

PERFECT FROM THE START

The Müthing green area maintenance system for sustainable maintenance of sensitive and difficult areas.







- Natural care for green areas by perpetually recycling organic nutrients
 - Encouraging soil biology and aeration
 - Protecting groundwater and promoting humus formation
 - Guarding against wind and water erosion and soil dehydration
 - Encouragement of high quality grass species and suppression of obnoxious grasses and weeds
 - ... associated with significant savings in time and cost and improvements in operating efficiency from versatile mulch mowers



The Müthing green area maintenance system Visible quality: efficient, versatile, economical, sustainable

Extensive and careful maintenance of green areas is extremely important for residents and makes local authorities, regions and sports clubs more attractive. Neglect of public areas reinforces negative social effects. Research such as that of the British APSE (Association for Public Service Excellence) suggests that there is a direct correlation between badly maintained public spaces and an increase in anti social behaviour. Criminality and fear of criminality are increasing. This results in less use being made of public green areas, leading to deterioration both in health and people's general sense of well being.*

At the same time the maintenance of green and other areas is subject to substantial cost pressures like all public and private services. In spite of all this it is still necessary to retain a uniformly attractive professional result for maintenance work. A practicable solution for these conflicting demands is the sustainable maintenance of green areas with mulching mowers.

With this procedure the cut material is heavily shredded and defibered within the mulcher and then it is deposited evenly and loosely on the ground as a grass mulch layer. The bacteria in the soil immediately brings about an intensive composting on the surface and the earthworms contribute to the natural recycling.

The nutrients organically bound to the mulch material go on supplying the green areas naturally and make mineral slow release fertilisers unnecessary. This also reduces the risk of fertiliser leaching out into the groundwater. At the same time the grass mulch layer provides protection against erosion by wind and water and prevents the soil from drying out. The natural cycle of biomass strengthens the soil biology, activates aeration and encourages humus formation.

This allows soils to take up water and digest rain more efficiently, especially when the rain is heavy, bringing about an increase in water storage capacity, which is important during periods of drought. This also results in green areas being more accessible for both pedestrians and vehicles, avoiding a build up of stagnant moisture in a natural fashion. High grade grasses are encouraged, while poor grasses and felt formation are suppressed. It all looks better, the lawn quality is maintained and the lawn appears greener and healthier. * *

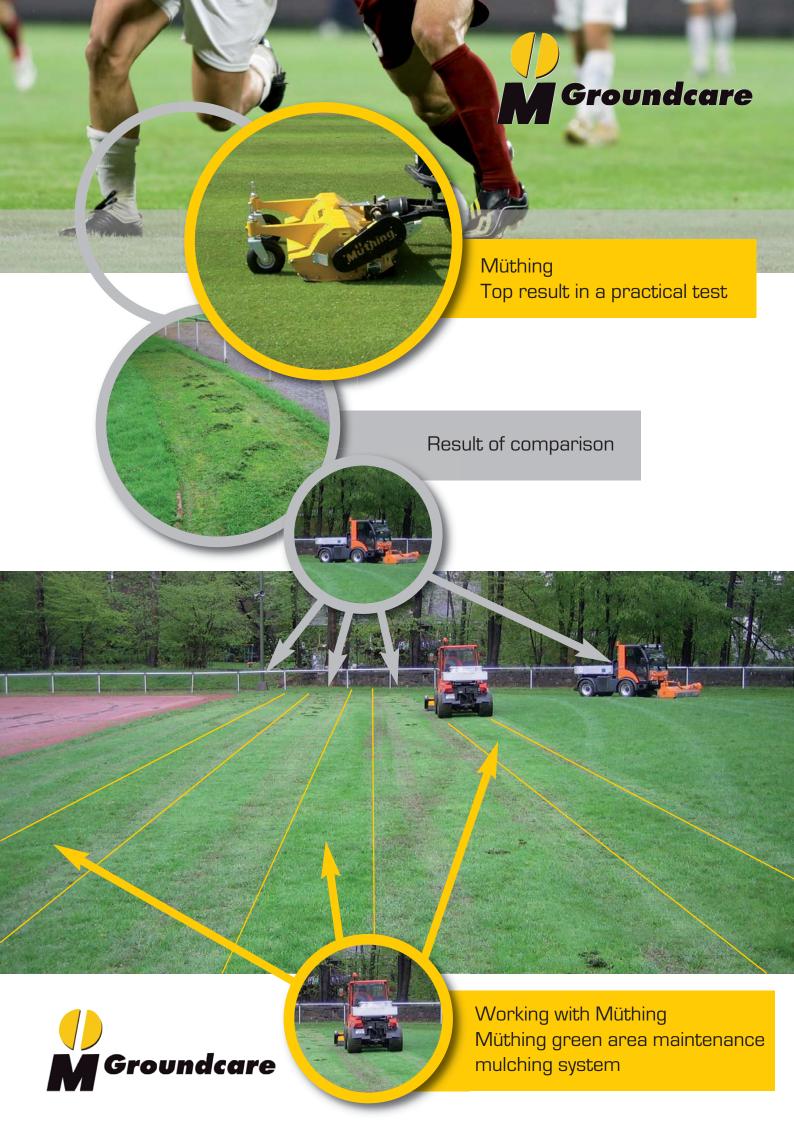
Because of their construction and engineering Müthing mulch mowers are very versatile and their use is largely independent of the weather. This facilitates a very wide range of mowing and mulching activities from mowing fine lawns to wild areas without the expense of additional equipment or adjustments while permitting longer intervals between cuts. There is no need to dispose of the cut grass, empty grass boxes or containers which also saves time and transportation. The robust engineering ensures a long life with low maintenance and servicing costs.

