

# TF



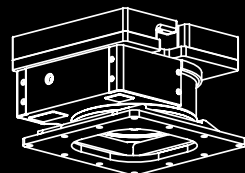
2.5 - 75 TON

## DOUBLE-DRUM CUTTER HEADS

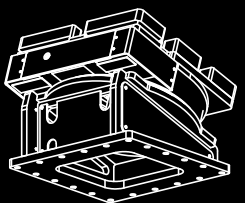
TF 200 | TF 450 | TF 650 | TF 850 | TF 1100 | TF 2100 | TF 2500 | TF 3100

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**PARALLEL HYDRAULIC ROTATION** for TF 450 and 650.



**TILTED HYDRAULIC ROTATION** for TF 850/1100/2100.

*learn more on page 11*

**DRUMS AND TEETH FOR ANY APPLICATION**, designed to achieve the highest performance according to the required application. Multiple tooth geometries available for working on different materials.

**REPLACEABLE ANTI-WEAR PLATES**

**INCREASED PRODUCTIVITY AND MAXIMUM PRECISION:** cutter head can be rotated 90° with respect to mounting bracket (thanks to square holes of coupling plate).

**FILTER ON FEED LINE** prevents impurities from entering the motor.

Hose hook-up on both cabin side (standard) and front.

**MILLED MATERIAL IS DISCHARGED FROM THE TRENCH WITHOUT GETTING STUCK IN THE FRAME** due to special shape.

**HIGH TORQUE AND HIGH PERFORMANCE** guaranteed by integrated high displacement hydraulic piston motor in direct drive with the drums. Shaft transmits motion only and bears no load thanks to double support bearings for each drum.

**MECHANICAL GASKETS FITTED ON DRUMS SEAL AGAINST DUST** also when attachment is submerged into the ground, even in muddy conditions.

**SIMEX**  
• patented •



The Simex TF double drum cutter heads are ideal for trenching, profiling rock and cement walls, tunnelling, quarrying, demolition, dredging, finishing operations and underwater works. They are highly effective where conventional excavation systems are too weak and percussion ones have little effect.

#### AVAILABLE DRUMS:



**HP (STANDARD)**  
Allows deep penetration even into hard materials



**GP (OPTIONAL)**  
Recommended for wall profiling and various types of jobs



**WP (OPTIONAL)**  
Special drum for finishing and profiling



**HPP (OPTIONAL)**  
Special drums for mixing soils

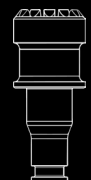
#### AVAILABLE TEETH:



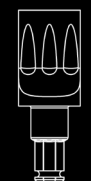
**STANDARD**  
For mixed materials



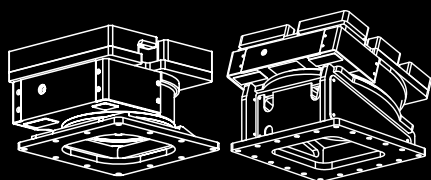
**OPTIONAL**  
For milling very hard materials



**OPTIONAL**  
For wood



**OPTIONAL**  
For tilling



#### 360° HYDRAULIC ROTATION

Hydraulic rotation allows the operator to always find the ideal working position. Increased productivity. Maximum precision.

*learn more on page 11*

#### UTILITIES

**TF 850 with 360° hydraulic rotation.** In trenching, hydraulic rotation allows operator to find the ideal working position.



