Streamline Blending Applications

Tri-Blender® Brand Blenders

PD 66500 US2 2004-06

Application
Our Tri-Blender is specially designed to thoroughly and efficiently blend dry ingredients and liquids, while minimizing the air introduced into the process. That means the lumping, foaming and flooding associated with conventional mixing equipment is almost totally eliminated. The Tri-Blender has been designed for easy adaptation to a variety of blending applications within the food, beverage, dairy, chemical and biopharmaceutical industries. The Tri-Blender is simple, fast and extremely compact. It is capable of absorbing dry powders into liquids at the rate of 25 to 350 lbs. (11 to 159 kg) per minute (as determined by product characteristics and Tri-Blender model size).

The Portable F2116EZ System Tri-Blender is equipped with a wheeled platform for easy portability from application to application. However, the wheeled platform can be ordered as an option on all other Tri-Blender models. Portable units come complete with supply pump, motor starters, dolly and tube assembly.

All Tri-Blender product contacting components are FDA compliant.

Tri-Blender® brand blenders

Standard Design
The Tri-Blender consists of a hopper, a pump with a blending chamber and screen, a diffuser tube and a butterfly valve.

The Tri-Blender design utilizes a butterfly valve to control the rate of dry material flow through the hopper. Manual valves are furnished as standard equipment. An optional electrical butterfly valve control prevents the valve from opening before the blender motor is operating. This control also prevents the blender motor from stopping before the valve is closed. Pneumatic valves are also available.

With auxiliary controls, the Tri-Blender can easily be integrated into an automated system. It can also be adapted for CIP installations.

Seals
The Tri-Blender is equipped with a type D sanitary external balanced seal. Optional sanitary seals available include: type DG (clamped-in seal/seat design) and type E (water-cooled balanced double seal).

Models F1114L / F2114 / F2116MD

Pump Requirements

Systems handling viscosity up to 500cps		
	Model F1114L and F2114	Model F2116MD
Supply Pump	C114MD56T-S centrifugal pump	C114MD56T-S centrifugal pump
Impeller	3¼" (82.6mm) diameter	3¾" (95.25mm) diameter
Seal	Type D- external balanced	Type D- external balanced
Casing	1½" (38.1mm) inlet, 1½" (38.1mm) outlet Tri-Clamp	1½" (38.1mm) inlet, 1½" (38.1mm) outlet Tri-Clamp
Motor	1 HP - 1750 RPM	1 HP - 1750 RPM
Discharge Pump	A discharge pump may be required on some applications, consult Alfa Laval for recommendations.	A discharge pump may be required on some applications, consult Alfa Laval for recommendations.

Systems handling viscosity over 500cps		
	Model F1114L and F2114	Model F2116MD
Supply Pump		SRU4NLS-20MGEOC(X) positive pump
Base		Standard
Drive	Consult Alfa Laval	Gearhead Motor 3 HP, 3PH, 60Hz, 230/460V, 309 RPM
Discharge Pump		SRU4NLS-20MGEOC(X) positive pump
Base		Standard
Drive		Gearhead Motor 3 HP, 3PH, 60Hz, 230/460V, 350 RPM

Materials

Product wetted steel parts ..... Acid-resistant steel AISI 316L
Base ..... Stainless steel
Hopper ..... 304 stainless steel
Other steel parts ..... 32 Ra
Product wetted seals ..... C vs. SS (type D&E)
C vs. SC, C vs. TC (type DG)

Motor

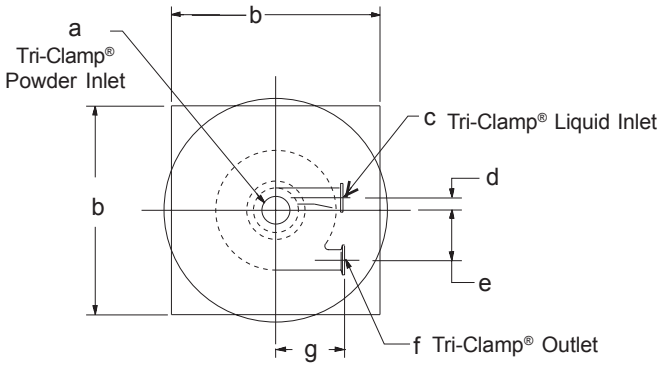
5 HP - 3500 RPM (3.7kW) TEFC 3 phase 230/460 volt. Dual frequency and voltage rated at 60 Hz, 230/460 volts, 3500 RPM or 50 Hz, at 220/380 volts, 2900 RPM. Optional explosion-proof motor available.

