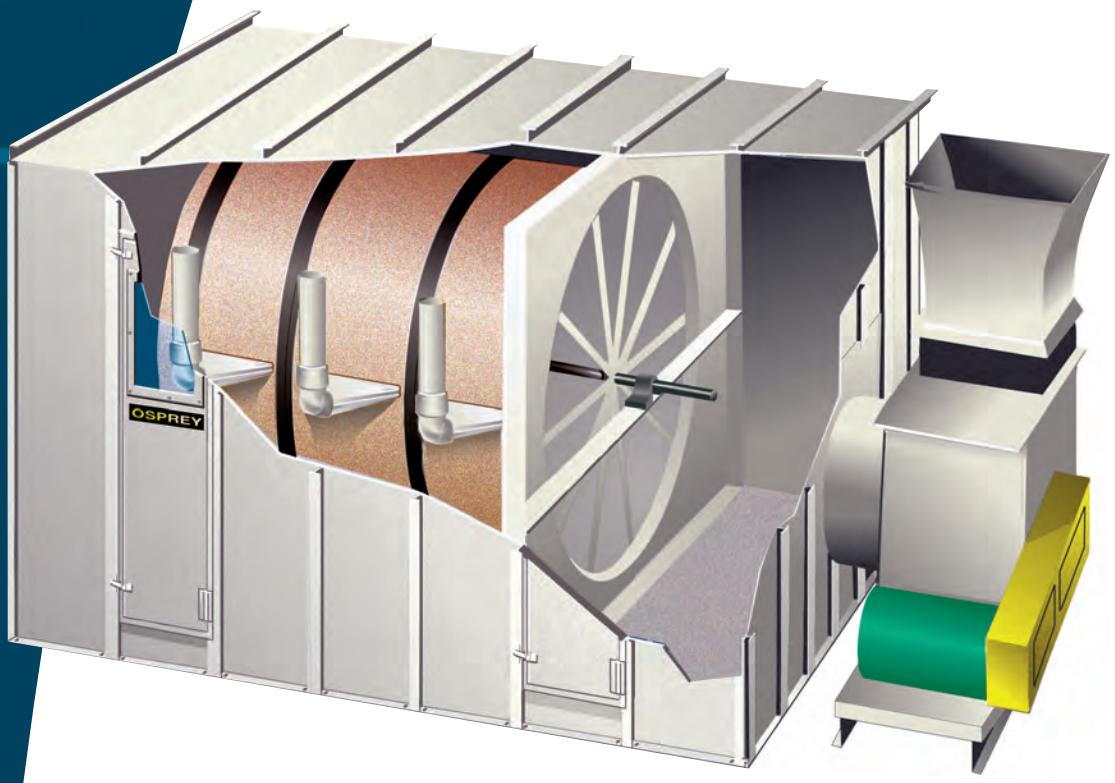
OSPREY CORPORATION

The Osprey Drum Filter System



PURPOSE

Filter particulate material from an airstream, maintain volume and static pressure, and return material to production.

APPLICATION

Filtration of fibrous material from production processes for soft disposable products, textiles, plastics, fiberglass, and pulp and paper products.

DRUM FILTER SYSTEM

Operation

The primary structure of the drum filter system is a rotating perforated drum inside an enclosure. A main system balancing fan pulls air and particulate into the enclosure. The clean air passes through the filter media covering the drum. Dust and particulate matter remain on the media, and are removed by an arrangement of suction nozzles as the drum rotates against them. The clean, filtered air passing through the drum is discharged to the atmosphere.

Features

- Predictable and constant air pressure for reliable continuous suction.
- Self-cleaning design returns valuable material to the forming process.
- High-efficiency filtration provides clean air to the environment.
- Drum diameters from 4' to 12'.
- Silicone Seal and Auto Lubrication.
- Fluorescent lights.
- Over-Pressure Warning and Monitoring Devices.
- Rotary Diverter Valve System.
- CE Mark.

