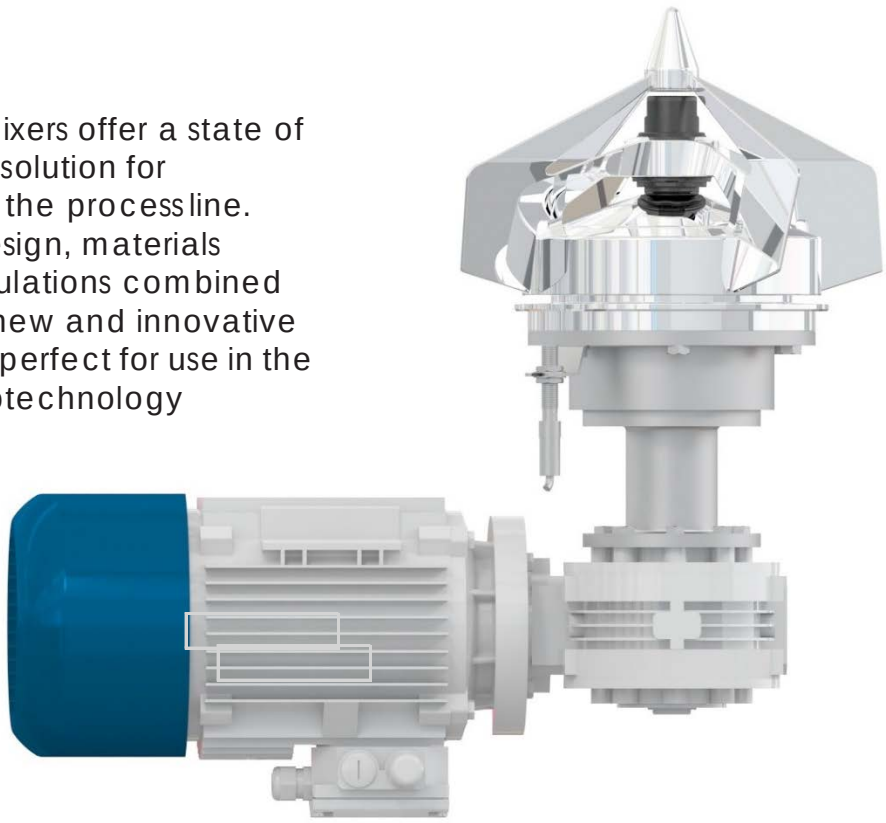
Metenova
PURE INNOVATION

Zero-g Mixers

Product Description

The Metenova, Zero-g mixers offer a state of the art patented mixing solution for applications throughout the process line. The excellent aseptic design, materials complying with FDA regulations combined with the benefits of the new and innovative bearing design makes it perfect for use in the pharmaceutical and biotechnology industries



Type	RPM 50Hz/60Hz	Motor 50Hz kW / hp	Motor 60Hz kW / hp	Volume range liter / gallon	Weight kg / lbs *
ZG1 DC	400 / 490	0.07 / 0.09	0.07 / 0.09	10 / 2.6	2.2 / 4.85
ZG2 DC	400 / 490	0.07 / 0.09	0.07 / 0.09	50 / 13	2.4 / 5.29
ZG2 AC	400 / 490	0.12 / 0.16	0.17 / 0.22	50 / 13	6.0 / 13.2
ZG3 AC	400 /490	0.25 / 0.34	0.33 / 0.44	250 / 66	7.0 / 15.4
ZG5 AC	400 / 490	0.37 / 0.50	0.50 / 0.67	850 /225	10.5 / 23.1
ZG6 AC	400 / 490	0.55 / 0.74	0.64 / 0.86	1200 / 317	12.0 / 26.5
ZG7 AC	400 / 490	0.75 / 1.00	0.87 / 1.17	2000 / 1320	16.0 / 35.3
ZG8 AC	290 / 345	2.20 / 2.95	2.60 / 3.34	5000 / 1320	31.0 / 68.3
ZG9 AC	205 / 245	1.50 / 2.01	1.80 / 2.41	10000 / 2641	32.0 / 70.5
ZG10 AC	205 / 245	3.00 / 4.02	3.60 / 4.83	20000 / 5283	46.0 / 101.4

* Refers to Drive Units (excluding Mixing Head, Tank Plate & Male Post)

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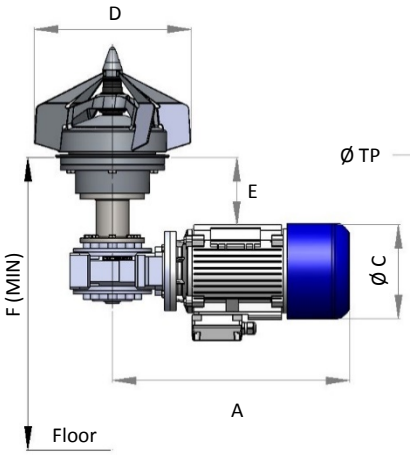
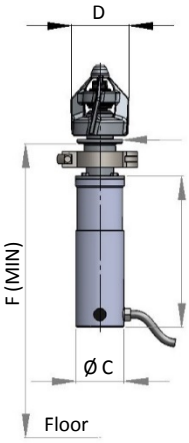
Zero-g Mixers

