TSURUMI PUMP®

BUILT FOR WORK®

PROCESS EQUIPMENT

improve wastewater treatment efficiencies

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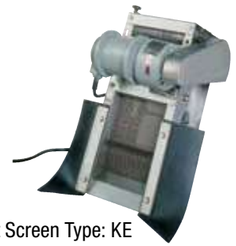
KE / KS / KW / KM



Front Screen Type: KE

Front Screen Type: KS

Front Screen Type: KW

Mechanically cleaned bar screens; designed to remove solids from small plant inflows clear of debris. The screens are constructed of 304 stainless steel for corrosion resistance.

The KE/KS/KW-series is a front screen type automatic bar screen designed for screening wastewater. It is fully constructed from 304 stainless steel. Two or more rakes travel behind the screen bars located at the front side of the unit. Since every rake tooth moves between the screen bars, it can remove solid matters even though they lodge between the screen bars. In addition, the use of a small output motor enables to save the electricity. The bar screen is suitable for use in a waterway with varying water levels.

KE / KS / KW - FRONT SCREEN TYPE

- For applications in situations with water level fluctuations
- During operation, the rakes always move through the slits of the screen, preventing the screen from being clogged with foreign objects.
- The wetted metal parts are made of 304 stainless steel, which exhibits excellent durability even in harsh environments (e.g., outdoors, continuously operated day and night, etc.)
- Quick install and simple maintenance requirements. Initial and running costs are low.
- The KS-series screens are equipped with an eccentric roll mechanism that prevents retraction and clogging of the screen bar front edge caused by residue.
- The KW-series screens incorporate a safety device that can stop the gear motor immediately in the event of abnormal operation.
- Low energy requirement and costs

Rear Screen Type: KM

The KM-series is a rear screen type automatic bar screen designed for screening wastewater. It is fully constructed from 304 stainless steel. One or two rakes move on the screen bars that are located at the rear side of the unit. It has an innovative dry chain mechanism, by which the chain or sprocket does not contact the liquid. In addition, the use of a small output motor enables saving the electricity. It is suitable for use in a waterway where there is little change in the liquid level.

KM - REAR SCREEN TYPE

- Suitable for use in shallow waterways where there is little change in the liquid level.
- Since the rake chain (dry chain) is not in contact with liquid, dirt and residue will not adhere to it. Therefore, it needs almost no maintenance.
- The wetted metal parts are made of 304 stainless steel, which exhibits excellent durability even in harsh environments, e.g., outdoors, continuously operated day and night, etc.)
- The bar screen can be directly installed in a U-shaped ditch to eliminate dirt from the bottom of the channel. It provides excellent treatment effect, and is advantageous both in terms of initial cost and running costs.

Bar Screen

KE / KS / KW / KM

TSURUMI PUMP®

Fine Screen (Bar Spacing: 1.0 - 5.0mm)

Model	Motor Output HP	Bar Spacing mm Capacity GPM 1.0mm	2.0mm	2.5mm	5.0mm	Overall Height in	Width of Waterway Min - Max in	Installation Angle	Dry Weight lbs
KE-200S	1/7	–	114	136	180	20 1/16	11 13/16 - 15 3/4	60°	71
KE-200M	1/7	–	159	203	255	26 15/16	11 13/16 - 15 3/4	60°	84
KE-200L	1/7	–	216	273	343	34 1/16	11 13/16 - 15 3/4	60°	93
KS-200Z	1/7	70	114	136	181	20 1/2	13 - 15 3/4	60°	73
KS-200Y	1/7	128	207	247	326	29 15/16	15 3/4 - 19 11/16	60°	108
KS-300Y	1/7	189	308	370	484	29 15/16	19 11/16 - 23 5/8	60°	119
KS-200S	1/7	75	123	136	207	31 1/2	13 - 15 3/4	45°	104
KS-200M	1/7	110	181	211	308	36 1/4	13 - 15 3/4	45°	115
KS-200L	1/7	141	242	277	409	41 5/16	13 - 15 3/4	45°	137
KW-4027	1/7	75	128	150	207	26	up to 15 3/4	60°	52
KW-4038	1/7	119	198	229	321	33 1/8	up to 15 3/4	60°	60
KW-4049	1/7	172	291	335	462	41 5/8	up to 15 3/4	60°	70
KW-5027	1/7	114	198	229	321	26	15 3/4 - 19 11/16	60°	59.5
KW-5038	1/7	181	304	357	498	33 1/8	15 3/4 - 19 11/16	60°	71
KW-5049	1/7	264	445	515	722	41 5/8	15 3/4 - 19 11/16	60°	82
KW-6027	1/7	159	269	308	431	26	19 11/16 - 23 5/8	60°	67
KW-6038	1/7	247	418	480	674	33 1/8	19 11/16 - 23 5/8	60°	81
KW-6049	1/7	357	608	696	982	41 5/8	19 11/16 - 23 5/8	60°	93

