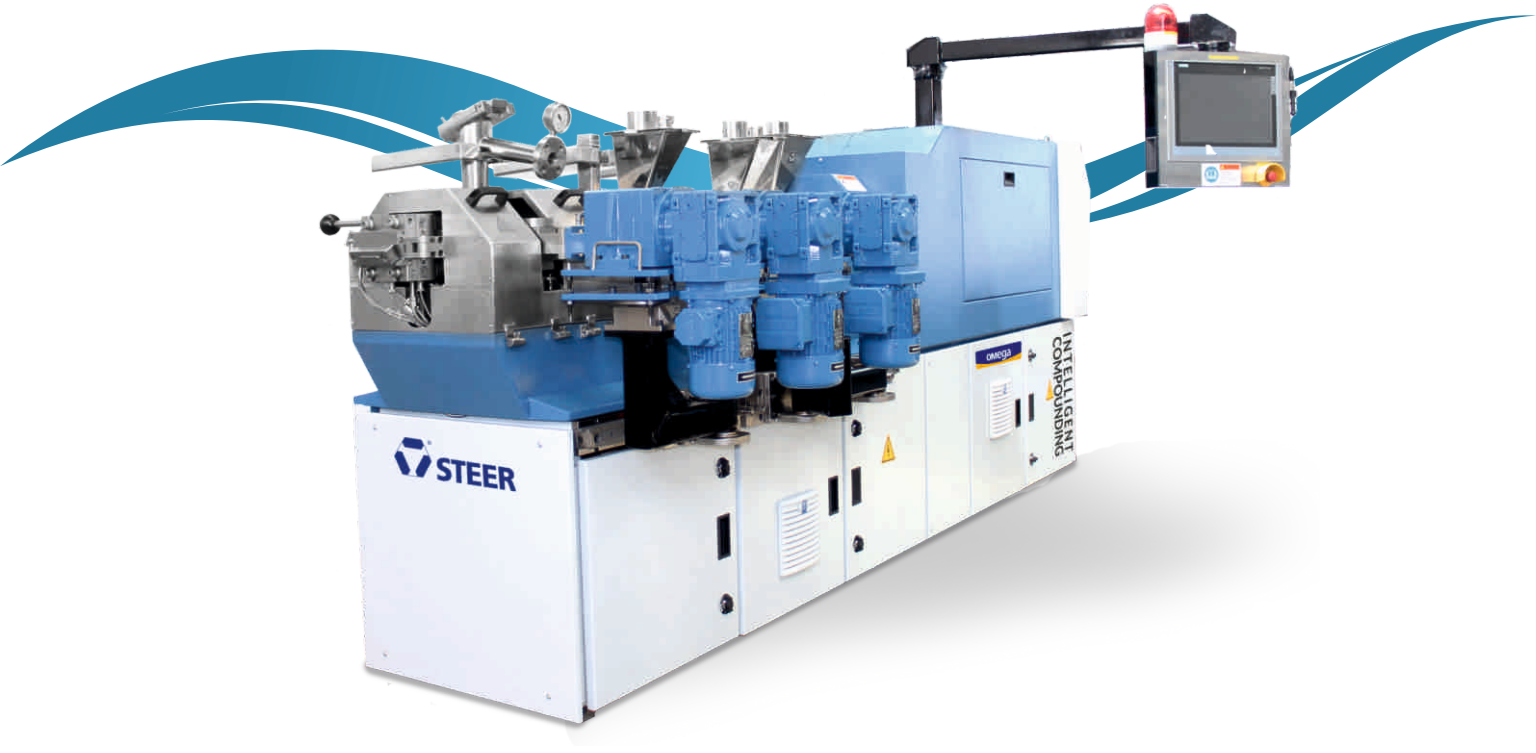
Transforming Lives.
Transforming Materials.

STEER
WWW.STEERWORLD.COM



INTELLIGENT™ COMPOUNDING

FUNCTIONALISE. OPTIMISE. ADVANCE.

omega

Advanced Co-rotating Twin Screw Extruder

omega

Advanced Co-rotating Twin Screw Extrusion: Omega 1.71 Do/Di

The OMEGA SERIES sets a new standard in the compounding industry. The revolutionary 1.71 Do/Di allows manufacturers to increase their production capacity by up to 25%* with its increased volume and torque ability. The patented ‘fraction-lobe’ special elements enhance process efficiency and quality of output, while delivering far greater returns on investment.

