

NCT-Extruder

for Plastics Processing

innovative | co-rotating conical twin screw Extruder
versatile | recycling, profiles, films, pipes
efficient | high throughput, excellent added value

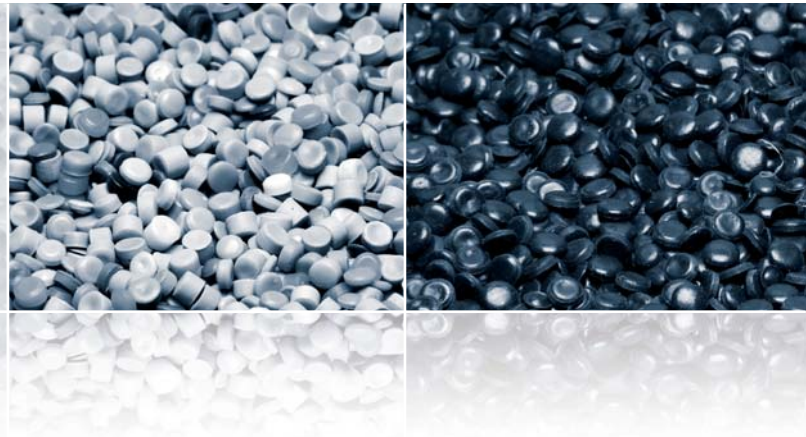
Plastics Processing

with New Conical Technology (NCT)

From flake to pellets ...



... from regrind to value added pellets



innovative | the technology

NCT-Extruders by MAS are the economical alternative for optimum compounding and processing of plastics. New Conical Technology (NCT), developed by MAS, is based on a conical, co-rotating Twin Screw Extruder. The latter has a distinctly higher volume at the intake section and permits greater torques than conventional Compounders. This results in a higher screw fill level, which means the highest throughput with comparatively high pressure ratios and low melt temperatures. Due to the generously dimensioned screw shaft, NCT-Extruders by MAS are extremely robust and with a long service life.

versatile | the processing spectrum

NCT-Extruders by MAS are versatile in use. They are suitable for all applications in the extrusion sector:

- › Processing of grinding stock and regrind
- › Homogenisation of dyes
- › Compounding of talcum, calcium carbonate and glass fibres
- › De-gassing of plastic melts
- › Manufacture of granulates and master batches
- › Direct extrusion of profiles, cast films or tubes
- › Extrusion of WPC (wood plastic composites) and PPC (paper plastic composites)

efficient | the cost-effectiveness

NCT-Extruders by MAS offer major technological and economic advantages, as well as highest added value in production:

- › Large intake volume
- › Low melt temperature
- › Short dwell time
- › High pressure build-up
- › Careful treatment
- › Good degasification
- › Excellent mixing
- › High productivity
- › Simple operation
- › Robust design

convenient | the operation

NCT-Extruders by MAS are equipped either with conventional control technology or an industrial PC. In both cases, operation is simple and convenient. The industrial PC has a high-quality visual display system with a touch screen, control panel and remote maintenance function, as well as electrical integration of downstream equipment such as the granulating head, extrusion tools, calibration, extraction, etc.