Dimensions

AC



DC



--- Item Description	A mm [in]	B mm [in]	ØC mm [in]	D mm [in]	E mm [in]	F mm [in]	ØTP mm [in]
ZG1 Complete Mixer Welded DC	170 [6.69]	-	58 [2.28]	70 [2.76]	-	250 [9.84]	55 [2.17]
ZG2 Comlplete Mixer Welded DC	170 [6.69]	-	58 [2.28]	96 [3.78]	-	250 [9.84]	55 [2.17]
ZG2 Complete Mixer Welded AC	231 [9.09]	28 [1.10]	110 [4.33]	96 [3.78]	23 [0.91]	225 [8.86]	55 [2.17]
ZG2 Complete Mixer Welded AC Extension 100 mm	231 [9.09]	28 [1.10]	110 [4.33]	96 [3.78]	23 [0.91]	325 [8.86]	55 [2.17]
ZG3 Complete Mixer Welded AC	246 [9.69]	30 [1.18]	120 [5.0]	117 [4.61]	17 [0.67]	250 [9.84]	94 [3.70]
ZG3 Complete Mixer Welded AC Extension 100 mm	250 [9.84]	30 [1.18]	126 [4.72]	117 [4.61]	118 [4.65]	350 [13.78]	94 [3.70]
ZG5 Complete Mixer Welded AC	285 [11.22]	40 [1.57]	135 [5.31]	148 [5.83]	17 [0.67]	280 [11.02]	94 [3.70]
ZG5 Complete Mixer Welded AC Extension 100 mm	285 [11.22]	40 [1.57]	135 [5.31]	148 [5.83]	117 [4.61]	380 [14.96]	94 [3.70]
ZG6 Complete Mixer Welded AC	286 [11.22]	40 [1.57]	141 [5.50]	160 [6.30]	15 [0.59]	280 [11.02]	104 [4.09]
ZG6 Complete Mixer Welded AC Extension 100 mm	285 [11.26]	40 [1.57]	135 [5.31]	160 [6.30]	115 [4.53]	380 [14.96]	104 [4.09]
ZG7 Complete Mixer Welded AC	310 [12.17]	50 [1.97]	150 [6.0]	177 [6.97]	33 [1.30]	320 [12.60]	129.5 [5.10]
ZG7 Complete Mixer Welded AC Extension 100 mm	310 [12.17]	50 [1.97]	150 [6.0]	177 [6.97]	133 [5.23]	420 [16.54]	129.5 [5.10]
ZG8 Complete Mixer Welded AC	373 [14.69]	60 [2.36]	180 [7.09]	236 [9.29]	30 [1.18]	400 [15.75]	159.5 [6.28]
ZG8 Complete Mixer Welded AC Extension 100 mm	373 [14.69]	60 [2.36]	180 [7.09]	236 [9.29]	130 [5.11]	500 [19.69]	159.5 [6.28]
ZG9 Complete Mixer Welded AC	397 [15.63]	60 [2.36]	180 [7.0]	300 [11.91]	30 [1.18]	400 [15.75]	199.5 [7.85]
ZG9 Complete Mixer Welded AC Extension 100 mm	397 [15.63]	60 [2.36]	180 [7.0]	300 [11.91]	130 [5.11]	500 [19.69]	199.5 [7.85]
ZG10 Complete Mixer Welded AC	479 [18.86]	70 [2.76]	196 [7.72]	350 [13.78]	30 [1.18]	400 [15.75]	229.5 [9.04]
ZG10 Complete Mixer Welded AC Extension 100 mm	479 [18.86]	70 [2.76]	196 [7.72]	350 [13.78]	130 [5.11]	530 [20.87]	229.5 [9.04]

Zero-g Mixers

Technical specifications

General information

Material wetted parts

Tank Plate:	Stainless Steel AISI 316L
Mix Head:	Stainless Steel AISI 316L (Optional: AL6XN, C22, 904L)
Male Post:	Silicon Carbide (SSiC)
O-Ring:	FDA & USP VI compliant EPDM (Optional: Silicone, Viton, Kalrez)
Female Sleeve:	Silicon Carbide (SSiC)
O-Ring:	FDA & USP VI compliant EPDM (Optional: Silicone, Viton, Kalrez)
Surface Roughness:	Ra ≤ 0.5 µm (20 µin) (Optional: Ra ≤ 0.25 µm (10 µin)
Surface Treatment:	Manually polished or Manually polished and Electro polished. Non animal origin polishing compounds are used.
Operating Temp:	5°C - 150°C (41°F - 302°F) (Optional 170°C, 338°F)
Environment Temp:	0°C - 40°C (32°F - 104°F)
Design Pressure Tank Plate 316L:	-1 - 10 barg (-14.7 - 145 psig)
pH Range:	1-14

