

POLARIS
P U M P S
ORIGINAL SOLUTIONS. NO COMPROMISES.

TECHNICAL DATA **SUBMERSIBLE PUMP**



ARNETT
ENGINEERED SOLUTIONS

ARNETT ENGINEERED SOLUTIONS
61 INNOVATION DRIVE, BAMBERG, SC 29003

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COMPLETE MODULARITY BY DESIGN

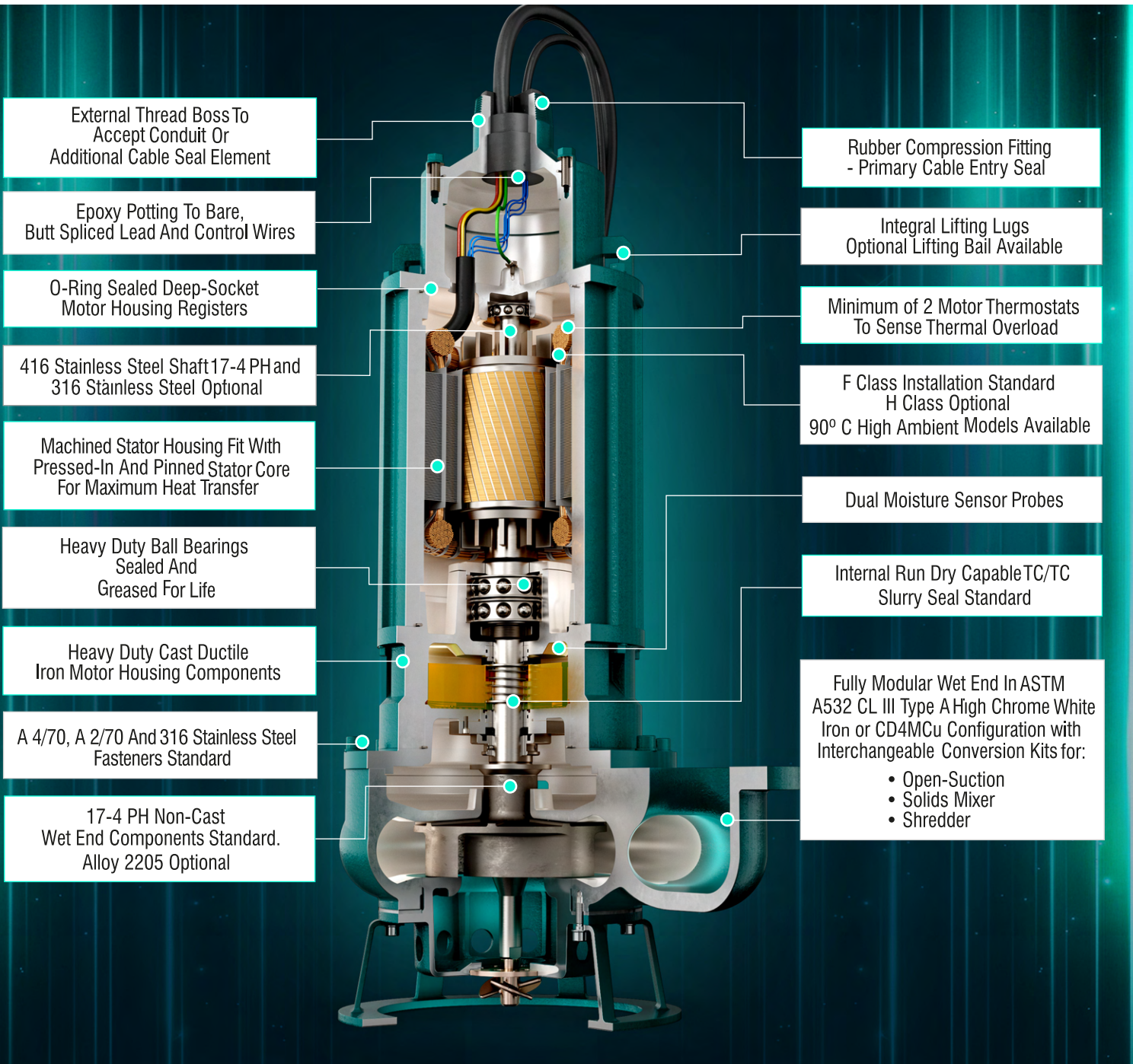
Polaris Pump's Modular Design offers custom Wet End Configurations with standard components.

