MultiFlex NG/NG+

- **Highly stable feeding with deviation under 1%**
- **Capable of feeding extra coarse materials**
- **Highest feed rate up to 300 m³/h**
- **Dust-tight construction**
- **ATEX compliant design**
- **Consistent material discharge ensured by screw design and synchronization**
- **Heavy-duty configuration available**

Application

The **MultiFlex NG/NG+** is designed for stable and precise weighing and feeding of bulky solid secondary fuels. It is capable of processing a wide variety of alternative fuels, including **Refuse-Derived Fuels (RDF)** such as shredded plastics, textiles, paper, and rubber (e.g., tire chips); **fluff materials** like tyres; biomass including wood (chips, pellets), straw, and agricultural waste; and **sludge and granulates** such as WWTP sludge, coal sludge, and animal meal. The system can also handle **any combination or mixture** of the materials listed above.

Equipment

The **MultiFlex NG/NG+** consists of a hopper and a screw trough. The hopper serves as a short-term storage unit for material used during calibration and helps absorb fluctuations in the connected conveying line.

Weighing is performed using three independent weighing circuits, each equipped with compact, high-precision load cells that transmit forces directly to the weighing electronics for accurate measurement.

The **NG+ variant** features enhanced weighing mechanics, making it suitable for applications with substitution rates over 70% or for use in main burner feeding systems.

Functions

The bulk material is extracted by the screw trough out of the hopper and conveyed towards the discharge with a feed rate controlled via variable frequency drive of the screws. The screw trough is equipped with two screws which increase the control range up to 1:34. It must be considered that supercharging is used to maintain full torque for an el. motor frequency range 5 - 87Hz.The unique shape of hopper is equipped with agitators ensuring smooth emptying of the hopper and optimal filling of the screw trough where the hopper is designed to minimize need of agitation.

Features and properties

- Capable of feeding non-coherent materials with bulk densities ranging from 0.03–0.05 to 0.8 t/m³ (including lumpy, stringy, and extra coarse materials)
- Dust-tight construction ensures clean and safe operation
- Long-term accuracy of ±1% / ±0.5%
- ±1% deviation based on a 30s / 15s running average window for main burner fuel applications
- Heavy-duty configuration available
- Abrasion-resistant option for handling highly abrasive materials
- Easy maintenance design (e.g., “TWO nuts” maintenance windows for quick access)

ATEX Compliant design

Maximum level sensor

Hopper overfill protection.

Hopper

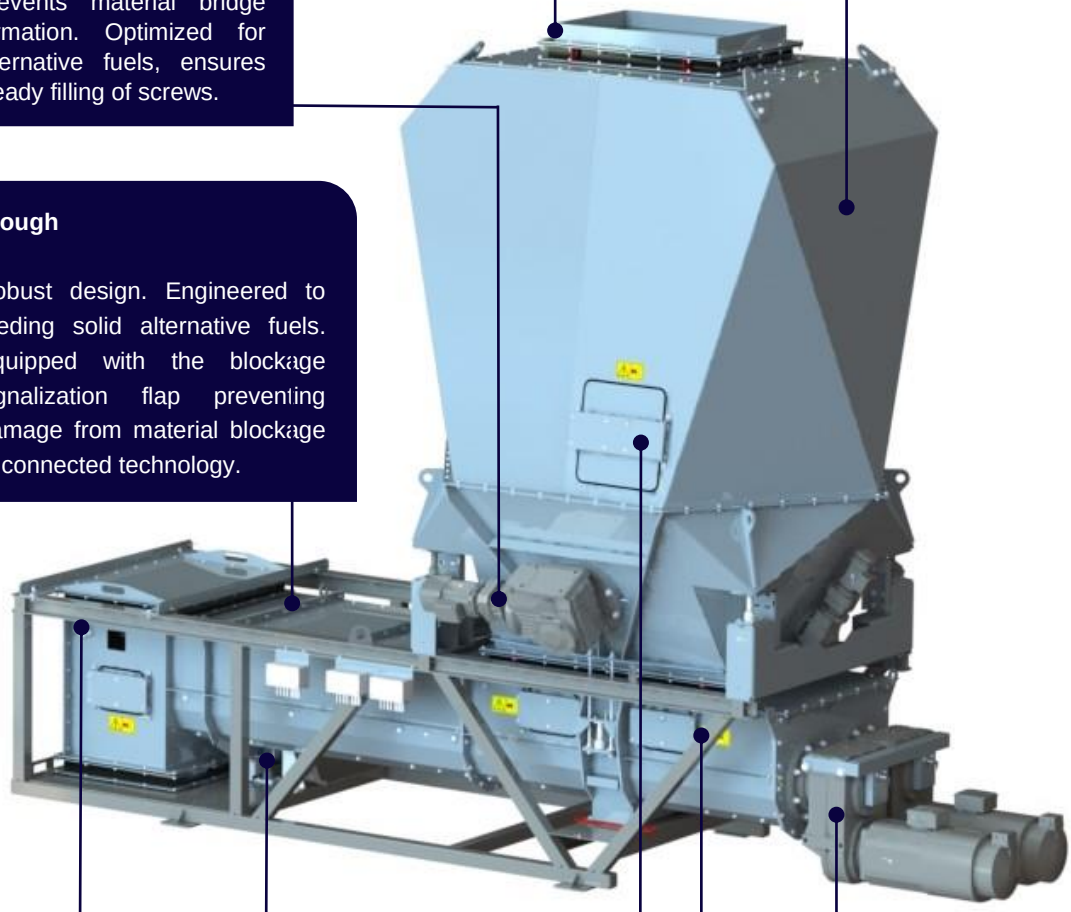
Serves primarily as balancing buffer for compensation of material flow. Equipped with single or double agitator.

