



## **ADVANCED EXTRUDER TECHNOLOGIES**

**Design | Engineering | Manufacturing**



**HIGH PERFORMANCE, HEAVY DUTY  
EXTRUDERS & SYSTEMS**

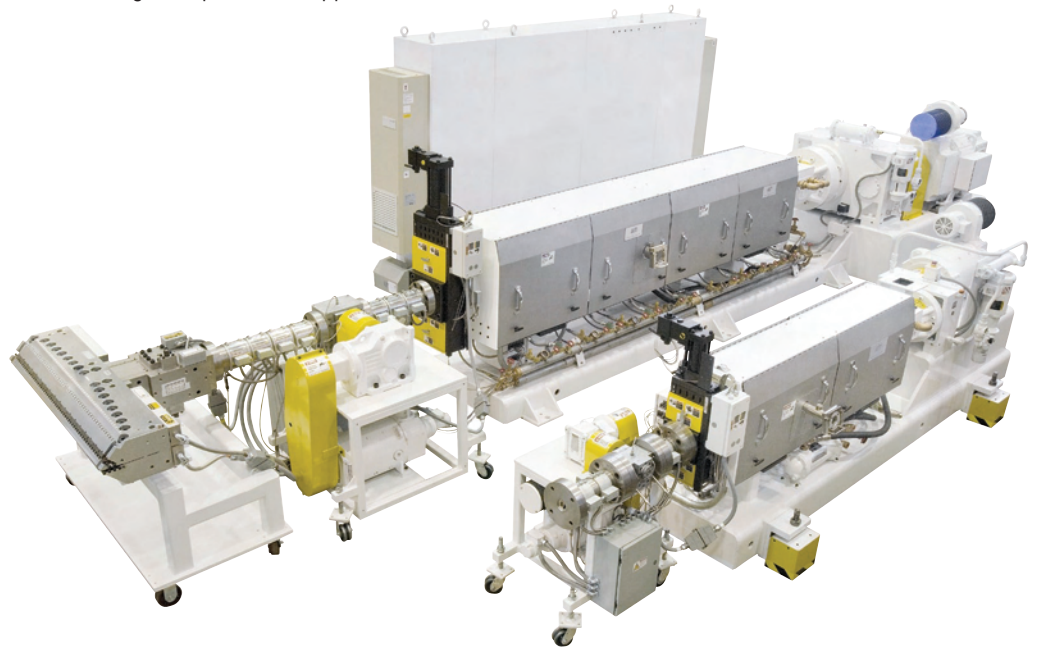
# ADVANCED EXTRUDER TECHNOLOGIES

AET has established an international reputation for excellence in extrusion equipment manufacturing, process engineering and system reliability. Every AET extruder and system is custom designed to match your specific application requirements. Our team of industry experts is committed to providing our customers with leading edge technology and unparalleled support services. AET's extruders and related equipment are proudly made in the U.S.A – built in Elk Grove Village, Illinois, just 15 minutes from Chicago's O'Hare airport.

## ADVANTAGE SERIES EXTRUDERS

AET's extruders are available in sizes ranging from 1 inch (19mm) to 15 inches (381mm) in screw diameter in both standard, as well as intermediate, sizes for a more precise maximum output which translates into cost savings. All extruders are equipped with the highest quality, ultra heavy duty components available. We incorporate the latest technological advances that are required to meet individual production requirements with optimum efficiency across a wide range of specialized applications that include:

- Sheet Extrusion Systems
- Cast Film Systems
- Compounding Systems
- Hot Melt Extruders, Mixers & Systems
- Extrusion Coating Systems
- Blown Film Systems
- Pipe, Profile & Tubing Systems
- Reclaim Crammer Feeder Systems
- Ram Feeder & Dual Diameter Extruder Systems
- Foam Extrusion Systems
- Blow Molding Systems
- Wire & Cable Systems
- Co-Extrusion Systems
- Pelletizing Systems
- Fiber Optic Systems
- Fiber Systems



AET can supply extruders that are designed to accept other manufacturers screw shanks for interchangeability. If you are looking for higher output, flexibility, and application expertise, AET is ready to serve you.