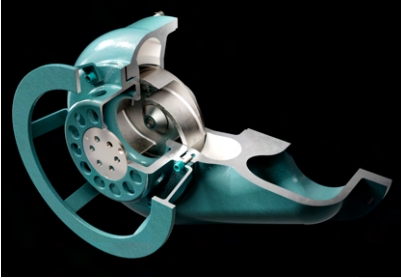
The Open Suction, Solids Mixer and Shredder Attachment are all **INTERCHANGEABLE** on the Same Wet End Platform.

While the competition requires you to purchase a separate pump for each application, with a Polaris Pump you simply change the Wet End Kit Attachment to meet your job requirements.

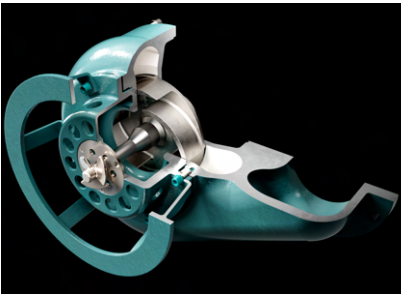


FULLY MODULAR WET END DESIGN WITH INTERCHANGEABLE OPEN SUCTION, SOLIDS MIXER AND SHREDDER CONVERSION KITS



A COMPLETE LINE OF WET ENDS**Polaris Model PHO™ Standard Open Suction**

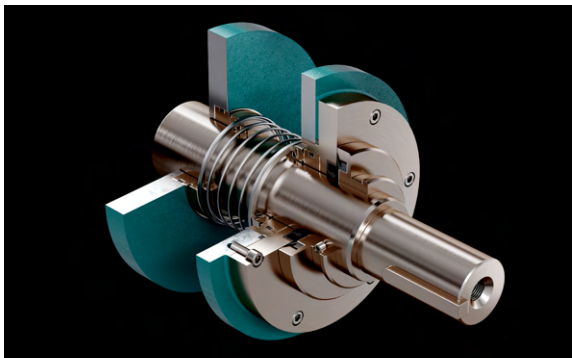
Our Standard Wet End Polaris Model PHO™ comprises a hard metal strainer and open impeller for any heavy duty pumping or dewatering application that does not require solids agitation.

**Polaris Model PBO™ Solids Mixer Option**

The Polaris Model PHO™ utilizes a hard metal strainer, hard metal solids mixer and open impeller for any heavy duty solids pumping in application with materials content.

**Polaris Model PVO™ Shredder Option**

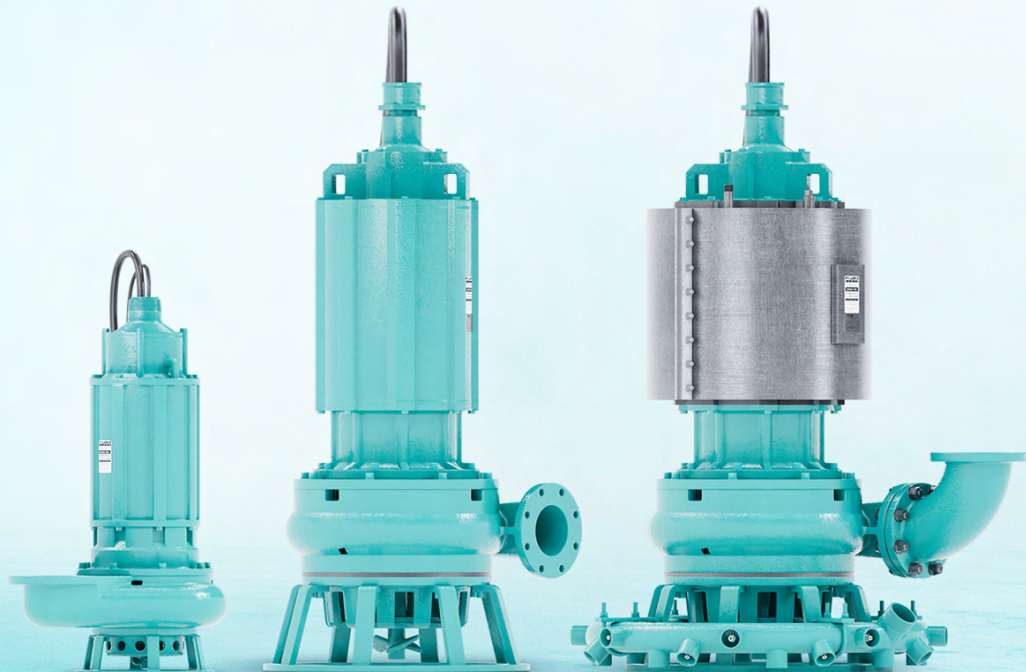
The Polaris Model PVO™ combines a hard metal shredder attachment and open impeller for applications with fibrous materials, wood yard waste, slaughter house and food processing waste or recycling.