Along with significant savings in the cost of fertiliser this produces high measurable advantages in terms of expense and time on a sustained basis arising from higher operating efficiency, a reduction in investment and maintenance costs, higher deployment times etc.

This means that maintaining green areas using mulching mowers simultaneously improves maintenance quality on a sustained basis, naturally improves soil and lawn areas while giving rise to an increase in operating efficiency and substantially reducing maintenance costs.

"At least when you're using a Müthing mulching mower"

- * for further information see: Steven McInroy in "PC pitchcare-The turfcare magazine" Edition 38-2011 page 112ff
- ** for further information see: Prof. Dr. Karl-Ernst Schönthaler, long-term study "Further development of the mulch-mowing principle for lawn", Universität für Bodenkultur (BOKU) [= University for Soil Culture], Vienna 2009



The Müthing green area maintenance system in practice

Parks Golf courses Sports grounds Playgrounds

Canals and ditches Ski slopes Industrial areas

"We've done well with the park. Thanks to Müthing!"

The Berlin-Brandenburg Foundation for Prussian Palaces and Gardens has been using a Müthing MU-H 200 flail mulcher since 2008. The parkland to be maintained in the "Neuer Garten" and comes to about 28 ha annually. These areas are mowed in June/July and again in September/October. The mulcher has been used successfully in other parks such as the Ruinenberg in the park at Sanssouci.

Sven Kerschek, Head of Department, "Neuer Garten":

"The cut has met our requirements in recent years and this mulcher has led to improvements in both performance and effectiveness. The machine has continued to work reliably after several years of use and maintenance costs have been low. I am very satisfied with Müthing's reliable and robust flail mulcher, especially as the results have met the high demands required for these historic parks."

"Its versatility makes this machine perfect for our local authority!"

The Deutschneudorf local authority in the Erzgebirge area decided to buy the MU-FM/S 120 rear and side multi purpose mulcher.

The MU-FM/S is used for the regular maintenance of about 25 km roadside greenery in the local road network, for 35 km of hiking paths, for pre-maintenance of about 10 km of cross country skiing trails and for the maintenance of grassland and fallow areas.

The satisfied driver, Herr Kempuss says: "It is absolutely astonishing for a machine of this size to cope so easily with growth that is more than 120 cm high, and go on to leave a perfectly chopped residue. The large swivelling range and simple operation means that we can operate the mulcher at the side of the tractor up to 60° layered into trenches and up to 90° vertically for rough hedges or even shift able behind the tractor for maintaining paths. A superb all round mulcher for everyday professionals!"