## HIGH PERFORMANCE FEED SCREW TECHNOLOGY



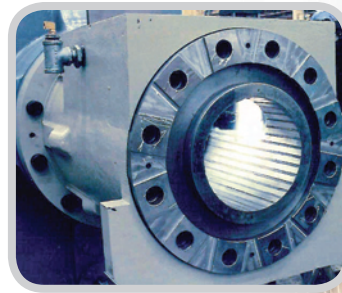
AET's "ADVANEX" feed screw designs offer significant capabilities over other manufacturers, establishing new standards throughout the industry. Whether single stage, two-stage or multi-flighted barrier, all available with various mixing sections, the following advantages can be realized:

- Greater melting capacity
- Lower melts temperature
- Higher output, frequently 20% or more
- Higher melts quality
- More stable output pressure, even at higher levels
- Longer life
- Ease of operation & machine setup
- Superior mixing ability

## FEED THROAT DESIGN

Cast (standard) or fabricated feed sections on AET's extruders are available in three configurations:

- Oversized rectangular tangential opening
- Round opening center feed
- Both configurations, 1 and 2, are available with smooth or grooved horizontal bores)
- Intensively cooled and grooved

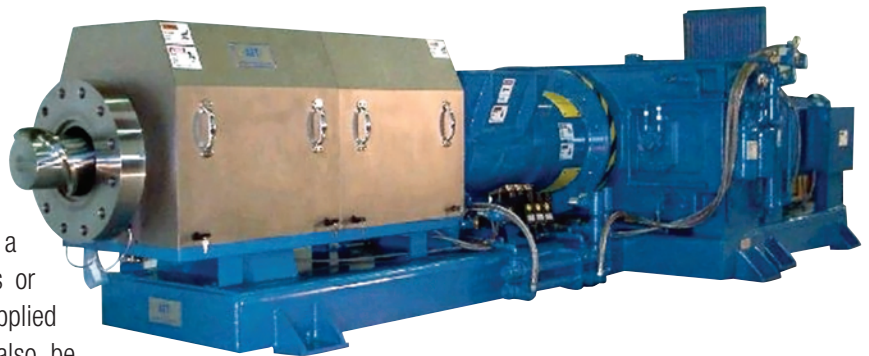


## BARREL SUPPORT

AET's barrel support design provides essential rigidity and centerline stability regardless of temperature changes. This is accomplished by allowing both radial and linear expansion, which avoids screw binding and accelerated screw and barrel wear that result from misalignment. AET's design also incorporates up-and-down and side-to-side adjustments for ease of alignment.

## HOT MELT EXTRUDERS

AET's line of heavy duty Hot Melt extruders are available from 4 inch (100mm) to 15 inch (380mm) in screw diameter, and are used to pump pre-melted materials from a twin screw or another single screw extruder, continuous or batch mixers through a pelletizing or shape die. They are supplied with oversized custom feed openings. The feed can also be equipped with an optional ram feeder for batch mixer applications or hard-to-feed materials. If you have a Hot Melt application, AET with its in-depth knowledge of machinery and processing, is the best source for your needs, from stand-alone Hot Melt extruders to complete turnkey systems.



## RAM FEED EXTRUDER

AET offers heavy duty side ram feed extruders from 3 inch (89mm) to 15 inch (381mm) in screw diameter for feeding low bulk density materials and "Hot Melt" batch discharge into a short L/D extruder. The ram section can be retrofit to existing extruders. For higher outputs and consistency, an AET ram feeder is the best choice.