Agitator

Prevents material bridge formation. Optimized for alternative fuels, ensures steady filling of screws.

Trough

Robust design. Engineered to feeding solid alternative fuels. Equipped with the blockage signalization flap preventing damage from material blockage in connected technology.



Load cells

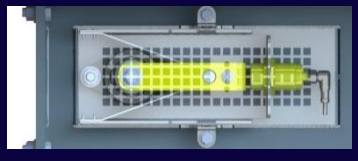
Highly accurate load cells are used to monitor and stabilize stable material flow.

Gear drives

Automatically controlled by electronics via frequency inverters as per actual state and

Blockage indicator

A sensor detects outlet blockage by monitoring an indicator located inside a dedicated inspection box.



Frame

Designed with stiffness which ensures high weighing

Maintenance windows

Designed to easily access and with minimum fasteners used

Factors for configuration:

- Volumetric feed rate
- Control range
- Material properties:
  - Material types
  - Bulk density (0,05/0,03 – 0,8 t/m3)
  - Lump size (1D, 2D, 3D)
  - Material flow
  - Moisture content
- Hopper filling method
- Space availability

Trough:

Selected by these attributes:

- Required feed rate
- Material lumps size & abrasiveness

Hopper:

Selected by these attributes:

- Volumetric feed rate
- Time to weight calibration
- Method of filling (Mainly flow fluctuations)
- Bulk density
- Space availability
- Material abrasiveness

Version NG or NG+:

In parameters below are fulfilled. NG+ is suitable for the application:

- Substitution rate over 70%
- Main burner feeding
- Limited calibration possibilities
- Bulk densities below 0,03t/m3
- Expected variance in bulk densities

It is possible to retrofit NG version to NG+ version with just replacement outlet part of trough and screws.

Screws:

Wrapping of long stripes around the shaft is eliminated by the design of overhung screws.

Screw (SC) is recommended for these materials:

- Good flow properties typically granulates
- For non-coherent materials: Granulates, sludge, pellets, etc.
- Finer granularity & higher bulk density
- Higher moisture – typically > 20%

Overhung screw (LSC) is recommended for materials:

- Same materials as screw, but with:
- Higher internal friction and tending to agglomerate
- Higher lumpiness, mainly 2D and 1D with length up to 200 mm

The trough type:

The trough type must be selected based on the material's lump size and the required maximum volumetric flow rate. These parameters, along with the material properties, determine the necessary drive power. The appropriate MultiFlex NG/NG+ variant must be carefully chosen and engineered according to the material characteristics, desired feed rates, and the specifications of the connected technology.

Main design Options

Explosion relieve vents

- Reduced explosion pressure design required
- Reliable pressure relief
- Maintenance free operation
- No flame protection

Flameless vents

- Reduced explosion pressure design required
- Flameless pressure relief
- Maintenance free
- Long service life

Air filtration

- Absorption of explosive atmosphere
- Suited for applications with rotary valve
- Filter bags accessible via side access door