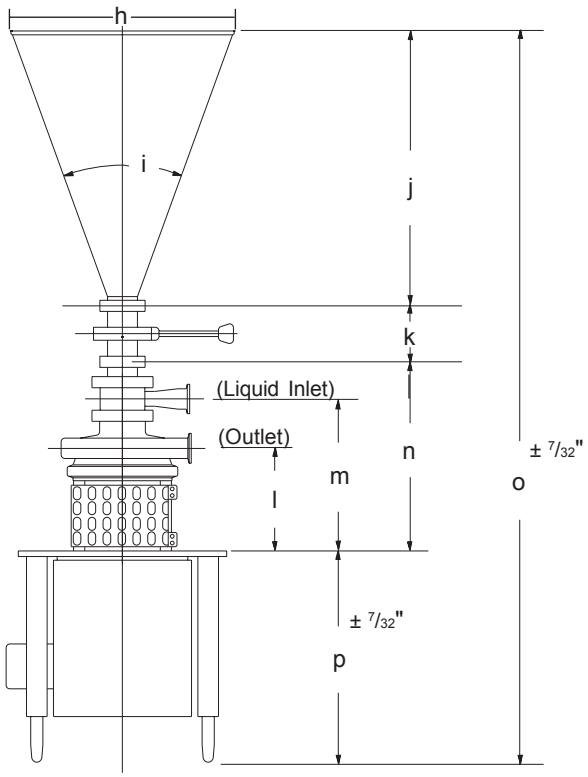
Technical data

Dry ingredient capacity
Model F1114L ..... Up to 25 lbs. (11.3 kg) per minute*
Model F2114 ..... Up to 45 lbs. (20.4 kg) per minute*
Model F2116MD ..... Up to 50 lbs. (23 kg) per minute*

* Absorption dependant on characteristics of product

Models F1114L / F2114 / F2116MD
Dimensions





Model F1114L

	with 40˚ hopper		with 60˚ hopper	
	in	mm	in	mm
a	1 1/2	38	1 1/2	38
b	14	356	14	356
c	1	25	1	25
d	5/16	8	5/16	8
e	2 5/8	67	2 5/8	67
f	1 1/2	38	1 1/2	38
g	3 5/8	92	3 5/8	92
h	15	381	22 11/16	576
i	40˚		60˚	
j	21 13/16	554	21 13/16	554
k	3 7/8	98	3 7/8	98
l	6 1/4	159	6 1/4	159
m	9 3/32	231	9 3/32	231
n	11 13/32	290	11 13/32	290
o	54	1372	54	1372
p	16 13/16	427	16 13/16	427
Installation Size	18" x 18" (460mm x 460mm)			

Model F2114

	with 40˚ hopper		with 60˚ hopper	
	in	mm	in	mm
a	2	51	2	51
b	14	356	14	356
c	1	25	1	25
d	5/16	8	5/16	8
e	2 5/8	67	2 5/8	67
f	1 1/2	38	1 1/2	38
g	3 5/8	92	3 5/8	92
h	15	381	22 11/16	576
i	40˚		60˚	
j	18 13/16	478	18 13/16	478
k	3 7/8	98	3 7/8	98
l	6 1/4	159	6 1/4	159
m	9 3/32	231	9 3/32	231
n	14 13/32	366	14 13/32	366
o	54	1372	54	1372
p	16 13/16	427	16 13/16	427
Installation Size	18" x 18" (460mm x 460mm)			