# CUSTOM SHEET EXTRUSION SYSTEMS

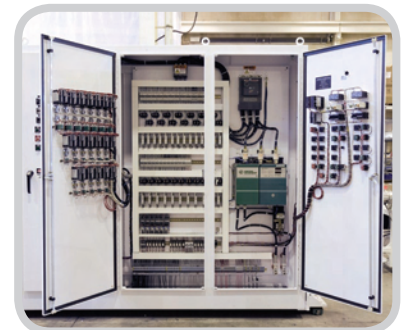
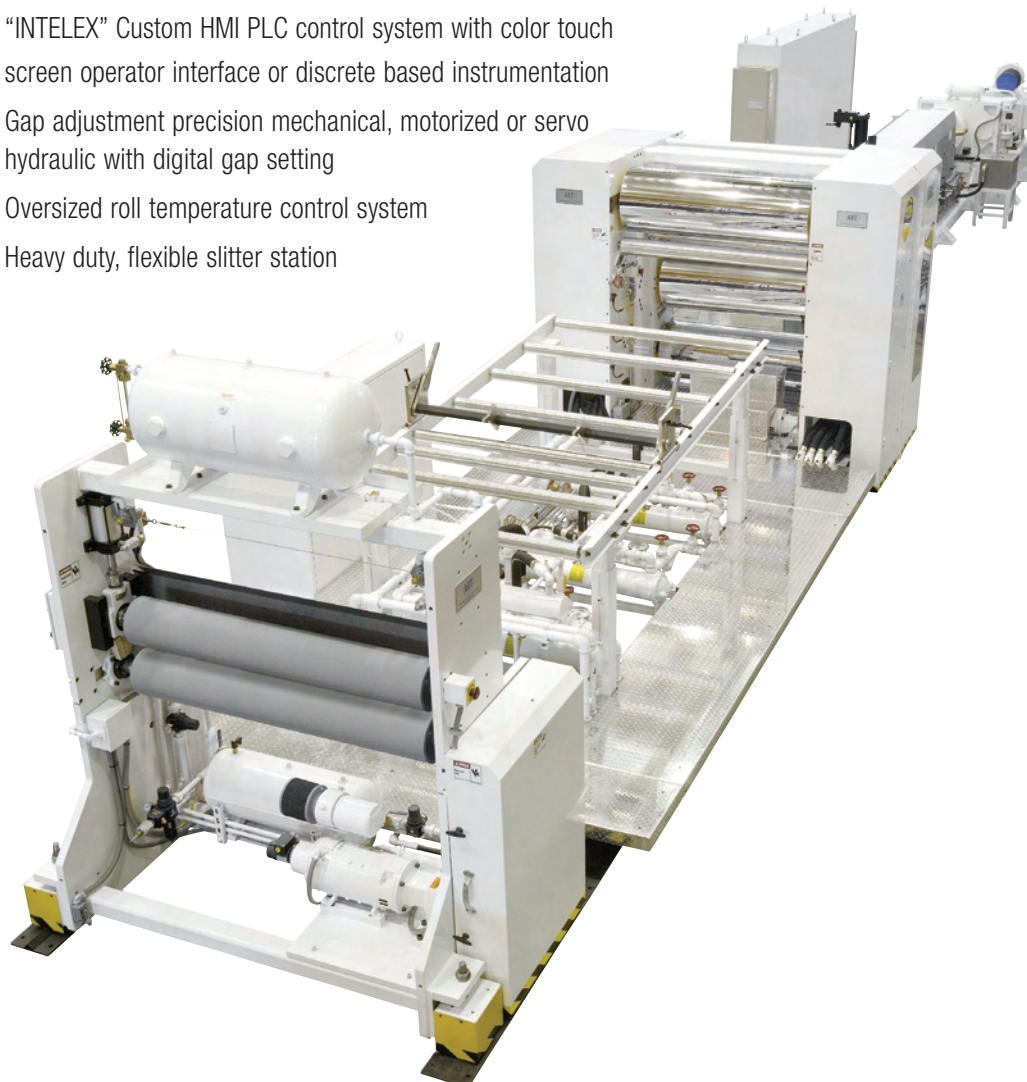
## HIGH CAPACITY, APET, CPET, PP, PS, PE AND ABS SHEET EXTRUSION SYSTEM

### QUALITY, RELIABILITY AND SINGLE SOURCE RESPONSIBILITY

AET's "ADVANTEK" series sheet line is custom designed to meet today's highest product tolerances and production requirements. The newest and most innovative designed sheet line in the industry with roll diameters from 10 inch (254 mm) to 36 inch (914 mm) and up to 140 inch (3,556 mm) wide, for roll stock, cut sheet or in-line applications. Available as a mono or multi layer co-extruded end product in variety of configurations to meet your specific application. For a low maintenance, high performance, heavy duty sheet line at affordable prices, AET is your partner for all sheet extrusion needs. Call us to find out how we can optimize your next extrusion project.

