

Electromagnetic Particle Clutches and Brakes

Models: POC, PHC-R, PMC-A3, POB, PRB and PTB-BL3

P-223-4
819-0452

Performance Manual



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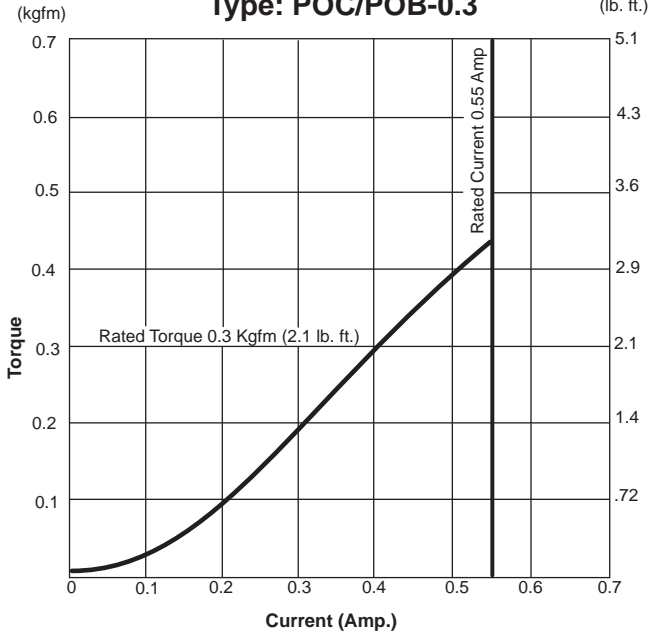
Introduction

This Performance Data manual provides torque curves and allowable heat dissipation curves for Warner Electric's magnetic particle clutches and brakes. The manual covers clutch models POC, PHC-R, and PMC. It also covers brake models POB, PRB, and PTB.

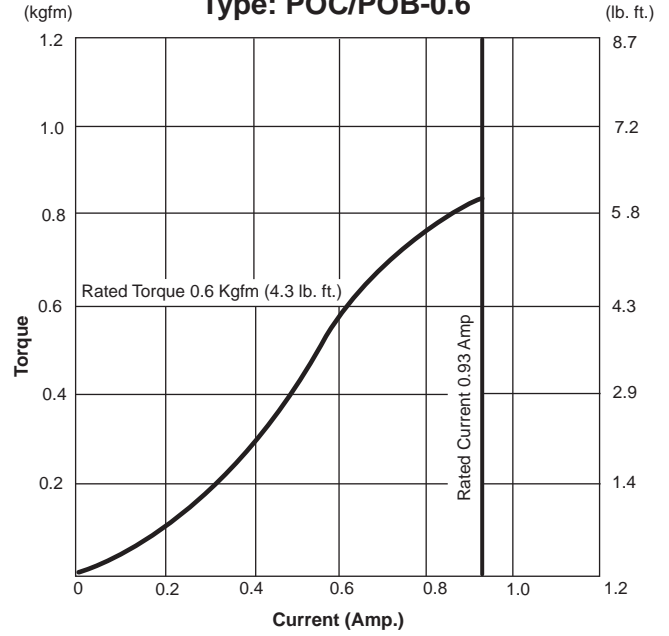
The information in this manual is valuable for selecting the correct unit for your specific application. For help in calculating your torque or heat dissipation requirements, please refer to your Warner Electric Tension Control Systems Catalog. This catalog also provides additional information to help you select a clutch, brake, or control for your application.

⚠ WARNING Failure to follow these instructions may result in product damage, equipment damage, and serious or fatal injury to personnel.

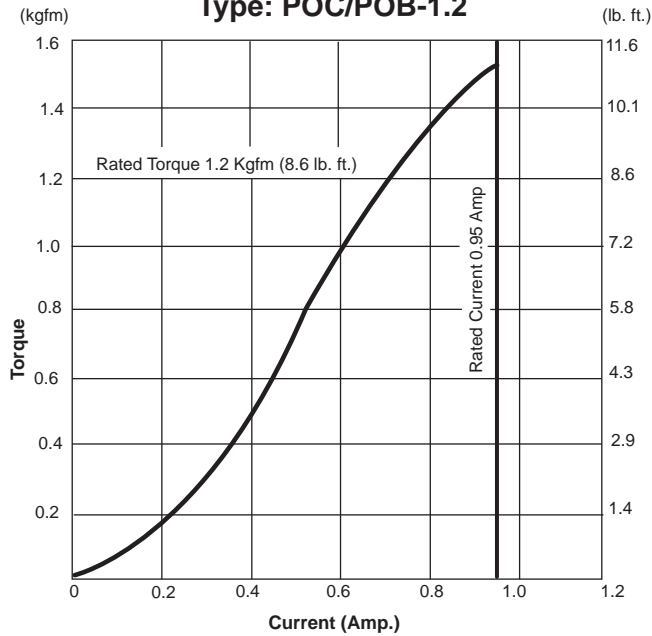
Torque vs. Current Curve (Typical)
Type: POC/POB-0.3



Torque vs. Current Curve (Typical)
Type: POC/POB-0.6

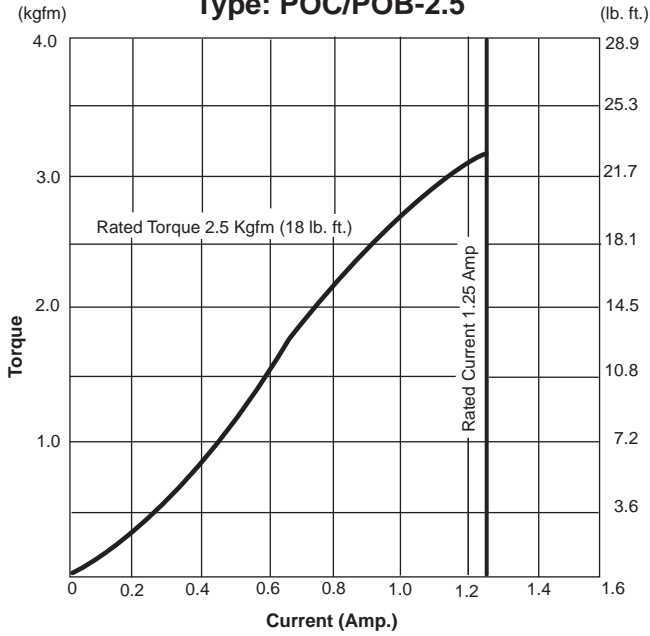


Torque vs. Current Curve (Typical)
Type: POC/POB-1.2

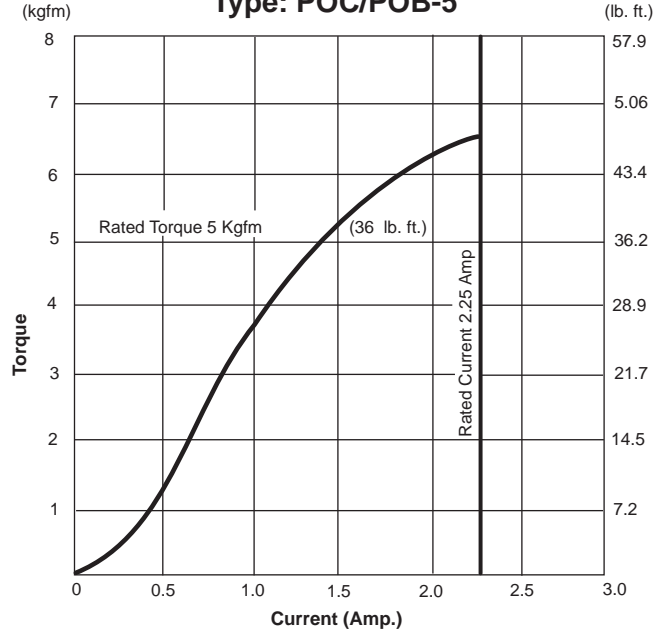


Torque (kgfm) = 0.1383 x Torque (lb.ft.)