MOTOR SEAL**POLARIS INTERNAL SLURRY SEAL™**
CONTINUOUS RUN DRY CAPABLE

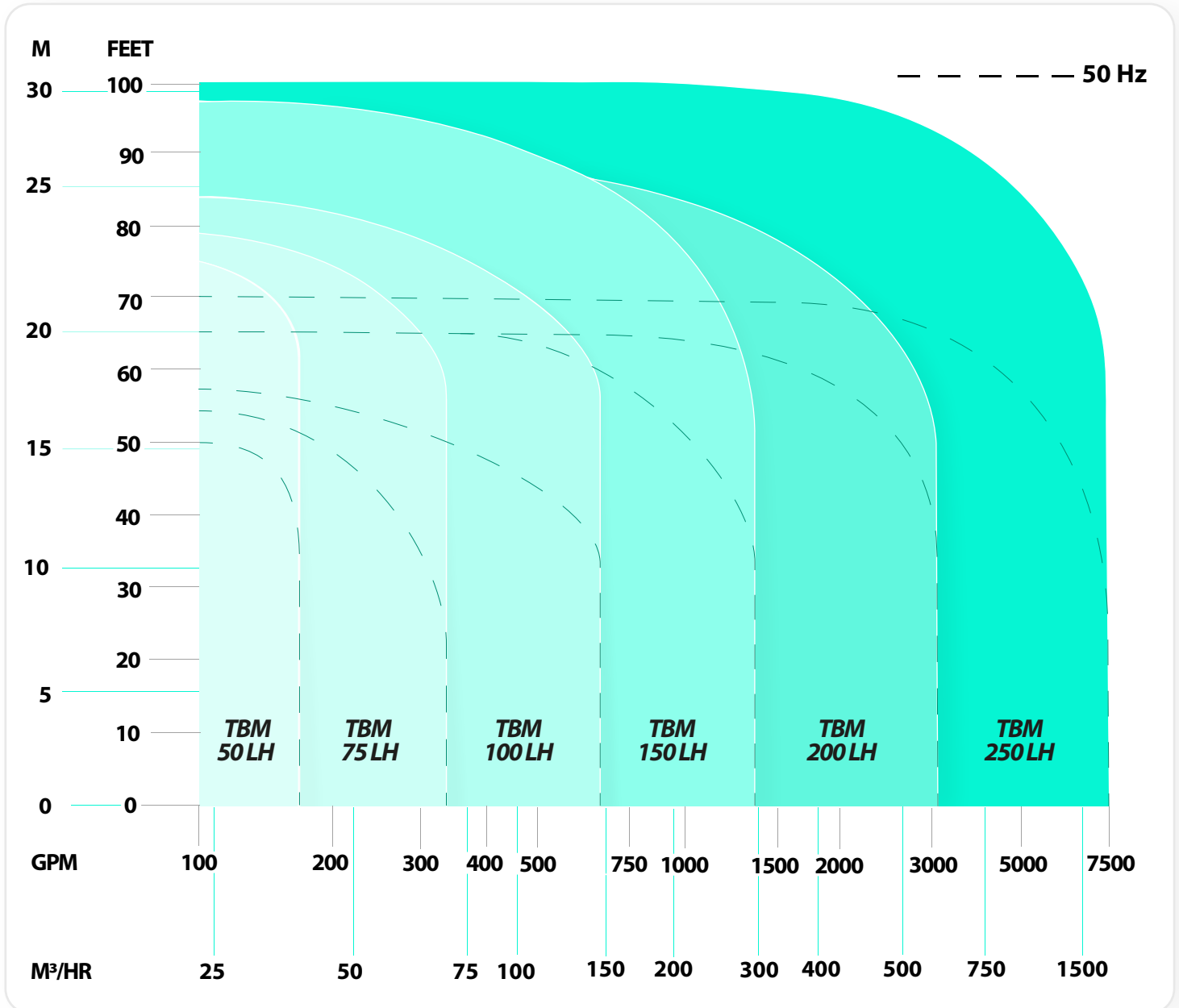
- Severe Duty Slurry Mechanical Seal for Superior Motor Protection in Abrasive Slurry Services
- Back-to-Back Mechanical Seals operate in an Oil Bath and require no external cooling
- No Exposed Coil Springs, Keys or Shrouds for Clog-Free operation
- Tungsten Carbide Seal Faces and 316 Stainless Steel Hardware