Motor Data:

Voltage DC:	24V
Nominal Current:	4.1 A
Degree of Protection:	IP 55
Certified	CE
Voltage AC:	Δ230 / Y400 VAC @ 50Hz / Y460 VAC @ 60Hz (±5%)
Degree of Protection	IP55, (Optional: IP66)
Certified:	CE cULus

RPM Sensor data, Mix Head reading

Pulses/turn:	1
Wiring method:	3 Wire type
Sensor type:	PNP Current Sourcing
Operating voltage:	10-65V DC
Current consumption:	18mA@24V max.
Indicator:	Yellow LED
Temperature range:	-25°C – 70°C (-13°F - 158°F)
Enclosure:	IP67

(Optional: Shaft reading)

Packaging & Labeling:

For traceability purposes items are marked with item and id number. They are individually packed in sealed and labeled boxes.

Quality Control: Metenova Quality Assurance system ensure the quality and traceability at all stages of the process.

Mixer Accessories:

- Lowering device
- Mounting tool Female Sleeve
- Mounting tool Male Post
- Lifting tool Mix Head
- Welding tools, Tank Plate

Mixer Spare Parts:

- O-rings
- Male Post
- Female Sleeve

Options:

Non-standard Metenova Mixer options are available, please contact Metenova for further information.

Metenova
PURE INNOVATION

Zero-g Mixers

Features

Magnetically coupled mixer
No mechanical seals or stuffing boxes
Minimized cross-contamination risk

Bottom mounted
Low level mixing
No head space needed
Service friendly

Robust design
Ensured production reliability

Aseptic by design
Optimized for Cleaning and Sterilization
In-Place CIP/SIP
Aseptic Gap-Free Bearing Design

Mixing performance
Mixing characteristics optimal for Bio and Pharma applications

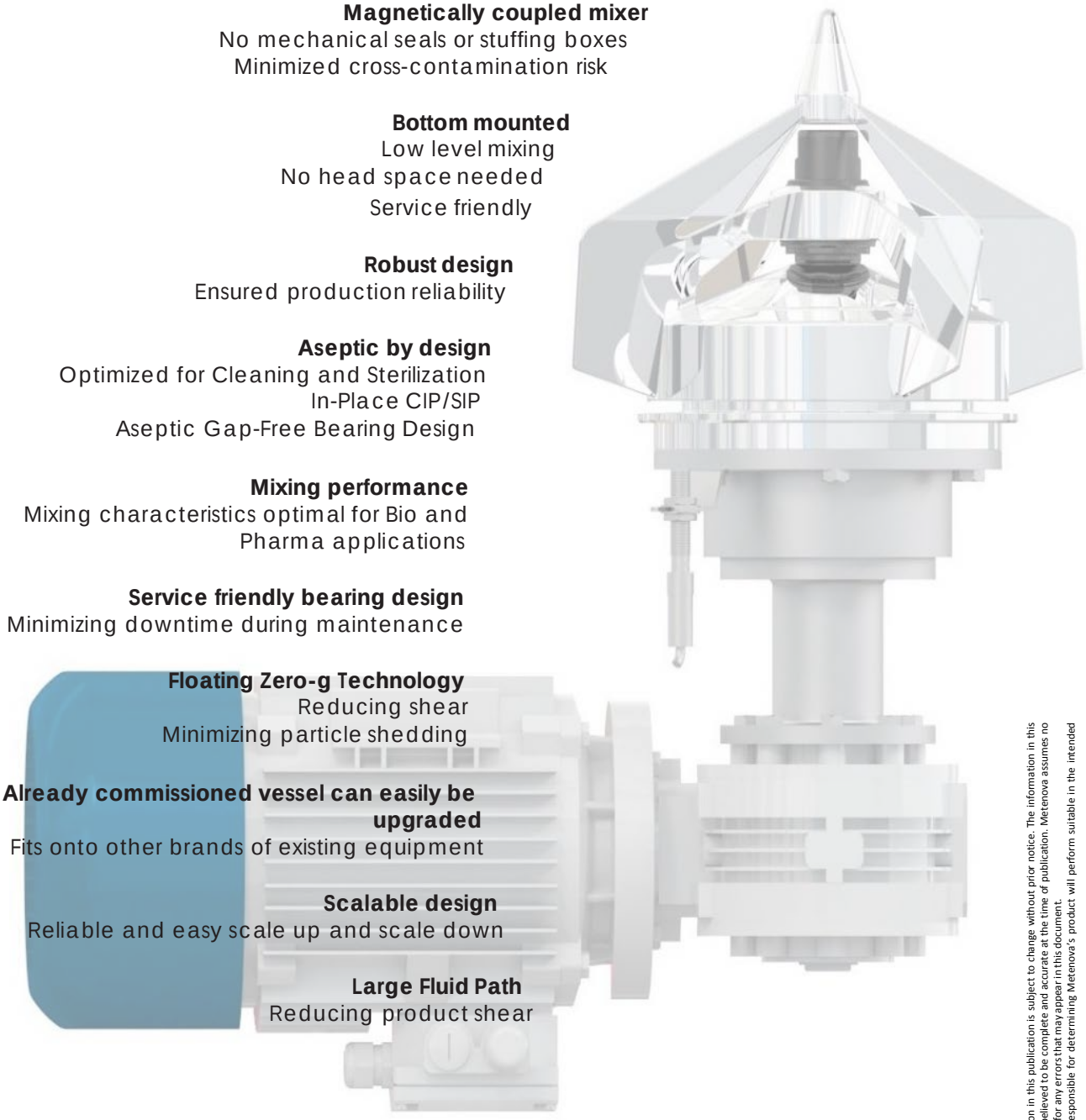
Service friendly bearing design
Minimizing downtime during maintenance