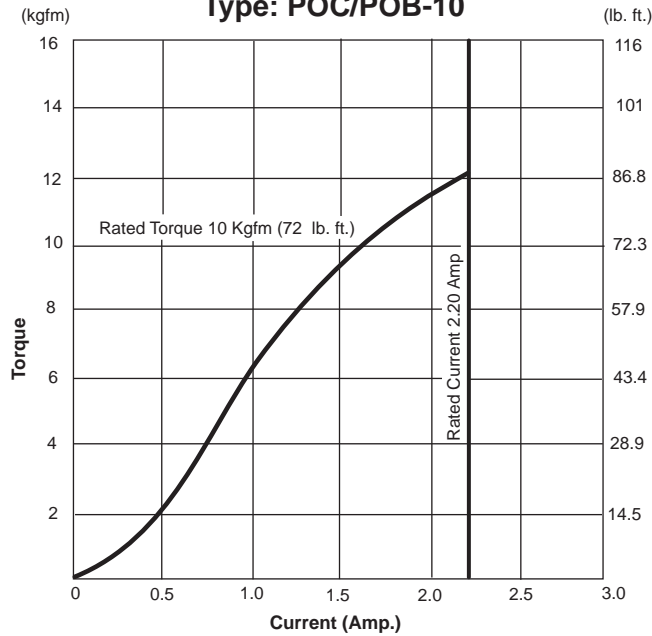
Torque vs. Current Curve (Typical)
Type: POC/POB-2.5



Torque vs. Current Curve (Typical)
Type: POC/POB-5

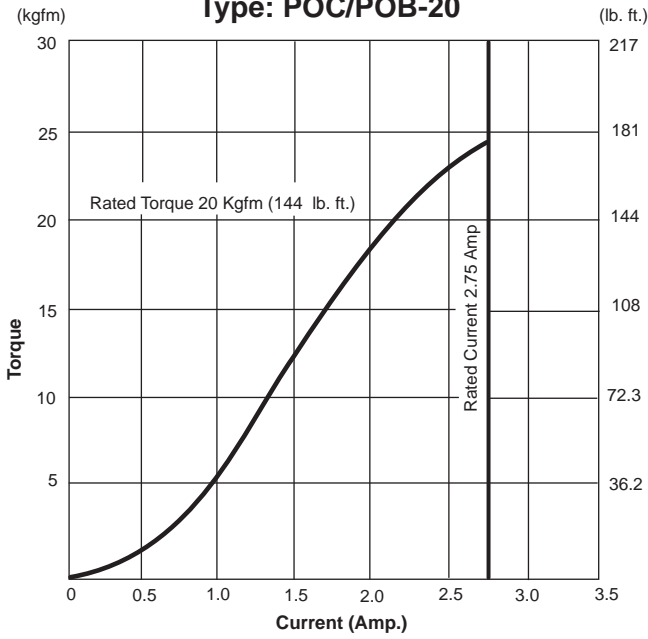


Torque vs. Current Curve (Typical)
Type: POC/POB-10

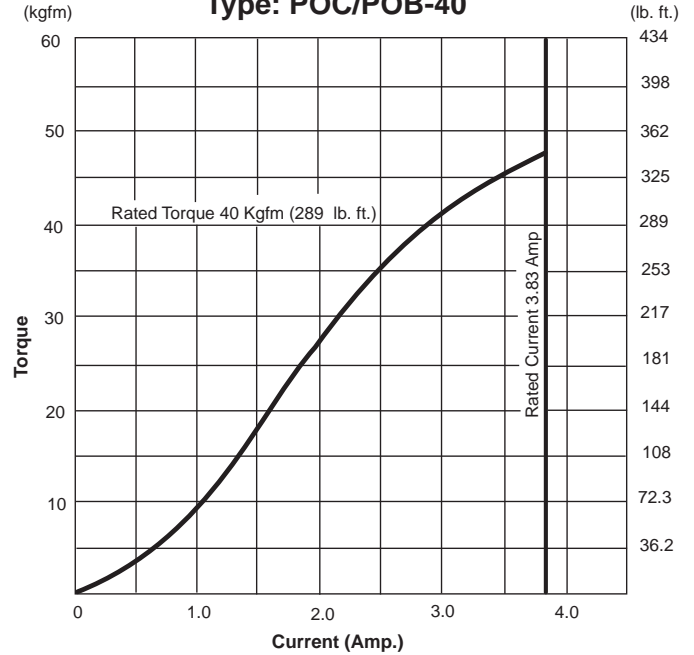


Torque (kgfm) = 0.1383 x Torque (lb.ft.)

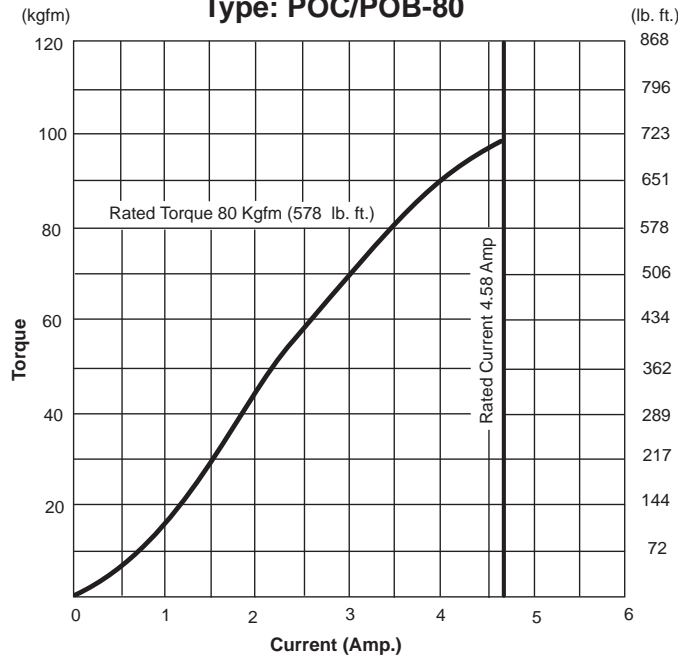
Torque vs. Current Curve (Typical)
Type: POC/POB-20