Dykes Verges Roadsides Tree nurseries Pastures Fruit orchards Vineyards Fallow areas

"While other people had reservations, Müthing managed to find an outstanding solution."

Working where other people go on holiday! Travelling on the Loren-

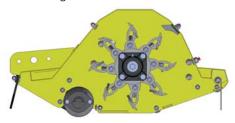


Müthing green area maintenance machinery in detail

Totally closed hood made from High Quality QSt/E Steel provides maximum material flow with hardened and tempered one way spring steel flaps in front and an even spread of mulch behind the roller, with provision for the optional insulation of a removable wearing plate in the mulcher body along with wearing skids

Smooth running double spiral rotor with high cutting frequency for high throughput and very good quality of cut, robust bearings with overlapping bushes for cover and protection against foreign bodies

Shackle "M"-Carbide flails to ensure clean cut and maximum shredding using less power (MU-C + C/S, MU-FM + FM/S, MU-E + E/S, MU-FM/Hydro + E/Hydro) (Scoop flails for MU-B)









Removable shredding bar in segmental construction: System "Shark fin" (Müthing-Patent) for more effective mulching and defiberation*.

Strong gear box with over run protection for high power transmissions (see technical data for the relevant flail mulcher)

High tempered "M"-Hammer flails to ensure clean cut and maximum shredding using less power forged from special steel with double reinforced rib to make it more fracture proof or alternatively a rotor with "M"-Shackle flails to cope with stones or other debris (MU-H + H/S, MU-L)



P.T.O. shaft with hardened inner tube and cap bottom lubrication





Support roller with rounded ends to protect the soil and turf with mechanical height adjustment for setting the height of cut, easily accessible exterior bearings with special seal and cap [MU-B, MU-C + C/S, MU-FM + FM/S, MU-E + E/S, MU-FM/Hydro + E/Hydro]

MU-H, MU-H/S and MU-L with labyrinth protected internal roller bearings and shaft covering, MU-L with the multi protected "Starinth" bearing system equipped with closed double taper roller bearings for top professional use.





Adjustable hydro pneumatic Weight Transfer System MU-SOFA® for front mounted equipment:

The MU-SOFA® is an adjustable Weight Transfer System to reduce the ground pressure of mounted equipment onto the soil. It stands for: help the steering capability of the tractor in work with front mounted attachments, optimize the perfect contour following, reduce bouncing during transport with sprung or enable pulse compensation with unsprung front axles, relief and protection of bearings, wearing elements and load bearing parts, leading to increased safety of operation, more operating comfort and cost savings



Optional equipment and mounting variants

Removable bolt on wear plate inside the mulcher hood for additional protection against stones and other debris

Removable bolt on wearing skids, recommended for uneven ground, especially roadside verges Hydraulic side shift for more convenience when working, can also be simply retro fitted



Strong large size height adjustable front rubber wheels, 360°swivelling



Warning signs and lights [each in sets of two, not mounted]



Working hours meter with electronic sensor



Front shock absorbing spring relief kit for the mechanical relief of front mounted equipment



A-Frame triangle Cat. O mounted to the mulcher for Quick Attach system of the tractor.



2 point linkage arms for MU-FM for mounting onto professional Outfront Mowers







Availability of possible options

	Hood wear plate	Wearing skids	A-Frame triangle	Hydr. side shift	Rubber wheels 360°	Shock abs. linkage springs	MU-SOFA®	2 nd shred. bar	Warning signs+lights	Working hours meter
MU-B	0	0	-	-	1	-	-	-	-	-
MU-C	0	S (Rear)	0	-	0	-	0	0	-	-
MU-C/S	0	0	-	-	-	-	-	-	0	-
MU-FM	0	S	0	-	0	-	-	0	-	-
MU-FM/S	0	S	-	S	-	-	-	0	-	-
MU-E	0	0	0	0	0	0	0	0	0	-
MU-E/S	0	S	-	S	-	-	-	0	0	-
MU-H	0	0	-	0	-	0	0	0	0	0
MU-L	0	0	-	0	-	0	0	0	0	0
MU-H/S	0	0	-	S	-	-	-	0	0	0
MU-FM Hydro	0	S	-	0	0	-	0	0	-	-
MU-E Hydro	0	0	-	S	0	-	0	0	0	-



Front or rear mounting for small or compact tractors

This range of mulchers is ideal for all mowing and mulching with small and compact tractors of 12 to 35 hp from cutting fine lawns to high grass or light vegetation: The MU-C mulchers display their overall versatility, their good cutting and mulching quality and their robust construction.

