



Kest Mixer, KM

For outstanding mixing performance in critical pharma and biotechnology applications.

DS-000003 REV B

Kest Mixer, KM

The Kest Mixer is a magnetic coupled mixer. With its aseptic design and excellent mixing performance it has become a popular choice for critical pharma and biotech applications.

The Kest Mixer KM range covers mixing volumes up to 22 000 litres. The Kest Mixer is designed for CIP/SIP applications.

Easy operator handling of the drive unit is secured by our patented Kest-Lock Connection. With our advanced Speed Sensor technology you will have a reliable process control.

The Kest Mixer KM range can be customized to perfectly fit your needs. We can modify the mixing head to mix to the last drop or manufacture the parts that have media contact in specific materials, please contact your reseller for a quote.

The Kest Mixer KM range is also available in an ATEX version, see separate data sheet for more information.

Kest Mixer range for various mixing applications

Kest has developed several product lines for various mixing applications and clean room needs. The KMS product line was developed for LAF applications and the Rapid Motion

(RM) line for medium shear force generation. See separate data sheets on the other product lines in the Kest Mixer family or contact your reseller for more information.

Kest Mixer KM, general information



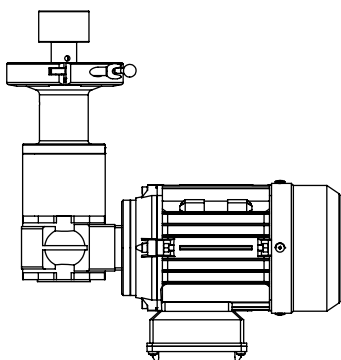
Mixing Head



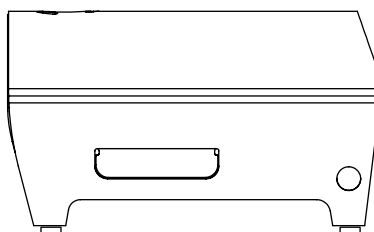
Male Bearing



Tank Plate



Drive Unit



Stainless steel Cover
(optional)



Speed Sensor
(optional)

The Kest Mixer is a magnetically coupled mixer containing 4 modules, Mixing head, Male Bearing, Tank plate and Drive Unit.

To secure the integrity of the tank, the tank plate is welded into the tank, the mixing head and drive unit couples through magnetic forces. When installing the tank plate, make sure to use our welding tool and to follow the welding guideline.

Select the appropriate model, download the Kest Mixer selection guide as a support. For complex mixing applications contact your reseller for consultation.

Decide upon optional drive unit features like Speed sensor, stainless steel cover or extension and you will find the order information, Ref. No., for each part in this data sheet.