Coarse Screen (Bar Spacing: 20 - 50mm)

Model	Motor Output HP	Bar Spacing mm Capacity GPM 20mm	30mm	40mm	50mm	Overall Height in	Width of Waterway Min - Max in	Installation Angle	Dry Weight lbs
KS-200S	1/7	308	330	352	374	31 1/2	13 - 15 3/4	45°	104
KS-200M	1/7	458	489	524	542	36 1/4	13 - 15 3/4	45°	115
KS-200L	1/7	603	647	691	726	41 5/16	13 - 15 3/4	45°	137

Fine Screen (Bar Spacing: 2.0 - 5.0mm)

Model	Motor Output HP	Bar Spacing mm Capacity GPM 2.0mm	2.5mm	5.0mm	Overall Height in	Width of Waterway Min - Max in	Installation Angle	Dry Weight lbs
KM-200S	1/7	110	123	172	28 3/8	11 13/16 - 15 3/4	55°	73
KM-200M	1/7	110	123	172	35 13/16	11 13/16 - 15 3/4	55°	82
KM-200L	1/7	110	123	172	43 11/16	11 13/16 - 15 3/4	55°	88
KM-250S	1/7	141	167	233	28 3/8	13 3/4 - 17 11/16	55°	75
KM-250M	1/7	141	167	233	35 13/16	13 3/4 - 17 11/16	55°	84
KM-250L	1/7	141	167	233	43 11/16	13 3/4 - 17 11/16	55°	90
KM-300S	1/7	176	203	282	28 3/8	15 3/4 - 19 11/16	55°	77
KM-300M	1/7	176	203	282	35 13/16	15 3/4 - 19 11/16	55°	86
KM-300L	1/7	176	203	282	43 11/16	15 3/4 - 19 11/16	55°	93
KMS-300S	1/7	–	–	277	34 1/4	15 3/4 - 19 11/16	60°	66
KMS-300M	1/7	–	–	277	47 13/16	15 3/4 - 19 11/16	60°	84
KMS-300L	1/7	–	–	277	61 7/16	15 3/4 - 19 11/16	60°	99

Coarse Screen (Bar Spacing: 10 - 50mm)

Model	Motor Output HP	Bar Spacing mm Capacity GPM 10mm	20mm	30mm	40mm	50mm	Overall Height in	Width of Waterway Min - Max in	Installation Angle	Dry Weight lbs
KMA-200S	1/7	167	198	207	216	220	28 3/8	11 13/16 - 15 3/4	55°	73
KMA-200M	1/7	167	198	207	216	220	35 13/16	11 13/16 - 15 3/4	55°	82
KMA-200L	1/7	167	198	207	216	220	43 11/16	11 13/16 - 15 3/4	55°	88
KMA-250S	1/7	211	247	260	269	273	28 3/8	13 3/4 - 17 11/16	55°	75
KMA-250M	1/7	211	247	260	269	273	35 13/16	13 3/4 - 17 11/16	55°	84
KMA-250L	1/7	211	247	260	269	273	43 11/16	13 3/4 - 17 11/16	55°	90
KMA-300S	1/7	255	295	313	326	348	28 3/8	15 3/4 - 19 11/16	55°	77
KMA-300M	1/7	255	295	313	326	348	35 13/16	15 3/4 - 19 11/16	55°	86
KMA-300L	1/7	255	295	313	326	348	43 11/16	15 3/4 - 19 11/16	55°	93
KMS-300S	1/7	330	392	392	418	440	34 1/4	15 3/4 - 19 11/16	60°	66
KMS-300M	1/7	330	392	392	418	440	47 13/16	15 3/4 - 19 11/16	60°	84
KMS-300L	1/7	330	392	392	418	440	61 7/16	15 3/4 - 19 11/16	60°	99

- Powered by three-phase totally-enclosed geared motor.
- Capacity is given as the maximum amount of clean water.
- Consult your dealer if the screen is to be installed in a waterway of a width exceeding that listed on the table.
- When ordering, specify the desired bar spacing together with the model name.