CO-ROTATING TWIN SCREW EXTRUDER
Omega 1.71 Do/Di

- Self wiping & clearances
- Uniform gap (enabled by superior machining technology)
- Safety Adaptor
- Fractional lobes for shear peak control
- Ultra high torque shafts with Continua Spline
- High torque capability enabled by HT Gear Box and Continua Spline
- Choice of SPE and USPE

Inside Omega
REVOLUTIONARY FRACTIONAL LOBE SPECIAL ELEMENTS
For precise application of forces

INTELLIGENT COMPOUNDING

DSE

Dynamic Stir Elements: Improved flow distribution.

- Pre-wetting and premixing of high levels of fillers and reinforcements
- Eliminates the intense particle-to-particle shear that can occur when un-wetted fillers are compressed.

FKB

Fractional Lobe Kneading block - Better wetting action

- Ability to stretch, fold and squeeze material in closely operated kneading cycles
- Improves product quality and overall production efficiency

FME

Fractional Mixing Elements - Enhanced mixing and melting

- Avoids the effects of pressure peaks and shear peaks
- Excellent in dispersing synthetic, glass, and natural fibers and fillers without excessive shear
- Effective in the compounding of biomass thermoplastic composites

OSE

OSE - Wave Long Lead Elements

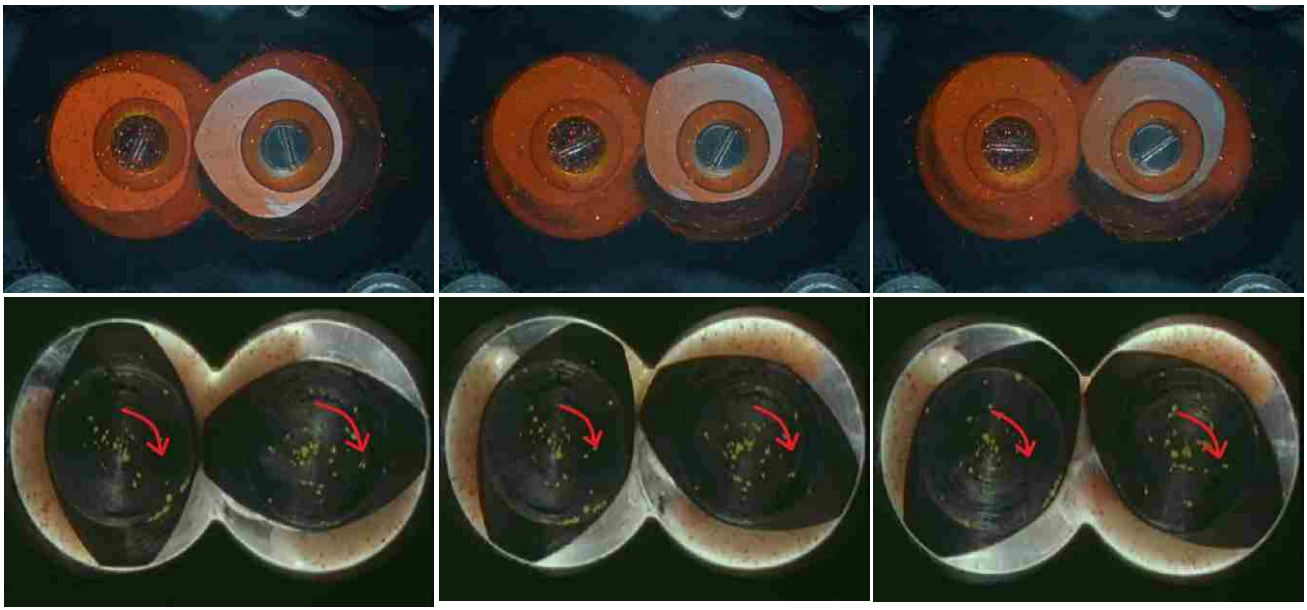
- Perfect for long fibre compounding
- Mainly reduces fibre attrition
- Enhances mechanical properties
- Easily handles Glass, Nylon, Boron, Aluminium. Jute

