
HIGH EFFICIENCY BOILERS & WATER HEATERS

## VARIABLE SPEED PUMP SIZING CHARTS

| Crest Temperature Rise Applications |               |            |           |     |            |           |               |            |           |
|-------------------------------------|---------------|------------|-----------|-----|------------|-----------|---------------|------------|-----------|
| Model Number                        | GPM           | 20°F FT/HD | Part #    | GPM | 40°F FT/HD | Part #    | GPM           | 60°F FT/HD | Part#     |
| FB 0751                             | 72            | 6.1        | 100208412 | 48* | 3.6*       | 100208411 | Not Available |            |           |
| FB 1001/FCB 1000                    | 96            | 10.5       | 100208412 | 48  | 6.6        | 100208411 | Not Available |            |           |
| FB 1251                             | 120           | 12.6       | 100208412 | 60  | 6.9        | 100208411 | 40            | 4.5        | 100208411 |
| FB 1501/FCB 1500                    | 144           | 13.5       | 100208412 | 72  | 7.7        | 100208411 | 48            | 6.0        | 100208411 |
| FB 1751                             | 168           | 15.4       | 100277760 | 84  | 8.5        | 100208412 | 56            | 6.9        | 100208411 |
| FB 2001/FCB 2000                    | 192           | 16.6       | 100277760 | 96  | 8.7        | 100208412 | 64            | 6.9        | 100208411 |
| FB 2501/FCB 2500                    | 240           | 11.4       | 100327104 | 120 | 6.2        | 100208412 | 80            | 5.1        | 100208411 |
| FB 3001/FCB 3000                    | 288           | 13.0       | 100327104 | 144 | 5.2        | 100208412 | 96            | 3.8        | 100208411 |
| FB 3501                             | 224*          | 12.2*      | 100327104 | 168 | 6.8        | 100208412 | 112           | 4.6        | 100208412 |
| FB 4001/FCB 4000                    | 256*          | 14.0*      | 100327104 | 192 | 8.1        | 100277760 | 128           | 5.4        | 100208412 |
| FB 5001/FCB 5000                    | Not Available |            |           | 240 | 7.9        | 100277760 | 160           | 5.6        | 100277760 |
| FB 6001/FCB 6000                    | Not Available |            |           | 288 | 8.7        | 100327104 | 192           | 4.3        | 100277760 |

\*Based on a 30° Temperature Rise.

| FTXL Temperature Rise Applications |     |            |           |     |            |           |     |            |           |
|------------------------------------|-----|------------|-----------|-----|------------|-----------|-----|------------|-----------|
| Model Number                       | GPM | 20°F FT/HD | Part #    | GPM | 30°F FT/HD | Part #    | GPM | 40°F FT/HD | Part #    |
| FTX 400                            | 38  | 3.4        | 100208411 | N/A | N/A        | N/A       | N/A | N/A        | N/A       |
| FTX 500                            | 48  | 5.3        | 100208411 | 32  | 3.5        | 100208411 | N/A | N/A        | N/A       |
| FTX 600                            | 57  | 6.7        | 100208411 | 38  | 4.8        | 100208411 | N/A | N/A        | N/A       |
| FTX 725                            | 69  | 5.3        | 100208411 | 46  | 3.5        | 100208411 | 34  | 2.1        | 100208411 |
| FTX 850                            | 81  | 6.5        | 100208412 | 55  | 5.0        | 100208411 | 40  | 2.5        | 100208411 |
| FTX 1000                           | 98  | 4.5        | 100208412 | 65  | 3.9        | 100208411 | 49  | 3.8        | 100208411 |

| Knight XL Temperature Rise Applications |     |            |           |     |            |           |
|-----------------------------------------|-----|------------|-----------|-----|------------|-----------|
| Model Number                            | GPM | 20°F FT/HD | Part #    | GPM | 25°F FT/HD | Part #    |
| KBX 400                                 | 38  | 10         | 100208411 | 30  | 7          | 100208411 |
| KBX 500                                 | 48  | 14         | 100208411 | 38  | 12         | 100208411 |
| KBX 650                                 | 62  | 16         | 100208412 | 50  | 11         | 100208411 |
| KBX 800                                 | 76  | 17         | 100208412 | 61  | 13         | 100208412 |
| KBX 1000                                | 96  | 18         | 100208412 | 76  | 11         | 100208412 |

For technical information call 800-722-2101. Lochinvar, LLC reserves the right to make product changes or improvements without prior notice.



Lochinvar, LLC  
300 Maddox Simpson Parkway  
Lebanon, Tennessee 37090  
P: 615.889.8900 / F: 615.547.1000  
f in y o Lochinvar.com