Torque vs. Current Curve (Typical)
Type: POC/POB-40

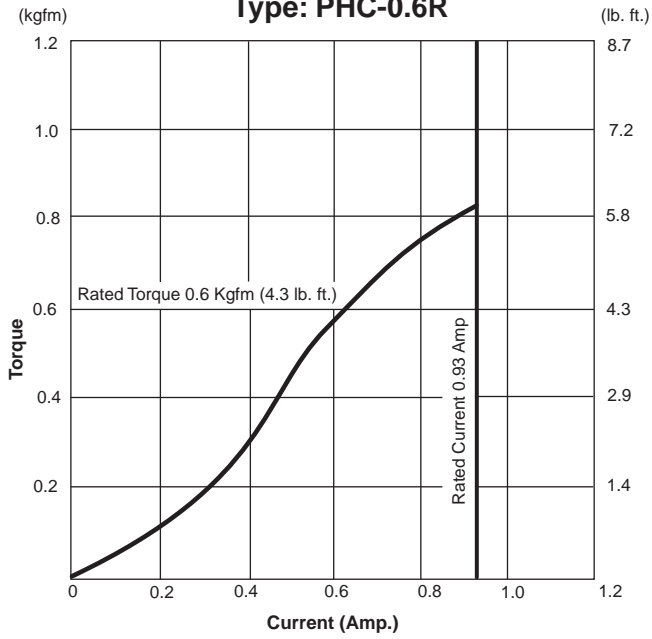


Torque vs. Current Curve (Typical)
Type: POC/POB-80

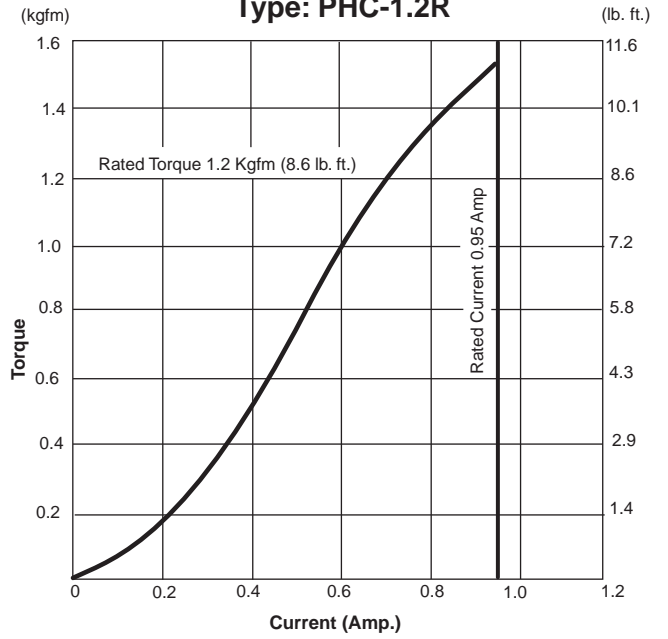


Torque (kgfm) = 0.1383 X Torque (lb.ft.)

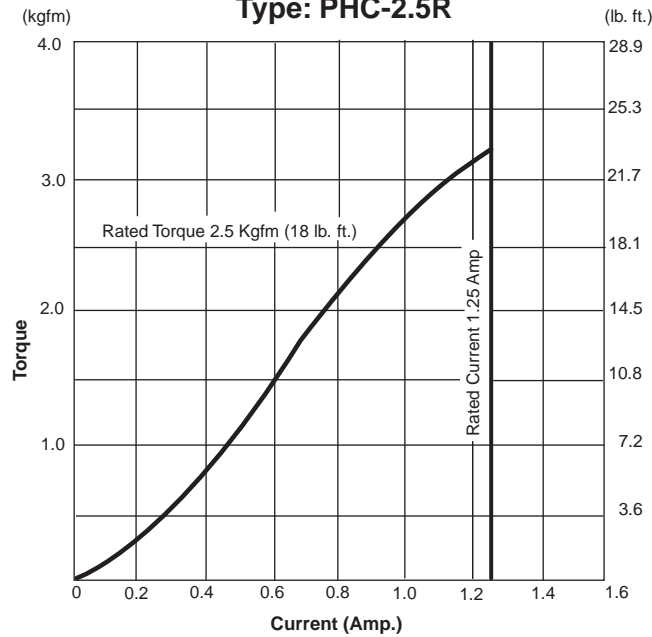
Torque vs. Current Curve (Typical)
Type: PHC-0.6R



Torque vs. Current Curve (Typical)
Type: PHC-1.2R

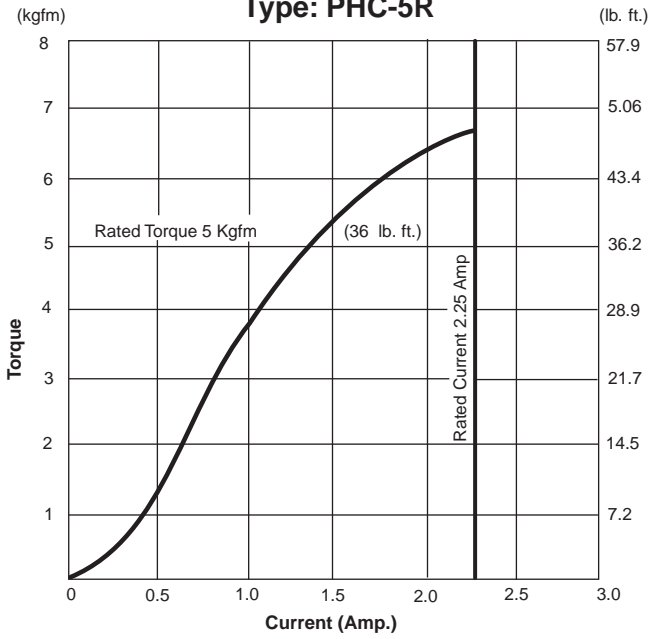


Torque vs. Current Curve (Typical)
Type: PHC-2.5R

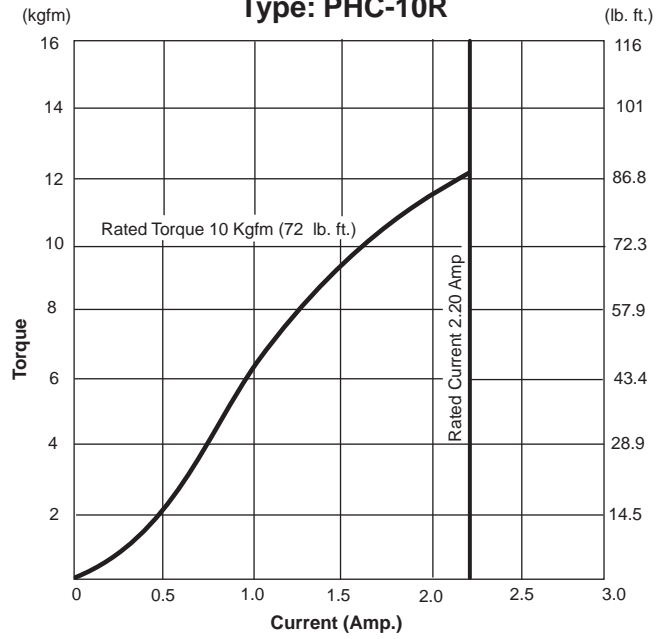


Torque (kgfm) = 0.1383 X Torque (lb.ft.)

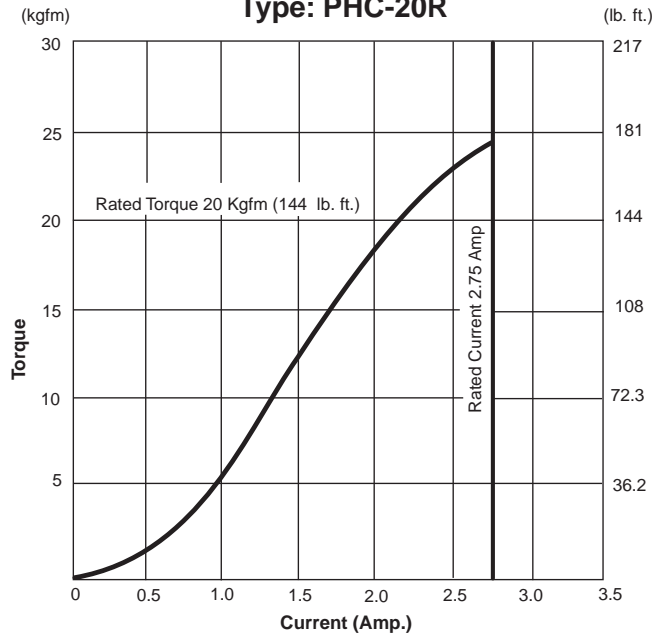
Torque vs. Current Curve (Typical)
Type: PHC-5R



