Metric series feeder / airlock

Application:

FLSmidth's metric series feeders / airlocks combine many essential features in a single unit. The feeder helps to maximize the performance and dependability of a pneumatic conveying system. The metric series is available in several types of construction, Series 1 through 7, and is able to handle materials in either vacuum or pressure conveying systems.

Specification:

Body

The metric feeder is ruggedly constructed and ribbed for dimensional stability. It can be furnished with either a closed or open end rotor. The throat inlet is angled to induce a shearing action for smoother operation. An optional port is available and extends the full length of the body. It may be used as an inspection panel and clean-out port. The inlet flange easily adapts to a square or a standard 125 lb. ASA flange on Models 150, 300, 700.

Rotor

Two basic designs are available - open or closed end. All rotors have eight (8) vanes with a minimum of four (4) vanes sealing at all times to minimize leakage. Rotors can be furnished with beveled blades and hard-coated tips as required.

End Plates

Designed to assure efficient sealing of the shaft with two (2) lip seals and two (2) lantern rings, or three (3) rows of packing and one (1) lantern ring per end plate. Pipe taps are provided for the air purge and lubrication of the lip seals. Standard design includes lantern rings, lip seals and outboard sealed bearings.

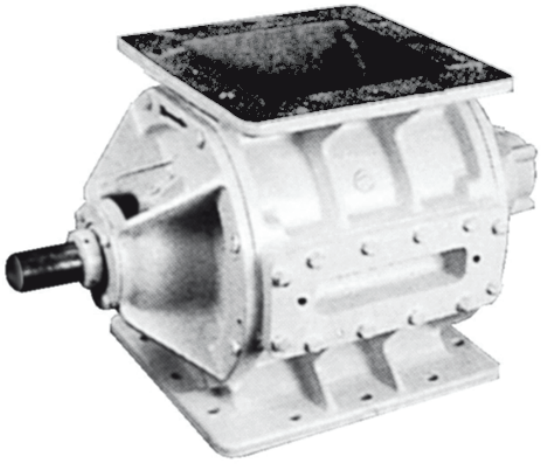
Motor Mounting

Motor support lugs are cast as an integral part of the feeder body to permit the mounting of a gearmotor directly on the unit, resulting in a compact package requiring minimum space.

Motor Drive

All integral horsepower gearmotors are TEFC, 1.15 Service Factor, Class "F" insulation and corrosion-resistant. All standard gearmotors are 230/460 volt, 3-phase, 60 Hz. Standard drives are roller chain with OSHA approved guards. Oil bath guards are also available.

Note: All standard feeders are designed to handle material in conveying systems that operate up to a maximum pressure differential of 5 PSIG (1.05 Kg/cm^2).



Special designs

Abrasion-resistant feeders (Type AR)

- Type of construction - Series 5
- Abrasion-resistant feeders are designed for use in a vacuum or pressure pneumatic conveying system. Typical applications are on filter receivers, dust collectors, cyclones and pneumatic conveying systems handling abrasive materials. Pressure differentials to 15 PSIG (1.05 Kg/cm^2).

NFPA-85F Design for fuel firing feeders

- Type of construction - Series 6, 7
- All units will conform to the above standards and will have the following minimum features:
  - Hydrostatic testing will be at 50 PSIG (3.5 Kg/cm^2). The maximum operating pressure differential will be 2 PSIG (0.14 Kg/cm^2).
  - All tips of rotor vane are beveled.
  - All feeders have specific flange and end plate drillings, which prevents replacement with a standard unit.

Other special designs are available: reduced-capacity rotors, zero-speed switch devices (impulse and proximity), feeder baffle plates, and high temperature designs to 700° F (371° C).

FLSmidth

Metric series feeder Types of construction

Series 1: Cast iron			
	Body	End plates	Rotor
Size 150	C.I.	C.I.	F.c.s.
Size 300	C.I.	C.I.	F.c.s.
Size 700	C.I.	C.I.	F.c.s.
Size 2500	C.I.	C.I.	F.c.s.

Cast iron with lip seals or packing, open end and shrouded rotors
Body: Cast Iron, class 50
End Plates: Cast Iron, class 50
Rotor: Carbon steel blades & shaft, ASTM A283 Gr. D, C1018 steel

Series 2: Stainless steel			
	Body	End plates	Rotor
Size 150	S.S.	S.S.	F.s.s.
Size 300	S.S.	S.S.	F.s.s.
Size 700	S.S.	S.S.	F.s.s.
Size 2500	S.S.	S.S.	F.s.s.