MFE

Melt Formation Elements - Turbulence to the melt flow without Stagnation

- For reliability, reduced wear and increased uniformity of melting and mixing
- Controlled breakdown in the process and transmission section
- Proper material flow for torque stability and agglomeration

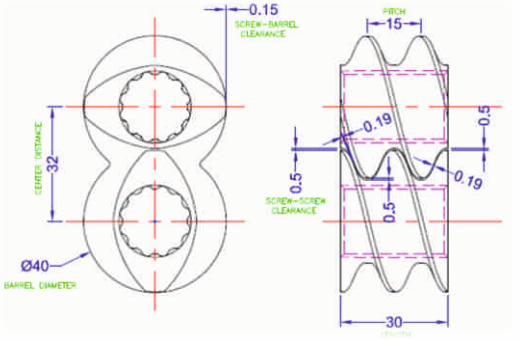
Absence of Pressure Peaks in Fractional Lobed Mixing Elements

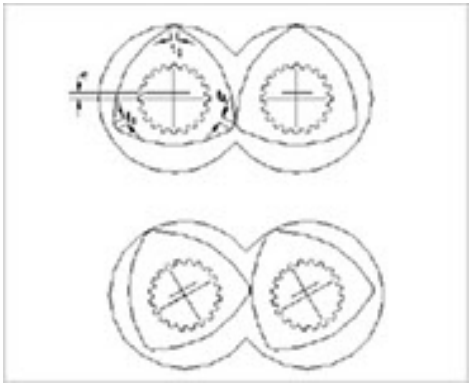


FEATURES

A REVOLUTIONARY 1.71 DO/DI – A GIANT LEAP IN PROCESSING WITH THE CAPABILITY TO PRODUCE UP TO 25% MORE

We've created a new standard in the compounding industry with the 1.71 Do/Di Omega platform. The greater Do/Di allows for greater volume to obtain greater effects of kneading and stirring, without a reduction in torque capacity.

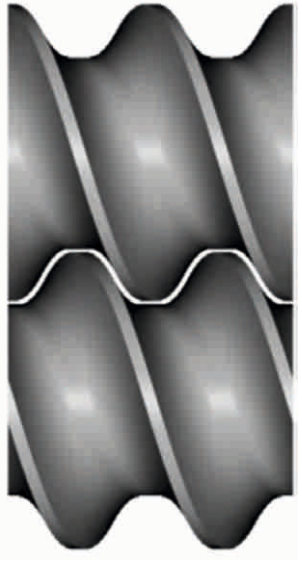


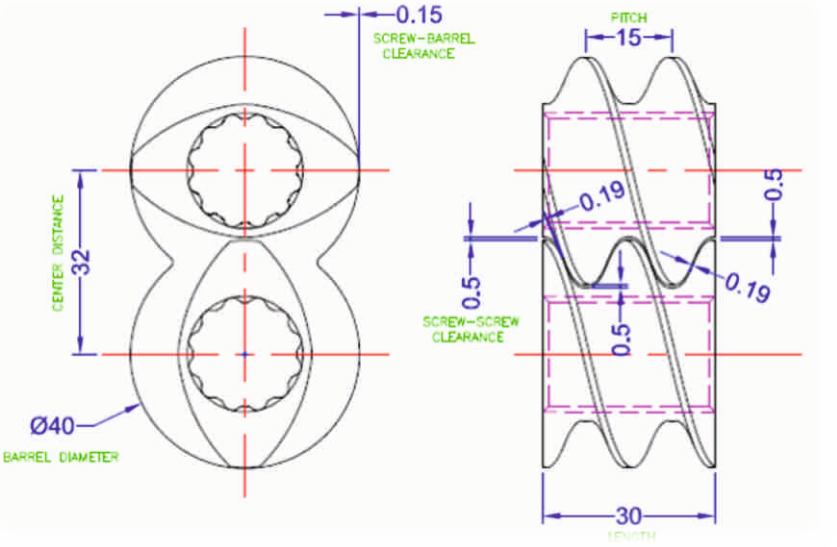


PATENTED 'FRACTIONAL-LOBE' DESIGN SCREW GEOMETRY

The OMEGA PLATFORM is built using the revolutionary 'Fractional-Lobe' geometry, replacing the conventional integer-lobe design. This design eliminates shear peaks and ensures a uniform transfer of energy to the materials being processed, giving the capability and the control to work with sensitive materials. Besides, it reduces the energy consumed considerably, while improving overall quality.