Torque vs. Current Curve (Typical)
Type: PHC-10R



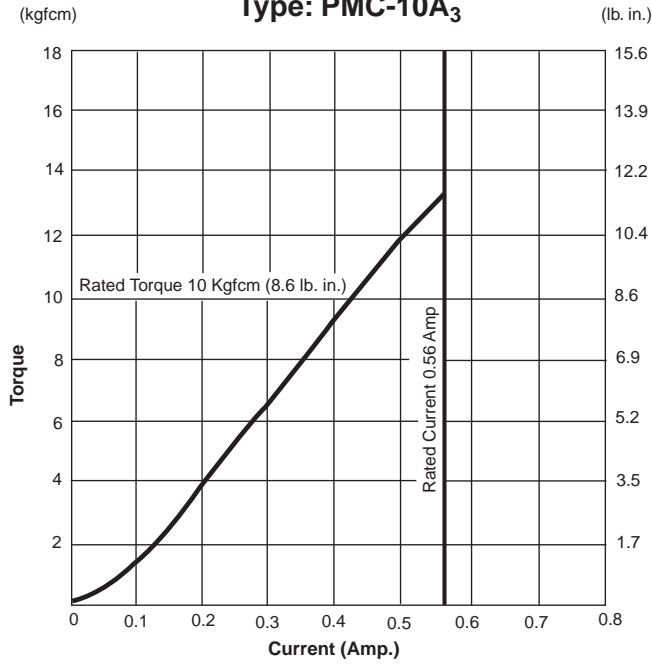
Torque vs. Current Curve (Typical)
Type: PHC-20R



Torque (kgfm) = 0.1383 X Torque (lb.ft.)

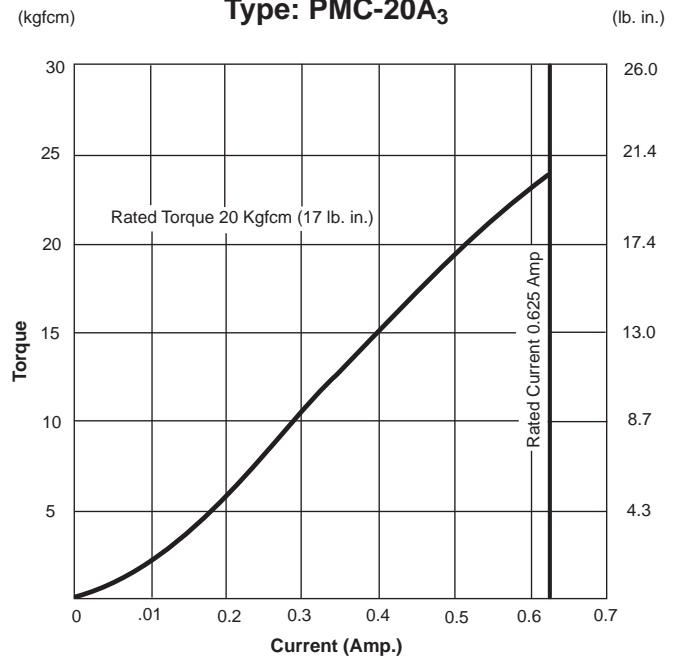
Torque vs. Current Curve (Typical)

Type: **PMC-10A₃**



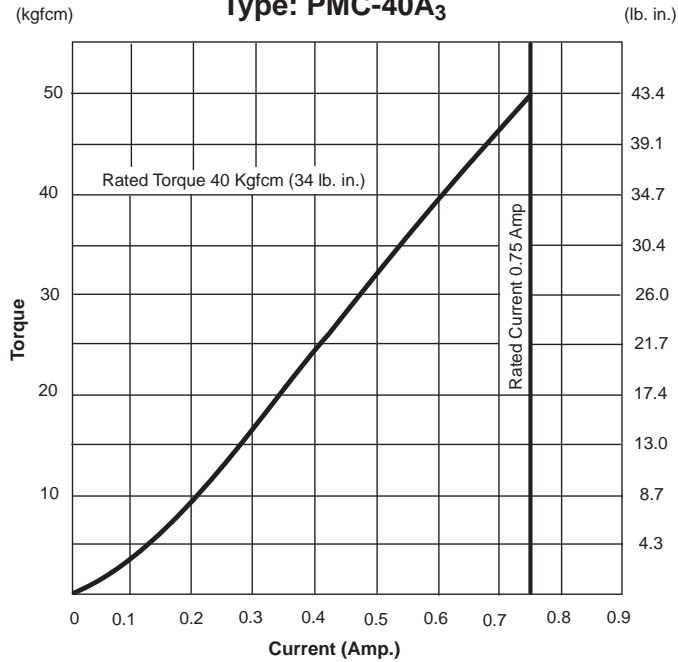
Torque vs. Current Curve (Typical)

Type: **PMC-20A₃**



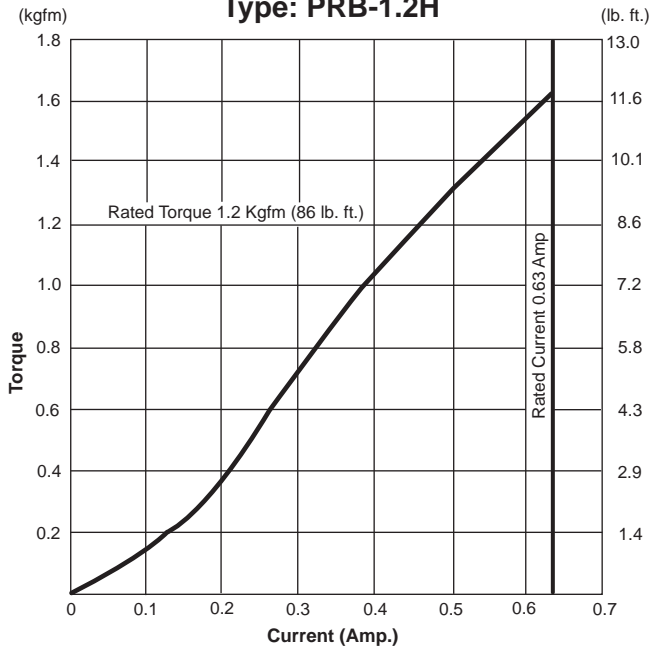
Torque vs. Current Curve (Typical)

Type: **PMC-40A₃**

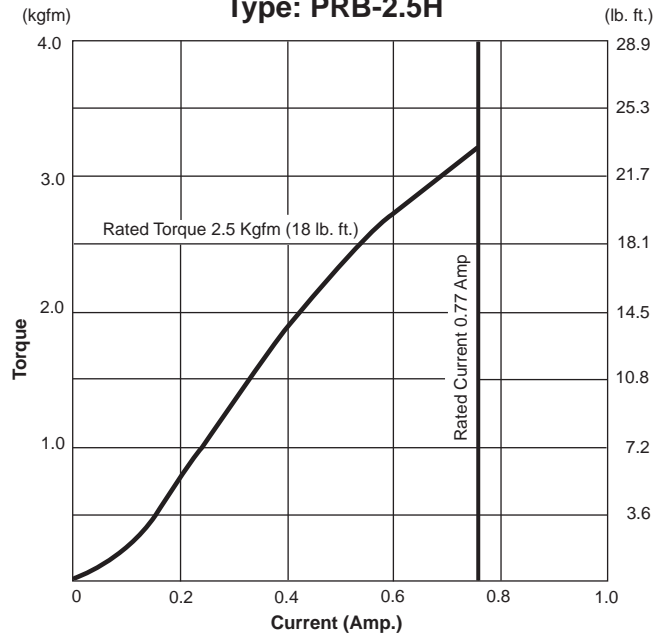


Torque (kgfcm) = 1.152 X Torque (lb.in.)