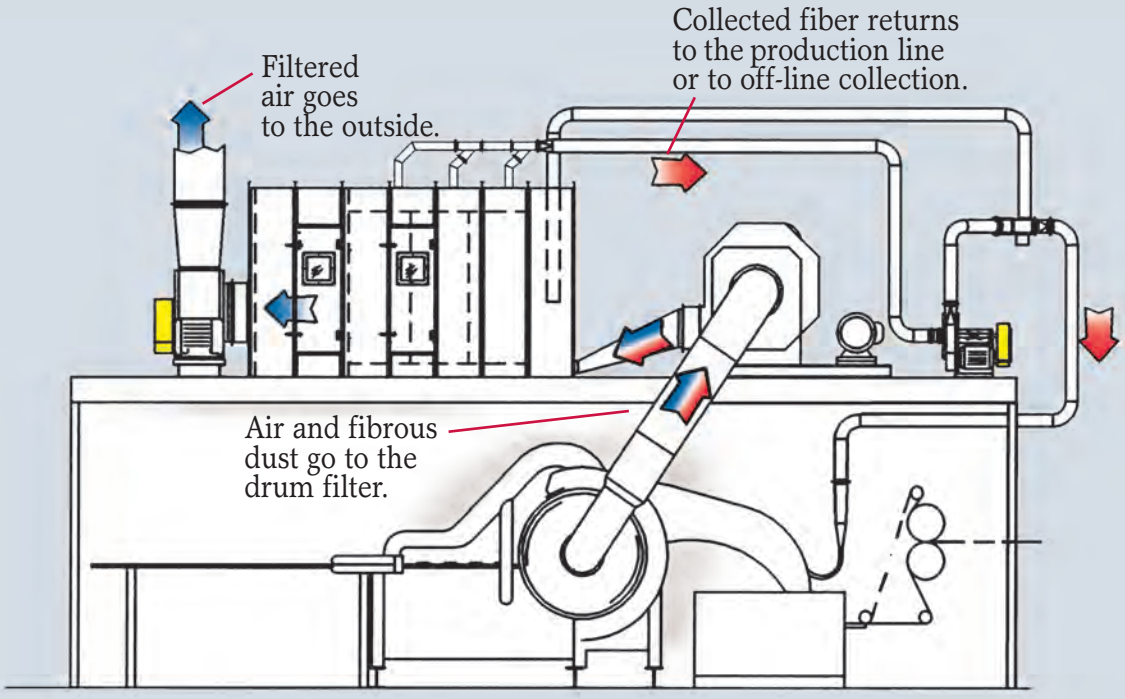
Options

- Final Filter and HEPA for 99.99% efficiency.
- Patented Phoenix™ design features.
- Factory-assembled QuickStart.™
- High-temperature design.
- Conversion kits for increased capacity.
- Off-Line Collection.
- PLC controls, HMI, RIO interface and Supervisory Options.
- Standard, split, and pneumatic manifolds available.

