

## MultiFlex Weighfeeder



- **Universal weighfeeder for wide range of alternative fuels**
- **Dust tight construction**
- **High accuracy of feeding  $\pm 1$  % due to automatic KME calibration**
- **Explosion and fire protection systems easy to integrate**
- **Slide gate easy to fit**
- **Possibility to adjust material entrance position**
- **Overfeeding protection integrated**
- **Steady material discharge by synchronization of the screws**

### Application

The MultiFlex weighfeeder is used for accurate weighing and feeding of bulk solid secondary fuels used mainly as a fuel for heating of cement or lime producing kilns as well as boilers at power plants or combined heat and power plants.

The material processed include all kinds of alternative fuels typically:

#### RDF

- shredded plastics,
- textile
- paper
- rubber (tire chips)

#### Biomass

- wood (chips, pellets)
- straw
- agricultural waste

#### Sludge and granulates

- WWTP sludge
- coal sludge
- animal meal

Any mixtures of above listed

BV-D2423GB

### Equipment

The MultiFlex weighfeeder is designed for continual feeding of bulk solids. In principle, the weighfeeder consists of a hopper and a screw trough. 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 fitted with two screws or center less helixes or with just one 1000 mm helix at the largest machine. The hopper is equipped with an agitator ensuring smooth emptying of the hopper and optimal filling of the screw trough. Continuous filling of the screws allows steady feeding of the

material controlled by speed of the screws via frequency convertors. High accuracy of material feeding is ensured by use of compact load cells transmitting the measured loads directly to weighing electronics.

### Construction

- Self-supporting frame with high stiffness ensuring high weighing accuracy
- Screw trough with twin screws ensuring very steady material flow
- Screw trough with single helix ensuring high feed rate up to 300 m<sup>3</sup>/h
- Screws used for non-coherent materials (granulates, sludge, pellets)
- Shaft less helixes used for all other materials (light weigh, lumpy, stringy)
- Multiple protection against overfeeding in screw trough and hopper
- Balancing hopper up to 25 m<sup>3</sup> equipped with agitator system optimized for alternative fuels
- High accuracy compact load cells fitted on the trough and the hopper
- All cabling wired to a junction box or to on-frame mounted weighing electronics.

**we make processes work**

### Configuration

Main factors of configuration selection:

- properties of the material or all materials processed
  - o material type(s)
  - o bulk density
  - o lump size (3D, 2D, 1D)
  - o moisture content
- material feed rate and control range
- space availability
- hopper filling method

### Hopper

Selection of hopper size is combination of following factors:

- feed rate (volumetric)
- method of filling – mainly flow fluctuations
- space availability
- time necessary for weighfeeder calibration

### Screws

Used for materials having following properties:

- good flow properties (typically granulates)
- lower granularity
- higher moisture (typically higher than 20 %)
- higher bulk density
- wrapping of long stripes around the shaft is not probable

### Helixes

Used for materials having following properties:

- bad flow properties (cohesive, tending to bridging)
- higher lumpiness, mainly 2D a 1D (containing long stripes)
- very low bulk density (typically lower than  $100 \text{ kg/m}^3$ )



*The Multiflex family*

*(hoppers  $3.5 \text{ m}^3$  up to  $25 \text{ m}^3$ ; twin or single screws/helixes 400, 500 and 1000 mm)*

Screw trough size selection based on material properties and required volumetric flow			
Screw/helix diameter [mm]	Material lump size [mm]	Max. volumetric flow [ $\text{m}^3/\text{h}$ ]	Approx. main drive power [kW]
2 x 400	<50	100	5.5
2 x 500	<100	200	7.5 ... 9.2
1 x 1000	<150	300	18.5