Floating Zero-g Technology
Reducing shear
Minimizing particle shedding

Already commissioned vessel can easily be upgraded
Fits onto other brands of existing equipment

Scalable design
Reliable and easy scale up and scale down

Large Fluid Path
Reducing product shear



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Chemical Applications

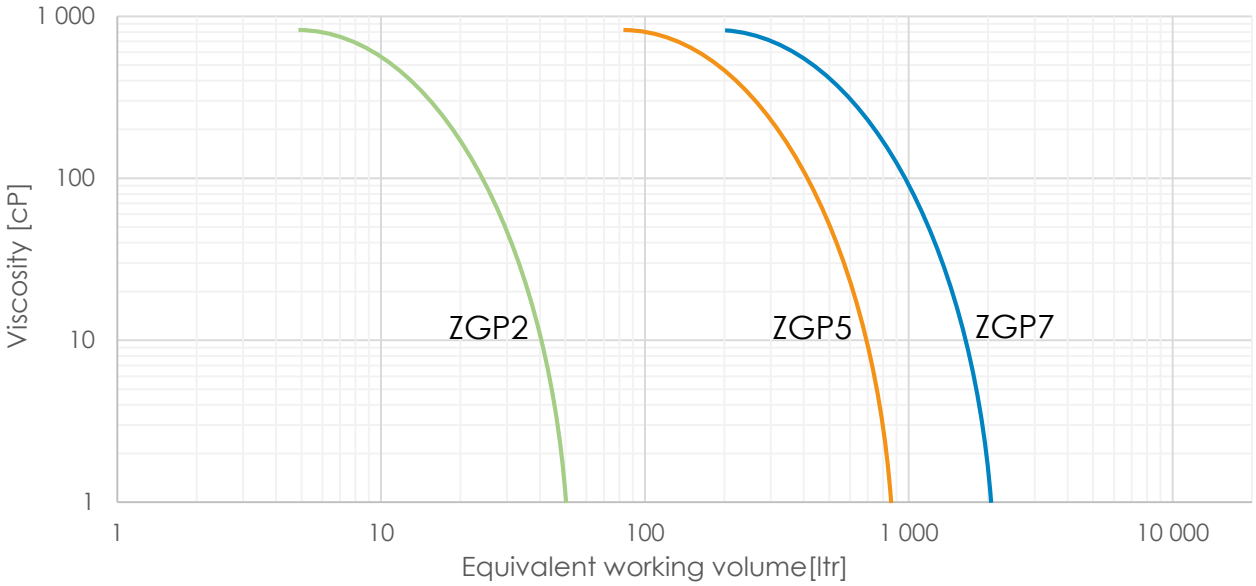
Zero-g Plastic

Magnetic Mixer

The ZGP plastic mixers are very versatile and the high efficiency mix head design allows for both effective and gentle mixing at the same time. The ZGP mixer covers a vast range of applications all through the process chain. The excellent aseptic design, FDA compliance, combined with the benefits of the new and innovative bearing design makes it perfect for use in the chemical, pharmaceutical and biotechnology industries. This product line is a great alternative to costly high alloy version for demanding chemical applications.