Model F2116MD

	with 40˚ hopper		with 60˚ hopper	
	in	mm	in	mm
a	2	51	2	51
b	14	356	14	356
c	1 1/2	38	1 1/2	38
d	3/4	19	3/4	19
e	3 11/16	94	3 11/16	94
f	1 1/2	38	1 1/2	38
g	4 1/2	114	4 1/2	114
h	15	381	22 11/16	576
i	40˚		60˚	
j	18 13/16	478	18 13/16	478
k	3 7/8	98	3 7/8	98
l	6 21/32	169	6 21/32	169
m	10 1/8	257	10 1/8	257
n	10 1/8	257	10 1/8	257
o	52 11/16	1338	52 11/16	1338
p	16 13/16	427	16 13/16	427
Installation Size	18" x 18" (460mm x 460mm)			

Model F2116 EZ-System

Pump Requirements

Supply Pump ..... Required - model depends on application. Please contact Alfa Laval.
Discharge Pump ..... Depends on application. Please contact Alfa Laval.

Materials

Product wetted steel parts ..... Acid-resistant steel AISI 316L.
Base ..... Stainless steel
Hopper ..... 304 stainless steel
Other steel parts ..... 32 Ra
Product wetted seals ..... C vs. SS (type D&E)
C vs. SC, C vs. TC (type DG)

Motor

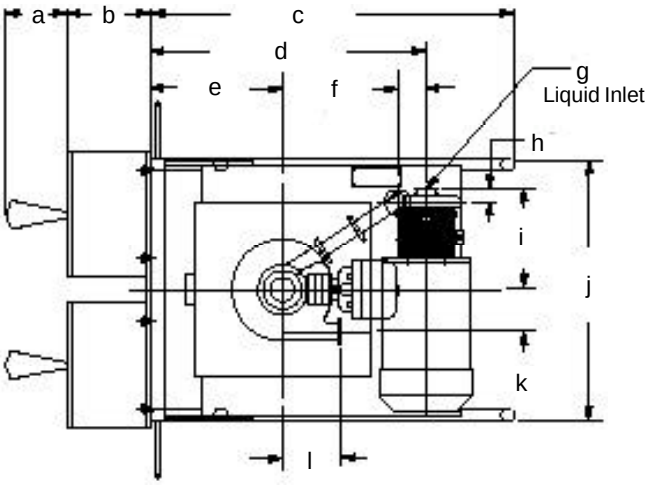
5 HP - 3500 RPM (3.7kW) TEFC 3 phase 230/460 volt. Dual frequency and voltage rated at 60 Hz, 230/460 volts, 3500 RPM or 50 Hz, at 220/380 volts, 2900 RPM. Optional explosion-proof motor available.

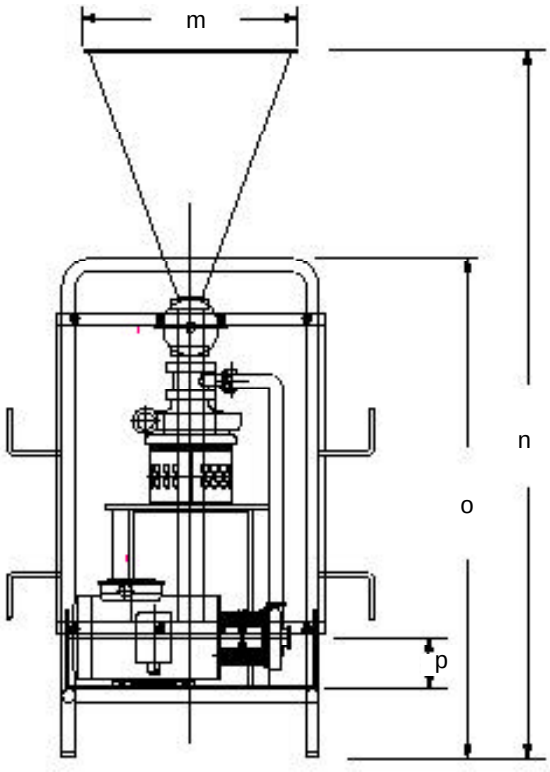
Technical data

Dry ingredient capacity
Model F2116 EZ-System..... Up to 50 lbs. (23 kg) per minute*