## CUSTOM SHEET EXTRUSION FEATURES

- Heavy duty frame design with precision alignment for up to 800 PLI (1400 bar per mm) roll pressure force
- Designed for quick roll change with linear bearing
- Oversized precision silent chain or individually driven rolls
- Proprietary hardened roll designs for high performance and maximum heat transfer
- Computerized heat transfer analysis for exact exchange heating and cooling with uniformity and control
- Roll nip actuation pneumatic or hydraulic
- "INTELEX" Custom HMI PLC control system with color touch screen operator interface or discrete based instrumentation
- Gap adjustment precision mechanical, motorized or servo hydraulic with digital gap setting
- Oversized roll temperature control system
- Heavy duty, flexible slitter station



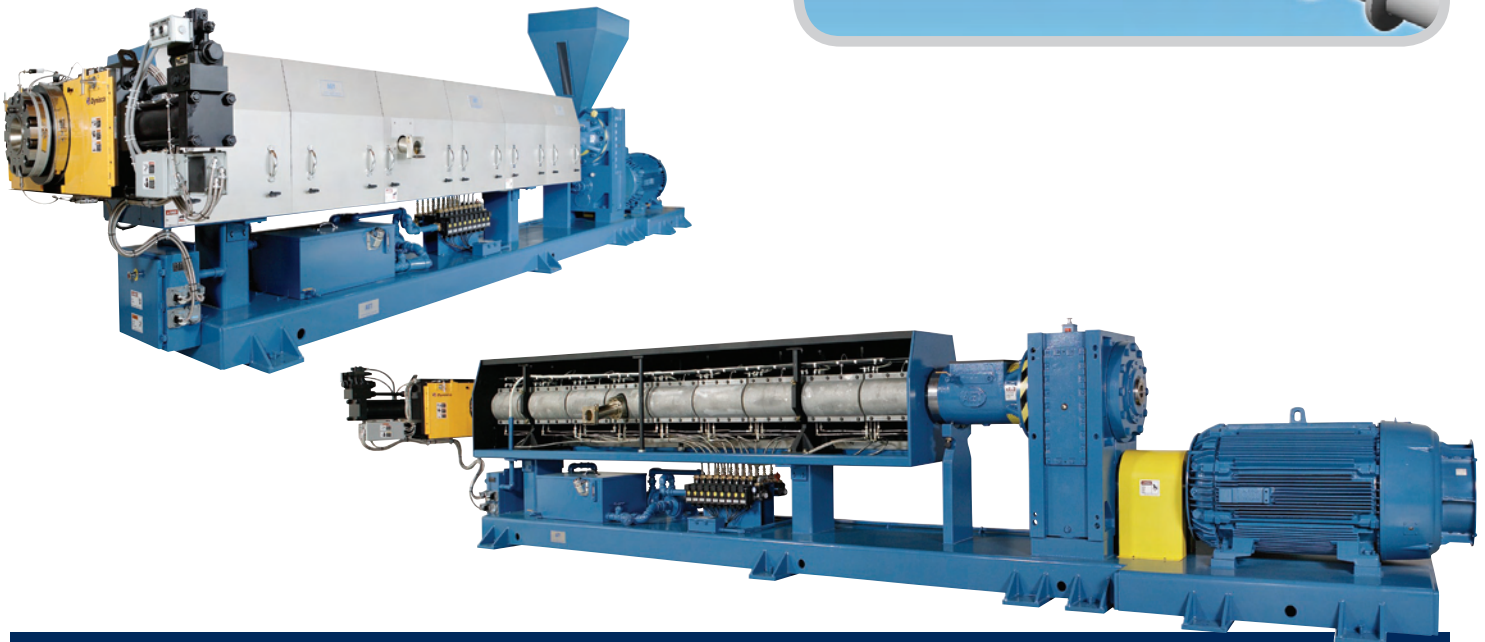
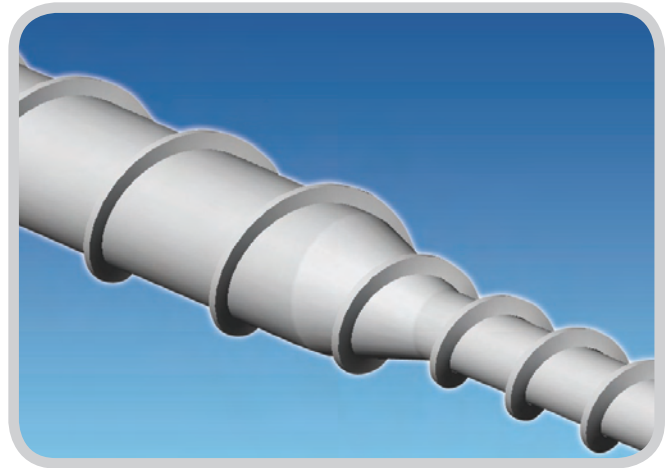
# DUAL DIAMETER, DENSIFYING EXTRUDERS

