



MILACRON®

SINGLE SCREW



SINGLE SCREW

Milacron has engineered its single screw extruders with modular design concepts to meet market requirements. The result is built-in flexibility, lower cost, faster deliveries and, ultimately, an exceptionally competitive value to our customers from stand-alone extruders to complete systems.

PERFORMANCE ADVANTAGES

- Flexible designs that optimize the processing window
- Advanced wear protection for long service life
- Designed for maximum flexibility in order to meet customer specific processing needs
- Standard discrete control with optional micro processor control
- Robust gearbox designs
- Die clamp for quick change overs
- Available in air and water cooled barrels



Milacron designs and builds full extrusion systems in house, maintaining complete control of your precise equipment needs. From extruders, to new and rebuilt extrusion barrels and screws, to pipe heads, dies and downstream equipment, you get powerful, reliable solutions that meet your unique needs.



MILACRON M•POWERED

- Designed to fully utilize our M-Powered Suite of connectivity products
- Reduces failures, improves uptime and OEE

MOSAIC + CONTROL

Standard discrete extruder control. Optional Mosaic + control with a 21" screen capable of interfacing with other extruders and downstream equipment within the extrusion system providing a single point of control.

PROCESSING UNIT

Processing unit consisting of bimetallic barrel, custom screw design, and robust gearbox.

MOTOR

Energy efficient AC vector motor. Total Enclosed Fan Cooled (TEFC) is a reliable low maintenance solution for dusty manufacturing environments because the motor is not located under the barrel & provide ease of motor maintenance.



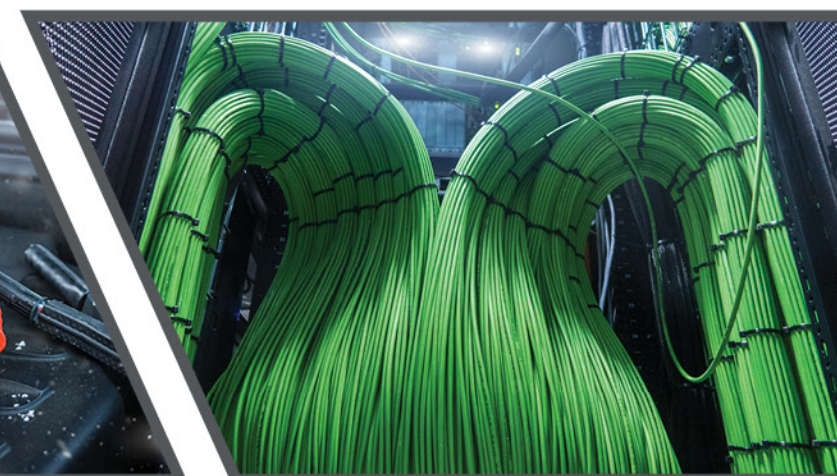
BASE MOUNTED ELECTRICAL PANEL

Configurable panel design for die zones

PROVIDING THE HIGHEST PERFORMANCE,
PRECISION, AND FLEXIBILITY.

APPLICATIONS

- Ⓜ AUTOMOTIVE
- Ⓜ CONSTRUCTION
- Ⓜ CONSUMER
- Ⓜ MEDICAL
- Ⓜ RECYCLING
- Ⓜ WIRE/CABLE



Single Screw (S), Single Screw Mobile (SM), and Single Mobile Tilt (SMT) extruders handle applications including sheet, profile, pipe, pelletizing, medical tubing, wire, and cable.

Single Grooved (SG) Series extruder is designed to provide a consistent homogeneous melt for the production of polyethylene and the polypropylene pipes.

TOOLING COMPONENTS

Die heads are available for the production of water, drain waste, and conduit pipes. They are designed to maximize the extruder's output performance while maintaining product quality. Our die heads are also designed with features to allow timely and efficient pipe size change overs.