* Absorption dependant on characteristics of product

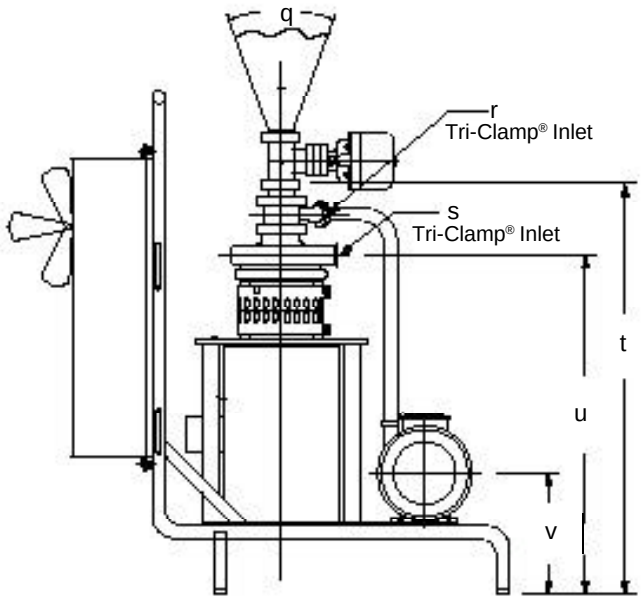
Model F2116 EZ-System
Dimensions





Model F3218MD

	with 40˚ hopper		with 60˚ hopper	
	in	mm	in	mm
a	$5^{9}/_{16}$	141	$5^{9}/_{16}$	141
b	$8^{11}/_{16}$	221	$8^{11}/_{16}$	221
c	29	737	29	737
d	22	559	22	559
e	$10^{1}/_{2}$	267	$10^{1}/_{2}$	267
f	$2^{5}/_{8}$	67	$2^{5}/_{8}$	67
g	$1^{1}/_{2}$	38	$1^{1}/_{2}$	38
h	$1^{19}/_{32}$	38	$1^{19}/_{32}$	38
i	$8^{13}/_{16}$	224	$8^{13}/_{16}$	224
j	$21^{1}/_{16}$	535	$21^{1}/_{16}$	535
k	$3^{11}/_{16}$	94	$3^{11}/_{16}$	94
l	$4^{1}/_{2}$	114	$4^{1}/_{2}$	114
m	15	381	$22^{11}/_{16}$	567
n	$56^{23}/_{32}$	1441	$56^{23}/_{32}$	1441
o	41	1041	41	1041
p	$3^{1}/_{2}$	89	$3^{1}/_{2}$	89
q	40˚		60˚	
r	$1^{1}/_{2}$	38	$1^{1}/_{2}$	38
s	$1^{1}/_{2}$	38	$1^{1}/_{2}$	38
t	$34^{1}/_{8}$	867	$34^{1}/_{8}$	867
u	$27^{1}/_{2}$	699	$27^{1}/_{2}$	699
v	$9^{5}/_{16}$	237	$9^{5}/_{16}$	237
Installation Size		18" x 18" (460mm x 460mm)		



Model F3218MD

Model F4329MD

Pump Requirements

Systems handling viscosity up to 500cps		
	Model F3218MD	Model F4329MD
Supply Pump	C218MD18T-S centrifugal pump	C328MD18T-S centrifugal pump
Impeller	6" (152.4mm) diameter	5¾" (146.0mm) diameter
Seal	Type D - external balanced	Type D- external balanced
Casing	3" (76.2mm) inlet, 1½" (38.1mm) outlet Tri-Clamp	3" (76.2mm) inlet, 2" (50.8mm) outlet Tri-Clamp
Motor	3 HP - 1750 RPM, 3-60-230/460V	5 HP - 1750 RPM, 3-60-230/460V
Discharge Pump	A discharge pump may be required on some applications, consult Alfa Laval for recommendations.	A discharge pump may be required on some applications, consult Alfa Laval for recommendations.