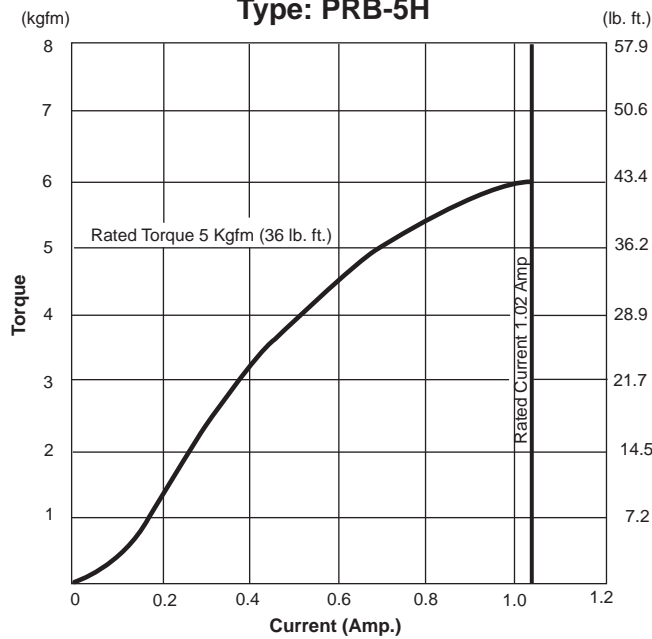
Torque vs. Current Curve (Typical)
Type: PRB-1.2H



Torque vs. Current Curve (Typical)
Type: PRB-2.5H

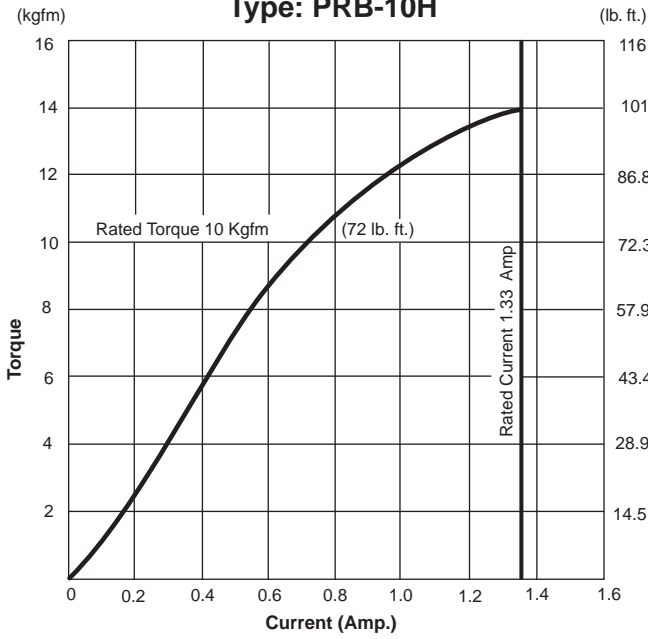


Torque vs. Current Curve (Typical)
Type: PRB-5H

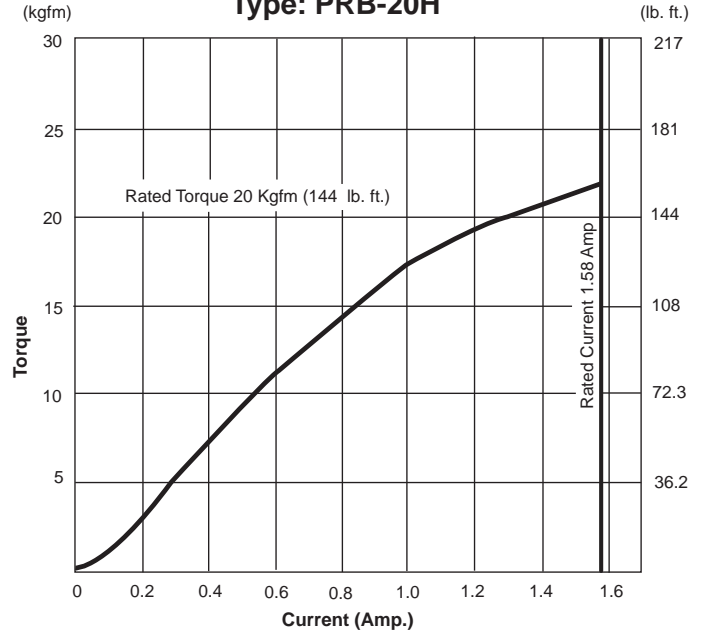


Torque (kgfm) = 0.1383 X Torque (lb.ft.)

Torque vs. Current Curve (Typical)
Type: PRB-10H



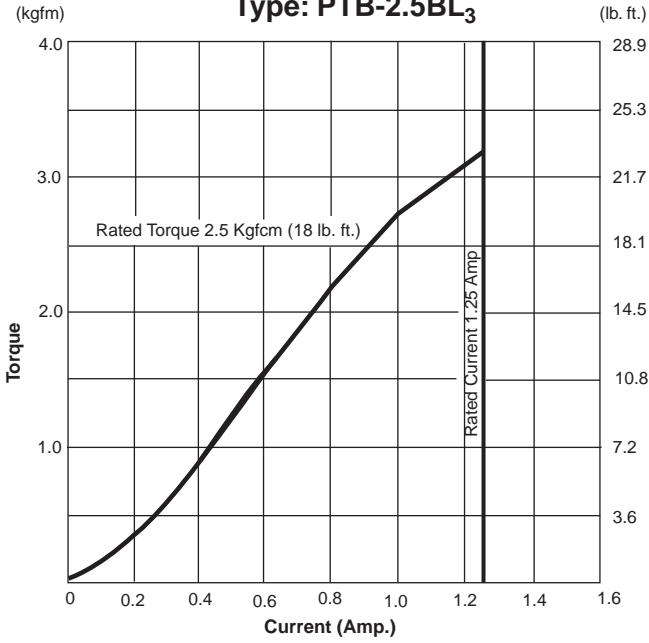
Torque vs. Current Curve (Typical)
Type: PRB-20H



Torque (kgfm) = 0.1383 X Torque (lb.ft.)