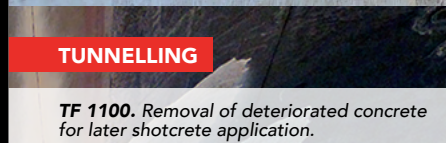
#### CONDUITS

**TF 850.** Trench excavation for laying underground utilities and pipes.



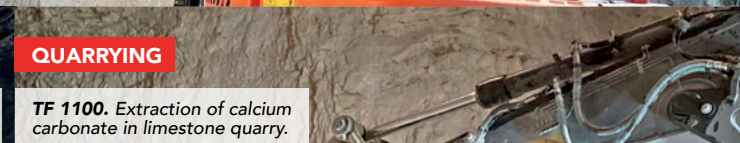
#### VERTICAL PROFILING

**TF 450.** Precision vertical milling for building works.



#### TUNNELLING

**TF 1100.** Removal of deteriorated concrete for later shotcrete application.



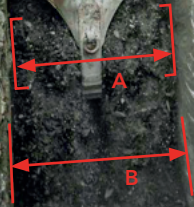
#### QUARRYING

**TF 1100.** Extraction of calcium carbonate in limestone quarry.



## TRENCHING

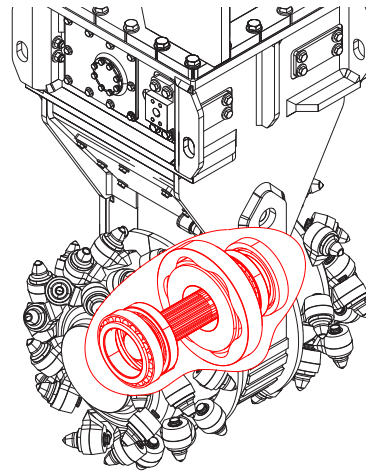
**TF 1100.** Trenching with the narrowest possible width ( $A=B$ ).



## DIRECT DRIVE AND HIGH TORQUE

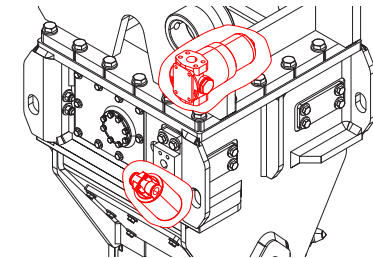
The direct drive hydraulic piston motor directly delivers power to the drums without mechanical transmission components, thus guaranteeing high torque and high performance.

Shaft transmits motion only and bears no load thanks to double support bearings for each drum.



## MAXIMUM PROTECTION AND ZERO ROUTINE MAINTENANCE

Filter on feed line and filter on drainage line, both integrated, protect the hydraulic system from any external impurities, which can damage or reduce the performance of both the excavator and the equipment. (In TF 200 and TF 450 models the filter is only on the feed line). Additional protection from pressure peaks is ensured on drainage line by an accumulator and a fuse, an on feed line by a flow limiting valve. The latter also allows easy coupling with various excavator models and sizes, facilitating installation and calibration operations. The direct drive motor does not require lubrication or other types of routine maintenance.



## UNDERWATER WORKS

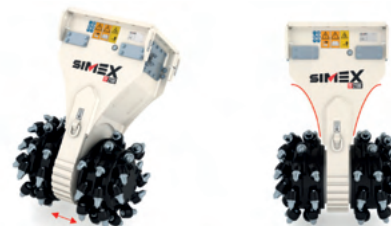
**TF 3100.** Trench excavation for laying water mains pipes.

## CRUSHING TREE TRUNKS

**TF 850.** Crushing tree trunks with special teeth made for wood.

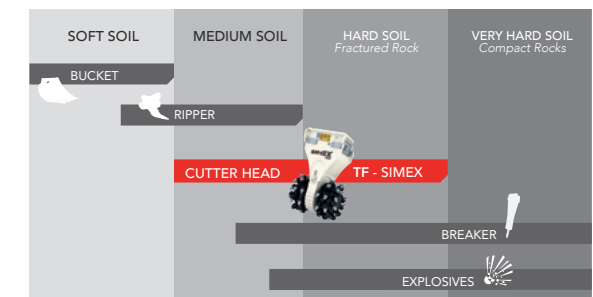
## DESIGN AND HIGH PERFORMANCE

The frame's particular shape allows reducing the distance between the drums improving the total working width. Furthermore, milled material is discharged from the trench without getting stuck in the structure due to perfect symmetry of the frame, which also allows hoses to be hooked up at sides and front (except for TF 200 and TF 450 models). Replaceable anti-wear plates. In addition, the mechanical gaskets fitted on the drums ensure maximum resistance to dust and any external agents, allowing the equipment to work completely submerged into the ground or water up to a maximum depth of 30 metres.



## A TRUE ALTERNATIVE TO TRADITIONAL SYSTEMS

The TF cutter heads are especially useful where conventional excavation systems are too weak and percussion systems have little effect. The low vibrations and seamless milling make the TF cutter head particularly suitable in applications requiring selective breaking of the rock mass, while at the same time producing crushed material of a particle size suitable for on-site reuse or transport elsewhere.