		Screw trough configuration options		
		Double screw/helix 2 x 400 mm max. 100 m <sup>3</sup> /h	Double screw/helix 2 x 500 mm max. 200 m <sup>3</sup> /h	Double screw/helix 1 x 1000 mm max. 300 m <sup>3</sup> /h
<b>Hopper</b>	3.5 m <sup>3</sup> single agitator	MTF-H3,5-FA-SC /HE400-A1	-	-
	5 m <sup>3</sup> single agitator	MTF-H5-FA-SC /HE400-A1	-	-
	7.5 m <sup>3</sup> single agitator	*) MTF-H7,5-FA-SC /HE400-A1	*) MTF-H7,5-FA-SC /HE500-A1	-
	7.5 m <sup>3</sup> double agitator	MTF-H7,5-FA-SC /HE400-A2	MTF-H7,5-FA-SC /HE500-A2	-
	10 m <sup>3</sup> single agitator	*) MTF-H10-FA-SC /HE400-A1	*) MTF-H10-FA-SC /HE500-A1	-
	10 m <sup>3</sup> double agitator	MTF-H10-FA-SC /HE400-A2	MTF-H10-FA-SC /HE500-A2	-
	25 m <sup>3</sup> double agitator	-	MTF-H25-FXLA-SC /HE500-A2	MTF-H25-FXLS-HE1k- A2

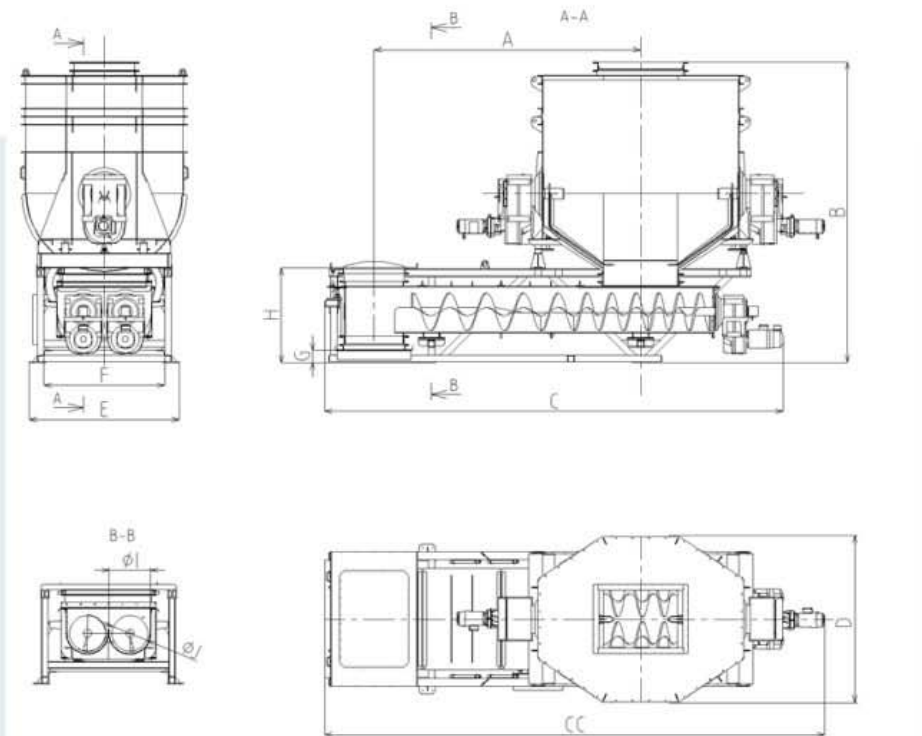
\*) for selected materials only with good flow properties; use of single agitator shall be consulted with the manufacturer



*Single agitator A1 (left) suitable for good flowing material which do not tend to bridge;  
double agitator A2 (right) recommended for all applications*



## Dimensions



Hopper volume [m <sup>3</sup> ]	3.5	5	7.5	10	7.5	10	25	25
Screws [mm]	2 x 400				2 x 500			1 x 1000
A [mm]	3250							
B [mm]	2886	3486	3578	4275	3578	4278	4474	5064
C [mm]*	5600			5800				
CC [mm]**	6089			6505			6758	
D [mm]	1732		2048			3711		
E [mm]	1830			2000				
F [mm]	1470			1560				
G [mm]	152							
H [mm]	1158			1208			1798	
I [mm]	400			500			1000	
J [mm]	812				1016			

\* May vary due to size of electric drive

\*\* Applicable for configuration with double agitator (A2) only

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