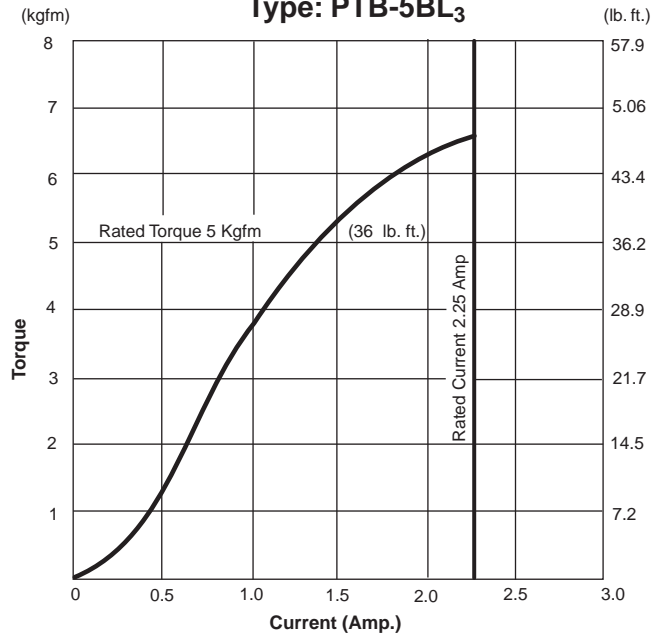
Torque vs. Current Curve (Typical)

Type: PTB-2.5BL₃



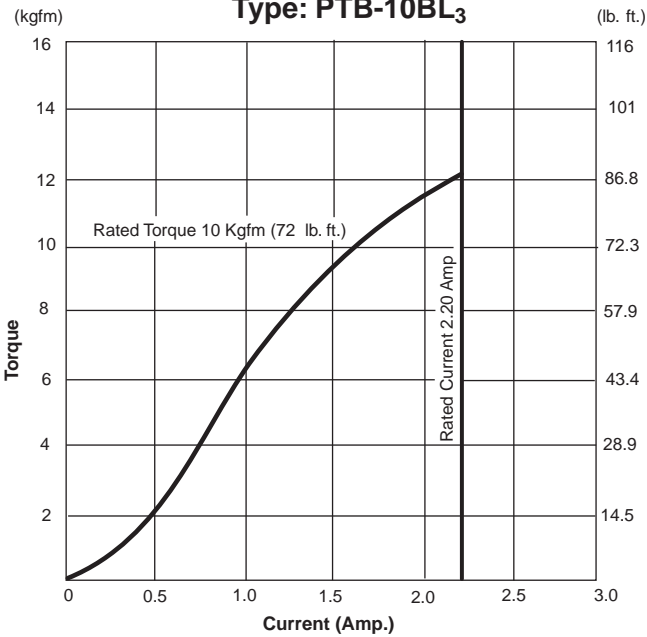
Torque vs. Current Curve (Typical)

Type: PTB-5BL₃



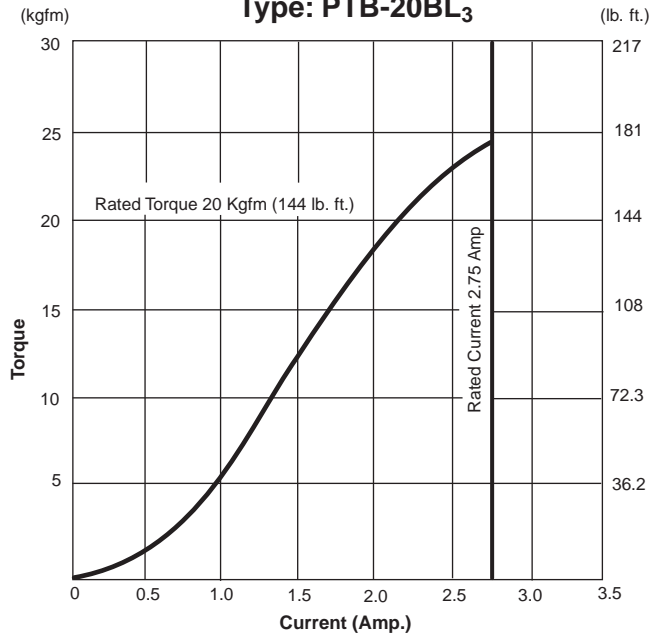
Torque vs. Current Curve (Typical)

Type: PTB-10BL₃



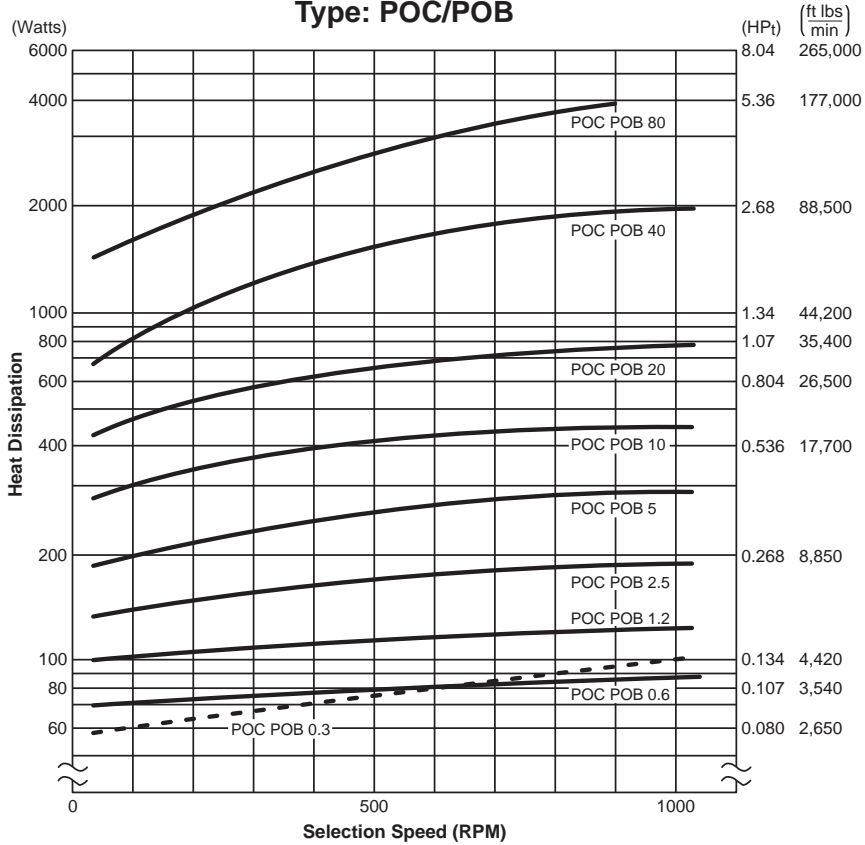
Torque vs. Current Curve (Typical)

Type: PTB-20BL₃

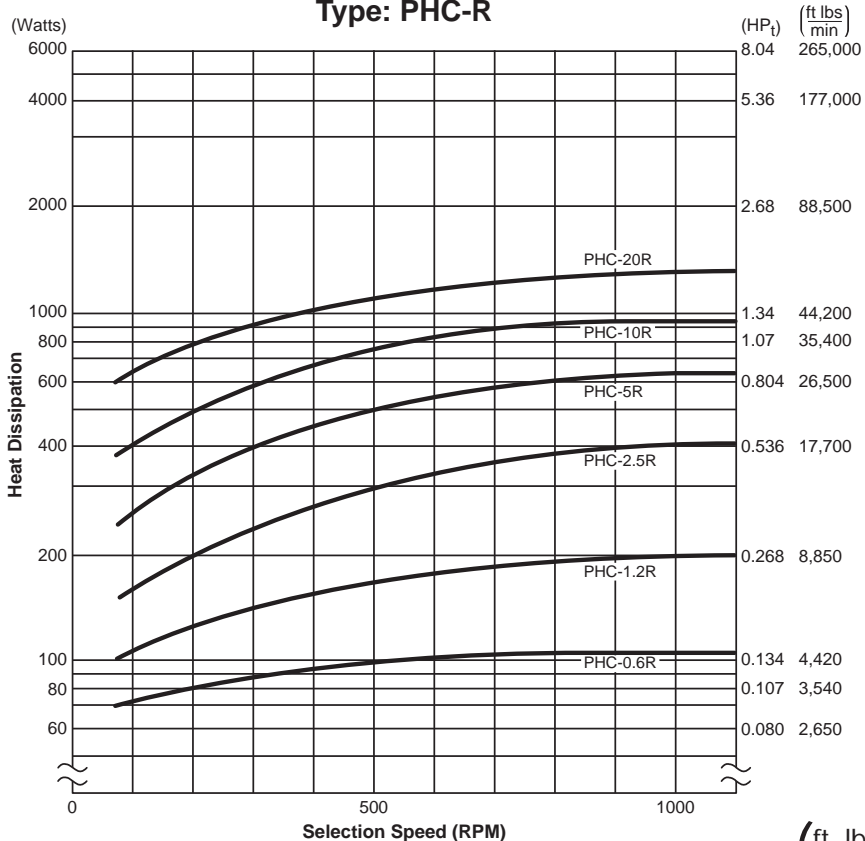


Torque (kgfm) = 0.1383 X Torque (lb.ft.)