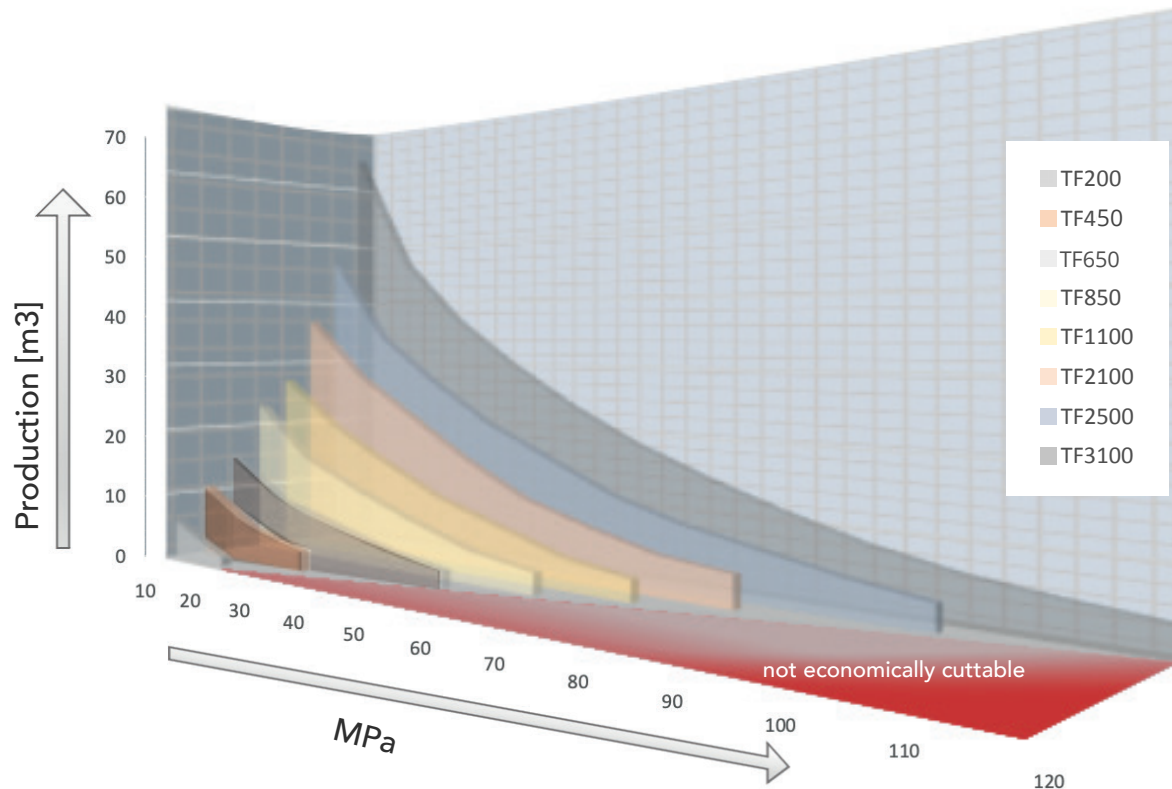


## PRODUCTIVITY ESTIMATE

### RATIO BETWEEN CUTTING EFFICIENCY AND COMPRESSIVE STRENGTH

The graph below gives an approximate indication of the ratio between cutting efficiency of each cutter head model in optimal conditions and the unconfined compressive strength of the rock.

Since many variables exist regarding the material (**fracturing, weathering, ductility**, etc.), the prime mover and the operability, the ratio should be understood as only an approximation of cutting efficiency. The actual production may be estimated after all noted variables are taken into account.



### CALCULATION OF HOURLY PRODUCTION

Our team of experts has created a tool to help you calculate the theoretical hourly production, guiding you in choosing the most appropriate drum cutter for the type of material to be worked. Scan the QR code on the side with your smartphone to access the calculator for hourly production.