TYPICAL APPLICATIONS FOR SERIES TBM PUMPS

POWER GENERATION	PULP-PAPER/FOOD PROCESSING	SAND & GRAVEL	MINING/STEEL PRODUCING
Coal Pile Run Off	Wood Yard Run Off	Weir Overflow	Kaolin Clay
Coal Crusher Sumps	Waste Water and Basement Sumps	Dust Suppression	Red Mud Decanting
Coal Tunnel Sumps	Food Processing	Recycle Water	Magnetite Recovery
Coal Fines Recovery	Waste	Wheel Wash Pump	Clarifier Sludge
FGD Blowdown Sumps	Juicer Sumps	Cyclone Feed	Waste Water and Basement Sumps
Bottom Ash Transport		Dredging	Slag Pit
Fly Ash Sumps and Ponds		Barge Unloading	Scale Pit
Waste Water and Basement Sumps			Swarf Box
			Flume Flush
			Interceptor Pump



SERIES TBM LOW-HEAD HYDRAULIC COVERAGE



SERIES TBM LOW-HEAD MOTOR SIZES PT.1

TBM 50 LH (2")

DISCHARGE SIZE mm (IN)	50 (2")		
IMPELLER DIAMETER mm (IN)	215 (8.46")		
MAX. PARTICLE SIZE mm (IN)	16 (0.63")		
MOTOR FRAME SIZE	180TY	180TY	210TYS
MOTOR RATING HP (KW) (1)	5 (3.7)	7.5 (5.5)	10 (7.35)
FREQ. (Hz) / F.L. RPM	60 / 1740	60 / 1740	60 / 1755
VOLTAGE	230V OR 460V OR 575V		
INSULATION	F (150 DEG. C) H (185° C) - 90° C HIGH AMBIENT OPTIONAL		
RUN DRY CAPABILITY	WITH INTERNAL SLURRY SEAL AND/OR WATER JACKET		
PUMP WET COOLED S.F. (2)	1.2	1.8	2.5
PUMP WATER JACKET S.F. (2)	1.05	1.55	2.15

NOTE:

FOR CONTINUOUS
HEAVY SHREDDER
APPLICATIONS FOR
PUMP TYPE PVO USE
LARGEST MOTOR
MODULE POSSIBLE

TBM 75 LH (3")

DISCHARGE SIZE mm (IN)	75 (3")		
IMPELLER DIAMETER mm (IN)	215 (8.46")		
MAX. PARTICLE SIZE mm (IN)	22 (0.86")		
MOTOR FRAME SIZE	210TYS	210TYS	
MOTOR RATING HP (KW) (1)	10 (7.35)	15 (11)	
FREQ. (Hz) / F.L. RPM	60 / 1755	60 / 1755	
VOLTAGE	230V OR 460V OR 575V		
INSULATION	F (150 DEG. C) H (185° C) - 90° C HIGH AMBIENT OPTIONAL		
RUN DRY CAPABILITY	WITH INTERNAL SLURRY SEAL AND/OR WATER JACKET		
PUMP WET COOLED S.F. (2)	1.2	1.8	
PUMP WATER JACKET S.F. (2)	1.15	1.6	

NOTE:

FOR CONTINUOUS
HEAVY SHREDDER
APPLICATIONS FOR
PUMP TYPE PVO USE
LARGEST MOTOR
MODULE POSSIBLE

TBM 100 LH (4")

DISCHARGE SIZE mm (IN)	100 (4")		
IMPELLER DIAMETER mm (IN)	230 (9.05")		
MAX. PARTICLE SIZE mm (IN)	32 (1.26")		
MOTOR FRAME SIZE	210TYS	210TYS	
MOTOR RATING HP (KW) (1)	15 (11)	20 (14.7)	
FREQ. (Hz) / F.L. RPM	60 / 1755	60 / 1750	
VOLTAGE	230V OR 460V OR 575V		
INSULATION	F (150 DEG. C) H (185° C) - 90° C HIGH AMBIENT OPTIONAL		
RUN DRY CAPABILITY	WITH INTERNAL SLURRY SEAL AND/OR WATER JACKET		
PUMP WET COOLED S.F. (2)	1.2	1.6	
PUMP WATER JACKET S.F. (2)	1.05	1.4	