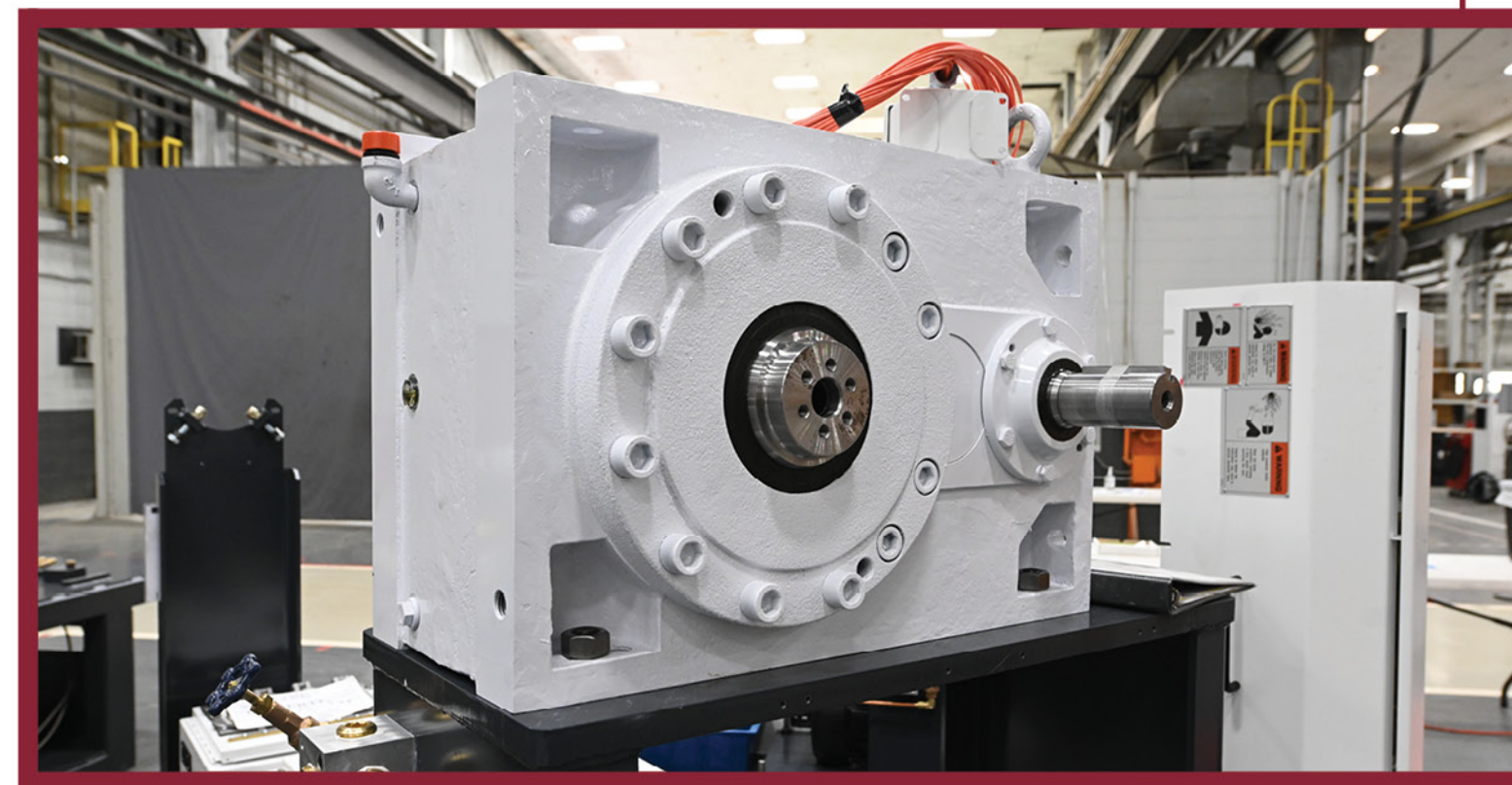


GEARBOXES

We offer extruder gearboxes with the highest performance and load capacity in the world, including Twin Conical, Twin Parallel, and Single Screw extruders.