### BUILDINGS AND INFRASTRUCTURE

**TF 3100.** Rock wall profiling for later real estate development.



### EXTREME CONDITIONS

**TF 1100.** Trenching on frozen ground in permafrost conditions (-40°).



### EARTHWORKS

**TF 850.** Excavation for the construction of foundations for pillars.



## PRODUCTIVITY: A FEW APPLICATION EXAMPLES

### TRENCH EXCAVATION FOR LAYING UNDERGROUND UTILITIES

**Job:** Trench excavation with TF 850 for later connection to sewers

**Material:** metamorphic rock with schist texture

**Forward speed:** 10 linear metres per hour, depth: 80 cm.



### PROFILING NATURAL WALL IN CONSTRUCTION FIELD

**Job:** profiling natural wall in a construction site with TF 2100 and TF 3100

**Material:** hard and compact sedimentary conglomerate, 80-90 MPa

**Production:** 10-15 m<sup>3</sup>/h

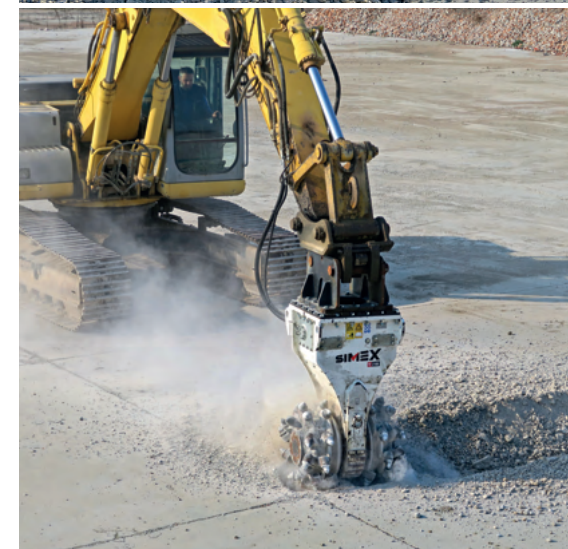


### DEMOLITION OF INDUSTRIAL FLOORS

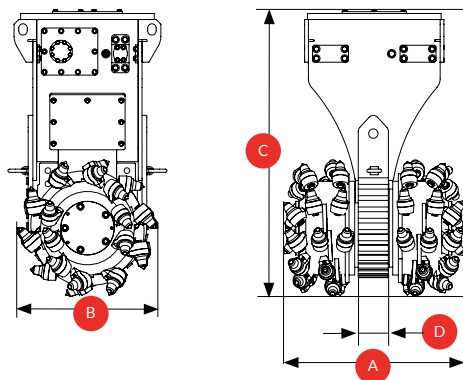
**Job:** Dismantling of industrial concrete flooring, 25 MPa with TF 2100

**Material:** Reinforced concrete

**Production:** 40-45 m<sup>2</sup>/h







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TECHNICAL DATA		TF 200	TF 450	TF 650	TF 850	TF 1100	TF 2100	TF 2500	TF 3100
Recommended excavator weight	ton lbs	2.5 - 7 5500 - 15500	6 - 12 13000 - 26500	9 - 16 19800 - 35200	14 - 22 30800 - 48500	20 - 34 44000 - 75000	28 - 45 61700 - 99000	40 - 55 88000 - 121000	50 - 75 110000 - 165400
Weight without mounting bracket (1)	kg lbs	300 660	470 1050	650 1430	1100 2420	1340 2950	2380 5240	2700 5950	2940 6470
Nominal power	hp (kW)	40 (30)	55 (40)	68 (50)	95 (70)	122 (90)	163 (120)	205 (150)	250 (185)
Rotation torque	kNm lbf.ft	2.8 2080	5.1 3760	7.4 5450	12.1 8920	20 14750	26.7 19700	36.1 27600	48 35400
Cutting force	kN lbf	15.1 3400	22.5 5100	30.5 6850	40.2 9000	61 13700	71 16000	96.4 21600	128 28700
Maximum pressure (2)	BAR psi	350 5100	350 5100	350 5100	400 5800	400 5800	400 5800	400 5800	400 5800
Required oil flow	l/m gpm	45 - 80 12 - 21	65 - 120 17 - 32	90 - 150 24 - 40	140 - 190 37 - 50	170 - 250 45 - 66	240 - 340 63 - 90	280 - 400 74 - 105	350 - 500 92 - 132
360° Hydraulic rotation optional		-	yes	yes	yes	yes	yes	-	-
Drum width (HP) standard	mm inch	565 22	625 25	700 28	800 32	865 34	965 38	1000 40	1270 50
Drum width (GP) optional	mm inch	-	-	-	890 36	1000 40	1100 43	1150 45	1350 53
Drum width (WP) optional	mm inch	650 26	750 30	850 34	920 36	1200 47	-	-	-
Drum diameter HP	mm inch	380 15	450 18	500 20	595 24	660 26	750 30	750 30	750 30
Height without mounting bracket	mm inch	840 33	970 38	1005 40	1270 50	1335 53	1570 62	1675 66	1825 72
Drum distance	mm inch	110 4	130 5	135 5.3	180 7	190 7.5	250 10	250 10	330 13
Tooth holder diameter	mm inch	20 0.8	22 0.9	22 0.9	38/30 1.5/1.2	38/30 1.5/1.2	38/30 1.5/1.2	38/30 1.5/1.2	38/30 1.5/1.2

(1) The installer is responsible for ensuring that the equipment meets the excavator's specifications and weight requirement.