Stainless steel with lip seals or packing, open end and shrouded rotors
Body: 304 S.S.
End Plates: 304 S.S.
Rotor: 304 S.S. (fabricated)

Series 3: Aluminum and stainless steel			
	Body	End plates	Rotor
Size 150	Al	Al	F.s.s.
Size 300	Al	Al	F.s.s.
Size 700	Al	Al	F.s.s.
Size 2500	Al	Al	F.s.s.

Aluminum body and end plates with lip seals or packing, open end and shrouded rotors
Body: Cast aluminum SR. 319. OT 51
End Plates: Cast aluminum SR. 319. OT 51
Rotor & shaft: 304 S.S. (fabricated)

Series 4: Stainless steel and aluminum			
	Body	End plates	Rotor
Size 150	S.S.	Al	F.s.s.
Size 300	S.S.	Al	F.s.s.
Size 700	S.S.	Al	F.s.s.
Size 2500	S.S.	Al	F.s.s.

S.S. body, aluminum end plates with lip seals or packing, open end and shrouded rotors
Body: 304 S.S.
End Plates: Cast aluminum SR. 319. OT 51
Rotor: 304 S.S. (fabricated)

Series 5: Combination iron			
	Body	End plates	Rotor
Size 150	D.I.	C.I.	F.c.h.s.
Size 300	D.I.	C.I.	F.c.h.s.
Size 700	D.I.	C.I.	F.c.h.s.
Size 2500	D.I.	C.I.	F.c.h.s.

D.I. body, C.I. end plate with lip seals or packing, with hard surfaced, shrouded rotors
Body: D.I. 120-90-02 ASTM A536
End Plates: Cast Iron, Class 50
Rotor: Carbon steel blades, ASTM A283 Gr. D. with No. 6 Colmonoy hard surfacing (56 to 60 RC)

Series 6: Cast iron, NFPA 85F standard*			
	Body	End plates	Rotor
Size 150	C.I.	C.I.	F.c.s.
Size 300	C.I.	C.I.	F.c.s.
Size 700	C.I.	C.I.	F.c.s.
Size 2500	C.I.	C.I.	F.c.s.

C.I. body, C.I. end plate with lip seals or packing, open end and shrouded rotors, special body drilling
Body: Cast Iron, class 50
End Plates: Cast Iron, class 50
Rotor: Carbon steel blades & shaft, ASTM A283 Gr. D, C1018 steel

Series 7: Combination iron, NFPA 85F standard*			
	Body	End plates	Rotor
Size 150	D.I.	C.I.	F.c.h.s.
Size 300	D.I.	C.I.	F.c.h.s.
Size 700	D.I.	C.I.	F.c.h.s.
Size 2500	D.I.	C.I.	F.c.h.s.

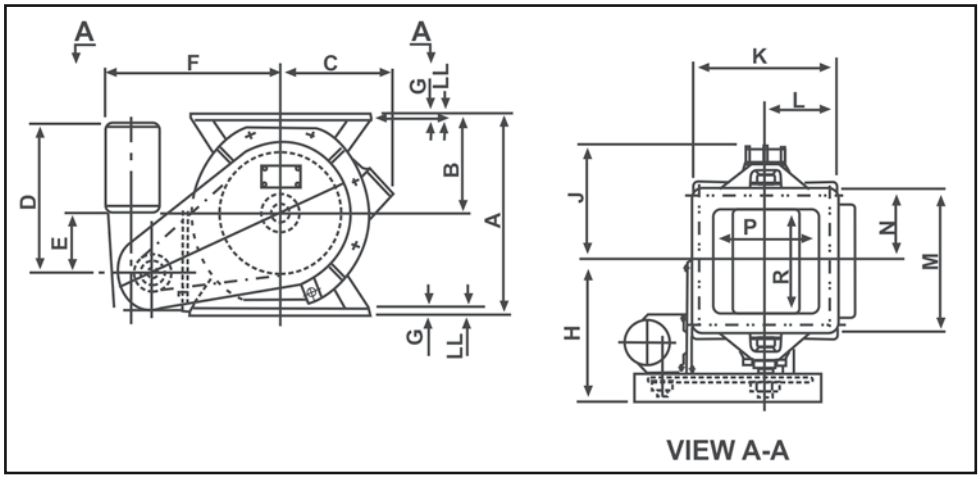
D.I. body, C.I. end plates, with lip seals or packing, hard surfaced, shrouded rotors, special body drilling
Body: D.I. 120-90-02 ASTM A536
End Plates: Cast Iron, class 50
Rotor: Carbon steel blades, ASTM A283 Gr. D, with No. 6 Colmonoy hard surfacing (56 to 60 RC)