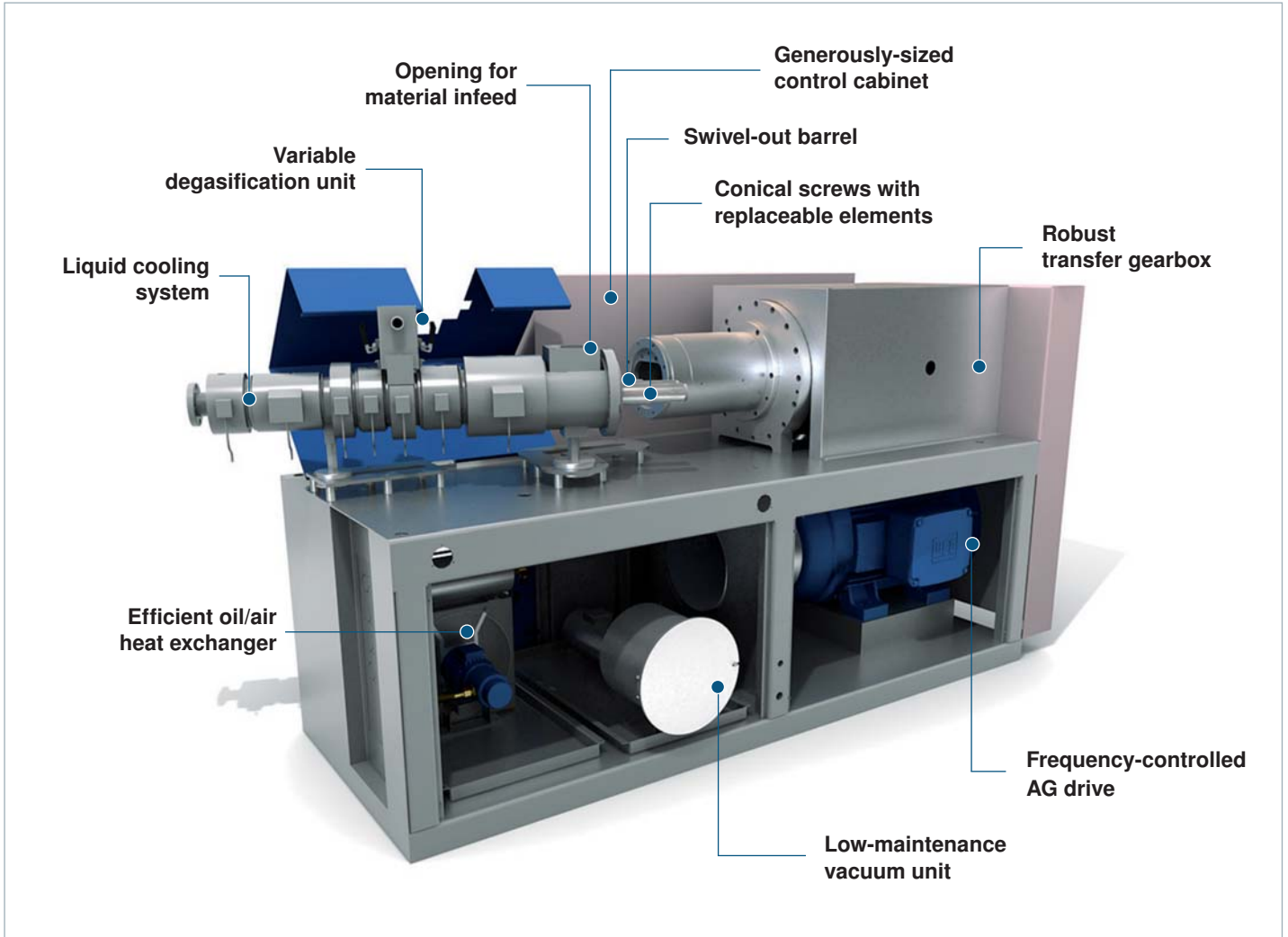
Extremely compact and robust:
NCT 55 Extruder



NCT - user-friendly technology

with a universal application spectrum

compact | the design



NCT 55 Extruder machine design

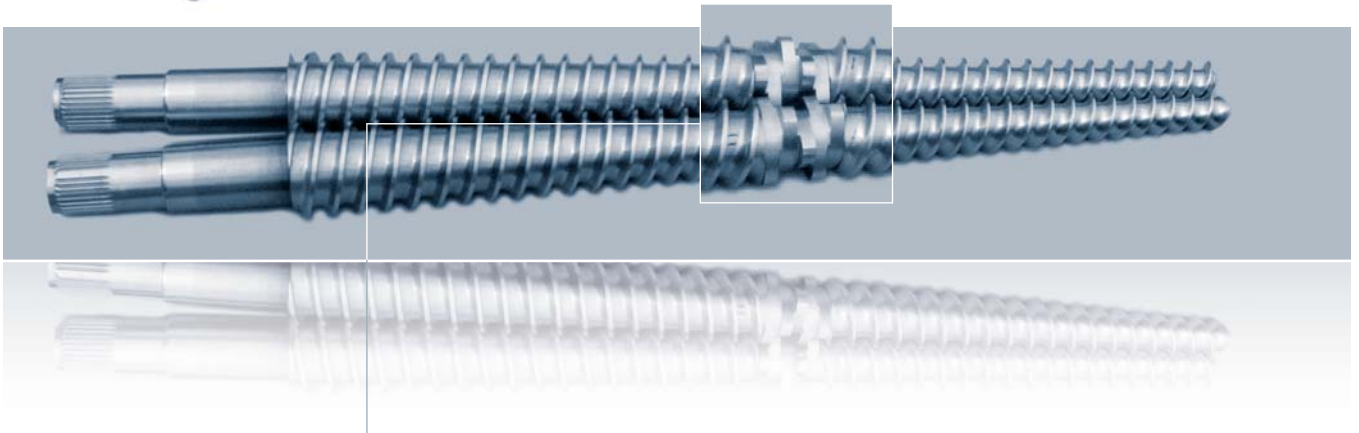
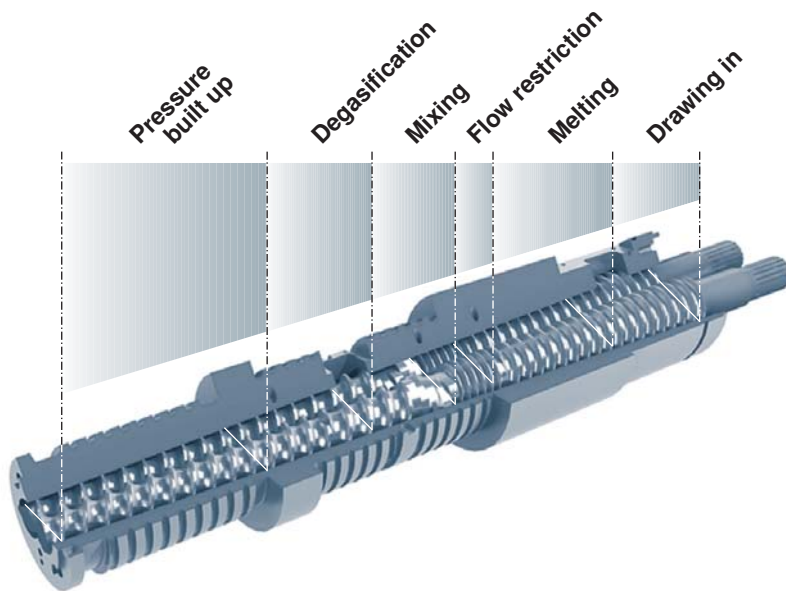
Clearly laid out | Touch screen controlling system