(2) Torque and cutting force decrease with lowered operating pressure.

Simex does not accept responsibility or liability for the information provided. Technical modifications may vary without prior notice.



# TFC



1.2 - 12 TON

## CUTTER HEADS WITH CONTINUOUS CUTTING

TFC 50 | TFC 100 | TFC 400 | TFC 600

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Ideal for trenching as well  
as wall profiling.

The double drum system plus  
central chain makes the front  
continuous cutting profile without  
gaps at centre.

A versatile  
attachment, it may  
be used in various  
application fields.

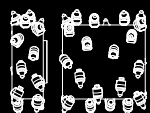


**SIMEX**  
• patented •



The TFC cutter heads with continuous cutting are specifically designed for mounting on mini-excavators and excavators up to 12 tons. They feature an innovative system without gaps at centre or side footprints and are ideal for finishing flat surfaces and trenches. Quiet and precise in the work zone, they do not intrude on the surrounding area. Versatile and high-performing, they can also be utilized for crushing roots and tree trunks, milling asphalt and cement, milling plaster.

#### DRUMS



**STANDARD**  
For TFC 50



**STANDARD**  
For TFC 100



**STANDARD**  
For TFC 400



**STANDARD**  
For TFC 600

#### TEETH



**STANDARD**  
For TFC 50



**STANDARD**  
For TFC 100

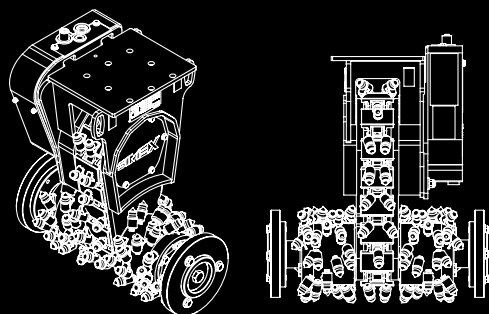


**STANDARD**  
For TFC 400



**STANDARD**  
For TFC 600

#### SUPPORT WHEELS (OPTIONAL)



Models TFC 50 and TFC 100 may be fitted with lateral disks to ensure perfect control on the thickness of the milled material.



#### VERTICAL PROFILING

**TFC 400.** Vertical profiling on rock wall for later consolidation.



#### CONTROLLED REMOVAL

**TFC 100.** Removal of plaster on wall with thickness control thanks to side wheels.



#### CONDUITS

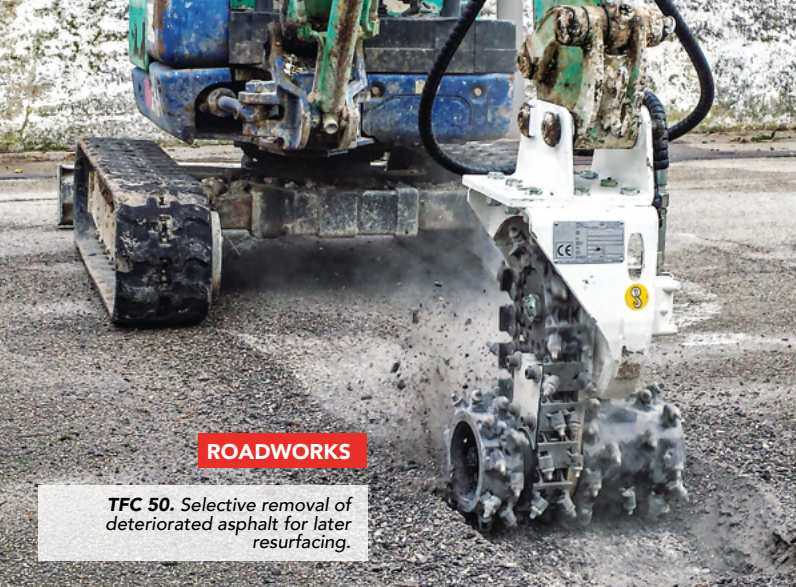
**TFC 400.** Trench excavation for laying water mains pipes.