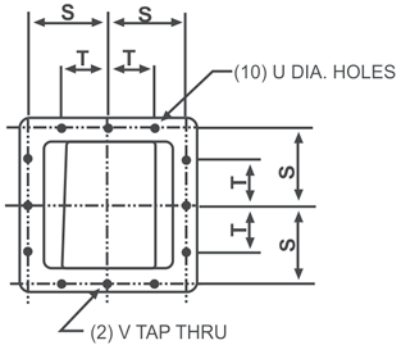
* Series 6 and 7 conform to the NFPA-85F standards

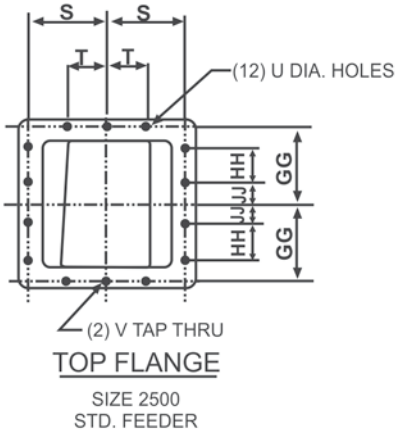
Legend:
C.I. - Cast iron
F.c.s. - Fabricated carbon steel
S.S. - Stainless steel
F.s.s. - Fabricated stainless steel
Al - Aluminum
F.c.h.s. - Fabricated steel hard surfaced
D.I. - Ductile iron

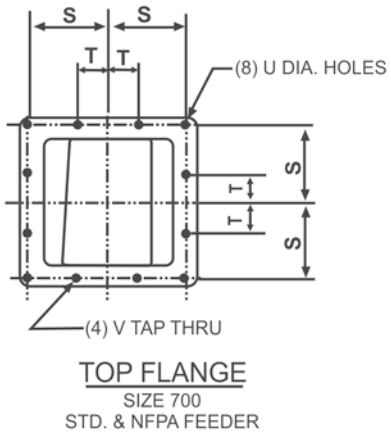
Consult FLSmidth for appropriate part numbers

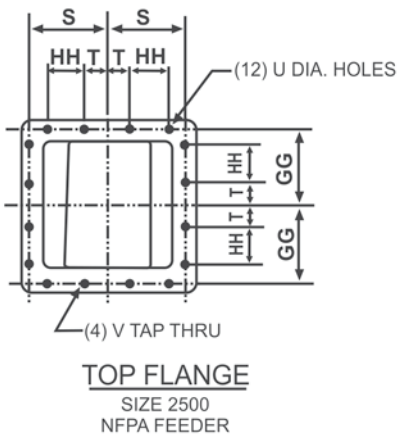
Metric series feeder
Dimensions - top flange











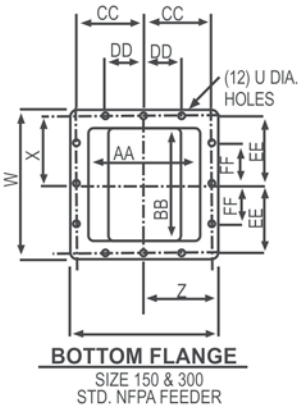
Size	Capacity Cu. Meter Per. Rev.		A	B	C	D	E	F	G	H*	J	K	L	M	N	P	R	S	Weights	
	Open	Closed																	Feeder Kg	Feeder & drive KG
150 Std	.018	.016	410	205	240	395	60	425	15	448	345	360	180	360	180	250	250	157	127	204
150 NFPA	.018	.016	410	205	240	395	60	425	15	448	345	360	180	360	180	250	250	157	127	204
300 Std	.035	.031	500	250	290	416	106	470	18	490	383	420	210	420	210	300	300	187	190	294
300 NFPA	.035	.031	500	250	290	465	150	510	18	490	383	420	210	420	210	300	300	187	190	294
700 Std	.082	.073	640	320	370	458	150	585	23	562	460	600	300	600	300	440	440	267	392	498
700 NFPA	.082	.073	640	320	370	776	130	666	23	570	460	600	300	600	300	440	440	267	392	498
2500 Std	.284	.257	950	475	530	620	195	797	31	843	668	840	420	970	485	620	750	380	1305	1418
2500 NFPA	.284	.257	950	475	530	895	195	880	31	843	668	840	420	970	485	620	850	380	1305	1418