## CONVERT LOW BULK DENSITY SCRAP INTO PELLETS

AET's densifying, heavy duty reclaim extruders are designed especially for the reclamation of low bulk density scrap. This line of extruders features two different diameter screws, a large one, and a smaller one that are keyed together for easy removal. The smaller screw can be removed from the front of the machine, similar to the way a standard extruder feed screw can. By combining the greater feed capacity of the larger feed screw with the economy of the smaller one, AET's design concept provides an ideal system for processing often hard-to-handle low bulk density scrap feed forms effectively and economically. The scrap is fed directly through AET's "over sized" feed section. The scrap then goes into the large, first stage, densifying screw after which it is compressed and conveyed to the small diameter preplasticizing screw. This produces the ideal compression ratio to melt the material for delivery to the automatic screen changer and pelletizer.

## DUAL DIAMETER ADVANTAGES

- Effectively processes low bulk density scrap such as film, foam fiber, as well as hard-to-feed virgin polymers.
- Eliminates the need for screw (crammer) or ram feeder
- Upgrades product quality
- Minimizes or eliminates pre-processing of scrap  
Processes material with bulk densities down to 1/3 lb. per cubic foot (.1 kg. per cubic meter) easily
- Higher output, up to 100% or more when compared with conventional reclamation systems



### SPECIFICATIONS FOR AET'S DUAL DIAMETER RECLAIM EXTRUDERS

Model	Densifying Screw	Plasticizing Screw	L/D	HP	(kW)
35/60 ASDD	6 in. (152mm)	3.5 in. (89mm)	32:1	100-150	(74.6-111.9)
45/80 ASDD	8 in. (203mm)	4.5 in. (114mm)	32:1	200-250	(149.1-186.4)
60/100 ASDD	10 in. (254mm)	6 in. (152mm)	32:1	400-600	(298.3-447.4)
80/120 ASDD	12 in. (305mm)	8 in. (203mm)	32:1	600-1000	(447.4-745.7)