The well thought out construction facilitates the widest possible range of installations onto small and compact tractors and small outfront mowers. The hardened "M"-Carbide shackle flails ensure a good quality of cut in all conditions.

The cutting height can be easily adjusted via the support roller and the small distance between the rotor and the support roller ensures good contour following. Use of the patented, removable "Shark fin" shredding bar system ensures that the quality of the mulching and consequently the rotting process is excellent.

Optional incorporation of the adjustable hydro pneumatic Weight Transfer System MU-SOFA® for front installation in the front hydraulic system of the tractor also improves ride comfort and maintains steering quality even under difficult conditions, improves contour following and contributes to reducing the cost of wear and tear by reducing strain on bearings, wearing parts etc.

MU-C: The light and flexible variant for small tractors!

MU-C	80	100	120	140	160
WW (cm)	80	100	120	140	160
Overall width (cm)	97	124	144	164	184
Max. tractor hp	35	35	35	35	35
Weight (kg) Front/Rear	-/154	145/169	151/185	159/200	175/215
No. of flails	12	16	20	24	28



Side mulcher for rear mounting with fixed offset headstock

The MU-C/S is one of the lightest and at the same time one of the most efficient side offset mulchers in this class on the market. It is mounted very close to the tractor and is therefore very suitable for use on small tractors from 15 to 35 hp upwards, provided that the weight and the track width of the tractor ensures safe operation.

Because of its similar characteristics the mowing and mulching quality is identical to that of the MU-C. The tilt of the mulcher can be adjusted from 45° downwards to 90° upwards. This makes it ideal for mowing and mulching ditches and embankments. The working area of the mulcher is offset about 58 cm to the right from the centre of the tractor so that the machine and its operation are always well within the operator's field of vision.

MU-C/S: Versatile and universally usable, also in combination with a front mounted mulcher for more working width provided appropriate engine power is available.

Technical Data			
MU-C/S	100	120	
WW (cm)	100	120	
Max. tractor hp	35	35	
Weight (kg)	208	225	
No. of flails	16	20	
Min. tractor weight (kg)	650	700	
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The MU-FM is equipped with "M"-Carbide shackle flails and hardened wearing skids as standard. The patented, removable "Shark fin" shredding bar system ensures that it will mulch evenly without clogging. This robust professional flail mulcher can be used flexibly on both short grass and in long grass and vegetation. This reduces cost intensive setting up times and makes it more economical. These mulchers are supplied with a special fine cut outfit for exclusive lawn maintenance use: See the difference!



Technical Data

MU-FM	140	160
WW (cm)	140	160
Overall width (cm)	165	185
Max. tractor hp 2200 r.p.m.	40	40
Weight (kg) Weight including linkage parts	229	252
No. of flails	24	28

Adaptations available for:

- Iseki
- John Deere
- Kubota
- Shibaura
- Toro



Rear and side multi purpose mulcher with patented break away system

The hydraulically shiftable MU-FM/S rear and side mulcher, which can operate both to the side and the rear behind the tractor is a genuine all rounder. Its operating range is variable from 90° upwards to 60° downwards hydraulically adjustable. Its large swivelling range of 112 cm means that the mulcher is ideal for working on roadside greenery, dykes, ditches and hedges.

The MU-FM/S is designed for tractors of up to approx. 45 hp and one of its outstanding features is the well established Müthing mechanical safety breakaway system. This allows the mulcher to permanently reduce its load upwards, thus reducing the forces bearing on the lower link and the device.

