

SUBMERSIBLE AGITATOR PUMPS

DEM SERIES



TOYO
PUMPS

TOYO PUMPS is a North American manufacturer of heavy duty slurry pumps. The TOYO DEM pumps are the most diverse submersible slurry pumps available in the market. The combination of metallurgies and agitator or chopper options lends itself to many difficult applications. The DEM Submersible compliments our Horizontal, Vertical, and Positive Displacement pumps forming a comprehensive range of high quality slurry pumps

MODULAR SUBMERSIBLE PUMPS

Heavy Duty Construction – Heavy Duty Modular design with 50,000 hours bearing life. Custom designed motors with a 1.35 service factor, Class F insulation and thermal protection are all standard. Class H insulation is available as an option for high temperature applications. Large shaft diameters with materials exceeding industry standards. Pump seals are exposed to submergence pressure only and not discharge pressure. Unique recessed impeller design allows for high head applications and large particle handling capability.

Metallurgies – Standard ductile iron wet end. ASTM A-532 III A high chrome alloy and A-743 CD4MCu duplex stainless steel available on the wet end components. Other materials available by contacting the factory.

Seal Options –Mechanical Seals are standard. Oil seal chamber has an optional moisture sensor probe for primary seal leak detection.

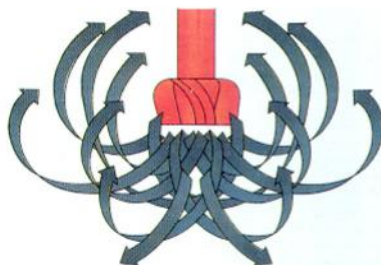
Applications – Fly and Bottom Ash Disposal; Mill Scale; Coal Tunnel/Runoff Sumps; Belt Transfer Points; Coker Puts; Lime Slurry; Solvent Extraction; Woodyard Runoff; Paper Recycle Plants; Digester Clean Out; Tank Cleanup and many more.

DEM Recessed Impeller - Features	Benefits
<ul style="list-style-type: none"> • Modern computer aided curved blade impeller design and an internal semi-axial spiral casing. 	<ul style="list-style-type: none"> • One of the highest efficiency recessed impeller pumps available. • Smooth transfer of solids through the pump reduces turbulence and recirculation giving extended life.
<ul style="list-style-type: none"> • Only 20% of the slurry contacts the impeller 	<ul style="list-style-type: none"> • Longer wear life.
<ul style="list-style-type: none"> • Fully recessed impeller 	<ul style="list-style-type: none"> • Large particle capability. • Reduces operating costs by eliminating highest wear area between the impeller and suction wear plate
<ul style="list-style-type: none"> • Low radial loads. 	<ul style="list-style-type: none"> • Increases bearing and seal life.
<ul style="list-style-type: none"> • Solids carried through the casing at low velocities 	<ul style="list-style-type: none"> • Longer wear life.

Agitator Option

TOYO is the world leader in agitator pumps. The pumps were originally designed based on the agitator, rather than the agitator being used as an “add-on” to an existing pump.

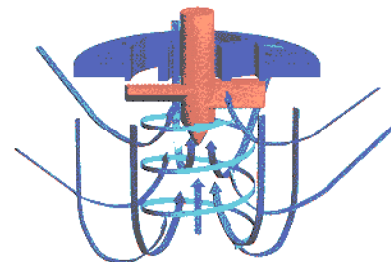
- Eliminates downtime due to solids build up that choke off the suction of conventional pumps.
- Reduces maintenance costs in cleaning out sumps.
- Promotes pumping of high concentrations of solids