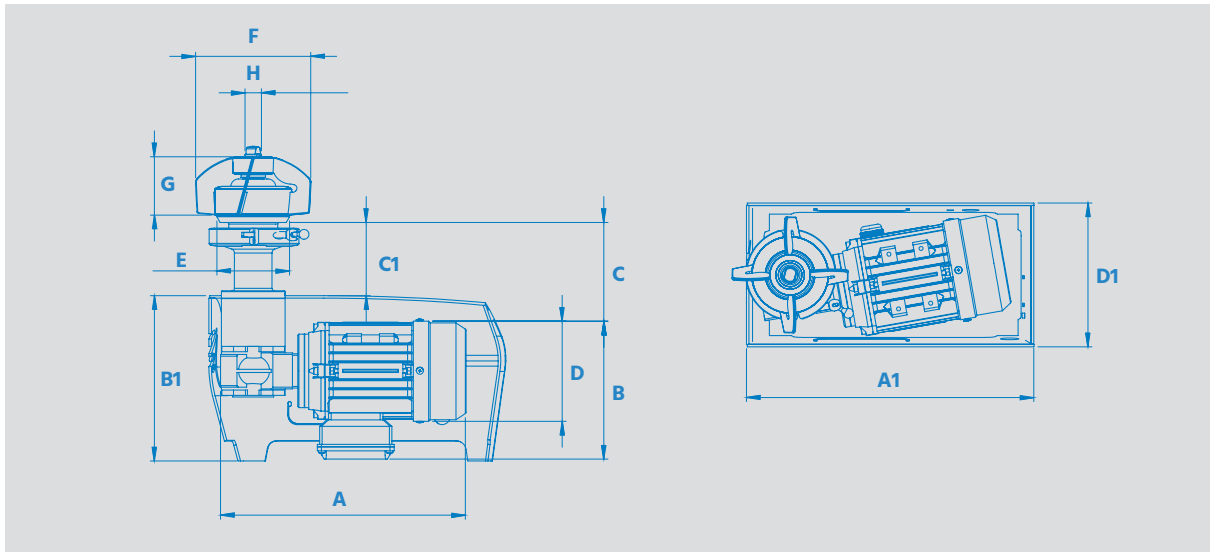


THE DRIVE UNIT IS TO BE OPERATED BY FREQUENCY CONVERTER. CONVERTER PARAMETERS TO BE VALIDATED FOR EACH PROCESS APPLICATION IN RELATION TO VOLUME, VISCOSITY ETC.



ALWAYS USE A WELDING TOOL AND FOLLOW THE WELDING GUIDE LINE WHEN INSTALLING A KEST MIXER TANK PLATE

Kest Mixer KM, specifications



MODEL	A mm	A1 mm	B mm	B1 mm	C std/ extension	C1 std/ extension	D mm	D1 mm	E mm	F mm	G mm	H mm
KM-0/3	300	352	172	205	60/120	100	123	176	55	82	33	12
KM-3/7	300	352	172	205	60/120	100	123	176	55	96	46	12
KM-7/20	300	352	172	205	60/120	100	123	176	84	120	56	16
KM-20/70	300	352	172	205	60/120	100	123	176	89	142	71	20
KM-70/120	340	385	185	225	60/120	100	138	176	118	160	71	20
KM-120/230	394	438	213	240	80/120	100	156	202	148	184	73	20
KM-230/600	394	438	213	240	80/120	100	156	222	159	192	119	30
KM-600/1300	447	492	224	255	80/135	120	171	222	239	220	150	30
KM-1300/2200	573	633	255	305	120	100	196	260	240	273	124	30

MECHANICAL SPECIFICATIONS

	Mixer head	Male bearing	Tank plate
Material grade	EN 1.4435/ASTM 316L, Silicone carbide (SiC)	Zirconium Oxide (ZrO2)	EN 1.4435/ASTM 316L
Material requirement	EN 10 272/10028-7, A479/A240 or SA479 SA240		
Documentation	Heat Certificate 3.1 acc. to EN 10 204		
Surface finish	Ra≤0.5 µm on surfaces in product contact		
Design Temperature	[0°C to +150°C] [+32°F to +302°F]		
Design Pressure	[-1 bar(g) to + 7 bar(g)] [-14.5 psi to +101.5 psi]		
pH range	1-14		
Marking	Head and Bearing is marked with ID No. Tank plate is marked with material grade and heat number		
Packing	Each item is sealed in vacuum plastic bag, labelled with article code and packed in a box		
Male bearing sealing	EPDM or Silicone, approved acc. FDA regulation CFR 177.2600, USP Class VI		
Quality Assurance	Each product is controlled and tested acc. to Kest Technology quality assurance system		

Kest Mixer KM, Drive unit specifications

MODEL	MOTOR POWER 50/60Hz [kW]	FREQUENCY [Hz]	CURRENT 230/400V [A]	GEAR BOX RATIO [i]	SPEED RANGE [RPM]
KM-0/3	0.25/0.30	50/60	1.3/0.75	1:7	50-490
KM-3/7	0.25/0.30	50/60	1.3/0.75	1:7	50-490
KM-7/20	0.25/0.30	50/60	1.3/0.75	1:7	50-490
KM-20/70	0.25/0.30	50/60	1.3/0.75	1:7	50-490
KM-70/120	0.55/0.68	50/60	2.4/1.4	1:7	50-490
KM-120/230	0.75/0.90	50/60	3.3/1.9	1:7	50-490
KM-230/600	1.10/1.30	50/60	4.7/2.7	1:7	50-490
KM-600/1300	1.50/1.80	50/60	6.2/3.6	1:7	50-490
KM-1300/2200	3.00/3.50	50/60	11.8/6.8	1:10	35-340

DRIVE UNIT SPECIFICATIONS

Motor	One thermo element as standard
Design Temperature	[0°C to +40°C] [+32°F to +104°F]
Protection class	IP 55
Paint	The flange, motor and gearbox are painted - RAL 7015
Gear box oil	AGIP TELIUM VSF 320
Marking	Each item is marked with article code
Packing	Each item is sealed in plastic bag, labelled with article code and packed in a box
Quality Assurance	Each product is controlled and tested acc. to Kest Technology quality assurance system

Kest Mixer KM, Speed Sensor (optional)

The Kest Mixer speed sensor unit is a integrated sensor system that enables secure verification of the actual rotation of the mixer head.