The mulcher is of course also equipped with the "M"-Carbide shackle flails and

Technical Data				
MU-FM/S	120	140	160	
WW (cm)	120	140	160	
Max. tractor hp	45	45	45	
Weight (kg)	340	353	370	
No. of flails	20	24	28	
Min. tractor weight	1000	1100	1200	

Working and Shifting Ranges MU-FM/S The stated maeasurementes are approx. and may vary according to different tractors

WW (cm)		120	140	160
	Α	29	29	29
	В	83	83	83
1 - 1 - 1	С	160	160	160
← A → H B → H	D	232	252	272

the patented "Shark fin" shredding bar system and possesses all the positive mowing and mulching characteristics of the MU-FM. This produces optimum mowing and mulching and an even spread of the mulch on the surface. This results in a rapid and perfect rotting and composting on the surface: Brilliant in combination with a front mounted mulcher provided appropriate engine power is available.

- A Working Width in cm
- B Shifting Range to the Right in cm
- C Transport Length Backwards in cm
- Overall Working Width incl. Machine Width





Professional compact tractors and system vehicles of up to 60 hp require efficient, versatile and robust flail mulchers to carry out mowing and mulching work reliably quickly and economically. At the same time the equipment should

The MU-E mulcher series was created for this range of tractors. A wide range of adaptations, additional equipment, low weight and strong construction are the typical attributes of this versatile range of mulchers.

The special "M"-Carbide shackle flails combined with a high tip speed and the patented "Shark fin" shredding bar system make it possible to use the machine both for fine cutting of lawns and for mulch mowing in high grass and on difficult terrain without time consuming re-equipment or adjustment.

The MU-E is supplied either with a gearbox mounting height of about 55 cm or as a low gearbox mounting variant with a mounting height of only about 38 cm purely for front installation.

In the case of front mounting it is recommend the optional incorporation of the adjustable hydro pneumatic Weight Transfer System MU-SOFA® in the front hydraulic system of the tractor which even under difficult conditions makes a crucial contribution to increasing ride quality, steering and contour following. The MU-E mulcher series: The versatile professional equipment in the light flail mower class for top level efficiency.

Technical Data					
MU-E	120	140	160	180	200
WW (cm)	120	140	160	180	200
Overall width (cm)	142	162	182	202	222
Max. tractor hp 540 r.p.m.	50	50	50	50	50
Max. tractor hp 1000 r.p.m.	60	60	60	60	60
Weight (kg)	280	300	330	360	390
No. of flails	20	24	28	32	36





MU-E/S

Side flail mulcher with rear or front mounting for tractors and system vehicles

The MU-E/S side mulcher with rear or front mounting is the proper equipment for maintaining verges, ditches and embankments. Designed for up to 60 hp this mulcher is ideal for rear mounting behind tractors and system vehicles.

Operating ranges from 90° upwards to 60° downwards can be covered easily. The hydraulic side shift also provides freedom of movement in every position. A swivelling range of 50 cm is standard. This means that a total operating range of 2.10 m to 3.0 m can be covered depending on operating width (120 - 160 cm). The mulcher can be supplied in left hand or right hand drive.

As the mulcher can often be confronted by debris, stones or contaminants on the sides of roads or paths it is equipped as standard with spring steel one way flaps in front, a safety break back system and with "M"-Carbide shackle flails. These blades are capable of taking evasive action in any direction to avoid obstacles. The patented "Shark fin" shredding bar system is also standard.

If large areas need to be covered the MU-E/S can be combined with the MU-E mulcher in front provided appropriate engine power is available: Outstanding and uniform results combined with high area coverage and economy!

Technical Data				
MU-E/S		120	140	160
WW (cm)		120	140	160
Max. tractor hp		60	60	60
Weight (kg)		497	520	543
No. of flails		20	24	28
Min. tractor weight		1450	1540	1620
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Front and rear mounted mulcher

The heavy MU-H Vario series is the robust universal mulcher for green area maintenance for tractors and special system vehicles up to 90 hp. This "work horse" for daily use in the widest possible range of mowing and mulching work has side shift, front and rear mounting, heavy fully proven universal "M"-Hammer flails and the patented "Shark fin" shredding bar system as standard.

Consequently this mulcher is not only capable of working perfectly on lawns, meadows and overgrown areas but also on fallow surfaces with woody growth and light scrub. The biomass is heavily shredded and spread evenly over the surface behind the roller.