NOTE:

FOR CONTINUOUS
HEAVY SHREDDER
APPLICATIONS FOR
PUMP TYPE PVO USE
LARGEST MOTOR
MODULE POSSIBLE

NOTES:

- (1) OTHER HP AND RPM RATINGS AVAILABLE
(2) AT MAXIMUM FLOW RATE

STANDARD OPTIONS FOR POLARIS MOTOR MODULES

- EXPLOSION PROOF MOTORS, UL AND CSA LISTED FOR USE IN CLASS 1 GROUPS C&D HAZARDOUS LOCATIONS
- NON-EXPLOSION PROOF
- STANDARD AND PREMIUM EFFICIENCY MOTOR ARMATURES
- CLASS H (185 DEG. C) AND 90° HIGH AMBIENT MODELS AVAILABLE
- COAL TAR EPOXY OR HEAVY DUTY DUROMAR™ MOTOR COATINGS



SERIES TBM LOW-HEAD MOTOR SIZES PT.2

TBM 150 LH (6")

DISCHARGE SIZE mm (IN)		150 (6")	
IMPELLER DIAMETER mm (IN)		250 (9.84")	
MAX. PARTICLE SIZE mm (IN)		32 (1.26")	
MOTOR FRAME SIZE		250TY	320TYS
MOTOR RATING HP (KW) (1)		30 (22)	50 (36.7)
FREQ. (Hz) / F.L. RPM		60 / 1750	60 / 1770
VOLTAGE		230V or 460V or 575V	460V or 575V
INSULATION		F (150 DEG. C) H (185° C) - 90° C HIGH AMBIENT OPTIONAL	
RUN DRY CAPABILITY		WITH INTERNAL SLURRY SEAL AND/OR WATER JACKET	
PUMP WET COOLED S.F. (2)		1.3	2.1
PUMP WATER JACKET S.F. (2)		1.15	1.85

NOTE:

FOR CONTINUOUS
HEAVY SHREDDER
APPLICATIONS FOR
PUMP TYPE PVO USE
LARGEST MOTOR
MODULE POSSIBLE

NOTE:

FOR CONTINUOUS
HEAVY SHREDDER
APPLICATIONS FOR
PUMP TYPE PVO USE
LARGEST MOTOR
MODULE POSSIBLE

TBM 200 LH (8")

DISCHARGE SIZE mm (IN)	200 (8")		
IMPELLER DIAMETER mm (IN)	375 (14.76")		
MAX. PARTICLE SIZE mm (IN)	40 (1.58")		
MOTOR FRAME SIZE	360TYS	360TYS	360TYS
MOTOR RATING HP (KW) (1)	75 (55.15)	100 (73.53)	125 (91.9)
FREQ. (Hz) / F.L. RPM	60 / 1170	60 / 1170	60 / 1170
VOLTAGE	460V or 575V		
INSULATION	F (150 DEG. C) H (185° C) - 90° C HIGH AMBIENT OPTIONAL		
RUN DRY CAPABILITY	WITH INTERNAL SLURRY SEAL AND/OR WATER JACKET		
PUMP WET COOLED S.F. (2)	1.3 MIN. DEPENDING ON IMPELLER DIAMETER		
PUMP WATER JACKET S.F. (2)	1.15 MIN. DEPENDING ON IMPELLER DIAMETER		

NOTE:

FOR CONTINUOUS
HEAVY SHREDDER
APPLICATIONS FOR
PUMP TYPE PVO USE
LARGEST MOTOR
MODULE POSSIBLE

TBM 250 LH (10")

DISCHARGE SIZE mm (IN)	250 (10")		
IMPELLER DIAMETER mm (IN)	520 (20.47")		
MAX. PARTICLE SIZE mm (IN)	56 (2.2")		
MOTOR FRAME SIZE	360TYS	360TYS	360TYS
MOTOR RATING HP (KW) (1)	100 (73.53)	125 (91.9)	150 (110.3)
FREQ. (Hz) / F.L. RPM	60 / 880	60 / 880	60 / 880
VOLTAGE	460V or 575V		
INSULATION	F (150 DEG. C) H (185° C) - 90° C HIGH AMBIENT OPTIONAL		
RUN DRY CAPABILITY	WITH INTERNAL SLURRY SEAL AND/OR WATER JACKET		
PUMP WET COOLED S.F. (2)	1.3 MIN. DEPENDING ON IMPELLER DIAMETER		
PUMP WATER JACKET S.F. (2)	1.15 MIN. DEPENDING ON IMPELLER DIAMETER		