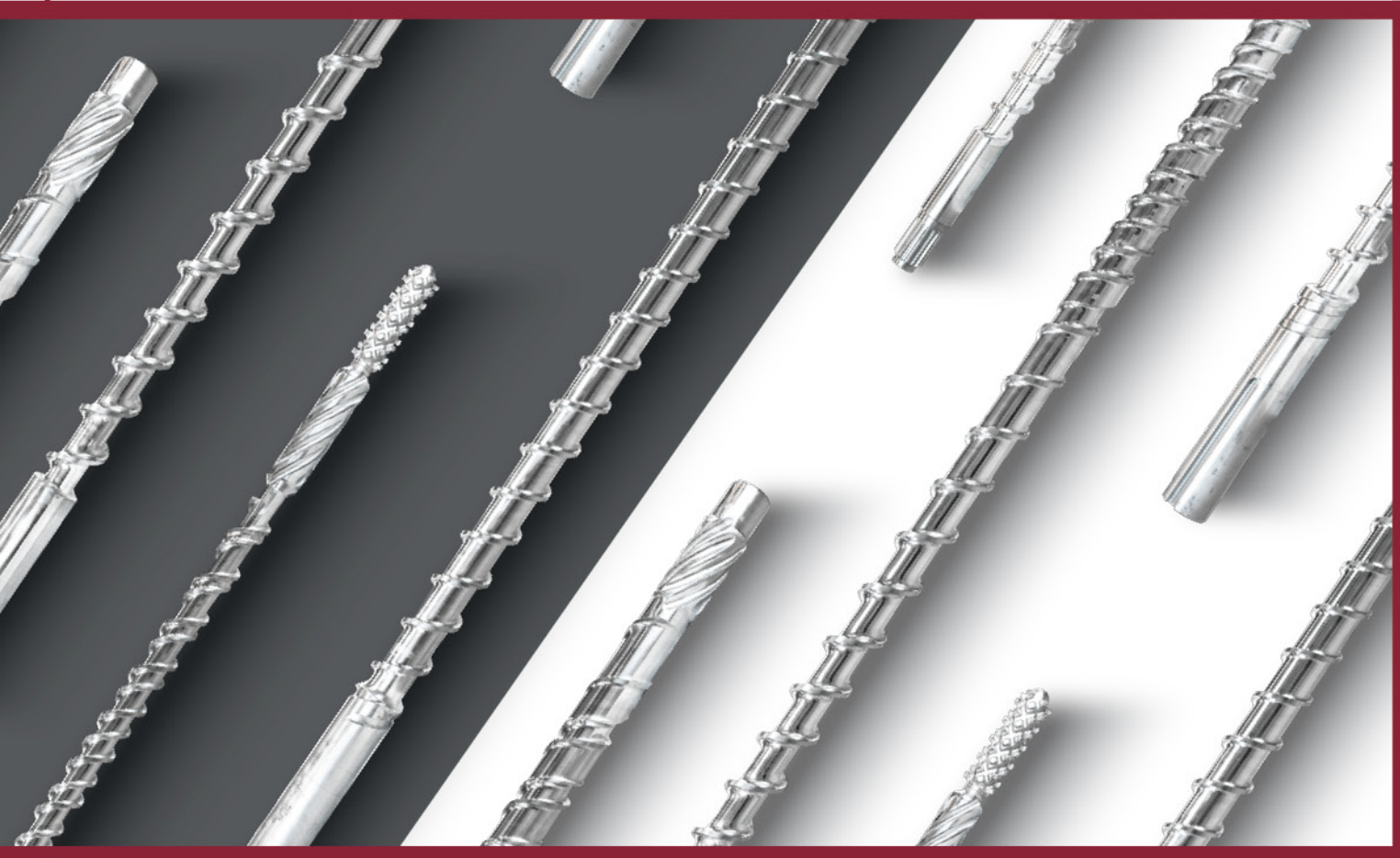
GEARBOX REBUILD PROGRAM

- Ⓜ Gearboxes are crated and stored in a clean environment
- Ⓜ All components are coated with long-term storage lubricant
- Ⓜ Shafts and seals are inspected and shafts turned every quarter
- Ⓜ Gearboxes are flushed and tested prior to shipment



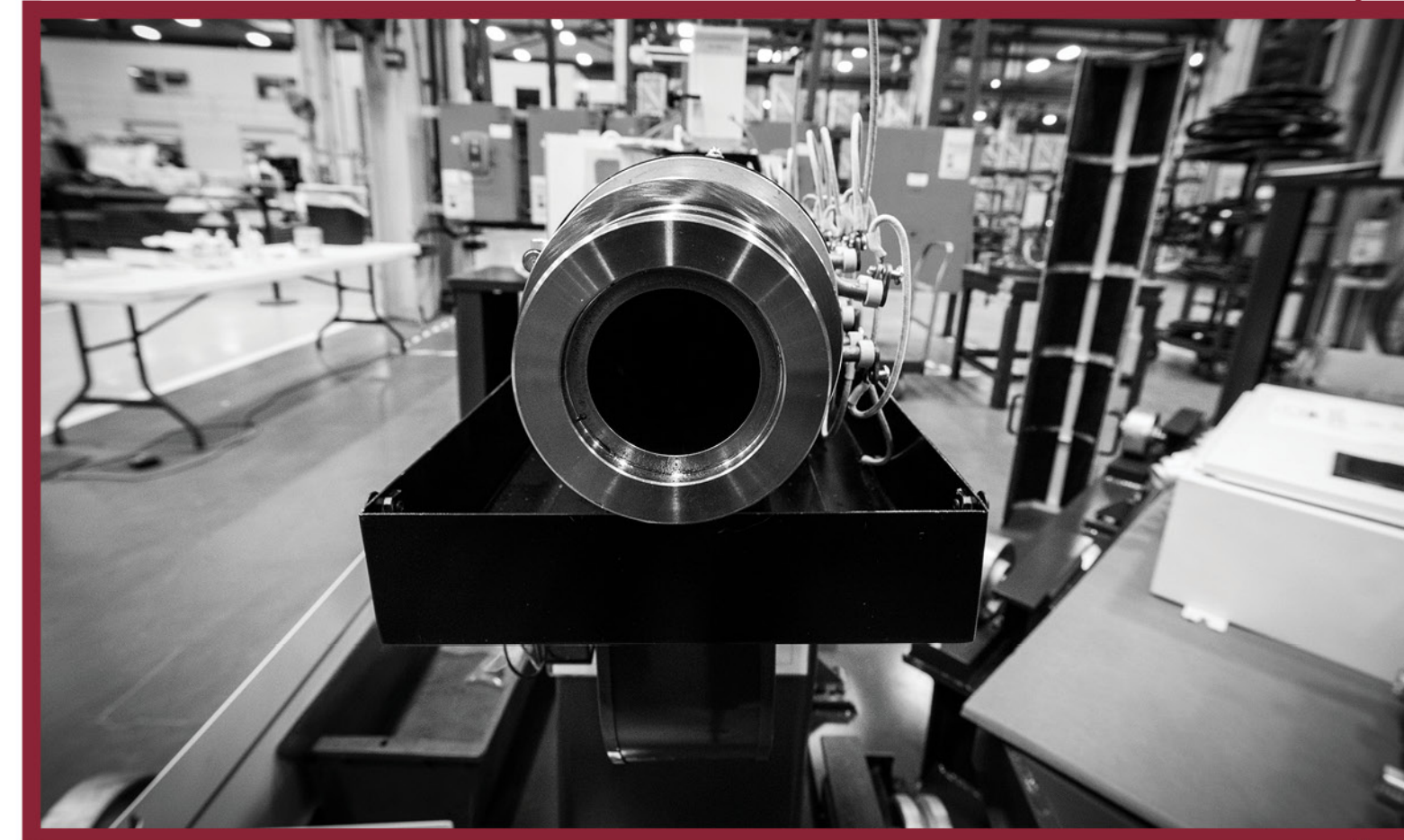
SCREWS

New feed screws with a variety of options are available. Feed screws are typically made of 4140 steel, polished, and hard faced with either Colmonoy 56 or 83. They can also be chrome plated or surface treated with a carbide encapsulation for more abrasive or demanding applications. Several design options such as conventional or barrier, with mixing options such as straight Maddock, spiral Maddock, and Pineapple are available. We are capable of handling requests of any size, application, and complexity.