## HEATING AND COOLING SYSTEMS

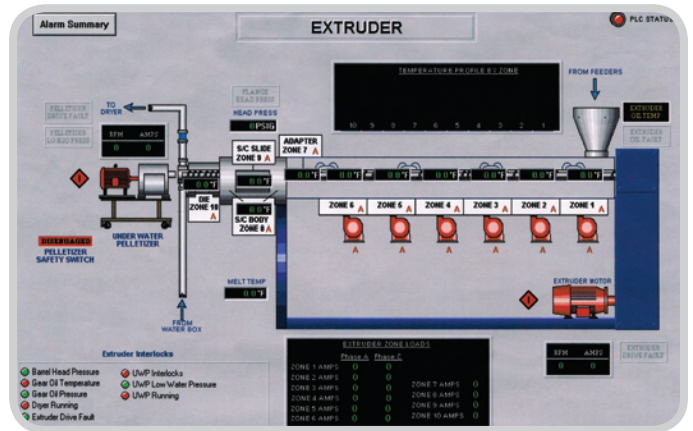
AET's extruders are offered in both air-cooled and closed loop water-cooled designs that are precisely matched to the extruder and process for the most efficient heating and/or cooling transfer.

Where appropriate, finned cast aluminum heaters (standard), or perforated ceramic heaters (optional) are supplied for use with high volume air-cooling blowers.



## INTEGRATED CONTROL SYSTEM

AET offers control systems that are base mounted (completely pre-wired) or freestanding that can contain microprocessor or discrete controls. The state-of-the-art instrumentation is utilized for operator safety, low maintenance, and precise, reliable control. AET's custom design "INTELEX" PLC based touch screen extrusion control system, with high processing capability, is operator-friendly. It incorporates recipe storage, direct access menus, local or remote diagnostics, alarms, real time trending and SPC charts. It can also interface with auxiliary equipment ensuring consistent total system control. These systems can be certified with UL or CE certification.



## SCREW (GRAMMER) FEEDERS

AET's screw feeders provide a steady flow of material into the extruder insuring a constant output. They are most often used in scrap reclamation and compounding applications. They effectively feed the most difficult materials such as powders, foam scrap, chopped film, fiber scrap, and other low bulk density material. An automatic feedback control is incorporated into every feeder that corrects for changes in the material bulk density.

If you are looking to increase productivity, reduce down-time and have a quick return on your investment, AET's screw feeder is an ideal solution.

AET's screw feeders can be adapted to all single screw extruders by modifying or replacing the existing feed throat.





## COMPOUNDING AND PELLETIZING

AET's line of heavy duty compounding and pelletizing extruders, available in all standard sizes, can be supplied to a maximum L/D ratio of 50:1. The longer units allow multiple vent ports and/or side feed ports to be incorporated. They are supplied with custom designed "ADVANEX" feed screws incorporating a variety of mixing sections for superior mixing ability. They are also available with vacuum venting, single- or twin-screw side feeders to incorporate additives such as wood flour, fiberglass, etc. and a screw (crammer) feeder or ram feeder for hard-to-feed materials like powder, light bulk density, etc. Down stream they can be equipped with a screen changer and pelletizer. AET's tailored solutions help you meet your goals, on time and on budget.



## AUXILIARIES

- Screen Changer, single, dual bolt, back flush and rotary
- Polymer melt pump and Static mixer
- Digital AC motor and Drive
- Die and Feed block
- Gauge scanner
- Winder, Turret /Cantilevered
- Edge trim system
- Silicon bath system
- Slitter

## SUPPORT SERVICES

AET offers a wide range of support services to insure your new AET equipment runs at optimum performance.

- Installation and supervision
- Start-up and training
- Laser bore alignment
- Screw and Barrel measurement
- Spare parts and Repair

## ENGINEERING & TECHNOLOGIES

AET offers an in-house staff of engineers and experienced designers that are highly talented CAD operators to create custom designs to meet your application needs. Our staff is equipped with state-of-the-art software such as Solid Works for three dimensional modeling, as well as heat transfer, stress, and deflection analysis. We have insight into the leading technologies and are able to bring you the best design technology available for all your extrusion needs and applications.