Submersible Ejector / Mixer

BER

The BER is designed for both very high oxygen transfer and excellent mixing.
A common application the BER is used in is Sequence Batch Reactors where high oxygen transfer is required during the aeration cycle and mixing during the anoxic cycle.

APPLICATION

- Ideal for SBR treatment systems and wherever uni-directional mixing is advantageous
- Excellent mixing during the anoxic cycle
- Aspirating aerator eliminating the need for blowers and air piping
- Self aspiration of oxygen eliminates need for compressed air.

BER Series: Wastewater Aerator / Mixer (Free Standing)

Model	Air Inlet Dia. (in.)	Output HP	Voltage	Phase	Cable Length (ft.)	*Weight (lbs.)
8-BER4	1	1	208-230 or 460	3	32	62
15-BER3	1 1/4	2	208-230 or 460	3	32	95
22-BER5	2	3	208-230 or 460	3	32	165
37-BER5	2	5	208-230 or 460	3	32	201
55-BER7	2	7.5	208-230 or 460	3	32	328

* Excluding cable

BER Series: Wastewater Aerator / Mixer (With Slide Rail System)

Model	Air Inlet Dia. (in.)	Output HP	Voltage	Phase	Cable Length (ft.)	*Weight (lbs.)
TOS-8-BER4	1	1	208-230 or 460	3	32	51
TOS-15-BER3	1 1/4	2	208-230 or 460	3	32	75
TOS-22-BER5	2	3	208-230 or 460	3	32	134
TOS-37-BER5	2	5	208-230 or 460	3	32	170
TOS-55-BER7	2	7.5	208-230 or 460	3	32	291

* Excluding cable & Slide Rail System

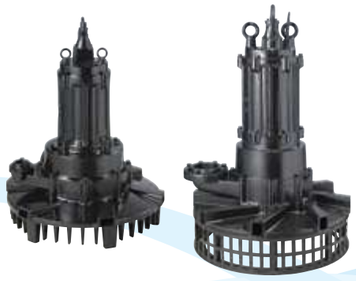
Submersible Aerator / Mixer

TRN

Submersible aspirating aerators ranging in size from 1HP to 54HP. The TRN Mixers produce a high amount of dissolved oxygen and enable efficient aeration and agitation.

APPLICATION

- Aeration tanks, post aeration tanks, lagoon aeration, and deep tank aeration with a blower.
- Impeller is made with a special semi-open 410 stainless steel.
- Horsepower ranges from 1 hp to 54 hp.
- Will operate to a depth of 32 feet with a supplemental blower.
- Produces high Alpha factor with superior oxygen transfer in heavy wastewater



TRN Series: Sewage & Wastewater Aerator / Mixer (Free Standing)

Model	Air Inlet Dia. (in.)	Output HP	Voltage	Phase	Cable Length (ft.)	*Weight (lbs.)
32TRN2.75	1 1/4	1	208-230 or 460	3	32	121
32TRN21.5	1 1/4	2	208-230 or 460	3	32	121
50TRN42.2	2	3	208-230 or 460	3	32	309
50TRN43.7	2	5	208-230 or 460	3	32	331
50TRN45.5	2	7.5	208-230 or 460	3	32	375
80TRN47.5	3	10	208-230 or 460	3	32	419
80TRN412	3	16	208-230 or 460	3	32	441
80TRN417	3	23	208-230 or 460	3	32	485
100TRN424	4	32	460	3	32	960
150TRN440	6	54	460	3	32	1280

* Excluding cable

Submersible Mixer

MR

MR - Stainless Steel

MR - Cast Iron

MRL - Low Water Type

The MR series is Tsurumi's portable mixer line. Including models with guide rings to provide flow regulation, without guide rings to maximize mixing flow, and with low-water level features for levels down to 20 inches. Available in stainless steel (MR-R) and cast iron (MR-F) construction.