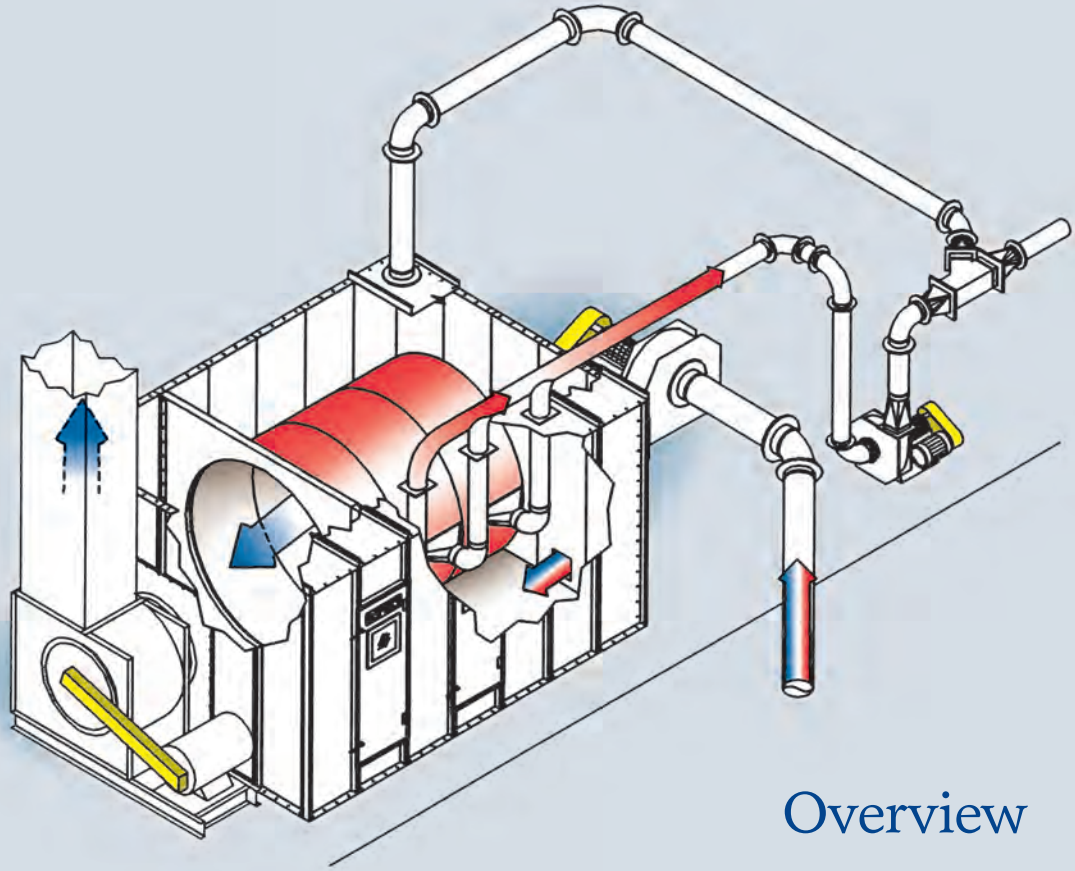
Efficiency: 99.5%.

Electrical Requirements: Operates at world voltages.