BARRELS

Milacron Extrusion sells vented and non-vented barrels made of high quality steel. We offer clamp-type, bolt-on, or threaded discharge flanges. Barrels are centrifugally cast with bi-metallic liners of Nickel-Boron or Tungsten-Carbide. Rupture disc and pressure transducer holes are pre-drilled at the factory and thermocouple holes can either be pre-drilled or drilled on site.



MOSAIC+ CONTROLLER SYSTEM

It's easy to maximize the reliability and adaptability of Milacron machines with the ergonomic touch-screen control of MOSAIC+. Fast processing speeds power extensive data collection and report generation, as well as integration with automation controls to further simplify the whole process.

EXCEPTIONAL STANDARD FEATURES

- ➊ Multi-touch capable 21.5" HD touch screen
- ➋ Intuitive operator interface
- ➌ Configurable screen layout
- ➍ Windows based operating system
- ➎ Touch-screen is provided in English as standard, optional alternative languages available



We can offer an integrated system to include tanks, pullers, saws, cutter, printers, collection table, bellers, and coilers. On select applications, we can also provide an integrated system to produce sheet products.

- ➏ Set point overview page for quick access – actual set points for each axis at the bottom of the page
- ➐ Display of 700 process monitor samples stored on control or virtually unlimited samples on USB stick or network drive via reports
- ➑ Graphic display of 33 integrated soft keys with LED's located below screen
- ➒ Internal parameter storage – 40 formulations or dies
- ➓ Self diagnostic and fault finding capability
- ➔ Data protection with 4 access levels for up to 30 machine operators
- ➕ PID control of barrel and screw oil zones
- ➖ High/low temperature alarms
- ➗ Automatic PID barrel heat tuning
- ➘ Up to 700 change and alarm logs entries on the control, virtually unlimited on a USB stick or network drive via reports

PLUS SCREEN TECHNOLOGY

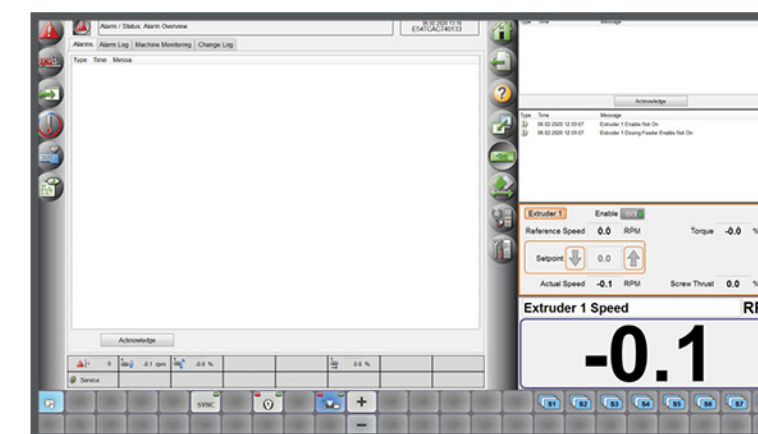
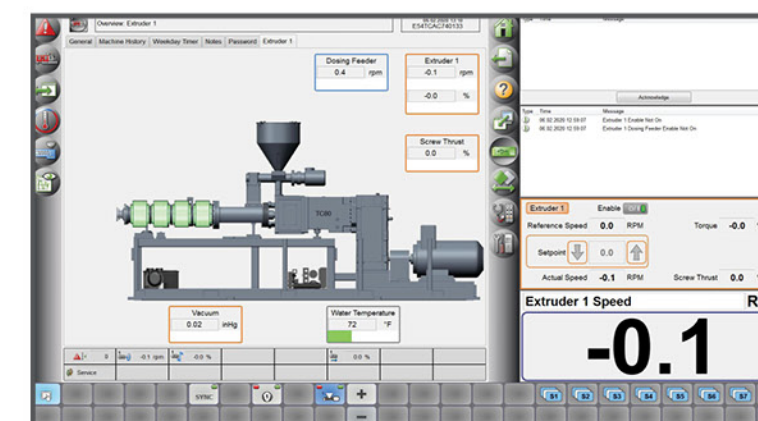
The PLUS section has four configurable window spaces. In this section, the operator can choose to show:

- ➊ Four small windows
- ➋ One large and two small windows
- ➌ Two large windows

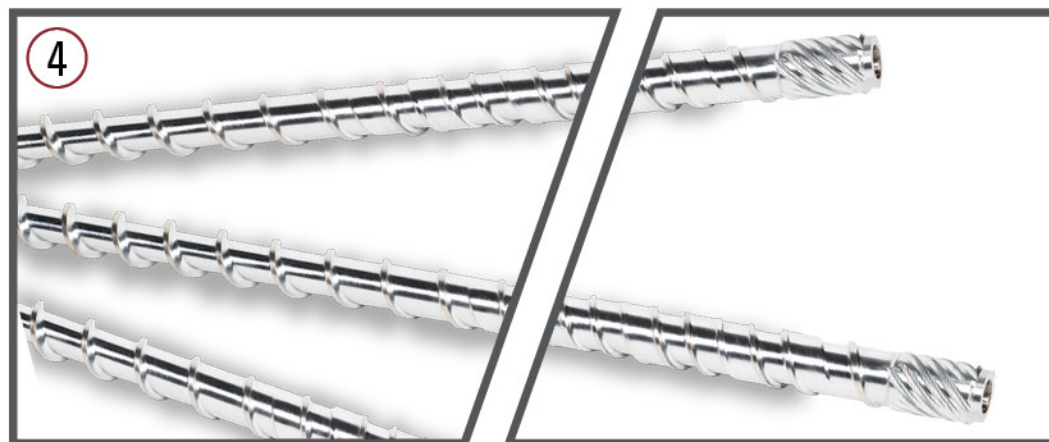
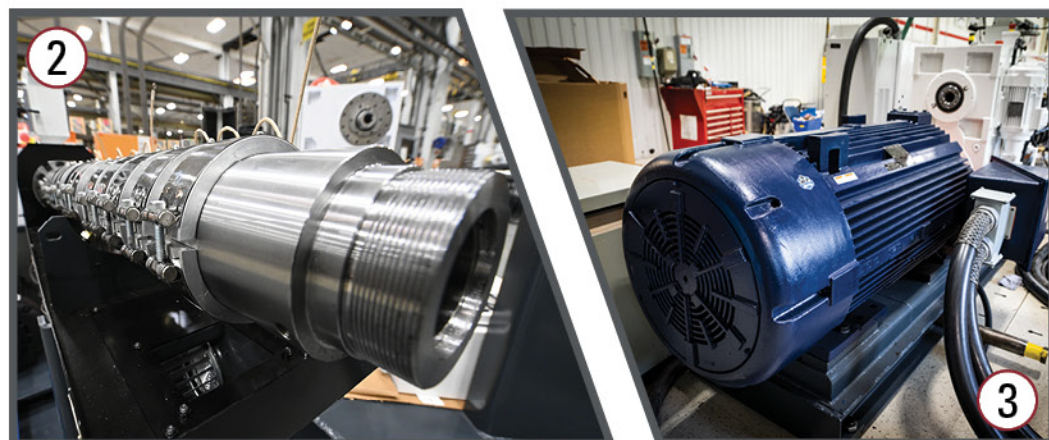
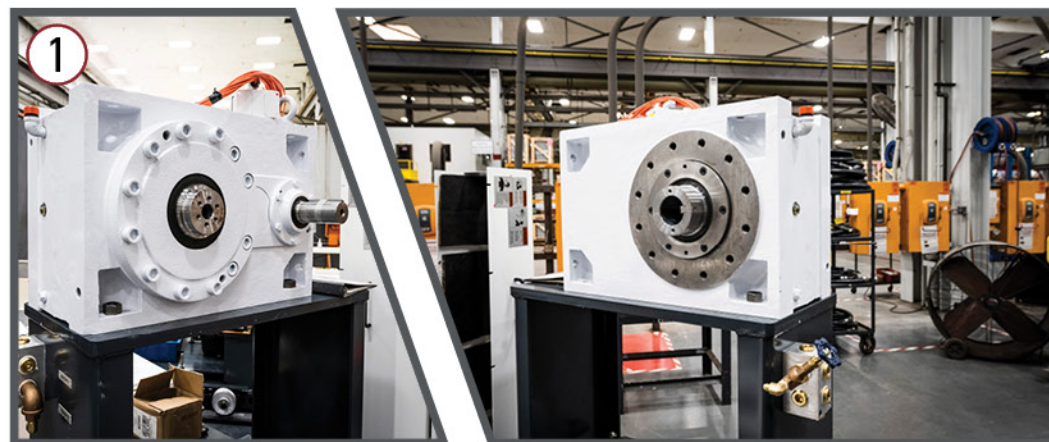


Content choices for the four windows include:

- ➊ Alarms log
- ➋ Production run
- ➌ Extrusion graphics
- ➍ Trend data analysis
- ➎ Trend graphics
- ➏ SPC charts
- ➐ Related equipment extruder mounted feeder systems and downstream equipment
- ➑ Status page



HIGH-QUALITY COMPONENTS



1. GEARBOX:

High quality design with a standard AGMA service >1.5, integral thrust bearing, oil cooling, and method of lubrication designed to match to application (splash, forced flow, and cooling).

2. BARREL:

Bimetallic nickel-boron lined barrel with multiple taps for installation of rupture disc, melt temperature, and pressure probes. Barrel discharge threaded to allow for installation of optional flange and clamp configurations.

3. MOTOR:

AC vector motors with an energy efficiency rating of >90%. TEFC (Totally Enclosed Fan Cooled) motor design permits efficient cooling of the motor while protecting the motor's critical components from dusty environments.

4. SCREW:

Screw designs are customized to match the process requirements. High quality 4140HT steel is standard and wear resistance coatings are welded to the flight tips. Chrome, nickel plate,

STANDARD EQUIPMENT

	Standard	Optional
GENERAL		
Discrete temperature and speed control	●	
Mosaic +		○
AC motor and drive	●	
Belt and sheave motor to gearbox	●	
Bimetallic barrel	●	
Bimetallic barrel-tungsten		○
Air cooled barrel	●	
Hopper painted with shut off	●	
Line Reactor-extruder drive		* ○
Machine mounted die transformer	●	
UL, CUL, CSA electrical panel certification		* ○
CE compliant electrical panel		○
Non-Standard electrical supply voltage	●	○
Die Clamp		* ○
Caster and track		○
Barrel heater/water cooled bands		○
Drawer magnet		○
Screw cooling-water		○
Direct couple motor and gearbox-consult factory		○

*Standard on SV model

AUXILIARY SOLUTIONS

FEEDER SYSTEMS

- Volumetric feeder for color or other additives
- Gravimetric feeder capable of accurately feeding one or more components

Feeding systems



DIE HEADS

- Genca die heads for polyolefin pipe, wire and cable, medical tubing, industrial and commercial tubing

Die heads



DOWNSTREAM EQUIPMENT

- We can offer integrated system to include tanks, pullers, saws, cutters, printers, collection table, bellers, and coilers. On select applications, we can also provide integrated system to produce sheet products.