* For D.I. & C.I.

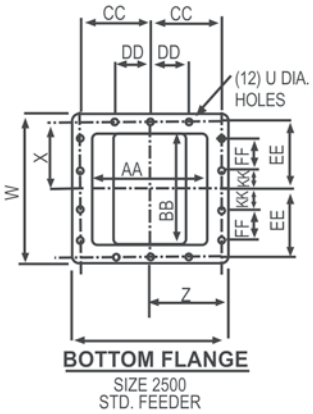
Size	Capacity Cu. Ft. Per. Rev.		A	B	C	D	E	F	G	H*	J	K	L	M	N	P	R	S	Weights	
	Open	Closed																	Feeder lbs	Feeder & drive lbs
150 Std	.64	.55	16 1/8	8 1/16	9 7/16	15 9/16	2 3/8	16 3/4	9/16	17 5/8	13 9/16	14 3/16	7 1/16	14 3/16	7 1/16	9 13/16	9 13/16	6 3/16	280	450
150 NFPA	.64	.55	16 1/8	8 1/16	9 7/16	15 9/16	2 3/8	16 3/4	9/16	17 5/8	13 9/16	14 3/16	7 1/16	14 3/16	7 1/16	9 13/16	9 13/16	6 3/16	280	450
300 Std	1.23	1.09	19 11/16	9 13/16	11 7/16	16 3/8	4 3/16	18 1/2	11/16	19 5/16	15 1/16	16 9/16	8 1/4	16 9/16	8 1/4	11 13/16	11 13/16	7 3/8	420	650
300 NFPA	1.23	1.09	19 11/16	9 13/16	11 7/16	18 5/16	5 7/8	20 1/16	11/16	19 5/16	15 1/16	16 9/16	8 1/4	16 9/16	8 1/4	11 13/16	11 13/16	7 3/8	420	650
700 Std	2.88	2.6	25 3/16	12 5/8	14 9/16	18	5 7/8	23	7/8	22 1/8	18 1/8	23 5/8	11 13/16	23 5/8	11 13/16	17 5/16	17 5/16	10 1/2	865	1100
700 NFPA	2.88	2.6	25 3/16	12 5/8	14 9/16	30 9/16	5 7/8	26 1/4	7/8	22 1/8	18 1/8	23 5/8	11 13/16	23 5/8	11 13/16	17 5/16	17 5/16	10 1/2	865	1100
2500 Std	10.03	9.08	37 3/8	18 1/16	20 7/8	24 7/16	7 11/16	31 3/8	1 1/4	33 3/16	26 5/16	33 1/16	16 9/16	38 3/16	19 1/8	24 7/16	29 1/2	14 15/16	2880	3130
2500 NFPA	10.03	9.08	37 3/8	18 1/16	20 7/8	35 1/4	7 11/16	34 5/8	1 1/4	33 3/16	26 5/16	33 1/16	16 9/16	38 3/16	19 1/8	24 7/16	29 1/2	14 15/16	2880	3130

* For D.I. & C.I.

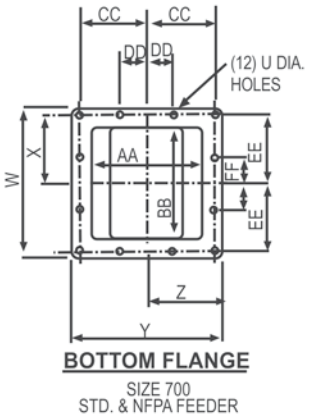
Metric series feeder Dimensions - bottom flange