Operation of the DRUM FILTER SYSTEM



Overview

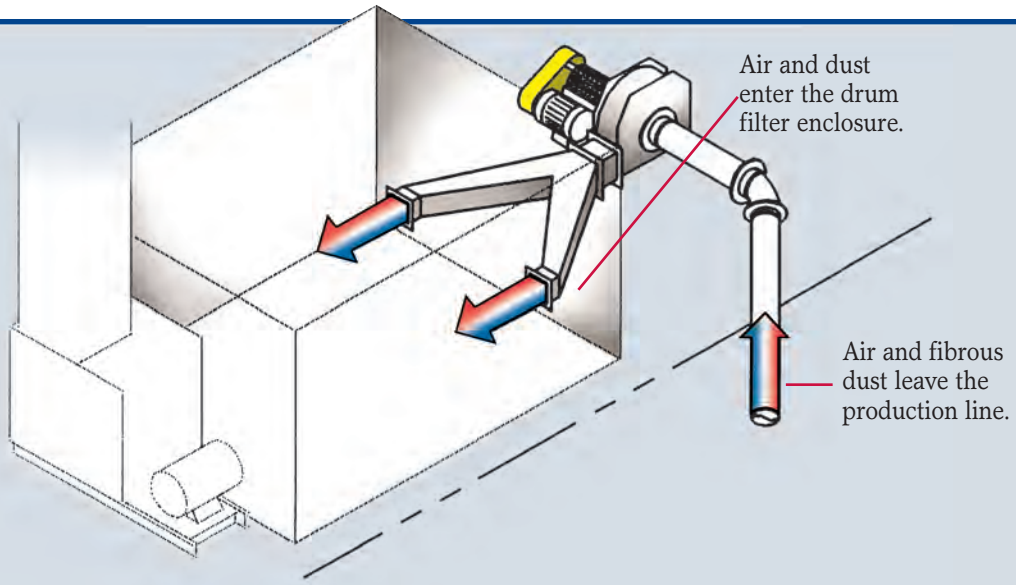


Overview

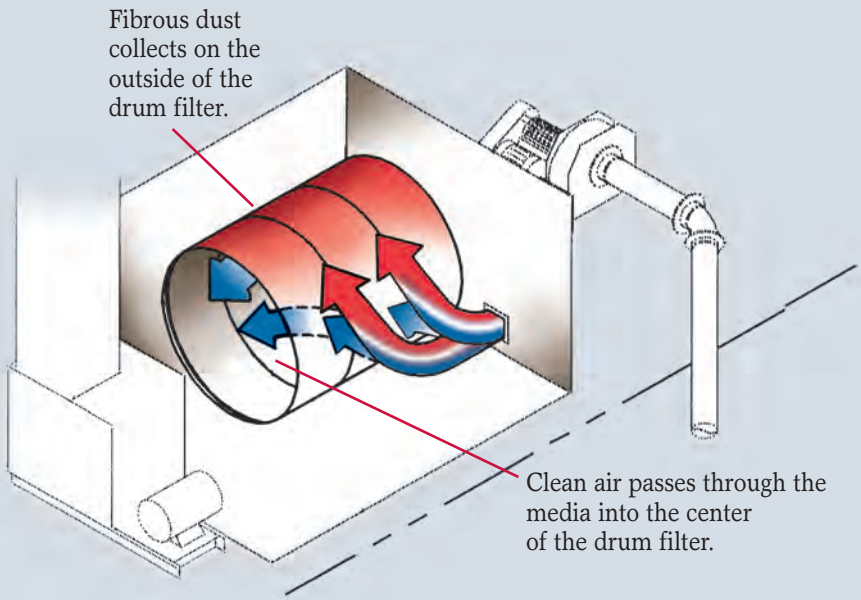
KEY:

- Air and dust
- Fibrous dust
- Filtered air

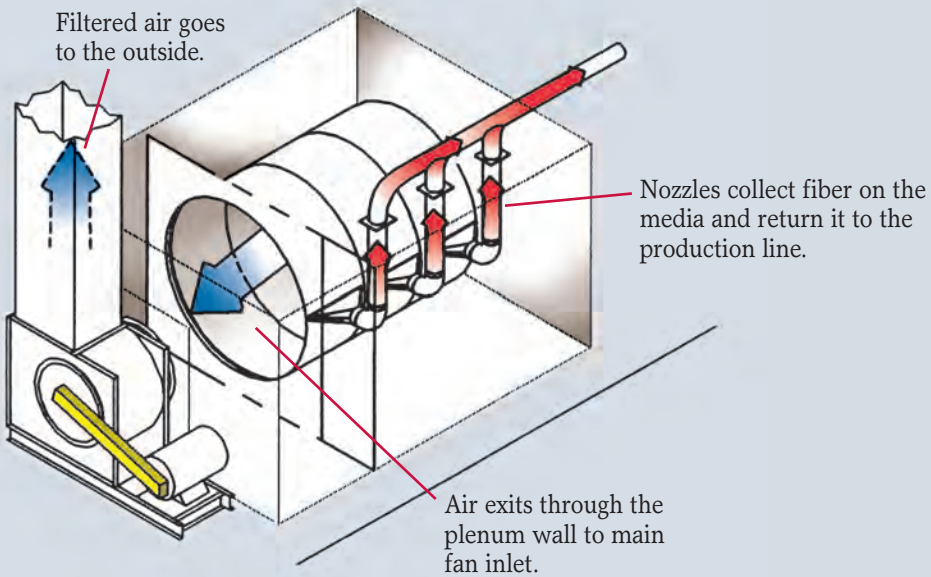
1.