Downstream equipment



M-POWERED

M-POWERED INTELLIGENCE

- M-POWERED leverages the latest in Industrial Internet of Things (IIoT) and data science to contribute unique insights and intelligence into your machine's current operations and future needs.
- Accompany the growing list of M-Powered customers that are experiencing a reduction in service trips and up to a 50% reduction in time to resolution of unplanned downtime events.
- Once an appointment is confirmed, a Milacron technician will be at your facility within the next 10 days to bring your machine online. Alternative connection choices are possible in the event of a more complex IT setup.



M-Powered Applications	ADVANTAGE	ESSENTIAL	PREMIER
Connect Portal	✓	✓	✓
Technical Support	On Demand (payable per hour)	✓	✓ (24/7)
Production Monitoring	✓	✓	✓
Downtime Tracking		✓	✓
Preventative Maintenance			✓
Predictive Analytics			✓

SINGLE SCREW SERIES

SCREW SIZES:
2.0 - 4.5

TECHNICAL SPECIFICATIONS

		S200		S250		S300		S350		S400		S450	
		Imperial	Metric	Imperial	Metric	Imperial	Metric	Imperial	Metric	Imperial	Metric	Imperial	Metric
Barrel & Screw Specifications	Screw Diameter (in/mm):	2.0	50.8	2.5	63.5	3.0	76.2	3.5	88.9	4.0	101.6	4.72	120
	L/D:	24:1		24:1		24:1		24:1		24:1		24:1	
	Control:	Discrete		Discrete		Discrete		Discrete		Discrete		Discrete	
	Number of Heat/Cool Zones:	3		4		5		5		5		5	
	Barrel Cooling:	Air		Air		Air		Air		Air		Air	
	Number of Die Zones:	3		3		3		3		3		3	
	Barrel Liner Material:	Bimetallic		Bimetallic		Bimetallic		Bimetallic		Bimetallic		Bimetallic	
Electrical Specifications	Die and Tooling Voltage:	230/1/60		230/1/60		230/1/60		230/1/60		230/1/60		230/1/60	
	Main Motor Power (HP/kW):	20	14.92	40	29.84	60	44.76	75	55.9	100	74.6	150	111.8
Drive Train	Gear Box:	Belt & Sheave		Belt & Sheave		Belt & Sheave		Belt & Sheave		Belt & Sheave		Belt & Sheave	
Utilities	Main Power Drop:	460/3/60		460/3/60		460/3/60		460/3/60		460/3/60		460/3/60	
	Full Load Amps:	58		90		125		145		226		268	
Machine Dimensions	Extruder Length (in/mm):	70	1,778	100	2,540	106	2,686	132	3,353	136	3,462	148	3,759
	Extruder Width (in/mm):	40	1,016	40	965	42	1,066.8	48	1,219	40	1,016	45	1,143
	Extruder Height (in/mm):	75	1,905	75	1,905	93	2,356	92	2,337	96	2,437	96	2,438
	Extruder weight (lbs/kg):	2,800	1,273	3,800	1,727	4,800	2,182	7,650	3,477	10,220	4,645	13,200	6,000
	Barrel Centerline from Floor (in/mm):	42	1,066	42	1,066	42	1,066	42	1,066	42	1,066	42	1,066
Throughput Rates (1)	HDPE (lbs/hr) (kg/hr):	125	57	250	113	360	163	400	181	520	236	750	340
	PP (lbs/hr) (kg/hr):	100	45	190	86	270	122	300	136	390	177	560	254
	FPVC (lbs/hr) (kg/hr):	150	68	250	113	360	163	620	281	800	363	925	420
	RPVC (lbs/hr) (kg/hr):	75	34	125	57	180	82	250	113	325	147	410	186

Performance Specifications are based on theoretical data.

SINGLE GROOVED FEED SCREW EXTRUDER SERIES

SCREW SIZES:
45 - 120

TECHNICAL SPECIFICATIONS

		SG45-42		SG60-42		SG75-42		SG90-42		SG120-42	
		Imperial	Metric	Imperial	Metric	Imperial	Metric	Imperial	Metric	Imperial	Metric
Barrel & Screw Specifications	Screw Diameter (in/mm):	1.77	45	2.36	60	2.95	75	3.55	90	4.72	120
	L/D:	42:1		42:1		42:1		42:1		42:1	
	Number of Heat/Cool Zones:	5		5		5		5		7	
	Barrel Cooling (Air/Water):	Air		Air		Air		Air		Air	
	Number of Die Zones:	3		5		5		5		5	
	Cast Fin Aluminum Heat/Cool Capacity/Zone (kW):	3.6		5		6		9		10	
	Maximum Melt Pressure Continuous Operation (psi/bar):	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
	Barrel Pressure Tap Standard:	3		3		3		3		3	
Electrical Specifications	Main Power Drop (1):	460/3/60		460/3/60		460/3/60		460/3/60		460/3/60	
	Main Motor Power (HP):	200		300		400		600		800	
	Maximum Amp Load (Amps) (2):	334		449		566		810		1038	
	Die Zone Voltage:	230/1/60				230/1/60					
Installation Specifications	Chilled Water gpm (l/min)	12/45		12/45		12/45		12/45		15/60	
	Chilled Water Temperature (F/C)	<65/18		<65/18		<65/18		<65/18		<65/18	
	Operation:	LH		LH		LH		LH		LH	
	Extruder Length:	152	3,856	192	4,881	241	6,111	284	7,207	341	8,672
	Extruder Width:	60	1,523	60	1,532	66	1,685	71	1,795	70	1,797
	Extruder Height with Hopper (in/mm):	84	2,131	83	2,106	76	1,929	83	2,100	110	2,802
Throughput Rates	Barrel Centerline from Floor (in/mm):	43	1,100	43	1,100	43	1,100	43	1,100	53	1,365
	HDPE	1,100	500	1,760	800	2,640	1,200	3,740	1,700	4,000	1,814
	PP	800	400	1,430	650	1,980	900	2,860	1,300	3,060	1,380

Performance Specifications are based on theoretical data.