For particularly tough conditions with a high proportion of stones and other debris such as maintaining road verges and roadside greenery or working alongside rivers and canals there is an option to have a rotor with "M"-Shackle flails installed. If any resistance is encountered the flails can deviate laterally so that under extreme conditions and helped also by the shape of the blade both the tractor and the mulcher are protected.

Special variants are available for front installation on system vehicles. The MU-H Vario can also be augmented by further options for particularly difficult conditions. An optimum weight ratio and its proximity to the tractor are also important safety features. For front installation the optional incorporation of the the adjustable hydro pneumatic Weight Transfer System MU-SOFA® is recommended, as this

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200

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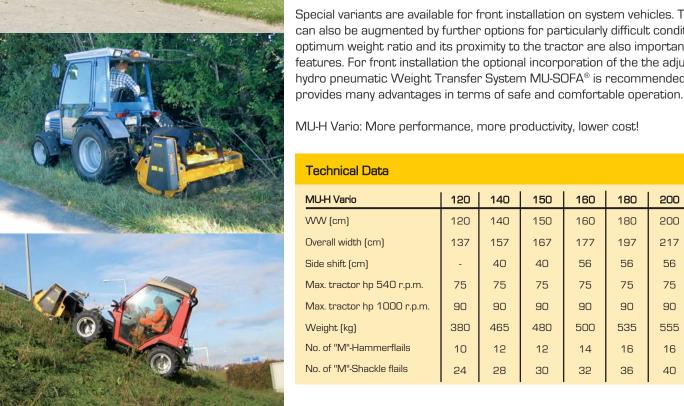
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90

615

18

46





MU-H/S

Rear and side multi purpose mulcher with patented break away system

By using the MU-H/S rear and side mounted mulcher you can turn your tractor into a universal mower for verges, embankments and ditches and in combination with a MU-H front mulcher into a large area mulch mower with working widths of up to 4.00 m. To do this you only need 2 double acting hydraulic valves on your tractor, one of which should have a floating position.

The MU-H/S is of course equipped with all the advantages in terms of operation and shredding performance and the technical features of the MU-H mulcher along with the same equipment options.

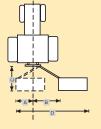
The patented safety breakaway system of the MU-H/S via a mechanical arm is the active collision protection for both tractor and mulcher. This allows the mulcher to permanently reduce its load upwards, thus reducing the forces bearing on the lower link and the device.

MU-H/S: Its large operating ranges and versatility turn this mulcher into a genuine all rounder!

Technical Data

MU-H/S	140	160	180	200
WW (cm)	140	160	180	200
Max. tractor hp	90	90	90	90
Weight (kg)	615	620	651	670
No. of "M"-Hammerflails	12	14	16	16
No. of "M"-Shackle flails	28	32	36	40
Min. tractor weight	1800	2000	2200	2400

Rear and side mulcher up to 90 hp with pat. break away system Min. tractor weight 1800 kg (140 cm) up to 2400 kg (200 cm)



WW (cm)		140	160	180	200
	Α	55	55	55	55
	В	100	100	100	100
	С	185	185	185	185
	D	295	315	335	355

- A Working Width in cm
- Shifting Range to the Right in cm
- Overall Working Width incl. Machine Width





MU-L Vario

Front and rear mulcher

More and more work in the upper range of green area maintenance is carried out by powerful and efficient tractors and system vehicles. In large green area maintenance such as taking care of pond edges, lake sides, dykes, ditches, trimming ski pistes, looking after tree nurseries, clearing commercial and fallow areas, maintaining greenery alongside roads and motorways including gullies or preventing scrub invasion - heavy, efficient and reliable mulchers such as the MU-L Vario are required.

This heavy professional range for tractors of up to 130 hp with side shift and front or rear mounting is the entry level to the top range of Müthing mulchers which with super heavy professional equipment covers performance ranges of tractors of more than 400 hp.

Alongside the heavy universal "M"-Hammer flails with double reinforced lug (option also with "M"-Shackle flail rotor) the MU-LVario is equipped with the patented "Shark fin" shredding bar system which with its self cleaning effect guarantees uniform high quality mulching and largely protects the mulcher from clogging.