NOTE:

FOR CONTINUOUS
HEAVY SHREDDER
APPLICATIONS FOR
PUMP TYPE PVO USE
LARGEST MOTOR
MODULE POSSIBLE

NOTES:

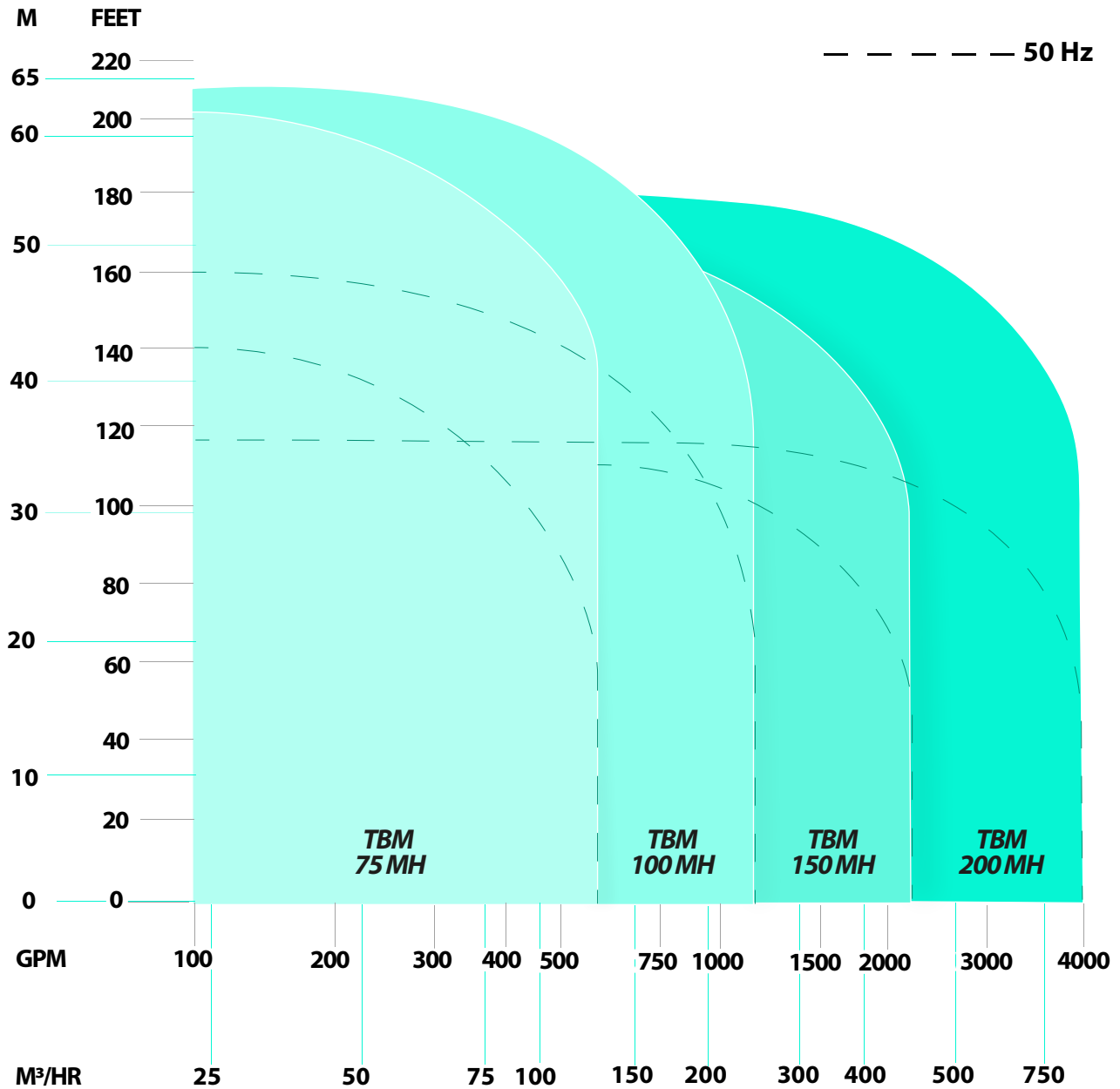
- (1) OTHER HP AND RPM RATINGS
AVAILABLE
- (2) AT MAXIMUM FLOW RATE

