MAS EXTRUDER

Conical co-rotating

MAS Plastic Processing Technology

MAS PATENTED EXTRUSION-TECHNOLOGY

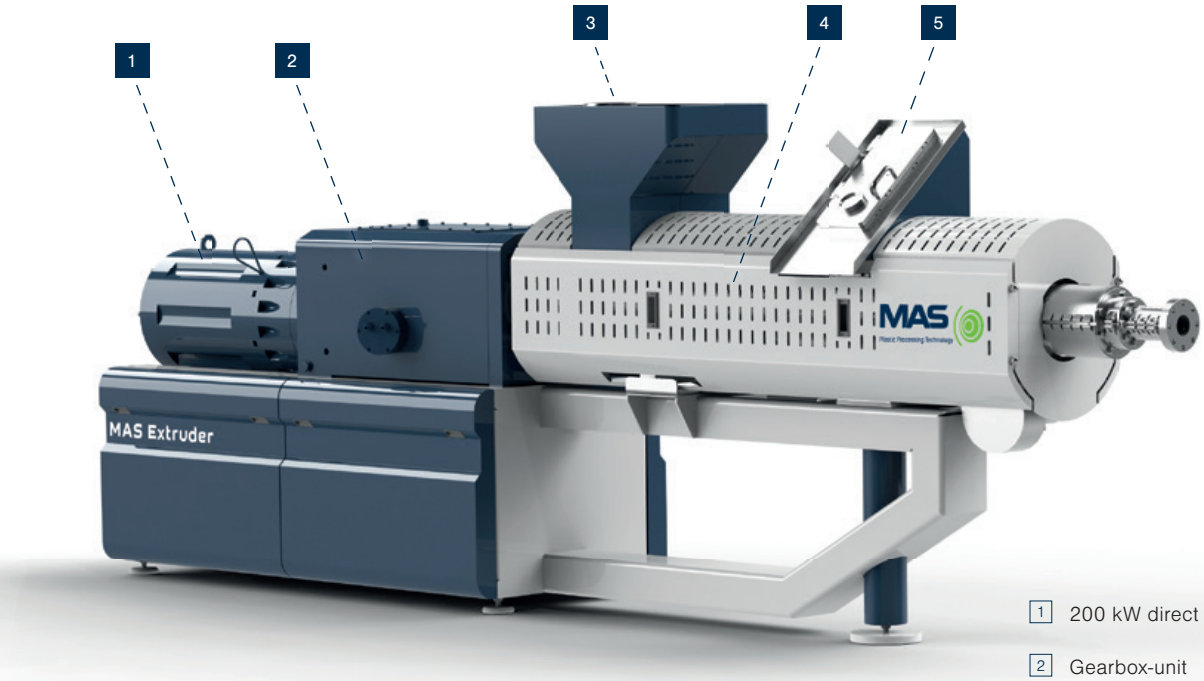
MAS Twin Screw Extruders are defined by their conical, co-rotating design. The tapered screws provide a large feed opening, resulting in a large intake volume. From granules, pellets and regrind to materials with low bulk density (film and fibers), as well as additives and fillers, the extruder can be fed with a wide range of materials.

The much larger feed opening, in comparison to a traditional parallel twin screw extruder, allows the MAS system to process all materials with a relatively low screw speed. Therefore the MAS extruder allows to process “shear-sensitive” polymers with low screw speeds and high screw fill levels in a very gentle manner.

The diameter of the processing unit narrows through the length of the extruder. In the melt zone, where the melting process requires the maximum torque, the diameter is much larger. This crucial feature allows the MAS extruder to operate with higher maximum torque in comparison to a traditional parallel twin-screw extruder.

CONICAL CO-ROTATING STANDS FOR

- large feed opening with enormous intake-volume
- hence very good intake behavior
- very high screw filling degree
- resulting in a high throughput even with low screw speed
- feeding of additives or fillers without extensive side feeders
- excellent homogenization and compounding features
- steady melt pressure build up without melt pump
- small footprint, hence short dwell time of the melt in the extruder
- low specific energy consumption [kWh/kg]