SINGLE SCREW MOBILE SERIES

SCREW SIZES:
0.75 - 1.75

TECHNICAL SPECIFICATIONS

		SM75		SM100		SM125		SM150		SM175	
		Imperial	Metric	Imperial	Metric	Imperial	Metric	Imperial	Metric	Imperial	Metric
Barrel & Screw Specifications	Screw Diameter (in/mm):	0.75	19	1.00	25.4	1.25	31.7	1.50	38.1	1.75	44.4
	L/D:	24:1		24:1		24:1		24:1		24:1	
	Control:	Discrete		Discrete		Discrete		Discrete		Discrete	
	Number of Heat/Cool Zones:	2		3		3		3		3	
	Barrel Cooling:	Air		Air		Air		Air		Air	
	Number of Die Zones:	2		2		2		2		2	
	Heat/Cool Capacity/Zone (kW):	0.4		0.95		0.95		0.95		1.9	
	Barrel Liner Material:	Bimetallic		Bimetallic		Bimetallic		Bimetallic		Bimetallic	
	Maximum Melt Pressure Continuous Operation (psi/bar):	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
	Precision Barrel Pressure Tap Standard	1/2-20 NF		1/2-20 NF		1/2-20 NF		1/2-20 NF		1/2-20 NF	
Electrical Specifications	Die and Tooling Voltage:	230/1/60		230/1/60		230/1/60		230/1/60		230/1/60	
	Main Motor Power (HP/kW):	2	1.5	3	2.2	5	3.7	10	7.4	15	11.1
Drive Train	Gear Box:	Vector		Vector		Vector		Vector		Vector	
		Belt & Sheave		Belt & Sheave		Belt & Sheave		Belt & Sheave		Belt & Sheave	
Utilities	Main Power Drop:	460/3/60		460/3/60		460/3/60		460/3/60		460/3/60	
		Belt & Sheave		Belt & Sheave		Belt & Sheave		Belt & Sheave		Belt & Sheave	
Machine Dimensions	Extruder Length (in/mm):	54	1,371	54	1,371	60	1,524	60	1,524	96	2,438
	Extruder Width (in/mm):	40	1,016	40	1,016	42	1,829	42	1,329	72	1,829
	Extruder Height (in/mm):	68	1,727	68	1,727	72	2,536	72	2,536	90	2,286
	Extruder weight (lbs/kg):	700	318	750	340	800	363	1,000	454	1,150	521
	Barrel Centerline from Floor (in/mm):	42	1,066	42	1,066	42	1,066	42	1,066	42	1,066
	Throughput Rates (1)	HDPE (lbs/hr) (kg/hr):	10	5	20	9	30	14	50	23	80
	PP (lbs/hr) (kg/hr):	7	3	15	7	22	10	38	17	60	27
	FPVC (lbs/hr) (kg/hr):	10	5	25	11	40	18	70	32	100	45
	RPVC (lbs/hr) (kg/hr):	5	2	10	5	25	11	40	18	55	25

Performance Specifications are based on theoretical data.

SINGLE SCREW VALUE SERIES

SCREW SIZES:
2.0 - 4.5

TECHNICAL SPECIFICATIONS

		SV200		SV250		SV350		SV450		
		Imperial	Metric	Imperial	Metric	Imperial	Metric	Imperial	Metric	
Barrel & Screw Specifications	Screw Diameter (in/mm):	2.0	50.8	2.5	63.5	3.5	88.9	4.72	120	
	L/D:	24:1		24:1		24:1		24:1		
	Control:	Matrix		Matrix		Matrix		Matrix		
	Number of Heat/Cool Zones:	3		4		5		5		
	Barrel Cooling:	Air		Air		Air		Air		
	Number of Die Zones:	3		3		3		3		
	Barrel Liner Material:	Bimetallic		Bimetallic		Bimetallic		Bimetallic		
	Die and Tooling Voltage:	230/1/60		230/1/60		230/1/60		230/1/60		
	Electrical Specifications	Main Motor Power (HP/kW):	20	14.92	40	29.84	75	55.9	150	111.8
			Vector		Vector		Vector		Vector	
Drive Train	Gear Box:	Belt & Sheave		Belt & Sheave		Belt & Sheave		Belt & Sheave		
		Belt & Sheave		Belt & Sheave		Belt & Sheave		Belt & Sheave		
Utilities	Main Power Drop:	460/3/60		460/3/60		460/3/60		460/3/60		
		58		90		145		268		
Machine Dimensions	Extruder Length (in/mm):	70	1,778	100	2,540	132	3,353	148	3,759	
	Extruder Width (in/mm):	40	1,016	40	965	48	1,219	45	1,143	
	Extruder Height (in/mm):	75	1,905	75	1,905	92	2,337	96	2,438	
	Extruder weight (lbs/kg):	2,800	1,273	3,800	1,727	7,650	3,477	13,200	6,000	
	Barrel Centerline from Floor (in/mm):	42	1,066	42	1,066	42	1,066	42	1,066	
	Throughput Rates (1)	HDPE (lbs/hr) (kg/hr):	125	57	250	113	400	181	750	340
PP (lbs/hr) (kg/hr):		100	45	190	86	300	136	560	254	
FPVC (lbs/hr) (kg/hr):		150	68	250	113	620	281	925	420	
RPVC (lbs/hr) (kg/hr):		75	34	125	57	250	113	410	186	

Performance Specifications are based on theoretical data.