Basic Selection

	ZGP2	ZGP5	ZGP7
Max Volume at 1 cP [ltr]	50	850	2000
Max Speed [rpm]	490	490	490



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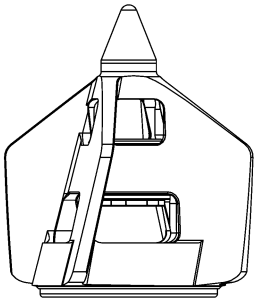
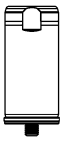
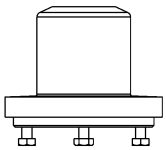
Mix Head



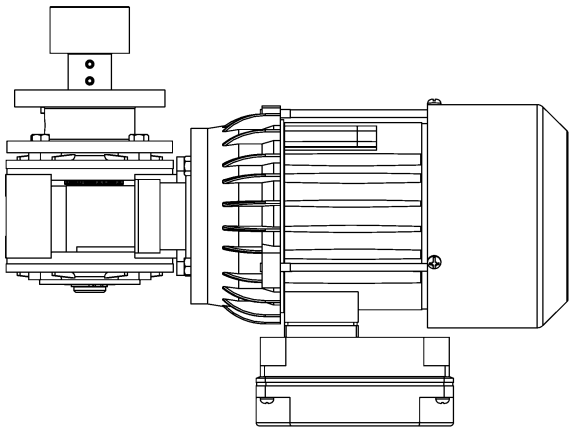
Male Post



Tank Plate



Drive Unit



General guide for components detail specification data sheet (More variation options available for each subcomponent)				
Mixer Model	**Mixing Head**	**Male Post**	**Tank Plate**	**Drive Unit**
ZGP2	DS ZG2P MH -1551	DS ZG- MP 18 -827	DS ZG2P TP -4241	DS ZG2 DU AC E0 -875
ZGP5	DS ZG5P MH -2339	DS ZG- MP 32 -199	DS ZG5P TP -4240	DS ZG5 DU AC E0 -442
ZGP7	DS ZG7P MH -2603	DS ZG- MP 32 -199	DS ZG7P TP -4429	DS ZG7 DU AC E0 -444

Net Weight (approximate)			
Mixer Model	ZGP2	ZGP5	ZGP7
Weight kg (lb)	5 (11)	12 (26)	18 (40)

Additional information	
Operating Temp	5°C - 60°C (41°F - 140°F) Environment Temp 0°C - 40°C (32°F - 104°F)
Operating Pressure	-1 – 7 barg (-14.7 – 103 psig)
Surface Roughness	Ra ≤ 3.2 µm (126 µin)
Surface Treatment	NA
Product contact material	Standard Polypropylene, bearing material SIC and elastomers EPDM. All materials are USP VI and FDA compliant. Other material options available upon request.