MAS 75 (depiction) for throughputs ranges from 600 to 1,200 kg/h

1 200 kW direct drive – frequency-controlled

2 Gearbox-unit

3 Feeding hopper

4 Processing unit conical co-rotating (L = 2,000 mm)

5 Venting port (optional with two venting ports)

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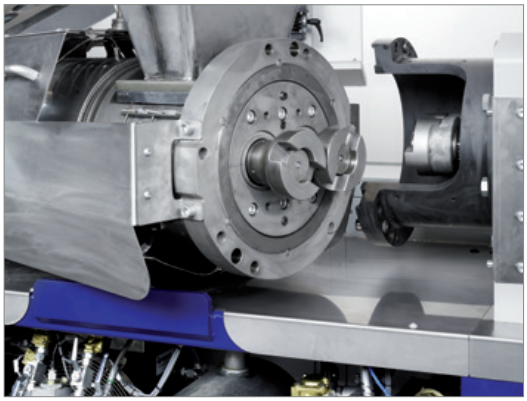
Depending on the application, MAS extruders can be operated without venting, or with various different degassing systems, ranging from atmospheric venting to high performance vacuum (≤ 5 mbar).

Optionally available: Low-level vacuum system for the intake of the extruder which draws out surface moisture before it reaches the crucial melt phase.

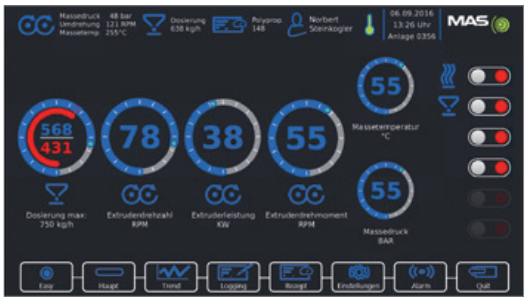
The screw design of the MAS extruders consist of a feeding and discharge section with mixing and shearing elements that can be optimized for specific applications. The Cylinder is equipped with heater bands and is air cooled in the discharge section. The segmented barrel can also be adapted to specific applications (Vacuum Port/No Vacuum Port, special wear resistance treatments, etc.)

The working mechanics of the plastic processing unit can be customized by the exchange of screw elements. Thanks to the conical design, this can be done in a short period of time. The design of the unit allows these changes to be made without removal of any downstream equipment.

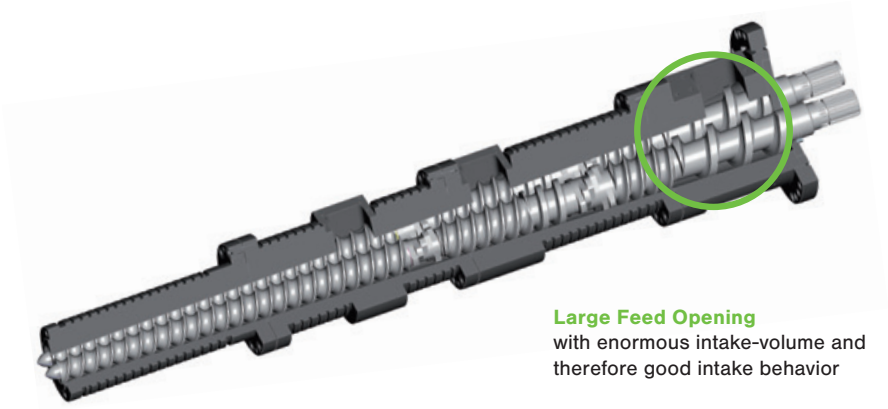
The MAS Extruder is controlled via a modern industrial control system with an 18.5" Multi Touch Panel and an intuitive interface. The MAS Software includes but is not limited to the following functions: automated start up and shut down procedures, recipe management, language control, unit switching, fault indication and logging, trend display (current and historical), operator management, data logging of events (user registration, change in value, ...), multi-touch and gesture control, remote diagnosis etc.



MAS 75 swiveling unit for screw removal



MAS multi-touch panel interface



Large Feed Opening
with enormous intake-volume and therefore good intake behavior

Screw segments: intake, mixing elements, discharge

Type	MAS 24	MAS 45	MAS 55-L	MAS 75	MAS 90	MAS 93
Screw diameter [mm]	24/53	45/102	55/127	75/156	90/174	93/186
Length processing unit [mm]	400	1,300	1,500	2,000	2,500	2,680
Heating zones (extruder/adapter) [pc.]	2/2	5/2	6/2	5/2	6/2	6/2
Heating capacity [kW]	3	15	32	32	66	80
Extruder drive [kW]	7.5	45	100	200	285/315	345/400
Throughput* [kg/h]	15–35	150–350	300–600	600–1,200	900–1,500	1,200–2,500

* Throughput depending on viscosity and properties of the input-material, type and degree of contamination as well as filtration-fineness.