Easy to operate interface controlling system even in sophisticated applications. Based on an industrial PC M 600Mhz it offers a wide range of advantages like overview, different setting pages, production-trend analysis, quality check, different operator levels, recipes, etc.

Touch Screen



conical | the plasticizing unit



Exchangeable
shear and mixing parts

individual | the configuration

The screw assembly of the NCT-Extruder consists of a feeder and an extractor screw. Each of them is manufactured from one piece and available in a number of different pitches and number of flights. In between are mixing and shearing parts which can be designed to suit the customer's specific requirements. The barrel zones are equipped with heating trays and liquid cooling. The three-part barrel can also be assembled according to needs (with/without degasification, position of degasification openings, etc.).



High filling level, high throughput rate, high torques



Oversized dimensioned back-thrust bearings

perfected | the mechanism

Thanks to innovative mechanics, NCT-Extruders by MAS are particularly robust, long-lived and easy to maintain. The conical design of the screw causes low mechanical stress in the screw shaft, even at extremely high torques. The large shaft-centre distances in the intake enable the use of maximum-sized drive shafts. The back-thrust bearings are also well-dimensioned. The compact design of the NCT-Extruder results in a very short overall length.

optimised | the performance

The excellent process engineering characteristics of NCT-Extruders are achieved first and foremost by the high disposable volume and high coverage of the co-rotating screw shaft. NCT-Extruders thus have first-class homogenisation and mixing properties.

Due to the conical design of the screw assembly the intake volume is significantly greater than the discharge volume, resulting in an extremely high screw filling level. Furthermore, in the melting

zone the screws have an exceptionally large diameter ratio D_a/D_i . High discharge rates can therefore be achieved even at low speeds and high melt pressures at low melt temperatures. Melt pumps are in most cases unnecessary.

robust | the material and the design

Premium quality steel, robust design and solid workmanship guarantee high availability and a long life time. Barrels and screws are designed to be particularly wear-resistant: The barrels are made of PM steel or case-hardened steel (standard), the screws are tempered and nitrogen hardened (standard). If required, the screws are build-up welded with wear resistance alloys.

MAS – Your specialist

for plastics recycling



Output shaft with coupling

well-founded | our expertise

Over 40 years of experience in plastics machinery construction (especially in the extrusion sector) and a 30 year history in recycling are reflected in the development of NCT-Extruders by MAS. Our experienced team will optimally adapt the components to your process engineering requirements.

professional | our service

Extensive advisory, planning and project management services are key elements of the MAS service portfolio – for fast change over of your production system. In addition, the process is backed up by test runs at the MAS Technology Centre. Our service technicians supervise the start-up on site and instruct your operating personnel. Following start-up, MAS customer service is on call for prompt, all-round service.

advantageous | our Technology Centre

NCT-Extruders by MAS are a highly cost-effective alternative to the mixing of additives and fillers in PP, PE, PS, PA and PET, as well as their degasification. See for yourself! Our Technology Centre is equipped with:

- › Grinder
- › Single-shaft shredder
- › DRD 18 dry cleaner
- › NCT 55 Extruder

powerful | the range

| NCT | | 55 | 90 |
|--------------|----|----------|------------|
| Throughput*) | PE | 500 kg/h | 1,000 kg/h |
| | PP | 450 kg/h | 800 kg/h |
| Drive power | | 132 kW | 250 kW |

* At a bulk density of approx. 600 g/l



M-A-S Maschinen- und Anlagenbau Schulz GmbH
A-4055 Pucking, Hobelweg 1
Telefon: 0043/7229/78 999-11
Fax: 0043/7229/78 999-10
info@mas-austria.com
www.mas-austria.com

MAS 
Maschinen und Anlagenbau Schulz GmbH