Allowable Heat Dissipation Curves Type: POC/POB



Allowable Heat Dissipation Curves Type: PHC-R

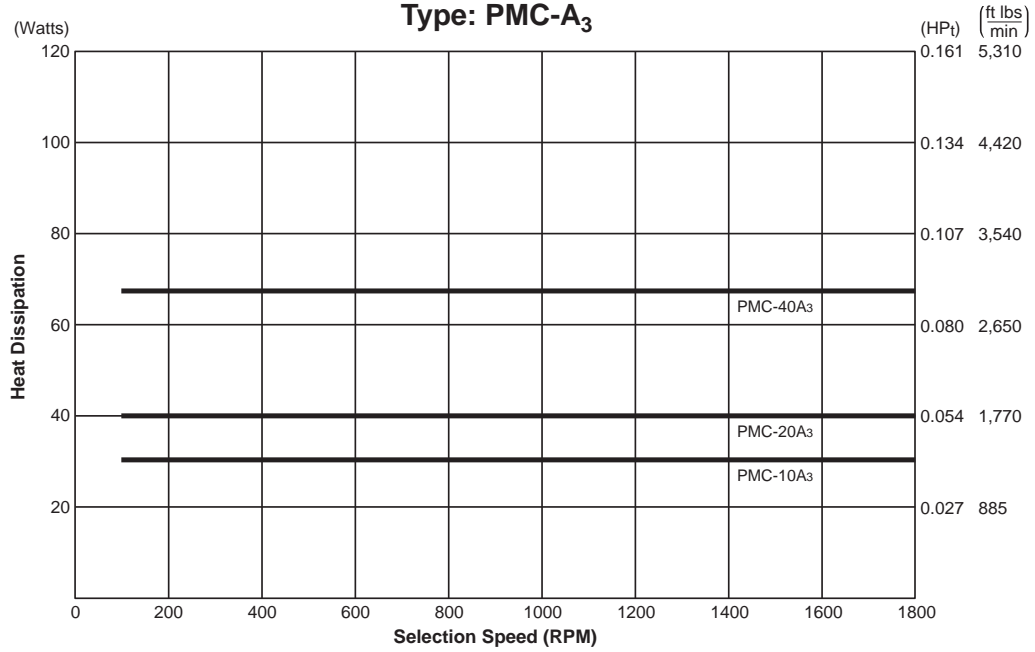


Heat Dissipation (Watts) = 746 X HP_t

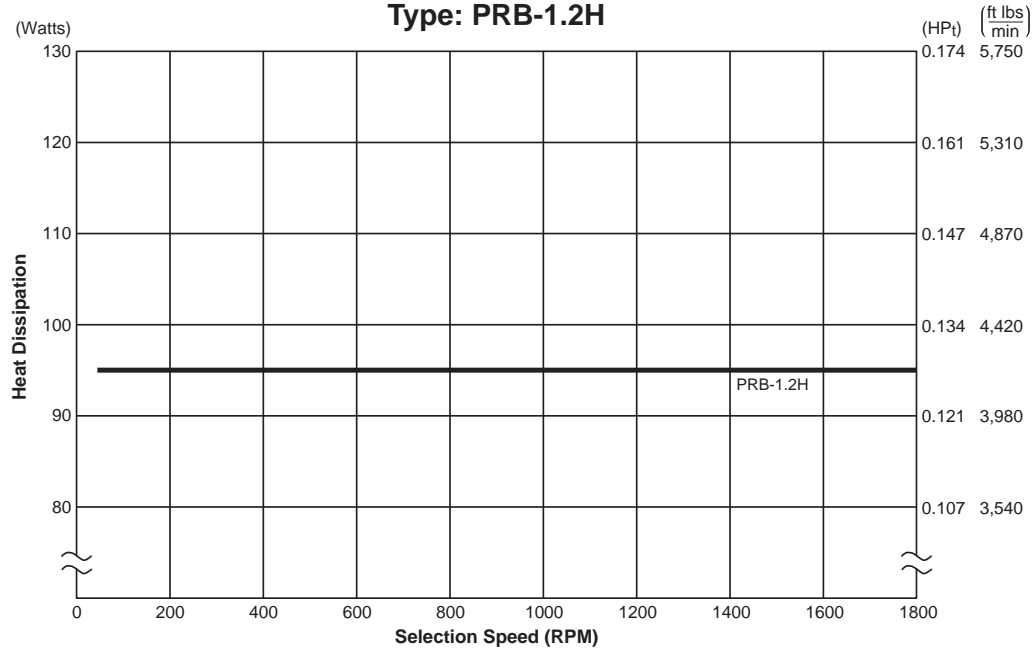
Heat Dissipation (Watts) = 0.0226 X E_{RATE}

($\frac{\text{ft. lbs.}}{\text{min.}}$)

Allowable Heat Dissipation Characteristics Type: PMC-A₃

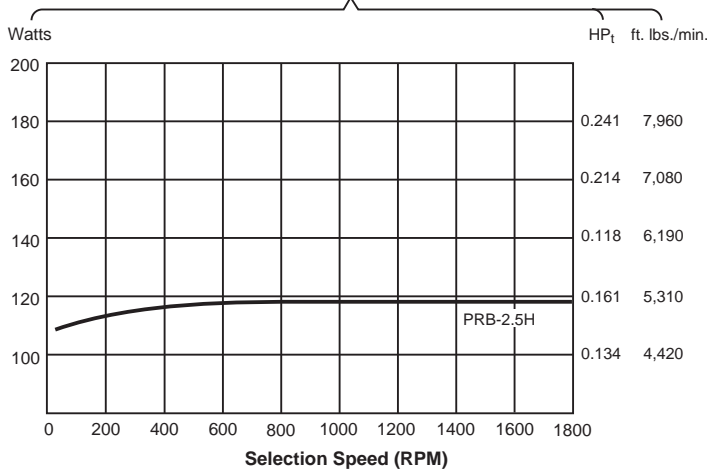


Allowable Heat Dissipation Characteristics Type: PRB-1.2H

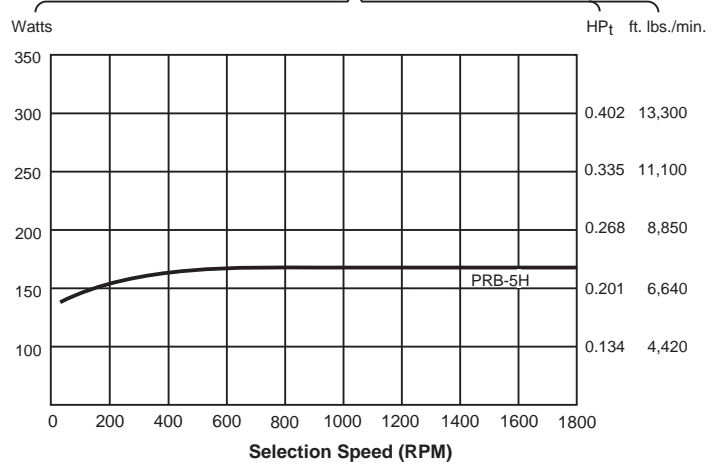


Heat Dissipation (Watts) = 746 X HP_t
 Heat Dissipation (Watts) = 0.0226 X E_{RATE} (ft. lbs./min.)