An integrated function in the Kest-Mixers speed sensor also verifies that the mixer head is in place in the tank and that it is rotating in the correct direction.

The unit consists of a sensor, that is located underneath the magnetic rotor, and a converter unit, that is located on the drive unit.

The output signal from the sensor is 1 pulse/magnet or 1 pulse/rotation, to be specified in the order.

For visual indication of the different functions there are three different LED,s located on the converter unit indicating the following functions:

- **Green LED: Power supply**
- **Blue LED: Signal/Pulse**
- **Yellow LED: Clockwise rotation**

The sensor and cable are designed for +150°C to cope with the temperatures in the tank plate during sterilization, the rest of the unit is designed for up to +40°C.

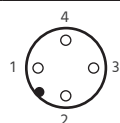
MECHANICAL SPECIFICATIONS

	Sensor holder	Cabel	Converter housing
Material grade	POM C	5 meter, open ends	PMMA
Design Temperature	[0°C to +150°C] [+32°F to +302°F]		[0°C to +40°C] [+32°F to +104°F]
Marking	Each item is marked with article code		
Packing	Each item is sealed in vacuum plastic bag and packed in a box		
Quality Assurance	Each product is controlled and tested acc. to Kest Technology quality assurance system		

Electrical Specifications

Type	Hall effect switch, PNP closing circuit
Voltage	8-30 V DC
Rated Current	200 mA
Protection class	IP 67 (contacts)
Connection type sensor unit	4-pole female connection, M8x1
Connection type converter unit	Input: 4-pole male connection, M8x1. Output: 4-pole male connection M12x1

Socket wiring identification



- 1 Signal: L + Power supply 8-30 VDC
- 2: + Closing contact PNP for indication of rotation
- 3: L - Negative/Ground
- 4: Pulse signal 8-30. VDC

Model	Standard pulse	Max pulses (on request)
KM-0/3	1 pulse / rotation	2 pulses / rotation
KM-3/7	1 pulse / rotation	3 pulses / rotation
KM-7/20	1 pulse / rotation	3 pulses / rotation
KM-20/70	1 pulse / rotation	4 pulses / rotation
KM-70/120	1 pulse / rotation	5 pulses / rotation
KM-120/230	1 pulse / rotation	6 pulses / rotation
KM-230/600	1 pulse / rotation	8 pulses / rotation
KM-600/1300	1 pulse / rotation	6 pulses / rotation
KM-1300/2300	1 pulse / rotation	12 pulses / rotation

Kest Mixer KM, Ref. No. list

MODEL	MIXING HEAD	MALE BEARING	TANK PLATE
KM-0/3	100433	100562	100383
KM-3/7	100559	100562	100625
KM-7/20	101273	101385	100647
KM-20/70	100451	100415	100396
KM-70/120	100650	100415	100546
KM-120/230	100713	100415	100712
KM-230/600	100442	100601	100537
KM-600/1300	100544	100601	100794
KM-1300/2200	101291	100601	101292

Kest Mixer KM, drive unit - Ref. No. list

MODEL	STANDARD	STANDARD SPEED SENSOR	EXTENSION	EXTENSION SPEED SENSOR	EXTENSION COVER	EXTENSION COVER SPEED SENSOR
KM-0/3	101601	101602	101604	101603	101605	101606
KM-3/7	100978	100816	100979	100924	101074	101029
KM-7/20	100981	100762	100982	100759	101558	100834
KM-20/70	101408	100452	101042	100654	101562	101563
KM-70/120	101086	100779	101249	100690	101568	101567
KM-120/230	100919	101573	100944	100714	101572	101574
KM-230/600	100920	101216	101286	100706	101578	101579
KM-600/1300	100921	101584	101287	101585	101583	100854
KM-1300/2200	-	-	101298	101594	101590	101616

Kest Mixer KM, options - Ref. No. list

MODEL	ATTRACTOR*	MULTI TOOL*	WELDING TOOL
KM-0/3	101620	101007	100446
KM-3/7	101620	101007	100923
KM-7/20	101436	101342	100802
KM-20/70	100571	100655	100802
KM-70/120	-	100655	100780
KM-120/230	-	100655	100717
KM-230/600	-	101010	100800
KM-600/1300	-	-	100717
KM-1300/2200	-	-	101300

*See separate data sheet



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