Systems handling viscosity over 500cps		
	Model F3218MD	Model F4329MD
Supply Pump	SRU4WLS-30MGEOC(X) positive pump	SRU5NLS30MGEOC(X) positive pump
Base	Standard	Standard
Drive	Gearhead Motor 5 HP 3PH 60Hz 236/460V, 283 RPM	Gearhead Motor 5 HP 3PH 60Hz 236/460V, 240 RPM
Discharge Pump	SRU4WLS-30MGEOC(X) positive pump	SRU5NLS30MGEOC(X) positive pump
Base	Standard	Standard
Drive	Gearhead Motor 5 HP 3PH 60Hz 236/460V, 351 RPM	Gearhead Motor 5 HP, 3PH, 60Hz, 236/460V, 283RPM

Materials

Product wetted steel parts ..... Acid-resistant steel AISI 316L
Base ..... Stainless steel
Hopper (model F3218MD only) ..... 304 stainless steel
Other steel parts ..... 32 Ra
Product wetted seals ..... C vs. SS (type D&E)
C vs. SC, C vs. TC (type DG)

Motor

F3218: 20 HP - 1750 RPM (15kW) TEFC 3 phase 230/460 volt. Dual frequency and voltage rated at 60 Hz, 230/460 volts, 3500 RPM to 50 Hz at 220/380 volts, 2900 RPM. Optional explosion-proof motor available.

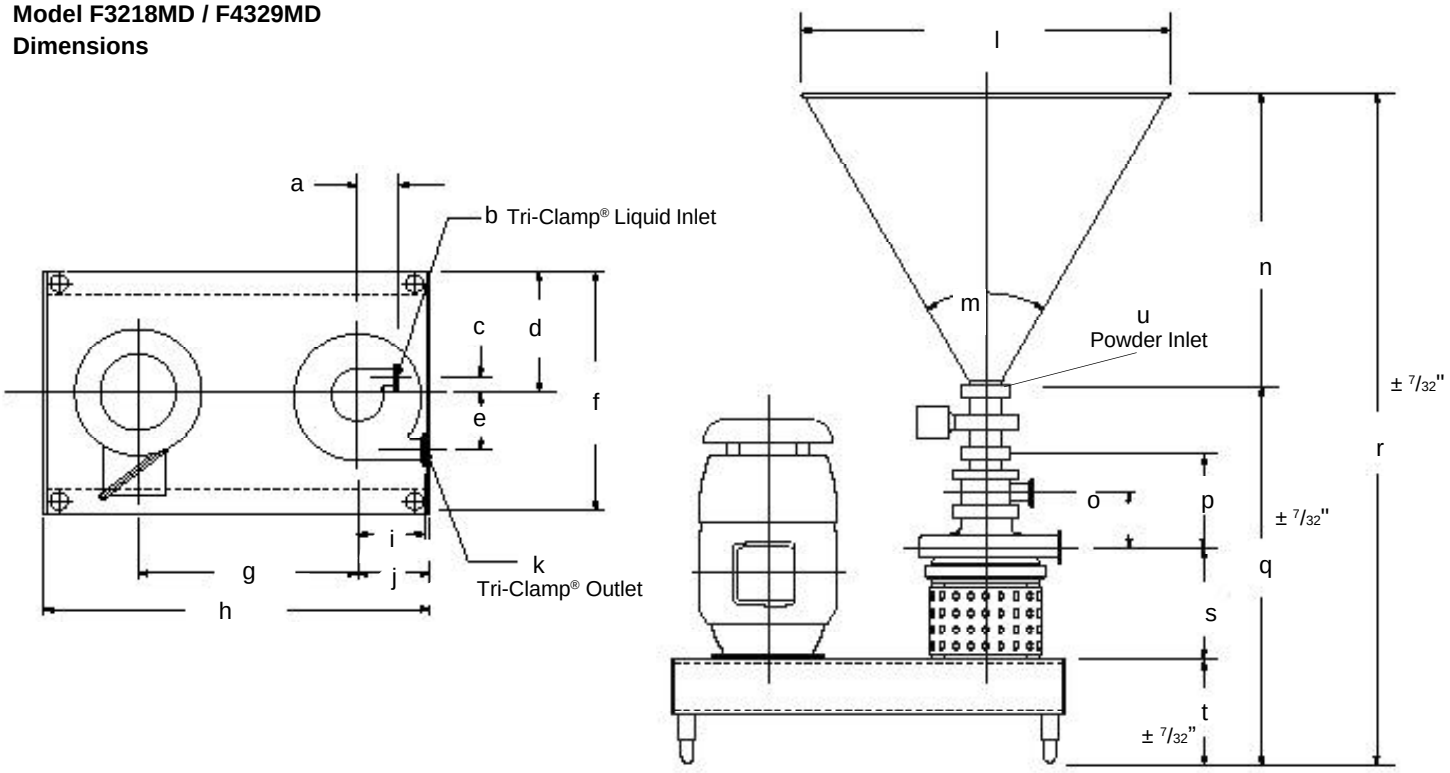
F3429: 30 HP - 1750 RPM (22kW) TEFC 3 phase 230/460 volt. Dual frequency and voltage rated at 60 Hz, 230/460 volts, 3500 RPM to 50 Hz at 220/380 volts, 2900 RPM. Optional explosion-proof motor available.