Inside Omega
Shear Uniformity



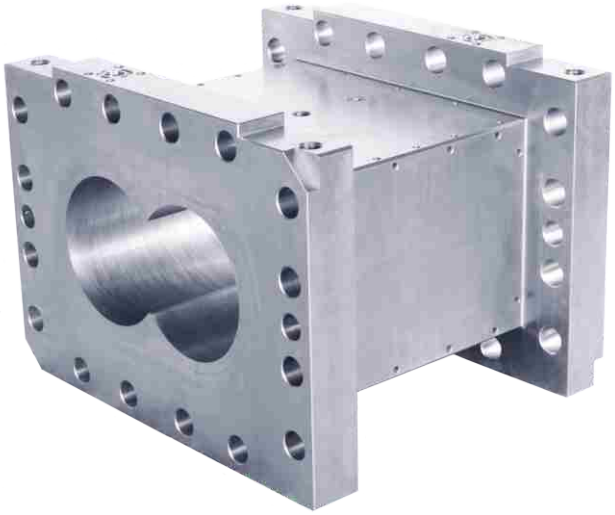


- Barrel to Screw Gap and Screw to Screw Gap are maintained at less than 0.25mm to have fully wiping effect rather than shearing effect
- Greater than 0.25mm, material can pass through at a low pressure values .

FEATURES

STEER BARRELS – CRAFTED TO PERFECTION

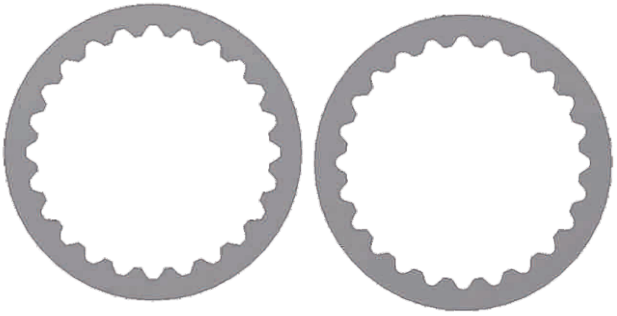
STEER barrels have cooling circuits that cool uniformly, increasing the overall efficiency of the entire process. Made with the right metallurgy, they have supreme resistance to various types of wear and come with supports designed with cross roller guides or 'v' guides that allow for a sliding movement of about 15mm. The 'u' bracket on which the barrel rests has minimum contact surface to reduce the heat transfer from the barrel to the slider and support column, further increasing efficiency.



STEER SIDE FEEDERS

STEER side feeders allow you to add new materials such as fillers, reinforcements, sensitive impact modifiers, pigments etc into the melt. They become important when split feed is essential due to the volumes of feed materials. The STEER side feeder can also be used for devolatizing applications through side-venting. The side feeder is height adjustable within a range and portable as castor wheels are fitted to it.

FEATURES



STEER CONTINUA SPLINE

continua-spline ost commonly used shaft splines are involute, circular or straight increasing the stress concentration and causing severe damage to the expensive screw shaft, the screw elements and the gearbox during a surge in torque. The STEER Continua Spline design, made of high alloy steel, reduces stress concentration. It has a shaft adaptor with circular rupture grooves. During a surge, only the shaft adaptor breaks at the groove preventing damage to the shaft, the elements and the gearbox .