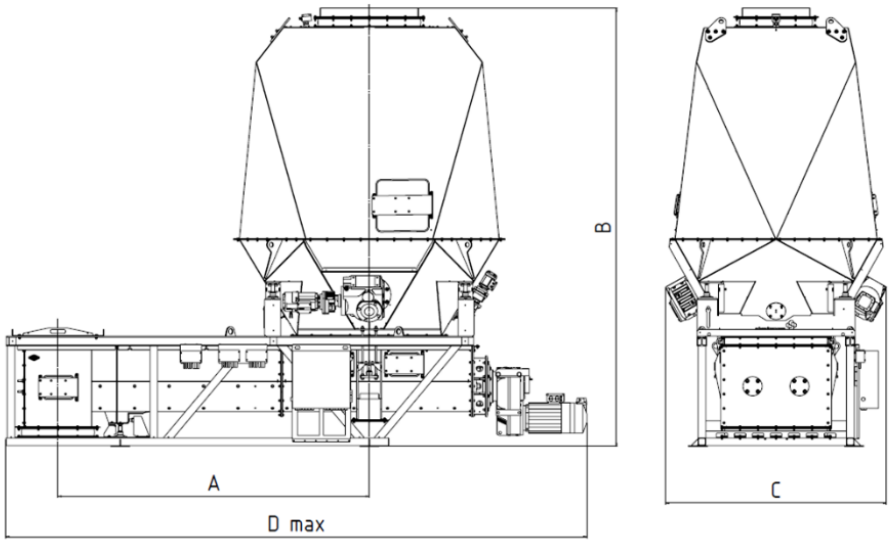
Feedrate / material properties

Screw trough diameter/type of screw [mm]	Material 2D/1D (1%) [mm]	Material lump size 3D [mm]	Max. volum. Flow at 87 Hz [m^3/h]	Approximate Drive output [kW]
320/SC	< 50/50	< 40	40	4
400/SC	< 50/50	< 50	100	5,5
400/LSC	< 200/1000	< 50	100	5,5
450/SC	< 75/75	< 75	150	7,5-9,2
450/LSC	< 225/1000	< 75	150	7,5-9,2
500/SC	< 100/100	< 100	200	9,2-15
500/LSC	< 250/2000	< 100	200	9,2-15
650/SC	< 150/150	< 150	300	15-18,5
650/LSC	< 300/2000	< 150	300	15-18,5

General dimensions

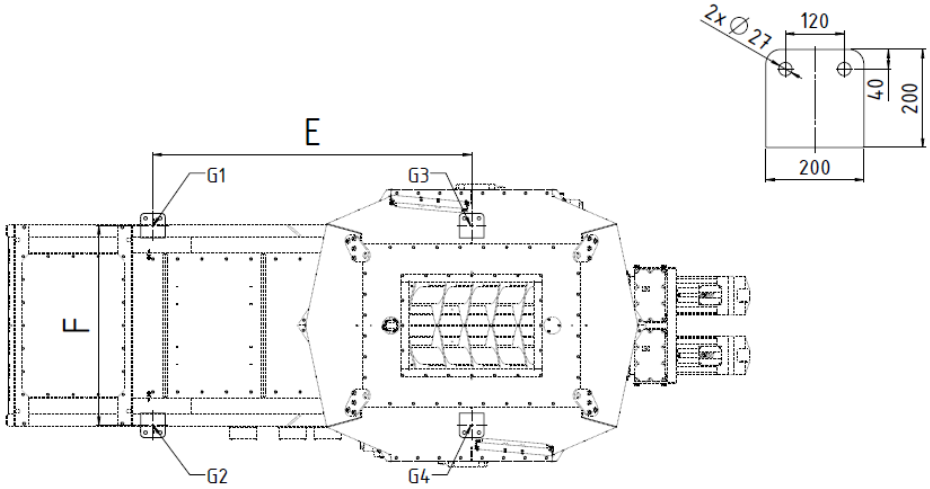
Trough diameter	320	400		450		500		650	
Hopper type	H3,5	H6	H9	H9	H12	H9	H12	H12	H15
A [mm]	*2800/3250	3250		3250		3250		5050	
B [mm]	3175	3375	3975	4075	4775	3875	4575	4375	4975
C [mm]	1630	2130		2230		2465		2830	
D max.[mm]	*5150/5600	6100		6100		6250		8100	
E [mm]	*2150/2600	2600		2600		2600		4350	
F [mm]	1170	1430		1630		1630		1930	

*NG version/ NG+ Version.



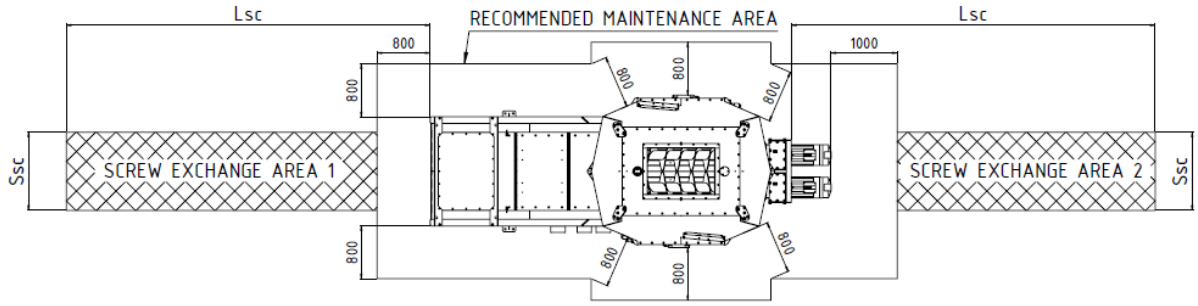
General Anchor Loads

Trough diameter	320	400		450		500		650	
Hopper type	H3,5	H6	H9	H9	H12	H9	H12	H12	H15
G1 [kN]	13	17	21	20	23	19	22	37	41
G2 [kN]	13	17	21	20	23	19	22	37	41
G3 [kN]	33	53	70	71	88	76	92	107	126
G4 [kN]	33	53	70	71	88	76	92	107	126



Screw exchange dimension area

Trough diameter	320	400		450		500		650	
Hopper type	SC	SC	LSC	SC	LSC	SC	LSC	SC	LSC
L [mm]	4700	5500	4700	5500	4700	5500	4700	7300	6500
S [mm]	850	1000		1100		1200		1500	



SCREW EXCHANGE AREA 1 OR 2 HAS TO BE CONSIDERED

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