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Low Shear Applications

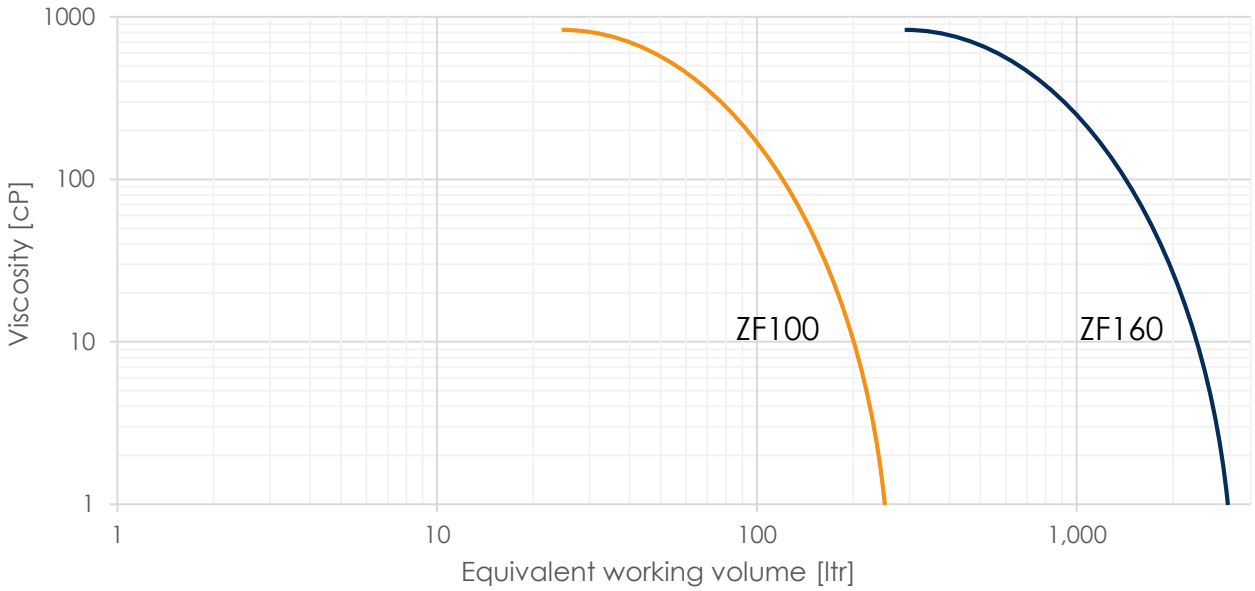
Truelev

Free Floating Magnetic Mixer

The Truelev Mixer is an astonishing breakthrough in engineering, eliminating all known flaws of previous mixer designs in one giant technological leap! The revolutionary Truelev with its bearing-less fully levitating technology is perfect for shear sensitive products. This product is our high-end mixer that offers a unique control and measuring capability that can be leveraged in all tanks, final drug substance holding tanks or bioreactors

Basic Selection

	ZF100	ZF160
Max Volume at 1 cP [ltr]	250	3000
Max Speed [rpm]	350	350



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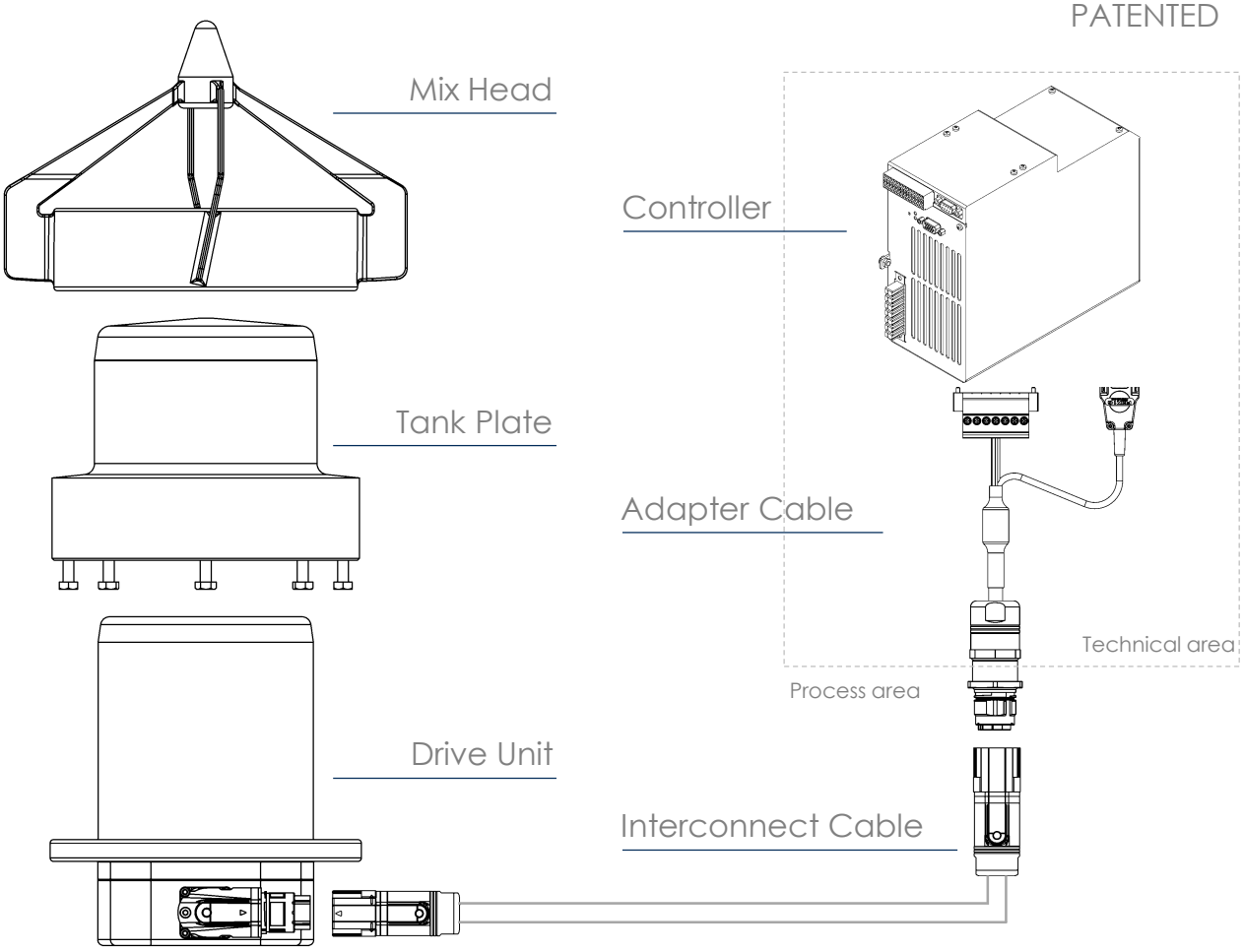