APPLICATION

- Industrial wastewater treatment and tap water/sewage treatment
- Environmental conservation in ponds and rivers
- Artificial water flow in amusement facilities
- Mixing, stirring, dissolving, density equalization and aeration

Model Number Designation

4-pole motor, 0.75kW and below
6-pole motor, 1.5kW and above

MR 3 1 N F 1.5

- 1.5: Rated motor output in kilowatts
- F: Material — F: Cast iron, R: Stainless steel casting
- N: Guide ring — N: without guide ring, G: with guide ring
- 1: Type of propeller (1, 2, or 3)
- 3: Propeller nominal diameter (mm) — 2: ⌀200, 3: ⌀300, 4: ⌀400
- MR: Name of the series

Model MR2521EC/CR

MR 25 2 1 EC

- EC: Material — EC: Cast iron, CR: Stainless steel casting
- 1: Revision number
- 2: Propeller specification (2 blades)
- 25: Series (250-series)
- MR: Name of the series

MR Series Submersible Mixer, without Guide Ring

Model	Motor Output HP	Speed RPM	Flowing Quantity GPM	Agitation output under clear water HP	Reaction Force N	Weight lbs.	Propeller Nominal Dia. Inch
MR21NF250	0.33	1800	370	0.11	40	53	5 11/16
MR21NF400	0.54	1800	476	0.17	60	53	6 1/8
MR21NF750	1	1800	845	0.24	110	53	7 5/16
MR2521EC/CR	1	1200	1162	0.91	160	62	9 7/16
MR31NF/R1.5	2	1200	2457	1.6	260	79	11 13/16
MR32NF/R1.5	2	1200	2536	1.7	285	79	11 13/16
MR31NF/R2.8	3.75	1200	3144	2.8	430	101	11 13/16
MR32NF/R2.8	3.75	1200	3461	3.5	535	101	11 13/16
MR41NF/R3.0	4	900	3725	3.5	485	270	15 3/4
MR42NF/R3.0	4	900	4332	3.7	665	270	15 3/4
MR41NF/R4.0	5.36	900	4914	5.0	795	270	15 3/4

MR Series Submersible Mixer, with Guide Ring

Model	Motor Output HP	Speed RPM	Flowing Quantity GPM	Agitation output under clear water HP	Reaction Force N	Weight lbs.	Propeller Nominal Dia. Inch
MR31GF/R1.5	2	1200	2378	1.5	245	101	11 13/16
MR32GF/R1.5	2	1200	2483	1.6	275	101	11 13/16
MR31GF/R2.8	3.75	1200	3038	2.7	420	123	11 13/16
MR32GF/R2.8	3.75	1200	3329	3.1	525	123	11 13/16
MR41GF/R3.0	4	900	3540	3.2	345	298	15 3/4
MR42GF/R3.0	4	900	4121	3.6	530	298	15 3/4
MR41GF/R4.0	5.36	900	4676	4.6	630	298	15 3/4

MRL Series Submersible Mixer, Low Water Level Type

Model	Motor Output HP	Speed RPM	Flowing Quantity GPM	Agitation output under clear water HP	Reaction Force N	Weight lbs.	Propeller Nominal Dia. Inch
MRL21GF250	0.33	1800	349	0.08	37	60	5 11/16
MRL21GF400	0.54	1800	449	0.13	55	60	6 1/8
MRL21GF750	1	1800	798	0.3	101	60	7 5/16
MRL2541EC/CR	1	1200	1110	0.9	150	86	9 7/16
MRL31GF/R1.5	2	1200	2034	1.5	160	110	11 13/16
MRL32GF/R1.5	2	1200	2113	1.6	180	110	11 13/16
MRL31GF/R2.8	3.75	1200	2747	2.7	275	134	11 13/16
MRL32GF/R2.8	3.75	1200	2985	3.1	310	134	11 13/16

MD / MDC / MDQ / JD

Applications:

- Excess sludge from biological processes
- DAF froth
- Various types of mixed sludge
- Coagulated sludge

MDQ - Dehydrator

MDC/MDQ Dehydrators Features:

- Wide Product Lineup
- Energy-saving & Compact Design
- Automatic Operation
- Self-cleaning Mechanism
- Capable of Treating Oily Sludge
- Capable of Treating Low Concentration Sludge
- Small Amount of Flush Water and Low Maintenance
- Inhibition of Secondary Pollution
- Multi-shaft Construction

Mechanical Principle (MD / MDC / MDQ)

Multi-disc screw press dehydrators utilize both gravity filtration and screw displacement compression systems. The pitches of the screw blades are gradually narrower toward the cake outlet in order to reduce the volume of cake, so the coagulated sludge that has been concentrated by gravity filtration is dehydrated by compression. The dehydrator main unit requires lower motor output and the filtration surface consists of a multiplicity of self-cleaning capable discs, and seldom clogs. Thus, the dehydrator can be used continuously. The main unit of the dehydrator is of multi-shaft design. Therefore, when two or more main units are configured into one machine, any individual shaft can be repaired or serviced without interrupting dehydration operations. Multi-disc screw press dehydrators can cope with a wide range of sludge concentrations, and also stably dehydrate sludge that contains high oil content.

JD Dehydrators Features:

- Energy-saving & Compact Design
- Automatic Operation Operators
- Self-cleaning Mechanism
- Capable of Treating Oily Sludge up to 60% inorganics concentration
- Capable of Treating Low to High Concentration Sludge
- Small Amount of Flush Water and Low Maintenance
- Inhibition of Secondary Pollution

JD - Dehydrator

Mechanical Principle (JD)

Multi-disc dehydrators utilize both gravity filtration and compression dehydration systems. The “filtering rollers” consist of alternating thin metal discs and resin discs, and are arranged in two (upper and lower) tiers. The coagulated sludge is fed between the rollers and dehydrated by compression while being conveyed toward the sludge outlet by the rotating action of the rollers. The dehydrator main unit requires lower motor output and the filtration surface consists of a multiplicity of self-cleaning capable discs, and never clogs. Thus, the dehydrator can be used continuously. Multi-disc dehydrators can cope with a wide range of sludge concentrations, and also stably dehydrate sludge that contains high oil content or organic sludge that contains high quantities of inorganic substances.

Dehydrators

MD / MDC / MDQ / JD

Model Number Designation

MDQ - 10 1

- MDQ: Name of the series
- 10: Screw shaft ϕ x 10mm
- 1: Number of screw shafts

Model	Treating Capacity (lbsDS/h)	Motor Output (hp)	Dimension (inches)				Weight (lbs)	
			Screw Shaft	Length	Width	Height	Dry	Operating
MDQ-101	6.5 - 13	0.8	φ 4" X 1	70 7/8	35 7/16	70 7/8	882	2205
MDQ-102	13 - 26	0.9	φ 4" X 2	70 7/8	35 7/16	70 7/8	1102	2535
MDQ-103	20 - 40	1.3	φ 4" X 3	72 13/16	43 5/16	70 7/8	1543	3417
MDQ-104	26.5 - 53	1.7	φ 4" X 4	82 11/16	59 1/16	80 11/16	1984	4299
MDQ-105	33 - 66	1.8	φ 4" X 5	82 11/16	59 1/16	80 11/16	2204	4630
MDQ-201	20 - 40	1.4	φ 8" X 1	104 5/16	47 1/4	80 11/16	1543	3527
MDQ-202	39.5 - 79	1.7	φ 8" X 2	104 5/16	47 1/4	80 11/16	1984	4189
MDQ-203	59.5 - 119	2.4	φ 8" X 3	104 5/16	59 1/16	80 11/16	2646	5622
MDQ-204	79 - 158	3.2	φ 8" X 4	110 1/4	82 11/16	80 11/16	3527	7826
MDQ-205	99 - 198	3.9	φ 8" X 5	110 1/4	82 11/16	80 11/16	3968	8487
MDC-351	79 - 158	1.3	φ 14" X 1	148 7/16	44 7/8	78 15/16	2866	4034
MDC-352	158 - 316	2.5	φ 14" X 2	154 3/4	57 1/2	79 15/16	5070	7297
MDC-353	238 - 476	4.2	φ 14" X 3	166 1/8	71 1/4	86 5/8	7275	10670

- The treating capacity will vary depending on the characteristics and concentration of sludge.
- Applicable sludge must be organic and have an ignition loss (VTS = Volatile Total Solids) of more than 60% and a concentration (TS) of 0.5 to 2.0%.
- The motor output means the total motor output of the MDQ/MDC dehydrator that includes the dehydrator main unit, but does not cover motor output of the sludge conveying/feed pump, chemical feed equipment, etc.
- The sludge conveying/feed pump, chemical feed equipment, chemical feed pump, etc. outside the MDQ/MDCdehydrator are not included.