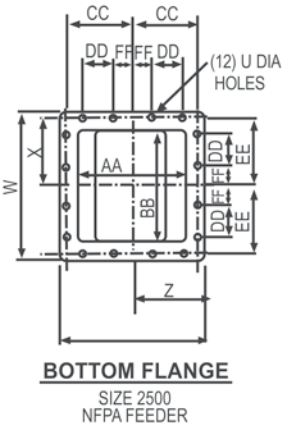
BOTTOM FLANGE
SIZE 150 & 300
STD. NFPA FEEDER



BOTTOM FLANGE
SIZE 2500
STD. FEEDER



BOTTOM FLANGE
SIZE 700
STD. & NFPA FEEDER



BOTTOM FLANGE
SIZE 2500
NFPA FEEDER

NFPA feeder means pulverized fuel firing feeders and airlocks. All units will have the following minimum features:
A. Design will be in accordance with NFPA 85F.
B. Hydrostatic testing will be at 50 PSIG (3.5 Kg/cm^2); the maximum operating pressure differential will be 2 PSIG (0.14 Kg/cm^2).
C. Rotor tips will be beveled.
D. Specific flange and end plate drillings will be used to avoid inadvertent replacement with a standard unit.

Millimeters

Size	T	U	V	W	X	Y	Z	AA	BB	CC	DD	EE	FF	GG	HH	JJ	KK	LL
150 Std.	90	18	M16x2	410	205	360	180	250	300	157	100	182	100	-	-	-	-	15
150 COAL	110	18	M16x2	410	205	360	180	250	300	157	120	182	100	-	-	-	-	15
300 Std.	108	22	M20x2.5	470	235	420	210	300	350	187	108	212	108	-	-	-	-	15
300 COAL	135	22	M20x2.5	470	235	420	210	300	350	187	135	212	115	-	-	-	-	15
700 Std.	110	26	M24x3	660	330	600	300	440	500	267	110	300	110	-	-	-	-	20
700 COAL	95	26	M24x3	660	330	600	300	440	500	267	95	300	95	-	-	-	-	20
2500 Std.	230	38	M36x4	1060	530	840	420	620	840	380	230	490	230	445	230	115	115	25
2500 COAL	105	38	M36x4	1060	530	840	420	620	840	380	210	490	105	445	210	-	-	25

For stn. stl. and alum.

Inches

Size	T	U	V*	W	X	Y	Z	AA	BB	CC	DD	EE	FF	GG	HH	JJ	KK	LL
150 Std.	3 9/16	11/16	M16x2	16 1/8	8 1/16	14 3/16	7 1/16	9 13/16	11 13/16	6 3/16	3 15/16	7 3/16	3 15/16	-	-	-	-	9/16
150 COAL	4 5/16	11/16	M16x2	16 1/8	8 1/16	14 3/16	7 1/16	9 13/16	11 13/16	6 3/16	4 3/4	7 3/16	3 15/16	-	-	-	-	9/16
300 Std.	4 1/4	7/8	M20x2.5	18 1/2	9 1/4	16 9/16	8 1/4	11 13/16	13 3/4	7 3/8	4 1/4	8 3/8	4 1/4	-	-	-	-	9/16
300 COAL	5 5/16	7/8	M20x2.5	18 1/2	9 1/4	16 9/16	8 1/4	11 13/16	13 3/4	7 3/8	5 5/16	8 3/8	4 1/2	-	-	-	-	9/16
700 Std.	4 5/16	1	M24x3	26	13	23 5/8	11 3/16	17 5/16	19 11/16	10 1/2	4 5/16	11 13/16	4 5/16	-	-	-	-	3/4
700 COAL	3 3/4	1	M24x3	26	13	23 5/8	11 3/16	17 5/16	19 11/16	10 1/2	4 3/4	11 13/16	3 3/4	-	-	-	-	3/4
2500 Std.	9 1/16	1 1/2	M36x4	41 3/4	20 7/8	33 1/16	16 9/16	24 7/16	33 1/16	14 15/16	9 1/16	19 5/16	9 1/16	17 1/2	9 1/16	4 1/2	4 1/2	1
2500 COAL	4 1/8	1 1/2	M36x4	41 3/4	20 7/8	33 1/16	16 9/16	24 7/16	33 1/16	14 15/16	8 1/4	19 5/16	4 1/8	17 1/2	8 1/4	-	-	1

* 'V' dimension is metric

For stn. stl. and alum.

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