The high stresses placed on the machine are carried by a large support roller and taken up by the "Starinth" roller bearings. This robust, high quality bearing has a multiple labyrinth seal, is equipped with closed double taper roller bearings and flexibly linked to the mulcher housing. The MU-L Vario package is complemented by an extensive range of optional extras for all applications in green area maintenance.

Technical Data

MU-L Vario	180	200	220	250	280
WW (cm)	180	200	220	250	280
Overall width (cm)	197	217	237	267	297
Max. tractor hp 540 r.p.m.	100	100	100	100	-
Max. tractor hp 1000 r.p.m.	130	130	130	130	130
Weight (kg)	640	670	740	790	885
No. of "M"-Hammerflails	16	16	18	22	24
No. of "M"-Shackle flails	36	40	46	52	58

The MU-L Vario of course offers for front mounting the optional incorporation of the adjustable hydro pneumatic Weight Transfer System MU-SOFA® as this provides the many advantages of this additional equipment. MU-L Vario: Professional equipment for green area maintenance professionals!



MU-B

Front mulcher for single axle mowers

The MU-B mulcher is mounted on single axle mowers for extensive and intensive green area maintenance. Various quick coupling adaptations are available for different types of mowers. The tried and tested modules of the robust MU-C are used for this mulcher. The rotor is equipped with the well established "M"-Scoop flails as standard.

For hard and demanding mowing work "M"-Carbide shackle flails, hard metal wearing plates and wearing skids are available as an option. For special purposes the MU-B can also be optionally equipped with a rotor with free swinging Y blades. The gearbox of the MU-B is also equipped with a safety brake.

Optional power transmission from the single axle mower to the mulcher is achieved by the automatic spring supported drive belt tensioning as standard.

100	120	140	
100	120	140	
117	137	157	
25	25	25	
137	154	171	
16	20	24	
	100 117 25 137	100 120 117 137 25 25 137 154	100 120 140 117 137 157 25 25 25 137 154 171





For front mounting vehicles without PTO Müthing supplies the MU-FM/Hydro flail mulcher with a powerful hydraulic motor. As the basic professional model of the MU-FM/Hydro has the same build as the MU-FM. It of course also possesses the same impressive operating and quality advantages as the MU-FM, comparable versatility and identical optional equipment.

The drive of this mulcher requires an oil volume of 40 L per minute at a pressure of about 180 bar. This means that the MU-FM/Hydro can be used both on yard loaders and special hydro traction vehicles. A large selection of mounting adapter plates for these vehicles simplifies mounting and optionally available hydraulic control blocks facilitate mounting on to vehicle hydraulic systems for oil volumes in excess of 48 L/min.

MU-FM/Hydro: More benefit and use for your loader and vehicle!

Technical Data				
MU-FM/Hydro	120	140	160	
WW (cm)	120	140	160	
Overall width (cm)	145	165	185	
Oil-flow I/min.	40	40	50	
Weight (kg)	201	217	231	
No. of flails	20	24	28	

mini



Front mulcher with hydraulic drive for municipal vehicles

Oil volume required 50 L/min at 180 bar

More and more frequently users request powerful, hydraulically driven flail mulchers. Applications range from sporting and decorative turf to extensive green areas which are only mowed twice a year. Powerful vehicles are available with increasing frequency for these applications.

Müthing has recognized this trend. Based on the professional light MU-E range with all the quality features for mowing and mulching and the full equipment facilities of the identical basic equipment the hydraulically driven MU-E/Hydro flail mower was developed in operating widths of 1.60m and 1.80 m. These mulchers are equipped with free floating linkage and can be side shifted hydraulically. An alternative mounting is via a Cat. O A-Frame triangle mounted on the mounting plate of the vehicle.

The MU-E/Hydro: A genuine all rounder - just check it out!

Technical Data		
MU-E/Hydro	160	180
WW (cm)	160	180
Overall width (cm)	182	202
Oil-flow I/min.	50 - 80	50 - 80
Weight (kg)*	360	360
No. of flails	28	32











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