Air and dust enter the drum filter enclosure.
Air and fibrous dust leave the production line.

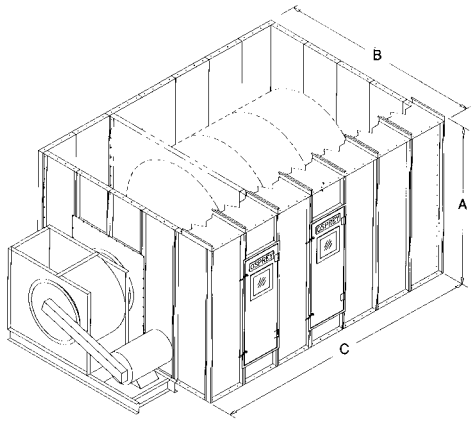
2.


Fibrous dust collects on the outside of the drum filter.
Clean air passes through the media into the center of the drum filter.

3.


Filtered air goes to the outside.
Nozzles collect fiber on the media and return it to the production line.
Air exits through the plenum wall to main fan inlet.

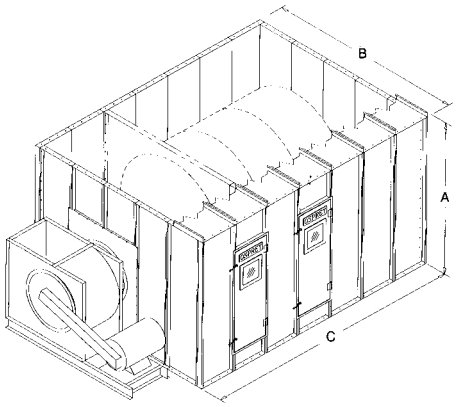
U.S. SPECIFICATIONS



Model No.	DIMENSIONS (inches) C	B	A	Media Area (ft^2)	AIR VOLUME: (cfm) 100 FPM	150 FPM	200 FPM
4-1	112.5	96	76 1/8	26	2,600	3,900	5,200
4-2	135	96	76 1/8	52	5,200	7,800	10,400
4-3	157.5	96	76 1/8	78	7,800	11,700	15,600
4-4	202.5	96	76 1/8	104	10,400	15,600	20,800
4-5	225	96	76 1/8	130	13,000	19,500	26,000
5-1	112.5	96	81 3/4	32	3,200	4,800	6,400
5-2	135	96	81 3/4	64	6,400	9,600	12,800
5-3	157.5	96	81 3/4	96	9,600	14,400	19,200
5-4	202.5	96	81 3/4	128	12,800	19,200	25,600
5-5	225	96	81 3/4	160	16,000	24,000	32,000
5-6	247.5	96	81 3/4	192	19,200	28,800	38,400
6-1	112.5	118.5	93	39	3,900	5,850	7,800
6-2	135	118.5	93	78	7,800	11,700	15,600
6-3	157.5	118.5	93	117	11,700	17,550	23,400
6-4	202.5	118.5	93	156	15,600	23,400	31,200
6-5	225	118.5	93	195	19,500	29,250	39,000
6-6	247.5	118.5	93	234	23,400	35,100	46,800
7-1	112.5	118.5	104.25	45	4,500	6,750	9,000
7-2	135	118.5	104.25	91	9,100	13,650	18,200
7-3	157.5	118.5	104.25	137	13,700	20,550	27,400
7-4	202.5	118.5	104.25	183	18,300	27,450	36,600
7-5	225	118.5	104.25	229	22,900	34,350	45,800
7-6	247.5	118.5	104.25	275	27,500	41,250	55,000
7-7	270	118.5	104.25	321	32,100	48,150	64,200
8-1	112.5	141	115.5	52	5,200	7,800	10,400
8-2	135	141	115.5	104	10,400	15,600	20,800