Technical data

Dry ingredient capacity
Model F3218MD ..... Up to 100 lbs. (45 kg) per minute*
Model F4329MD ..... Up to 350 lbs. (159 kg) per minute*

* Absorption dependent on characteristics of product

Model F3218MD / F4329MD
Dimensions



Model F3218MD

	with 40˚ hopper		with 60˚ hopper	
	in	mm	in	mm
a	3 1/2	89	3 1/2	89
b	1 1/2	38	1 1/2	38
c	1 1/4	32	1 1/4	32
d	10	254	10	254
e	4 3/4	121	4 3/4	121
f	20	508	20	508
g	18 13/64	462	18 13/64	462
h	32	813	32	813
i	5 1/2	140	5 1/2	140
j	6	152	6	152
k	2	51	2	51
l	25	635	30	762
m	40˚		60˚	
n	31 1/8	791	24 1/4	616
o	4 21/32	118	4 21/32	118
p	8 1/4	210	8 1/4	210
q	30 5/16	770	30 5/16	770
r	61 11/16	1567	54 9/16	1386
s	9 13/16	249	9 13/16	249
t	8 7/16	214	8 7/16	214
u	3	76	3	76
Installation Size	20" x 30" (510mm x 760mm)			

Model F4329MD

	in	mm
a	3 3/4	95
b	2	51
c	2 11/16	68
d	10	254
e	6	152
f	20	508
g	18 13/64	462
h	32	813
i	7 9/32	185
j	6	152
k	3	76
l	NA	
m	NA	
n	NA	
o	4 7/8	124
p	8 15/32	215
q	31 9/16	802
r	NA	
s	9 29/32	252
t	8 7/16	214
u	4	102
Installation Size	20" x 30" (510mm x 760mm)	

Hopper Part Number	Volume	
F2116-55-40-01-40 Deg. Hopper	0.7 Cubic Feet	0.02 Cubic Meters
F2116-55-60-01-60 Deg. Hopper	1.5 Cubic Feet	0.04 Cubic Meters
D3218-55-40-01-40 Deg. Hopper	3.2 Cubic Feet	0.09 Cubic Meters
D3218-55-60-01-60 Deg. Hopper	3.5 Cubic Feet	0.10 Cubic Meters

Options

Equipment

- Seals (D, DG, E)
- Hopper angle (40˚ or 60˚)
- 316L SS for hopper
- Valve actuation (manual or pneumatic)

Material grades

- Seals
  - -C vs. SS (D & E)
  - -C vs. SC C vs. TC (DG)
- Elastomers
  - -EPDM
  - -Silicone
  - -SFY
  - -BUNA

Ordering

Please state the following when ordering:

- Seal type and material grade
- Elastomer type if not BUNA
- Valve actuation
- Hopper angle