**Thermatic Extruder Specifications**

<table>
<thead>
<tr>
<th>Extruder Size</th>
<th>L/D Ratio</th>
<th>Reduction Ratio</th>
<th>AGMA hp Rating @ 100 RPM (kW) @ Indicated S.F.*</th>
<th>Thrust Bearing L/H Ratio (HRS) @ 100 RPM, 5000 psi (bar) Cont. Operation</th>
<th>Max. Internal Barrel Pressure psi (bar)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ½ in. (40mm)</td>
<td>24:1</td>
<td>30:1</td>
<td>35 (26) / 1.25 S.F.</td>
<td>35,000</td>
<td>10,000 (690)</td>
</tr>
<tr>
<td>2 in. (50mm)</td>
<td>24:1</td>
<td>30:1</td>
<td>50 (38) / 1.25 S.F.</td>
<td>42,000</td>
<td>10,000 (690)</td>
</tr>
<tr>
<td>2 ½ in. (65mm)</td>
<td>24:1</td>
<td>30:1</td>
<td>70 (52) / 1.25 S.F.</td>
<td>54,000</td>
<td>10,000 (690)</td>
</tr>
<tr>
<td>3 in. (75mm)</td>
<td>24:1</td>
<td>30:1</td>
<td>75 (56) / 1.25 S.F.</td>
<td>63,000</td>
<td>10,000 (690)</td>
</tr>
<tr>
<td>3 ½ in. (90mm)</td>
<td>24:1</td>
<td>30:1</td>
<td>75 (56) / 1.25 S.F.</td>
<td>84,000</td>
<td>10,000 (690)</td>
</tr>
<tr>
<td>4 in. (100mm)</td>
<td>24:1</td>
<td>30:1</td>
<td>100 (74) / 1.50 S.F.</td>
<td>100,000</td>
<td>10,000 (690)</td>
</tr>
<tr>
<td>4 ½ in. (115mm)</td>
<td>24:1</td>
<td>30:1</td>
<td>100 (74) / 1.50 S.F.</td>
<td>100,000</td>
<td>10,000 (690)</td>
</tr>
<tr>
<td>5 in. (130mm)</td>
<td>24:1</td>
<td>30:1</td>
<td>100 (74) / 1.50 S.F.</td>
<td>100,000</td>
<td>10,000 (690)</td>
</tr>
<tr>
<td>5 ½ in. (135mm)</td>
<td>24:1</td>
<td>30:1</td>
<td>100 (74) / 1.50 S.F.</td>
<td>100,000</td>
<td>10,000 (690)</td>
</tr>
<tr>
<td>6 in. (150mm)</td>
<td>24:1</td>
<td>30:1</td>
<td>100 (74) / 1.50 S.F.</td>
<td>100,000</td>
<td>10,000 (690)</td>
</tr>
<tr>
<td>6 ½ in. (165mm)</td>
<td>24:1</td>
<td>30:1</td>
<td>100 (74) / 1.50 S.F.</td>
<td>100,000</td>
<td>10,000 (690)</td>
</tr>
<tr>
<td>7 in. (175mm)</td>
<td>24:1</td>
<td>30:1</td>
<td>100 (74) / 1.50 S.F.</td>
<td>100,000</td>
<td>10,000 (690)</td>
</tr>
<tr>
<td>8 in. (200mm)</td>
<td>24:1</td>
<td>30:1</td>
<td>100 (74) / 1.50 S.F.</td>
<td>100,000</td>
<td>10,000 (690)</td>
</tr>
<tr>
<td>9 in. (225mm)</td>
<td>24:1</td>
<td>30:1</td>
<td>100 (74) / 1.50 S.F.</td>
<td>100,000</td>
<td>10,000 (690)</td>
</tr>
<tr>
<td>10 in. (250mm)</td>
<td>24:1</td>
<td>30:1</td>
<td>100 (74) / 1.50 S.F.</td>
<td>100,000</td>
<td>10,000 (690)</td>
</tr>
</tbody>
</table>

* Ratings at other reduction ratios may vary.
** Dimensions and weights are based on typical 30:1 L/D extruder and are for reference only.
*** Other voltages available upon request.
**** DRV ratings are 530 HP (395 kW).

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**Thermatic Extruders**

Where your ideas take shape.

davis-standard.com
Extruder Base
- Rugged steel construction
- Integral leveling plates
- Front flange barrel support
- Optional barrel support one zone back

Extruder Barrel
- Wear-resistant liner of iron/boron bimetallic material cast into a 4140 steel barrel assembly (harder alloys available)
- Integral liner/jacket construction provides maximum heat transfer efficiency and multi-zone feature
- Temperature control via external water circulating unit or customer plant, or chilled water supply
- Barrel designed for operating pressure up to 10,000 psi
- Operating temperatures range from water supply temperature to 250ºF (121ºC)
- Barrel supplied with rupture disc for overpressure protection

Air-Cooled or Water-Cooled Systems
- Air-cooled or water-cooled systems based on process requirements
- For air-cooled extruders, air blowers are mounted on individual heater shrouds
- Air exits the hoods at the top
- For water-cooled extruders, system is comprised of stainless steel tank, pump, manifolds and valving, flexhoses, and water-to-water heat exchangers
- Wetted metal parts are either stainless steel or brass

Heaters
- Precision bored and securely bolted to the barrel
- Cast aluminum or cast bronze available depending on process requirements
- Water-cooled heaters are supplied with cast-in serpentine cooling tubes with cast-in NPT fittings on the heater bottoms for water connections
- Electrical terminations location on top of heaters

AC Motor
- Externally ventilated or fan cooled
- Can be mounted on either side of extruder with reducer input shaft extending toward the front or rear of machine
- Motor mounting plate is movable to adjust belt tension when belt driven and rigid when direct coupled

Davis-Standard Superior Gearcase
- Horizontally mounted double reduction parallel shaft reducer with integral thrust bearing for simplicity and economy
- Single reduction gearcase for 1 1/2-inch (40mm) and 2-inch (50mm) extruders
- Leak-free, non-contacting labyrinth oil seals never wear out, eliminating expensive oil seal maintenance
- Thrust shaft is mounted on pre-loaded radial bearings to maintain perfect screw-to-barrel alignment in spite of heavy bull gear radial loading
- Single helix gear teeth for quiet, vibration-free operation
- All gearing machined to AGMA Class 11 specifications
- Lubrication supplied to the gears and bearings by an externally mounted, positive displacement gear pump to provide ample oil through the entire RPM range

Oil Circulation System
- Positive displacement oil pump
- 24 micron oil filter with differential pressure indication
- Oil-to-water heat exchanger

Overview
Davis-Standard’s signature Thermatic® extruder is built for the most demanding processing requirements. Often described by customers as “an industry workhorse,” the Thermatic is designed for durability, minimal maintenance, and quiet operation for multiple processing requirements and applications. It is available with a wide range of feed screws and control systems, and in sizes ranging from 1 1/2 to 10 inches (40 to 250mm) with L/D’s ranging from 12:1 to 40:1.