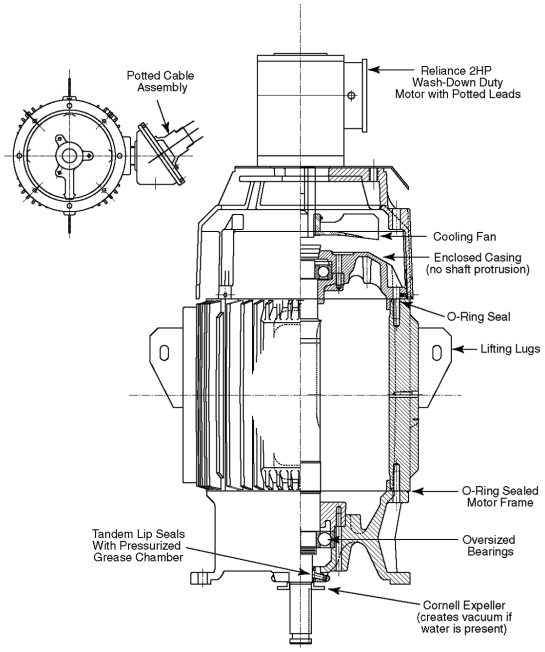
CORNELL PUMP COMPANY

IMMERSIBLE PUMP

AND TEBC MOTOR



THE IMMERSIBLE PUMP AND MOTOR CONCEPT

Immersible motors are designed to be used in dry-pit applications where there is a possibility of flooding. Why take a submersible motor that was designed to run submerged 100% of the time and modify it to run in air 99% (or most of the time) and submerged 1% of the time (in case of a flood)? This seems backwards. The correct approach is to take a TEFC motor that is designed to run in air 100% of the time and adapt it to run submerged 1% of the time (in case of a flood).

IMMERSIBLE MOTOR BASIC DESIGN

The basic design of the immersible pump/motor incorporates a premium efficient, inverter duty, P-Base or C-Face TEBC motor (totally enclosed, blower cooled). The motor, as the name implies, is totally enclosed and cooled by a blower on top of the motor. If the motor becomes submerged, the blower motor fan shuts down without affecting the main motor. While the motor is temporarily submerged, the media cools the motor just like a true submersible. A special conduit box is used to prevent water leakage into the motor. The motor is designed to prevent infiltration of water along the shaft and into the motor by utilizing a triple redundant sealing system, including a patented hydroseal design. The motor-end bell housing incorporates the 'inverted cup' principle, which traps an air bubble under the motor as water rises, thus keeping water away from the shaft seal. The shaft is fitted with a hydroseal, which expells water and further reduces the chance of water reaching the shaft seals.

The Immersible motor can withstand up to 30 feet of submergence depth for a two-week period. This exceeds the requirements of Immersible motors that is described in the industry standard "Index of Protection" IP67. Competitive designs only allow immersion of the motor for a period of time not exceeding 30 minutes at a submergence level of 3'. Hardly enough time to deal with any kind of flooding emergency!

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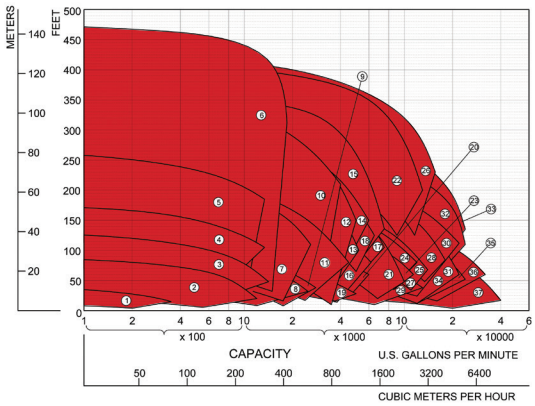
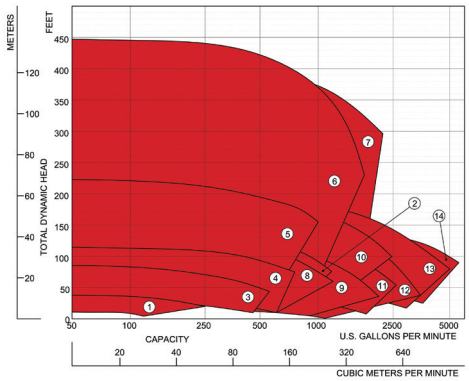
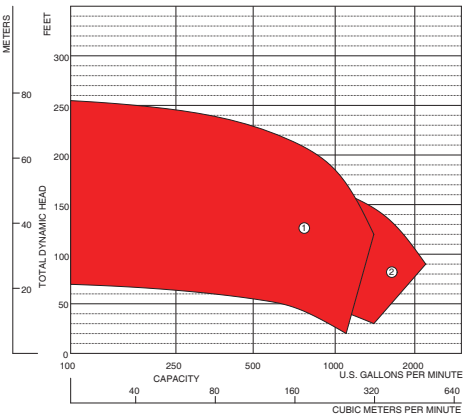