SINGLE SCREW SMV SERIES

SCREW SIZES:
1.0 - 1.5

TECHNICAL
SPECIFICATIONS

	SM100		SM125		SM150		
	Imperial	Metric	Imperial	Metric	Imperial	Metric	
Barrel & Screw Specifications	Screw Diameter (in/mm):	1.00	25.4	1.25	31.7	1.50	38.1
	L/D:	24:1		24:1		24:1	
	Control:	Matrix		Matrix		Matrix	
	Number of Heat/Cool Zones:	3		3		3	
	Barrel Cooling:	Air		Air		Air	
	Number of Die Zones:	2		2		2	
	Heat/Cool Capacity/Zone (kW):	0.95		0.95		0.95	
	Barrel Liner Material:	Bimetallic		Bimetallic		Bimetallic	
	Maximum Melt Pressure Continuous Operation (psi/bar):	10,000	689	10,000	689	10,000	689
	Precision Barrel Pressure Tap Standard	1/2-20 NF		1/2-20 NF		1/2-20 NF	
Electrical Specifications	Die and Tooling Voltage:	230/1/60		230/1/60		230/1/60	
	Main Motor Power (HP/kW):	5	3.7	7.5	5.6	15	11.1
Drive Train	Gear Box:	Direct Drive		Direct Drive		Direct Drive	
Utilities	Main Power Drop:	460/3/60		460/3/60		460/3/60	
	Full Load Amps:	18		23		33	
Machine Dimensions	Extruder Length (in/mm):	59	1,506	67	1,713	79	2,017
	Extruder Width (in/mm):	25	639	26	678	28	721
	Extruder Height (in/mm):	66	1,681	66	1,681	66	1,681
	Extruder weight (lbs/kg):	750	340	800	363	1,000	454
	Barrel Centerline from Floor (in/mm):	42	1,066	42	1,066	42	1,066
Throughput Rates (1)	HDPE (lbs/hr) (kg/hr):	20	9	30	14	50	23
	PP (lbs/hr) (kg/hr):	15	7	22	10	38	17
	FPVC (lbs/hr) (kg/hr):	25	11	40	18	70	32
	RPVC (lbs/hr) (kg/hr):	10	5	25	11	40	18

Performance Specifications are based on theoretical data.

SINGLE SCREW SMT

SCREW SIZES:
0.75 - 1.75

TECHNICAL
SPECIFICATIONS

	SMT75		SMT100		SMT125		SMT150		SMT175		
	Imperial	Metric	Imperial	Metric	Imperial	Metric	Imperial	Metric	Imperial	Metric	
Barrel & Screw Specifications	Screw Diameter (in/mm):	0.75	19	1.00	25.4	1.25	31.7	1.50	38.1	1.75	44.4
	L/D:	24:1		24:1		24:1		24:1		24:1	
	Control:	Discrete		Discrete		Discrete		Discrete		Discrete	
	Number of Heat/Cool Zones:	2		3		3		3		3	
	Barrel Cooling:	Air		Air		Air		Air		Air	
	Number of Die Zones:	2		2		2		2		2	
	Heat/Cool Capacity/Zone (kW):	0.4		0.95		0.95		0.95		1.9	
	Barrel Liner Material:	Bimetallic		Bimetallic		Bimetallic		Bimetallic		Bimetallic	
	Maximum Melt Pressure Continuous Operation (psi/bar):	10,000	689	10,000	689	10,000	689	10,000	689	10,000	689
	Precision Barrel Pressure Tap Standard	1/2-20 NF		1/2-20 NF		1/2-20 NF		1/2-20 NF		1/2-20 NF	
Electrical Specifications	Die and Tooling Voltage:	230/1/60		230/1/60		230/1/60		230/1/60		230/1/60	
	Main Motor Power (HP/kW):	2	1.4	3	2.2	5	3.7	10	7.5	15	11.2
Drive Train	Gear Box:	Belt & Sheave		Belt & Sheave		Belt & Sheave		Belt & Sheave		Belt & Sheave	
Utilities	Main Power Drop:	460/3/60		460/3/60		460/3/60		460/3/60		460/3/60	
	Full Load Amps:	13		18		23		33		39	
Machine Dimensions	Extruder weight (lbs/kg):	700	318	750	340	800	363	1,000	454	1,200	544
	Barrel Centerline from Floor (in/mm):	42	1,066	42	1,066	42	1,066	42	1,066	42	1,066
Throughput Rates (1)	HDPE (lbs/hr) (kg/hr):	10	5	20	9	30	14	50	23	80	36
	PP (lbs/hr) (kg/hr):	7	3	15	7	22	10	38	17	60	27
	FPVC (lbs/hr) (kg/hr):	10	5	25	11	40	18	70	32	100	45
	RPVC (lbs/hr) (kg/hr):	5	2	10	5	25	11	40	18	55	25

Performance Specifications are based on theoretical data.