8-3	157.5	141	115.5	156	15,600	23,400	31,200
8-4	202.5	141	115.5	208	20,800	31,200	41,600
8-5	225	141	115.5	260	26,000	39,000	52,000
8-6	247.5	141	115.5	312	31,200	46,800	62,400
8-7	270	141	115.5	364	36,400	54,600	72,800
8-8	315	141	115.5	416	41,600	62,400	83,200
9-1	112.5	141	126.75	59	5,900	8,850	11,800
9-2	135	141	126.75	118	11,800	17,700	23,600
9-3	157.5	141	126.75	177	17,700	26,550	35,400
9-4	202.5	141	126.75	236	23,600	35,400	47,200
9-5	225	141	126.75	295	29,500	44,250	59,000
9-6	247.5	141	126.75	354	35,400	53,100	70,800
9-7	270	141	126.75	413	41,300	61,950	82,600
9-8	315	141	126.75	472	47,200	70,800	94,400
10-1	112.5	163.5	138	65	6,500	9,750	13,000
10-2	135	163.5	138	130	13,000	19,500	26,000
10-3	157.5	163.5	138	195	19,500	29,250	39,000
10-4	202.5	163.5	138	260	26,000	39,000	52,000
10-5	225	163.5	138	325	32,500	48,750	65,000
10-6	247.5	163.5	138	390	39,000	58,500	78,000
10-7	270	163.5	138	445	45,500	68,250	91,000
10-8	315	163.5	138	520	52,000	78,000	104,000
11-1	112.5	163.5	149.25	72	7,200	10,800	14,400
11-2	135	163.5	149.25	144	14,400	21,600	28,800
11-3	157.5	163.5	149.25	216	21,600	32,400	43,200
11-4	202.5	163.5	149.25	288	28,800	43,200	57,600
11-5	225	163.5	149.25	360	36,000	54,000	72,000
11-6	247.5	163.5	149.25	432	43,200	64,800	86,400
11-7	270	163.5	149.25	504	50,400	75,600	100,800
11-8	315	163.5	149.25	576	57,600	86,400	115,200
12-1	135	186	160.5	78	7,800	11,700	15,600
12-2	157.5	186	160.5	156	15,600	23,400	31,200
12-3	202.5	186	160.5	234	23,400	35,100	46,800
12-4	225	186	160.5	312	31,200	46,800	62,400
12-5	247.5	186	160.5	390	39,000	58,500	78,000
12-6	270	186	160.5	468	46,800	70,200	93,600
12-7	292.5	186	160.5	546	54,600	81,900	109,200
12-8	337.5	186	160.5	624	62,400	93,600	124,800