Model	Treating Capacity (lbsDS/h)	Motor Output (hp)	Dimension (inches)				Weight (lbs)	
			Width of Filtering Rollers	Length	Width	Height	Dry	Operating
JD-500	26.5 - 88	2.2	19 11/16	86 7/8	40 3/4	71 15/16	2425	3527
JD-750	39.5 - 132	2.5	29 1/2	88 1/4	50 9/16	72	2866	4343
JD-1000	53 - 176	3.5	39 3/8	91 9/16	60 7/16	72	3307	5225
JD-1500	79 - 264.5	1.9	59 1/16	102 5/16	85 13/16	80 1/2	3615	5114
JD-2000	106 - 352	2.3	78 3/4	110 1/4	105 1/2	80 1/2	4167	6923

- The treating capacity will vary depending on the characteristics and concentration of the sludge.
- Typical treating capacity per 39 3/8" wide filtering roller are 88 lbsDS/h for excess sludge, 110 lbsDS/h for wastewater and sewage treatment sludge, and 132 lbsDS/h for DAF froth and livestock waste sludge. It is recommended to select a model with adequate allowance.
- The motor output means the total motor output of the motors mounted in the unit, but does not cover the motor output of the sludge supply pump, polymeric coagulant mixing equipment, etc.
- The sludge feed pump, chemical injection equipment, chemical injection pump, etc. outside the JD dehydratorare not included.

Scum Skimmer

FSP

The unique FSP scum skimmer removes floating oils and grease solids. Featuring adjustable floats, the FSP can effectively remove scum at a range of water levels.

APPLICATION

- Can be adjusted from 0.39" — 2.36" below the water surface.
- Designed with a jet injector suction mechanism to collect scum efficiently.

FSP Series: Scum Skimmer

Model	Discharge Dia. (in.)	Output HP	Voltage	Phase	Cable Length (ft.)	Weight (lbs.)
4-FSPS	2	0.5	115 or 230	1	32	84
4-FSP	2	0.5	208-230 / 460	3	32	79
8-FSPS	2	1	115 or 230	1	32	99
8-FSP	2	1	208-230 / 460	3	32	84

Decanting Unit

FHP

SBR and Digester decanting pump is equipped with a suspended solids sensor that allows the decanter pump to operate independently. When the suspended solids rise above the set value, the sensor will activate shutting down the decanter, ensuring that only supernatant water is discharged without any entrapment of sediment.

APPLICATION

- Unique floating ball valve seals out solids from the pump inlet.
- Compact design.
- Decants treated wastewater without using additional large scale batch facilities.

FHP Series: Decanting Unit

Model	Discharge Dia. (in.)	Output HP	Voltage	Phase	Cable Length (ft.)	Weight (lbs.)
FHP4-3	1.5	0.34	115 or 230	1	32	64
FHP3-3T	1.5	0.34	208-230 / 460	3	32	60
FHP3-4	2	0.5	115 or 230	1	32	64
FHP2-4T	2	0.5	208-230 / 460	3	32	60
FHP4-8	2	1	115 or 230	1	32	106
FHP4-8T	2	1	208-230 / 460	3	32	62
FHP2-15T	3	2	208-230 / 460	3	32	132

FHP Series: Decanting Unit (With Slide Rail System)

Model	Discharge Dia. (in.)	Output HP	Voltage	Phase	Cable Length (ft.)	Weight (lbs.)
FHP4-3K	1.5	0.34	115 or 230	1	32	58
FHP3-3TK	1.5	0.34	230 or 460	3	32	57
FHP2-4K	2	0.5	115 or 230	1	32	65
FHP2-4TK	2	0.5	230 or 460	3	32	61
FHP4-8TK	2	1	230 or 460	3	32	61

We reserve the right to change the specifications and designs for improvement without prior notice.

TSURUMI PUMP®

BUILT FOR WORK®

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