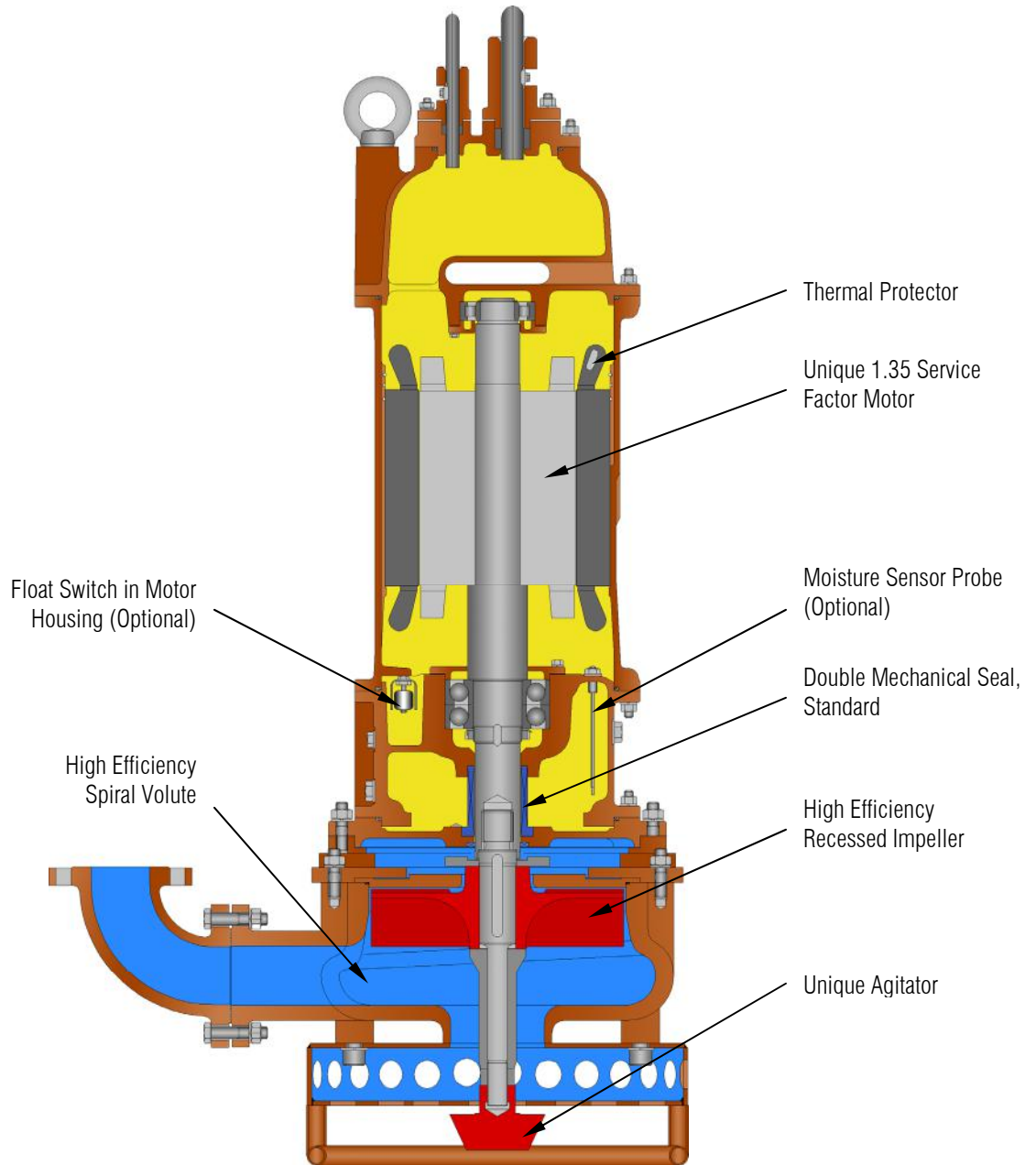
Chopper Option

A customer’s existing chopper pump was unable to handle tramp material without causing extensive damage to its impeller, so TOYO was asked to design a solution – a heavy duty chopper pump.