METRIC SPECIFICATIONS

Model No.	DIMENSIONS (mm) C	B	A	Media Area (m^2)	AIR VOLUME: (m^3/hr) .51 m/s	.76 m/s	1 m/s
4-1	2,858	2,438	1,934	2.42	4,400	6,600	8,800
4-2	3,429	2,438	1,934	4.83	8,800	13,300	17,700
4-3	4,001	2,438	1,934	7.25	13,300	19,900	26,500
4-4	5,144	2,438	1,934	9.66	17,733	26,500	35,300
4-5	5,715	2,438	1,934	12.08	22,183	33,100	44,200
5-1	2,858	2,438	2,076	2.97	5,400	8,200	10,900
5-2	3,429	2,438	2,076	5.95	10,900	16,300	21,700
5-3	4,001	2,438	2,076	8.92	16,400	24,500	32,600
5-4	5,144	2,438	2,076	11.89	21,900	32,600	43,500
5-5	5,715	2,438	2,076	14.86	27,400	40,800	54,400
5-6	6,287	2,438	2,076	17.84	32,900	48,900	65,200
6-1	2,858	3,010	2,362	3.62	6,600	9,900	13,300
6-2	3,429	3,010	2,362	7.25	13,300	19,900	26,500
6-3	4,001	3,010	2,362	10.87	20,000	29,800	39,700
6-4	5,144	3,010	2,362	14.49	26,700	39,800	52,900
6-5	5,715	3,010	2,362	18.12	33,400	49,700	66,100
6-6	6,287	3,010	2,362	21.74	40,100	59,600	79,300
7-1	2,858	3,010	2,648	4.18	7,600	11,500	15,300
7-2	3,429	3,010	2,648	8.45	15,500	23,200	30,900
7-3	4,001	3,010	2,648	12.73	23,400	34,900	46,500
7-4	5,144	3,010	2,648	17.00	31,300	46,600	62,100
7-5	5,715	3,010	2,648	21.27	39,200	58,400	77,700
7-6	6,287	3,010	2,648	25.55	47,100	70,100	93,300
7-7	6,858	3,010	2,648	29.82	55,000	81,800	108,900
8-1	2,858	3,581	2,934	4.83	8,800	13,300	17,700
8-2	3,429	3,581	2,934	9.66	17,700	26,500	35,300
8-3	4,001	3,581	2,934	14.49	26,600	39,800	52,900
8-4	5,144	3,581	2,934	19.32	35,500	53,000	70,500
8-5	5,715	3,581	2,934	24.15	44,400	66,300	88,100
8-6	6,287	3,581	2,934	28.98	53,300	79,500	105,700
8-7	6,858	3,581	2,934	33.82	62,200	92,800	123,300
8-8	8,001	3,581	2,934	38.65	71,100	106,000	140,900
9-1	2,858	3,581	3,219	5.48	10,000	15,000	20,000
9-2	3,429	3,581	3,219	10.96	20,000	30,100	40,100
9-3	4,001	3,581	3,219	16.44	30,000	45,100	60,200
9-4	5,144	3,581	3,219	21.92	40,000	60,200	80,300
9-5	5,715	3,581	3,219	27.41	50,000	75,200	100,400
9-6	6,287	3,581	3,219	32.89	60,000	90,200	120,500
9-7	6,858	3,581	3,219	38.37	70,000	105,300	140,600
9-8	8,001	3,581	3,219	43.85	80,000	120,300	160,700
10-1	2,858	4,153	3,505	6.04	11,000	16,600	22,100
10-2	3,429	4,153	3,505	12.08	22,100	33,100	44,200
10-3	4,001	4,153	3,505	18.12	33,200	49,700	66,300
10-4	5,144	4,153	3,505	24.15	44,300	66,300	88,400
10-5	5,715	4,153	3,505	30.19	55,400	82,800	110,500
10-6	6,287	4,153	3,505	36.23	66,500	99,400	132,600
10-7	6,858	4,153	3,505	42.27	77,600	116,000	154,700
10-8	8,001	4,153	3,505	48.31	88,700	132,500	176,800
11-1	2,858	4,153	3,791	6.69	12,200	18,400	24,500
11-2	3,429	4,153	3,791	13.38	24,500	36,700	48,900
11-3	4,001	4,153	3,791	20.07	36,800	55,100	73,300
11-4	5,144	4,153	3,791	26.76	49,100	73,400	97,700
11-5	5,715	4,153	3,791	33.44	61,400	91,800	122,100
11-6	6,287	4,153	3,791	40.13	73,700	110,100	146,500
11-7	6,858	4,153	3,791	46.82	86,000	128,500	170,900
11-8	8,001	4,153	3,791	53.51	98,300	146,800	195,300
12-1	3,429	4,724	4,077	7.25	13,300	19,900	26,500
12-2	4,001	4,724	4,077	14.49	26,500	39,800	53,000
12-3	5,144	4,724	4,077	21.74	39,700	59,600	79,500
12-4	5,715	4,724	4,077	28.98	52,900	79,500	106,000
12-5	6,287	4,724	4,077	36.23	66,100	99,400	132,500
12-6	6,858	4,724	4,077	43.48	79,300	119,300	159,000
12-7	7,430	4,724	4,077	50.72	92,500	139,200	185,500
12-8	8,573	4,724	4,077	57.97	105,700	159,000	212,000



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