1. 3NLT
2. 4NNTL
3. 4NNT
4. 4NHTA
5. 4414T
6. 4NHTB
7. 6NHTA
8. 6NNT
9. 6NHT/TH
10. 6NHTB
11. 8NNT
12. 8NHTA
13. 8NHTH
14. 8NHTR
15. 8NHGA
16. 10NHTB
17. 10NHTBH
18. 10NHTA
19. 12NHTL
20. 12NHTM
21. 12NNF
22. 12NHG28
23. 14NHG
24. 14NHGA
25. 14NHGH
26. 14NHG28
27. 16NHGH
28. 16NHG22
29. 16NHG32
30. 18NHG
31. 18NHFL
32. 18NHF34
33. 18NHG34
34. 20NHFL
35. 20NHF
36. 24NNG
37. 30NNT



1. 3NLA
2. 4NLDL
3. 4NNDH
4. 4NHDH
5. 4NHM
6. 6NHDH
7. 6NHM
8. 6NNDH
9. 8NNDH
10. 10NNDH



1. 4NC
2. 6NC

Ease of maintenance: With the immersible motor, you can remove the motor and send it to the service shop. Meanwhile, replace it with any brand of motor that has a P-Base flange and you're up and running.

Service: Any motor shop can service the motor while submersibles require a certified submersible motor shop.

Lower initial cost: Immersible motor installations do not require level controls and monitors, clean water, recirculating pump and/or the piping required with other types of dry pit submersibles.

Lower operating cost: Motor efficiencies are inherently higher in T.E.B.C. motors compared to traditional dry-pit submersible motors.

No cooling jackets: There are no jackets that might clog and need periodic maintenance and inspection.

Seal options: All standard pump sealing options are available.

Bearing life: The pump's immersible bearing frame absorbs the hydraulic loading which results in longer motor bearing life due to lower thrust.

Immersible bearing frame: Cornell immersible bearing frames offer the same triple redundant protection against water infiltration and are capable of submergence of up to 30 feet for a period of up to two weeks.

Safety: Use of Immersibles eliminates the health and safety risk concerns (such as the possible presence of pathogens like HIV, Hepatitis B. etc... in sewage fluid) present during routine inspection and maintenance procedures. In comparison, other types require either extensive steam cleaning of the motor's outer shell if it is a wet-pit submersible or of the inside of the jacket in dry-pit submersibles, which constitutes a high-risk health hazard due to the nature of the effluents or sewage conveyed.

Retrofit: Easily retrofit all your existing frame mounted installations with immersible motors without the need to buy new pumps.

Unique blower design: Cornell's Immersible motors do not have the shaft protruding through the top of the motor. The shaft penetrates the bottom only and is sealed using a triple redundant sealing system.

A new way of thinking: Immersible motors are designed to run submerged for a limited period of time. Therefore, even in a flood situation, the pump station will operate without damage to pump bearings and shaft.

Unique design: Immersible designs by other manufacturers have a float switch which will shut those motors down until the flood water has been removed.

Cornell Pump Company | Clackamas, OR 97015 USA | www.cornellpump.com | P: +1 (503) 653-0330 | F: +1 (503) 653-0338