#### SCARIFICATION

**TFC 100.** Scarification of concrete pillars.





### ROADWORKS

**TFC 50.** Selective removal of deteriorated asphalt for later resurfacing.



### CONDUITS

**TFC 400.** Trench excavation for laying underground utilities.



### CRUSHING TREE TRUNKS

**TFC 100.** Crushing roots and tree trunks.

## CONTINUOUS CUTTING WITH CENTRAL CHAIN

TF technology is naturally completed by the TFC range, for excavators in the 1.2-12 ton category. It features a double drum system plus central chain, which makes the front continuous cutting profile without gaps at centre between the drums. Ideal for finishing flat surfaces and for creating set-section trenches.



## TRENCHING

With trench excavations it is possible to work at great depths (the only limit being the excavator boom) since thanks to the continuous cut given by the central chain, movement will only be vertical, allowing the operator to keep the excavation width as small as possible. With this method, it will no longer be necessary to move the boom left and right to remove portions of unmilled material that normally form between the drums.



## WALL PROFILING

Similarly to flat surfaces, with the TFC it is possible to do narrow millings as narrow as the cutter head profile is also on vertical walls or tunnel vaults, and are therefore particularly indicated for laying utilities, building elements, formworks, etc. When profiling walls and tunnels, the central chain allows side-by-side millings using the entire cutting width profile, avoiding any unmilled material to be left, granting more productivity in less time.



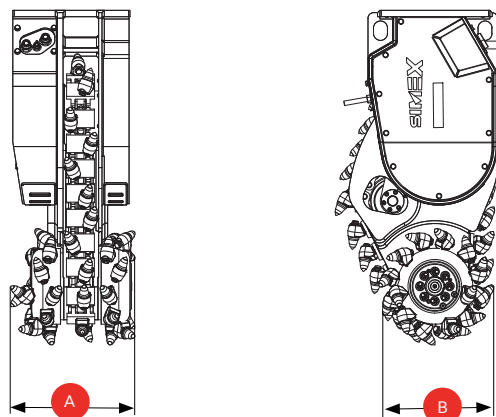
## VARIOUS APPLICATION FIELDS

Quiet and precise in the work area, their versatility ensures high performance in various application fields, such as:

- Trench excavation
- Scarification and profiling of flat surfaces and vertical walls
- Removal of deteriorated concrete in tunnel
- Crushing of roots and tree trunks
- Precision road maintenance (finishing around manholes and footpaths).







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TECHNICAL DATA			TFC 50	TFC 100	TFC 400	TFC 600
Width (cutting profile)	A	mm inch	370 15	480 19	440 / 500 (*) 17 / 20 (*)	490 / 540 (*) 20 / 21 (*)
Drum diameter (cutting profile)	B	mm inch	230 9	260 10	420 16	480 19
Weight (1)		kg lbs	90 200	170 375	400 880	670 1470
Recommended excavator weight (2)		ton lbs	1.2 - 3.0 2640 - 6600	2.5 - 4.5 5600 - 9900	6 - 10 13000 - 22000	9 - 12 20000 - 26400
Required oil flow (3)		l/min gpm	20 - 40 5 - 10	30 - 60 8 - 16	65 - 115 17 - 30	90 - 150 24 - 40
Maximum oil pressure (4)		BAR psi	250 3625	300 4350	300 4350	300 4350
Max. torque		Nm lbf.ft	600 (at 250 bar) 445 (at 3625 psi)	1060 (at 300 bar) 780 (at 4350 psi)	3800 (at 300 bar) 2800 (at 4350 psi)	5900 (at 300 bar) 4350 (at 4350 psi)
Max. cutting force		N lbf	5100 (at 250 bar) 1145 (at 3625 psi)	8100 (at 300 bar) 1820 (at 4350 psi)	18500 (at 300 bar) 4160 (at 4350 psi)	24500 (at 300 bar) 5500 (at 4350 psi)

(\*) Drums optional.

(1) Without mounting bracket.

(2) The installer is responsible for ensuring that the equipment meets the excavator's specifications and weight requirement.

(3) RPM and cutting speed decrease with lowered oil flow.

(4) Torque and cutting force decrease with lowered operating pressure.

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