



Multi-Color Multi-Shape Die Systems

6'-0 1/2"
[1841]

5'-1 1/2"
[1562]

9'
[2743]

1/2"
[2]

23'-4 1/2"
[7124]

6'-9"
[2056]

1 1/2"
[34]

2'-6"
[766]

3'-1 1/2"
[1126]

5'-1 1/2"
[1562]

VIBRATORY FEEDER WITH INMIX SYSTEM

LIQUID INLET FROM CUSTOMER SOURCE TANK
(SEE 1/2" TAP/DAMP CONNECTIONS)

LIQUID TANK ASSEMBLY

6'-8 1/2"
[2043]

8'-7"
[2616]

VERTICAL COOLING SYSTEM
(SEE 1/2" TAP/DAMP CONNECTIONS)

MAXIMUM
LEAD ORIENTATION RANGE
ROTATED AS REQUIRED

8" IC

10" IC

4" (4X) A.813
[211]

4.00
[2031] SQ.

5.50
[1551] SQ.

VERTICAL COOLING SYSTEM
(SEE 1/2" TAP/DAMP CONNECTIONS)





World class petfood and treat diversity - from one extruder.

Pet Treat Co-Extrusion from a single extruder? Think it was impossible to produce a co-extruded type treat from a Single Extruder? Challenging the standards for innovation, Extru-Tech has made it possible using the Multi-Color/Multi-Shape (MCMS) Die Assembly. Further enhancing the Extru-Tech MCMS Die Assembly versatility, all from a single extruder.

The MCMS still provides the ability to produce up to 4 separate colors and multiple shapes on a single extruder, dramatically reducing mixing, batching and handling costs commonly associated with multiple color and multiple shape finished products.

- The ability to run multiple colors in a single production run completely eliminates the need to stop mid-run to clean up and change die color.
- Running multiple shapes in the same production run eliminates mid-run die changes.
- Multi-Color heads can be completely removed from the extruder barrel in 10-15 minutes, and the extruder can be restarted running single-color, dry kibble at full capacity immediately, minimizing switch over downtime.
- The Multi-Color/Multi-Shape system eliminates the costly expense of blending and batching multiple runs to attain the desired finished product color and shape combination.

- The die system is available in 2-, 3-, and 4-color and shape configurations and can produce marbled and bi-color product in both dry and soft-moist.
- All systems are designed to use one die plate and cutter head assembly.
- Liquid dye or titanium dioxide is injected into the die assembly through high-pressure metering pumps that ensure the highest quality finished product.
- Specific carriers can be used to alter the texture of individual components of a product collection.

Existing Final Head

Split Flare-Out

Adapter Plate

Mixing Heads

Die Adapter Plate
(Final Die Plate Not Shown)

Head Jacket Injection for Cooling

Give your product line a competitive cost advantage the competition simply can't match.

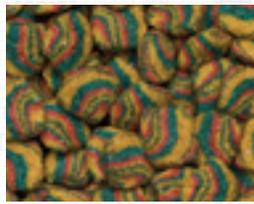


MULTI-COLOR/MULTI-SHAPE DIE SYSTEM VS. TRADITIONAL BLENDING OR MULTIPLE EXTRUDER SETUPS



2-color

Product divided into 2 or 4 equal flows, using 2 to 4 heads



3-color

Product divided into 3 or 4 equal flows, using 3 to 4 heads



4-color

Product divided into 4 equal flows, using 4 heads



Marbled 3-color

Single component (dry or soft-moist) with a random mix of different colors



Bi-color

Single component (dry or soft-moist) with 2 different colors meshed with a specific design

The Multi-Color/Multi-Shape Die System from Extru-Tech, Inc. is designed to provide immediate return on investment and provide a technical advantage the competition simply can't match using existing technology.

The Multi-Color/Multi-Shape Die System (US Patent No. 6719448) is exclusive technology engineered specifically for single screw cooking extruders. The revolutionary design of the die assembly allows the production of multiple colors and multiple shapes simultaneously.

**Extruder
w/4 head
CM525 System**

**Average power
consumption =
40-45 kW Mton
with a maximum
298 kW motor.**

Multi-Color/Multi-Shape Die System Development Data

Pet Food Formula #1- 2 Color Multi-Shape

Run #	001	004	005	006
Feed Rate (lbs/hr) / (kg/hr)	4,427 / 2,008	6,600 / 3,000	7,680 / 3,485	8,820 / 4,000
% of Rated Capacity	40.2	60	70	80.2
Wet Density (lbs/ft ³) / (g/l)	28 / 448	23 / 367	25 / 394	30 / 486
Load (% FLA)	51	62	68	77
SME (kW/hr*ton)	46	40	36	32.5

Pet Food Formula #2- 2 Color Multi-Shape

Run #	001	002	003	004
Feed Rate (lbs/hr) / (kg/hr)	4,400 / 2,000	6,600 / 3,000	8,100 / 3,700	8,780 / 3,980
% of Rated Capacity	40.3	60	73.3	79.8
Wet Density (lbs/ft ³) / (g/l)	25 / 400	23 / 410	25 / 395	25 / 395
Load (% FLA)	48	77	82	79
(kW/hr*ton)	43.1	47.3	38.1	39.4

Pet Food Formula #1- Bi-Color/Marbled

Run #	003	004	005	002
Feed Rate (lbs/hr) / (kg/hr)	3,300 / 1,500	3,980 / 1,800	4,830 / 2,190	5,500 / 2,500
% of Rated Capacity	30.1	36.1	43.9	50.2
Wet Density (lbs/ft ³) / (g/l)	18 / 282	22 / 345	22 / 350	21 / 341
Load (% FLA)	59	81	92	84
SME (kW/hr*ton)	70	80.7	77.4	63