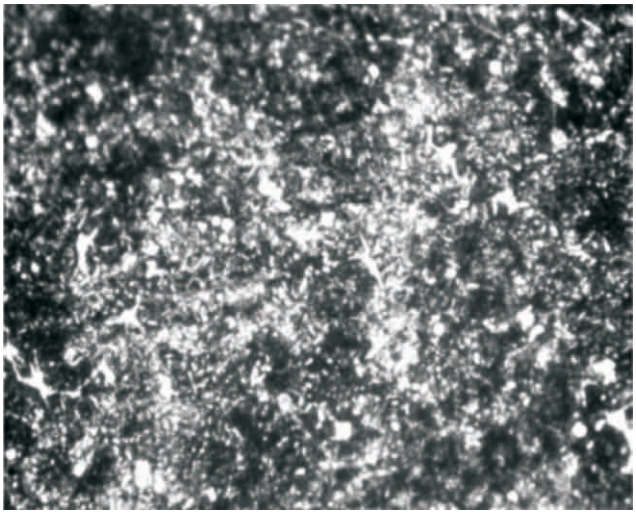
STEER HITORQ GEARBOX

The STEER Gearbox is of a watch case design with a housing of multiple chambers, made of high grade casting, and uses hardened and ground gears of DIN5/DIN6. While most gearboxes without hardening, develop play and have to be used at reduced speed and torque, STEER Gearboxes are built for the fast lane with their ability to transmit higher torque, minimal axial play, minimum backlash and equal angular deflection, allowing for improved process capability applications.