STANDARD OPTIONS FOR POLARIS MOTOR MODULES

- EXPLOSION PROOF MOTORS,
UL AND CSA LISTED FOR USE IN
CLASS 1 GROUPS C&D
HAZARDOUS LOCATIONS
- NON-EXPLOSION PROOF
- STANDARD AND PREMIUM
EFFICIENCY MOTOR
ARMATURES
- CLASS H (185 DEG. C) AND
90° HIGH AMBIENT MODELS
AVAILABLE
- COAL TAR EPOXY OR HEAVY
DUTY DUROMAR™ MOTOR COATINGS



SERIES TBM MEDIUM-HEAD-HYDRAULIC COVERAGE



SERIES TBM MEDIUM-HEAD MOTOR SIZES PT.1

TBM 75 MH (3")

DISCHARGE SIZE mm (IN)	75 (3")		
IMPELLER DIAMETER mm (IN)	340 (13.38")		
MAX. PARTICLE SIZE mm (IN)	35 (1.38")		
MOTOR FRAME SIZE	250TY	250TY	250TY
MOTOR RATING HP (KW) (1)	25 (18.4)	30 (22)	40 (29.4)
FREQ. (Hz) / F.L. RPM	60 / 1750	60 / 1750	60 / 1745
VOLTAGE	230V or 460V or 575V	460V or 575V	
INSULATION	F (150 DEG. C) H (185° C) - 90° C HIGH AMBIENT OPTIONAL		
RUN DRY CAPABILITY	WITH INTERNAL SLURRY SEAL AND/OR WATER JACKET		
PUMP WET COOLED S.F. (2)	1.3 MIN. DEPENDING ON IMPELLER DIAMETER		
PUMP WATER JACKET S.F. (2)	1.15 MIN. DEPENDING ON IMPELLER DIAMETER		

NOTE:

FOR CONTINUOUS
HEAVY SHREDDER
APPLICATIONS FOR
PUMP TYPE PVO USE
LARGEST MOTOR
MODULE POSSIBLE

TBM 100 MH (4")

DISCHARGE SIZE mm (IN)		100 (4")		NOTE: FOR CONTINUOUS HEAVY SHREDDER APPLICATIONS FOR PUMP TYPE PVO USE LARGEST MOTOR MODULE POSSIBLE	
IMPELLER DIAMETER mm (IN)		340 (13.38")			
MAX. PARTICLE SIZE mm (IN)		40 (1.56")			
MOTOR FRAME SIZE		320TYS	320TYS		320TYS
MOTOR RATING HP (KW) (1)		30 (22)	40 (29.4)		75 (55.15)
FREQ. (Hz) / F.L. RPM		60 / 1165	60 / 1170		60 / 1770
VOLTAGE		230V or 460V or 575V	460V or 575V		
INSULATION		F (150 DEG. C) H (185° C) - 90° C HIGH AMBIENT OPTIONAL			
RUN DRY CAPABILITY		WITH INTERNAL SLURRY SEAL AND/OR WATER JACKET			
PUMP WET COOLED S.F. (2)		1.3 MIN. DEPENDING ON IMPELLER DIAMETER			
PUMP WATER JACKET S.F. (2)		1.15 MIN. DEPENDING ON IMPELLER DIAMETER			

NOTES:

- (1) OTHER HP AND RPM RATINGS AVAILABLE
- (2) AT MAXIMUM FLOW RATE

STANDARD OPTIONS FOR POLARIS MOTOR MODULES

- EXPLOSION PROOF MOTORS, UL AND CSA LISTED FOR USE IN CLASS 1 GROUPS C&D HAZARDOUS LOCATIONS
- NON-EXPLOSION PROOF

STANDARD AND PREMIUM EFFICIENCY MOTOR ARMATURES

- CLASS H (185° C) AND 90° C HIGH AMBIENT MODELS AVAILABLE
- POLARIS "SEAL GUARD" 316SS MECHANICAL SEAL BOOT

COAL TAR EPOXY OR HEAVY DUTY DUROMAR™ MOTOR COATINGS


SERIES TBM MEDIUM-HEAD MOTOR SIZES PT.2

TBM 150 MH (6")