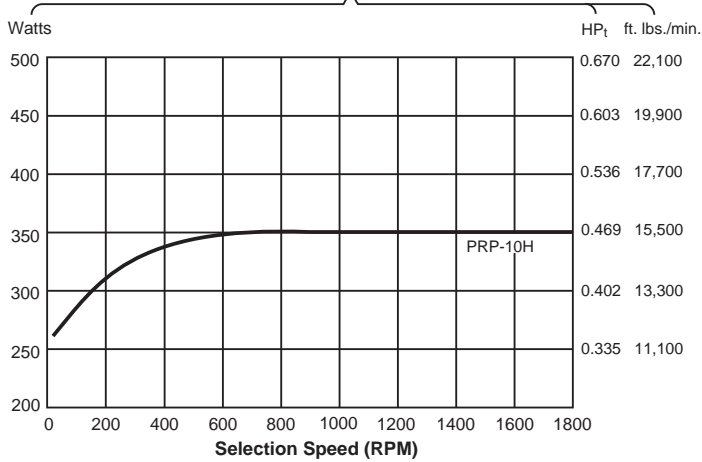
Allowable Heat Dissipation Characteristics Type: PRB-2.5H



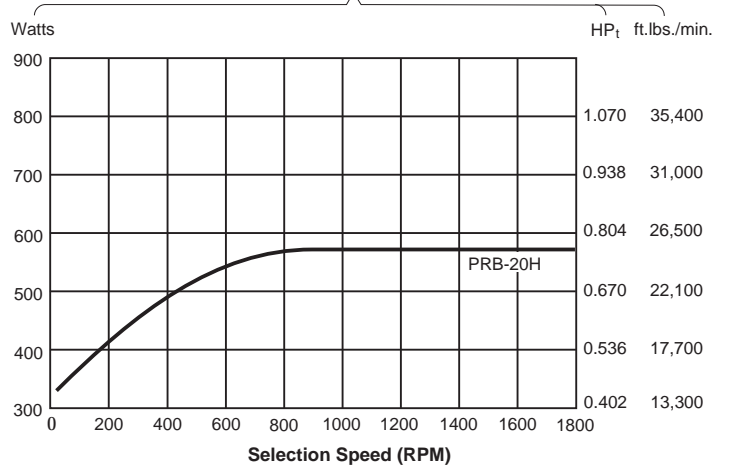
Allowable Heat Dissipation Characteristics Type: PRB-5H



Allowable Heat Dissipation Characteristics Type: PRB-10H

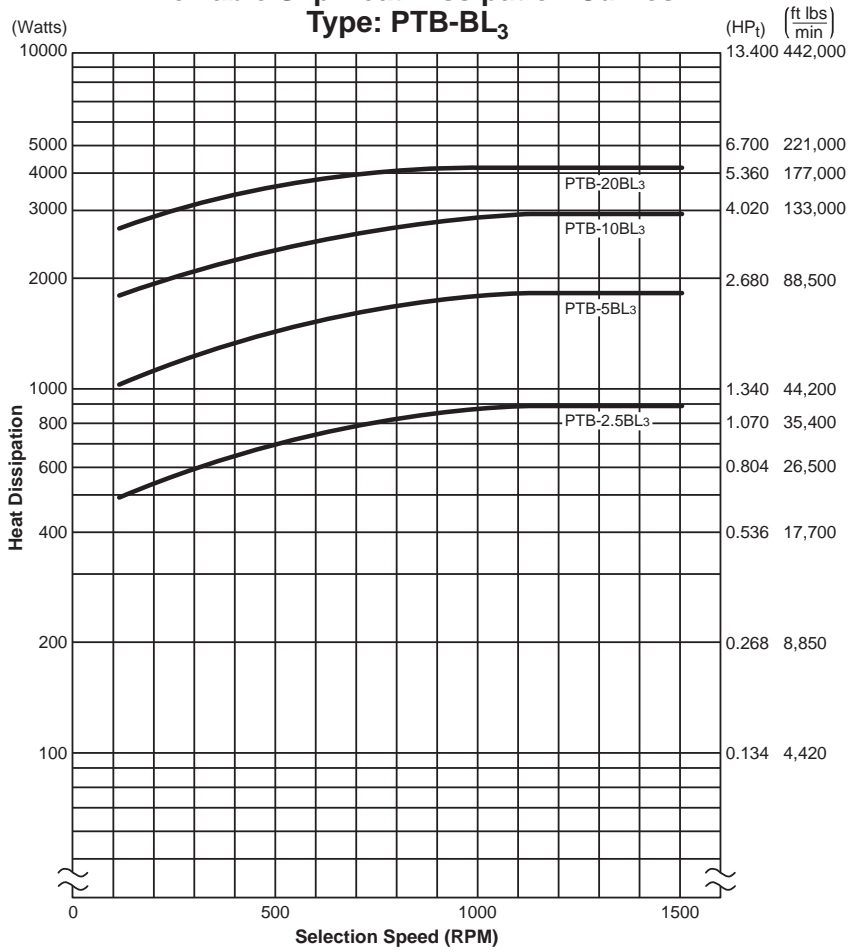


Allowable Heat Dissipation Characteristics Type: PRB-20H



Heat Dissipation (Watts) = 746 X HP_t (ft. lbs.)
 Heat Dissipation (Watts) = 0.0226 X E_{RATE} (min.)

Allowable Slip Heat Dissipation Curves Type: PTB-BL₃



Heat Dissipation (Watts) = 746 X HP_t (ft. lbs. / min.)
 Heat Dissipation (Watts) = 0.0226 X E_{RATE}

Warranty

Warner Electric LLC warrants that it will repair or replace (whichever it deems advisable) any product manufactured and sold by it which proves to be defective in material or workmanship within a period of one (1) year from the date of original purchase for consumer, commercial or industrial use.

This warranty extends only to the original purchaser and is not transferable or assignable without Warner Electric LLC's prior consent.

Warranty service can be obtained in the U.S.A. by returning any defective product, transportation charges prepaid, to the appropriate Warner Electric LLC factory. Additional warranty information may be obtained by writing the Customer Satisfaction Department, Warner Electric LLC, 449 Gardner Street, South Beloit, Illinois 61080, or by calling 815-389-3771.

A purchase receipt or other proof of original purchase will be required before warranty service is rendered. If found defective under the terms of this warranty, repair or replacement will be made, without charge, together with a refund for transportation costs. If found not to be defective, you will be notified and, with your consent, the item will be repaired or replaced and returned to you at your expense.

This warranty covers normal use and does not cover damage or defect which results from alteration, accident, neglect, or improper installation, operation, or maintenance.

Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you.

Warner Electric LLC's obligation under this warranty is limited to the repair or replacement of the defective product and in no event shall Warner Electric LLC be liable for consequential, indirect, or incidental damages of any kind incurred by reason of the manufacture, sale or use of any defective product. Warner Electric LLC neither assumes nor authorizes any other person to give any other warranty or to assume any other obligation or liability on its behalf.

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Changes in Dimensions and Specifications

All dimensions and specifications shown in Warner Electric catalogs are subject to change without notice. Weights do not include weight of boxing for shipment. Certified prints will be furnished without charge on request to Warner Electric.



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