## STANDARD EXTRUDER SPECIFICATIONS SUMMARY

MODEL		15AS	20AS	25AS	30AS	35AS	40AS	45AS	50AS	60AS	70AS
NOMINAL SIZE	INCH MM	1.5 38	2.0 51	2.5 64	3.0 76	3.5 89	4.0 100	4.5 114	5.0 127	6.0 152	7.0 178
GEAR BOX RATING @100 RPM 1.0 SF	HP kW	36 27	36 27	120 89	120 89	280 209	280 209	480 358	480 358	740 552	960 716
THRUST BEARING L-10 LIFE @ 5000 PSI & 100 RPM	kW HRS. X 1000	27 3550	27 550	89 990	89 210	209 300	209 123	358 298	358 148	552 110	716 113
STANDARD HOPPER CAPACITY	FT <sup>3</sup> M <sup>3</sup>	1.25 0.03	1.25 0.03	3.80 0.10	3.80 0.10	6.10 0.17	6.10 0.17	9.00 0.25	9.00 0.25	15.0 0.42	15.0 0.42
AIR COOLING CAPACITY/ZONE	CFM C <sup>3</sup> S x 10 <sup>3</sup>	140	140	350	350	495	495	985	985	1005	1005
CLOSED LOOP WATER COOLING CAPACITY	BTU/HR. X1000	100	100	100	100	250	250	250	250	600	600
APPROX. WEIGHT 24:1 L/D	LBS. KG	2,200 998	2,350 1,066	5,700 2,585	7,700 3,493	8,800 3,991	11,900 5,398	12,600 5,715	13,100 5,942	18,100 8,210	18,800 8,528
STANDARD L/D RATIO		24/32	24/32	24/32	24/32	24/32	24/32	24/32	24/32	24/32	24/32
NO. OF HEATING ZONES TOTAL BARREL HEATING CAPACITY		3 4	3 4	4 5	4 5	4 5	5 6	5 6	5 6	7 8	7 8
	kW	14 19	15 20	24 32	25 33	37 49	44 59	75 100	78 104	90 120	132 176

## STANDARD LARGE EXTRUDER SPECIFICATIONS SUMMARY

MODEL		80AS	100AS	120AS	150AS
NOMINAL SIZE	INCH MM	8.0 203	10.0 254	12.0 305	15.0 381
GEAR BOX RATING @100 RPM 1.0 SF	HP kW	1,600 1,193	2,400* 1,790*	2,400* 1,790*	3,600* 2,237*
THRUST BEARING L-10 LIFE @ 5000 PSI & 100 RPM	kW HRS. X 1000	75	29	38	56
STANDARD HOPPER CAPACITY	FT <sup>3</sup> M <sup>3</sup>	28.0 0.79	37.0 1.04	60.0 1.70	100.0 2.83
AIR COOLING CAPACITY/ZONE	CFM C <sup>3</sup> S x 10 <sup>3</sup>	140	140	350	350
CLOSED LOOP WATER COOLING CAPACITY	BTU/HR. X1000	600	1,200	1,800	1,800
APPROX. WEIGHT 24:1 L/D	LBS. KG	50,000 22,650	62,000 28,120	88,000 39,920	175,000 79,380
STANDARD L/D RATIO		24/32	24/32	24/32	24/32
NO. OF HEATING ZONES TOTAL BARREL HEATING CAPACITY		3 4	3 4	4 5	4 5
	kW	14 19	15 20	24 32	25 33

### NOTES:

- 1.5 inch (38mm) thru 3.0 inch (76mm) The standard is belt driven but they are also available in direct coupled.
- All other models are standard as direct coupled but up to 4.5 inch (114mm) are available in belt driven (optional).
- \*Gear box rating at 60 RPM (screw speed).
- All extruders are available in other special L/D's to suit the application.
- All extruders are designed for a maximum pressure of 10,000 PSI (7.03 KG/mm<sup>2</sup>) or (689 BAR).
- Other screw diameters are also available from .75 inch (19mm) thru 15 inch (381mm).
- All extruders are available in vented or double vented designs.
- Our continuous improvement of product lines may make specifications subject to change without notice.



**COMMITMENT TO EXCELLENCE & BEYOND  
MADE IN THE U.S.A.**

**ADVANCED EXTRUDER TECHNOLOGIES**

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