DISCHARGE SIZE mm (IN)		150 (6")			<div>NOTE:</div> <div>FOR CONTINUOUS HEAVY SHREDDER APPLICATIONS FOR PUMP TYPE PVO USE LARGEST MOTOR MODULE POSSIBLE</div>
IMPELLER DIAMETER mm (IN)		430 (16.93")			
MAX. PARTICLE SIZE mm (IN)		55 (2.16")			
MOTOR FRAME SIZE		360TYS	360TYS	360TYS	
MOTOR RATING HP (KW) (1)		75 (55.15)	100 (73.53)	125 (91.9)	
FREQ. (Hz) / F.L. RPM		60 / 880	60 / 1170	60 / 1170	
VOLTAGE		460V or 575V			
INSULATION		F (150 DEG. C) H (185° C) - 90° C HIGH AMBIENT OPTIONAL			
RUN DRY CAPABILITY		WITH INTERNAL SLURRY SEAL AND/OR WATER JACKET			
PUMP WET COOLED S.F. (2)		1.3 MIN. DEPENDING ON IMPELLER DIAMETER			
PUMP WATER JACKET S.F. (2)		1.15 MIN. DEPENDING ON IMPELLER DIAMETER			

TBM 200 MH (8")

DISCHARGE SIZE mm (IN)		200 (8")			<div>NOTE:</div> <div>FOR CONTINUOUS HEAVY SHREDDER APPLICATIONS FOR PUMP TYPE PVO USE LARGEST MOTOR MODULE POSSIBLE</div>
IMPELLER DIAMETER mm (IN)		470 (18.5")			
MAX. PARTICLE SIZE mm (IN)		60 (2.36")			
MOTOR FRAME SIZE		360TYS	360TYS	360TYS	
MOTOR RATING HP (KW) (1)		100 (73.53)	125 (91.9)	150 (110.3)	
FREQ. (Hz) / F.L. RPM		60 / 1170	60 / 1170	60 / 1170	
VOLTAGE		460V or 575V			
INSULATION		F (150 DEG. C) H (185° C) - 90° C HIGH AMBIENT OPTIONAL			
RUN DRY CAPABILITY		WITH INTERNAL SLURRY SEAL AND/OR WATER JACKET			
PUMP WET COOLED S.F. (2)		1.3 MIN. DEPENDING ON IMPELLER DIAMETER			
PUMP WATER JACKET S.F. (2)		1.15 MIN. DEPENDING ON IMPELLER DIAMETER			

NOTES:

- (1) OTHER HP AND RPM RATINGS AVAILABLE
- (2) AT MAXIMUM FLOW RATE

STANDARD OPTIONS FOR POLARIS MOTOR MODULES

- EXPLOSION PROOF MOTORS, UL AND CSA LISTED FOR USE IN CLASS 1 GROUPS C&D HAZARDOUS LOCATIONS
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- COAL TAR EPOXY OR HEAVY DUTY DUROMAR™ MOTOR COATINGS



PUMP OPTIONS AND ACCESSORIES



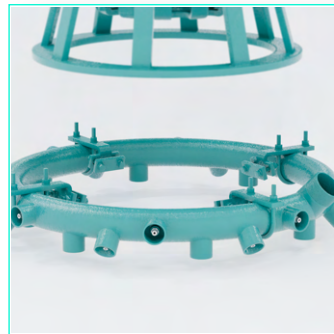
Lifting Bail

The Polaris Lifting Bail makes lifting a pump safe and easy



Water Cooling Jacket

For hot sump or low level sump applications with air exposure longer than 15 minutes



Water Jet Ring

For applications with heavy solids content, or sump clean up with settled and caked sum floors.



Moisture Sensor Relay

Detect Moisture before it gets to your motor. The Moisture Sensor Relay helps you detect moisture before it has a chance to infiltrate your electric motor

THE POLARIS PUMPS LINE OF ELECTRO-SUBMERSIBLE PUMPS FEATURE

- OUR MODULAR DESIGN ALLOWS FIELD UPGRADEABLE WET ENDS: CONVERT AN OPEN SUCTION WET END INSTALLATION TO EITHER A SOLIDS MIXER OR SHREDDER UNIT
- COMPLETE HIGH CHROME (650 BHN+) OR CD4MCU WET END CONSTRUCTION
- ALL HARDWARE 316 OR 17-4 PH STAINLESS STEEL
- INTERNAL SLURRY SEALS WITH TUNGSTEN CARBIDE FACES STANDARD
- UPGRADE KITS FOR SEVERE DUTY SLURRY SEAL AVAILABLE FOR ALL MOTOR SIZES FRAME 210 AND LARGER.
- MOTOR OPTIONS FOR EXPLOSION PROOF RATING PER CLASS 1 DIVISION C&D
- ASSEMBLED IN THE U.S.A. FROM U.S. AND CANADIAN COMPONENTS.



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ENGINEERED SOLUTIONS



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