General guide for components detail specification data sheet (More variation options available for each subcomponent)				
Mixer Model	**Mixing Head**	**Tank Plate**	**Drive Unit**	**Controller**
ZF100	DS ZF100 MH -3430	DS ZF100 TP -3432	DS ZF100 DU -3888	DS ZF160 Controller -2543
ZF160	DS ZF160 MH -2283	DS ZF160 TP -3304	DS ZF160 DU -2434	DS ZF160 Controller -2543

Net Weight (approximate)		
Mixer Model	ZF100	ZF160
Weight kg (lb)	5 (11)	13 (29)

Additional information	
Operating Temp	5°C - 135°C (41°F - 275°F) Environment Temp 0°C - 40°C (32°F - 104°F)
Operating Pressure	-1 – 7 barg (-14.7 – 103 psig)
Surface Roughness	Ra ≤ 0.5 µm (20 µin)
Surface Treatment	Electro polished. Non animal origin polishing compounds are used.
Product contact material	Standard SS material 316L.

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Powder and Vigorous Mixing Applications

High Power

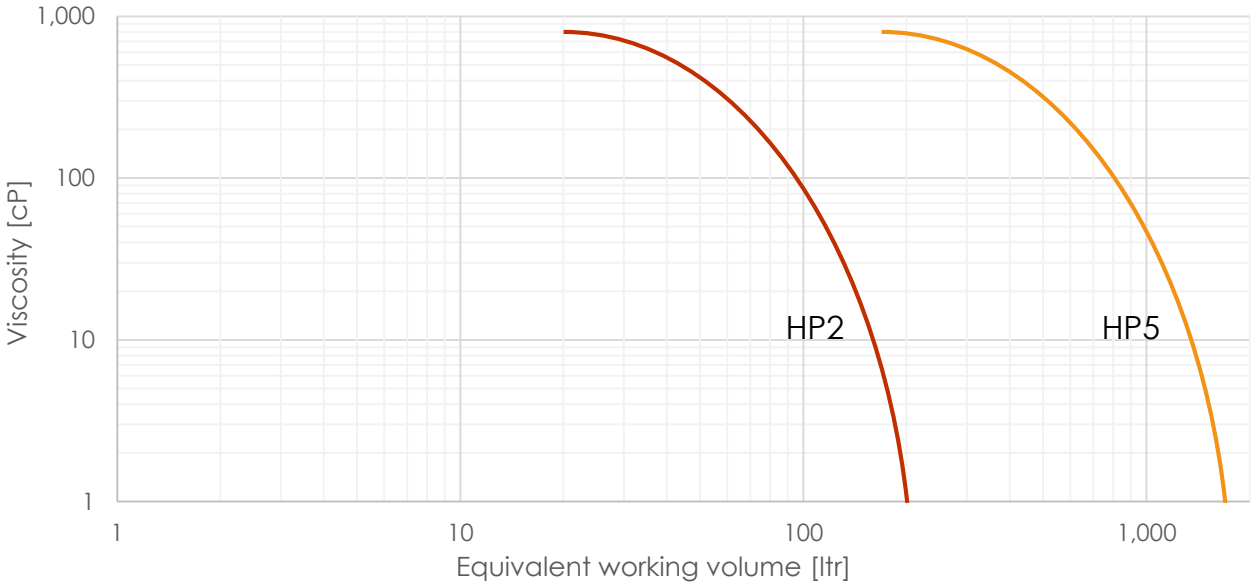
Magnetic Mixer

The High Power mixer has a robust and aseptic design that creates medium to high shear forces. The mixer performs well in most applications and is designed for the upstream stages in the pharmaceutical and biotech industry.

The High Power mixer is a solid and liquid mixer which primary objective is to create and maintain a dispersion of solids in a liquid phase that is appropriate for the desired process result.

Basic Selection

	HP2	HP5
Max Volume at 1 cP [ltr]	200	1700
Max Speed [rpm]	1700	1700



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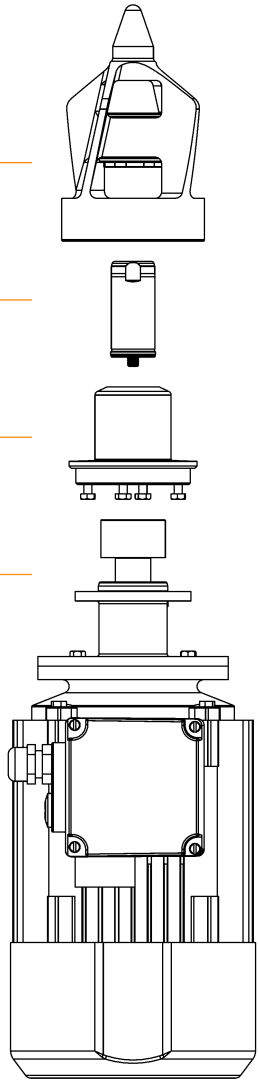
Mix Head