FEATURES

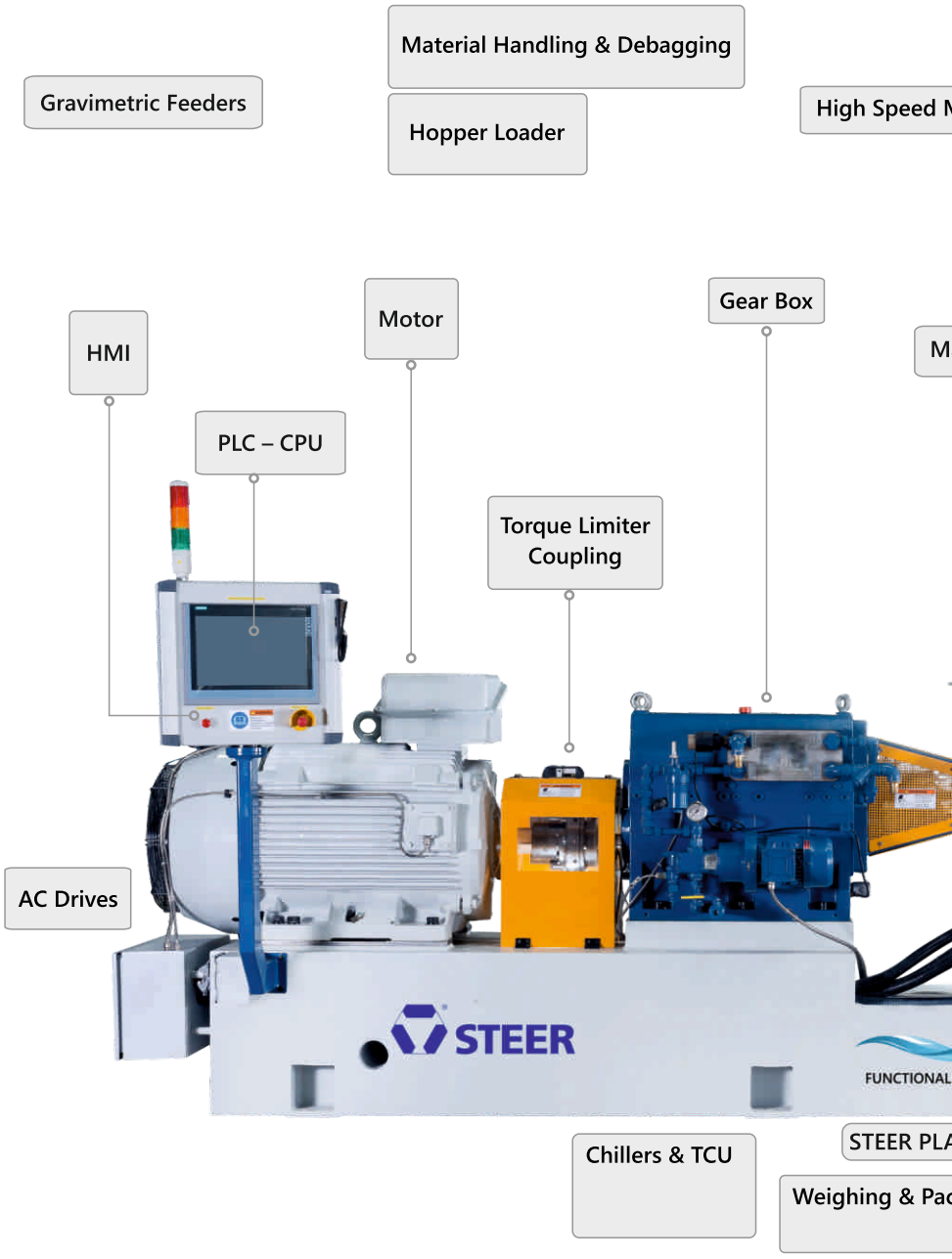
STEER SPECIAL TOOL STEEL – THE RIGHT METALLURGY FOR LONGER LIFE

STEER uses only special grades of tool steel, with high wear and corrosion resistance, developed in our state-of-the-art foundry. Our ACROLLOY series, a vanadium rich tool steel with alloying and micro-alloying elements, and characteristics of Wootz steel, works against the forces of abrasion, wear and corrosion. With ACROLLOY, our platforms and elements are capable of withstanding the most difficult applications.



THE STEER HUMAN MACHINE INTERFACE

The STEER Human Machine Interface helps users control and monitor the extruder and peripherals through advanced communication links and protocols. The drive is controlled from a touch screen which operates through Programmable Logic Controllers (PLCs). STEER allows for customisation of the HMI screens, integration of peripherals, other plant utilities and material system to achieve complete plant automation. The software used by STEER is highly reputed and used by some of the largest companies around the globe.


Material Handling & Debagging
Gravimetric Feeders
Hopper Loader
High Speed M
Motor
Gear Box
HMI
PLC – CPU
Torque Limiter Coupling
AC Drives
STEER
FUNCTIONAL
Chillers & TCU
STEER PLA
Weighing & Pac

Mixers

ain Hopper

Heaters &
Thermocouples

Solenoid Valves

Screen Changer

Strand Pelletiser

Air Knife

Under Water Pelletiser

ATFORM

Vacuum Pump

Melt pressure transducer

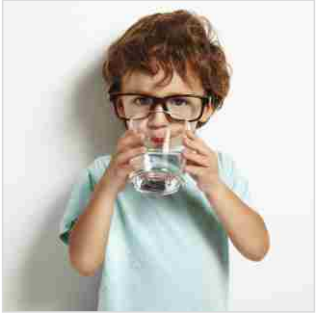
cking Systems

Applications

PLASTICS

Applications needing good control over shear, residence time and broad process window.

High performance engineering plastics, Natural fibre filled compounds, Bio-polymers



PHARMACEUTICALS

POWDER COAT

FOOD

BIOMATERIALS

Series Technical Specifications

Sl No.	Extruder Model	Screw Diameter (mm)	Power (kW)	Screw Speed (rpm)	Nominal Torque per shaft (Nm)	Specific Torque (Nm/cm^3)
1	OMEGA 20	19.6	10	1200	40	9.8
2	OMEGA 25	26	18	1200	72	7.7
3	OMEGA 30	29.7	37	1200	147	10.6
4	OMEGA 40	39.7	90	1200	360	11.0
5	OMEGA 50	49.7	181	1200	720	11.3
6	OMEGA 60	59.7	352	1200	1,400	12.7
7	OMEGA 70	73	645	1200	2,565	12.8
8	OMEGA 75	75	694	1200	2,760	12.8
9	OMEGA 80	80	842	1200	3,350	12.8
10	OMEGA 95	95	1,194	1000	5,700	13.0
11	OMEGA 110	108	1,385	800	8,268	13.0
12	OMEGA 125	122	1,994	800	11,900	13.0
13	OMEGA 140	138	2,899	800	17,303	13.0

Sl No.	Extruder Model	Screw (mm)	Power (kW)	Screw Speed (rpm)	Nominal Torque per shaft (Nm)	Specific Torque (Nm/cm^3)
1	OMEGA 30H	29.7	50	1200	200	14.5
2	OMEGA 40H	39.7	138	1200	550	16.8
3	OMEGA 50H	49.7	270	1200	1,075	16.8

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FORWARD TO
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ADVANCE.

STEER