- Independent rotary and stationary blades of heavy duty construction allow chopping of metal banding, plastic, wood, rags, bags, etc.
- Rotary blade designed as an inducer to prevent blocking of the suction.
- The “chopper” eliminates downtime due to plugging of pump suction or downstream systems



SUBMERSIBLE AGITATOR PUMP



OPTIONS AND FEATURES

Heavy-Duty modular submersible agitator pumps ranging from 7.5 HP to 150 HP. Standard Mechanical Seal.

Options include:

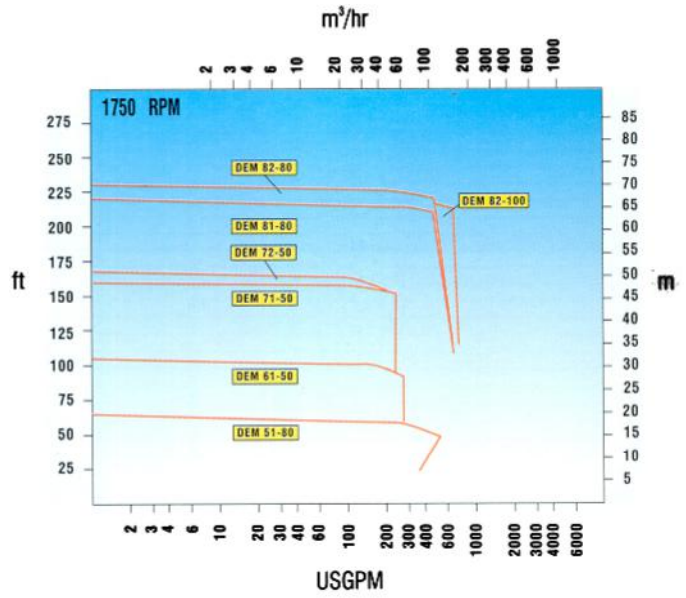
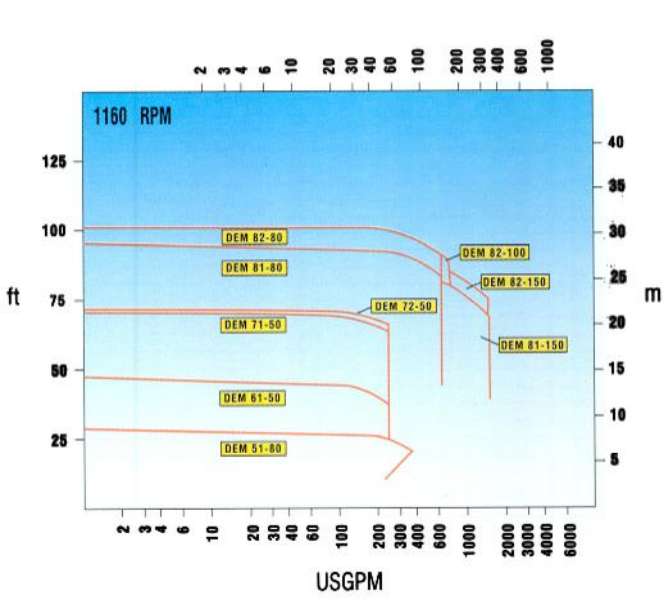
- High Temperature Package
- High chrome iron wear parts
- All Stainless Steel Construction
- Water Jetting Ring
- Mechanical Seal
- Cooling Water Jacket
- Chopper
- Explosion-proof motor

TOYO PUMPS can move material in applications that were not previously considered pumpable and at less cost than conventional methods. Features include:

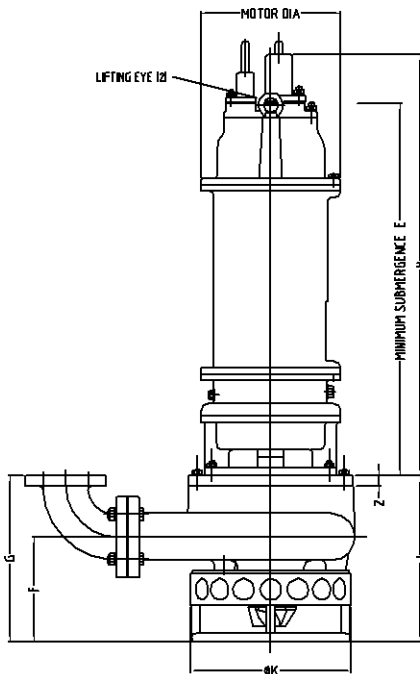
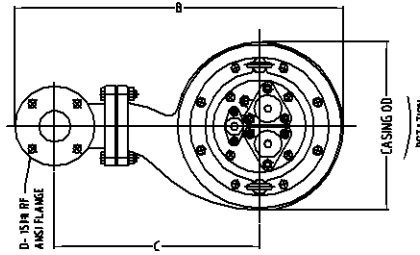
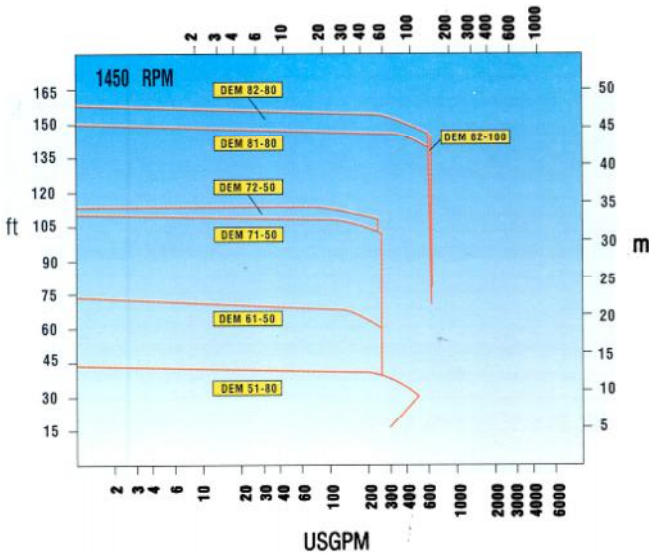
- TOYO Agitator or Chopper Option
- Abrasion/Corrosion Resistant Metallurgies
- Heavy-Duty Design
- 60Hz and 50Hz Models
- Replaceable Wear Parts and Easy Maintenance Access
- 1.35 S.F. Motors

SPECIFICATIONS

60Hz Curves



50Hz Curves



METRIC [mm] [kg]
IMPERIAL [inch] [lbs]

	51-80	61-50	61-100	71-50	71-80	81-80	81-100	81-150	81-200
B*	64.3	61.3	784.5	670	783	833	968	1088.2	1236
C	397.5	365.5	479.7	415.5	487.5	502.5	600	683	766
D	80	50	100	50	80	80	100	150	200
F	220.8	263	239.6	264.6	249.9	252	262	354	382
G	366.8	377.3	417.8	378.9	395.9	398	440	567.9	689
J**	425.8	460.1	461.6	471.6	471.9	479.2	499.2	616	671
(MAX)	16.8	18.7	18.2	18.6	18.6	18.9	19.7	24.3	26.4
ØK	381	381	381	381	381	508	508	508	600
CASING O.D.	300	343	361.2	356	400	470	480	532	582
WEIGHT	84	100	107	130	127	211	240	289	349
	185	220	236	287	280	465	529	637	769

MOTOR HP	15	20	30	50	60	75	100	150
MOTOR DIA**	12	13	15	15	15	15	15	21
H**	687	1093	1087	1087	1087	1215	1485	1546
E	632	890	975	975	975	1100	1360	1413
Z	77	50	50	60	60	75	75	75
APPROX WEIGHT	130	210	230	320	340	540	575	1030
	286	463	507	785	750	1190	1268	2271

* DIMENSION FOR WET END ONLY
** DIMENSIONS ARE FOR 4 POLE MOTORS ONLY
*** MAX. DIMENSION FOR AN "F" INTERFACE OR SMALLER

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