Male Post

Tank Plate

Drive Unit



General guide for components detail specification data sheet (More variation options available for each subcomponent)				
Mixer Model	**Mixing Head**	**Male Post**	**Tank Plate**	**Drive Unit**
HP2	DS HP2 MH -2736	DS ZG- MP 18 -827	DS ZG2 TP -838	DS HP2 DU E0 -3769
HP5	DS HP5 MH -1807	DS ZG- MP 32 -199	DS ZG5 TP -79	DS HP5 DU E0 -1991

Net Weight (approximate)		
Mixer Model	HP2	HP5
Weight kg (lb)	9 (20)	23 (51)

Additional information	
Operating Temp	5°C - 150°C (41°F - 302°F) Environment Temp 0°C - 40°C (32°F - 104°F)
Operating Pressure	-1 – 7 barg (-14.7 – 103 psig)
Surface Roughness	Ra ≤ 0.5 µm (20 µin)
Surface Treatment	Electro polished. Non animal origin polishing compounds are used.
Product contact material	Standard SS material 316L, bearing material SIC and elastomers EPDM (USP VI , FDA compliant). Other material options available upon request.

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Emulsification and High Shear Applications

High Shear

Magnetic Mixer

The Metenova HS High Shear mixer offer a rotor/stator aseptic magnetic mixer for your critical fine emulsions and dispersions. Metenovas High Shear mixers disperse droplets and creates an even particle size distribution, enabling down-stream high pressure emulsification processing. It also improves the suspension characteristics of the product. The Metenova HS is ideal for emulsification applications, difficult to dissolve solids and particle downsizing.

Basic Selection

	HS2	HS5
Max Volume at 1 cP [ltr]	120	800
Max Speed [rpm]	3900	3900

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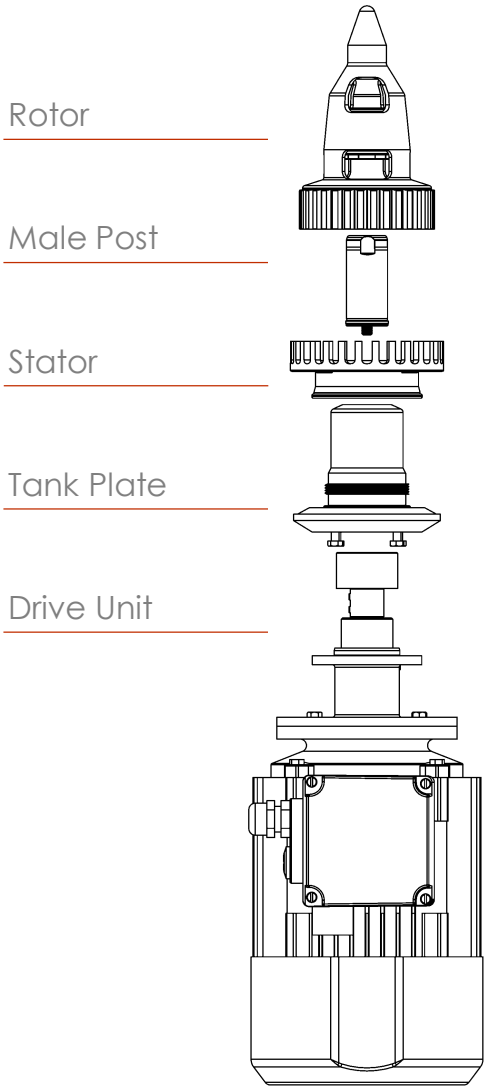

General guide for components detail specification data sheet (More variation options available for each subcomponent)					
Mixer Model	**Rotor**	**Male Post**	**Stator**	**Tank Plate**	**Drive Unit**
HS2	DS HS2 Rotor -3391	DS ZG- MP 18 -827	DS HS2 Stator -3934	DS HS2 TPW -3510	DS HS2 DU E0 -3491
HS5	DS HS5 Rotor -1633	DS ZG- MP 32 -199	DS HS5 Stator -3108	DS HS5 TPW -3490	DS HS5 DU E0 -2111

Net Weight (approximate)		
Mixer Model	HS2	HS5
Weight kg (lb)	9 (20)	27 (60)

Additional information	
Operating Temp	5°C - 150°C (41°F - 302°F) Environment Temp 0°C - 40°C (32°F - 104°F)
Operating Pressure	-1 – 7 barg (-14.7 – 103 psig)
Surface Roughness	Ra ≤ 0.5 µm (20 µin)
Surface Treatment	Electro polished. Non animal origin polishing compounds are used.
Product contact material	Standard SS material 316L, bearing material SIC and elastomers EPDM (USP VI , FDA compliant). Other material options available upon request.

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