



*Ultra High
Demolition*

Technical Supplement

A Dynamic and Complex Business



Demolition has changed. It has become a dynamic and increasingly complex business. Today there are few demolition jobs where buildings can simply be knocked, pulled or blown down using traditional tools. What's more, contract periods are becoming shorter, legislation is stricter, environmental pressure is increasing and skilled labour is harder to find. As a consequence, demolition contractors are looking for the most efficient, cost effective and safe methods of deconstructing buildings and structures.

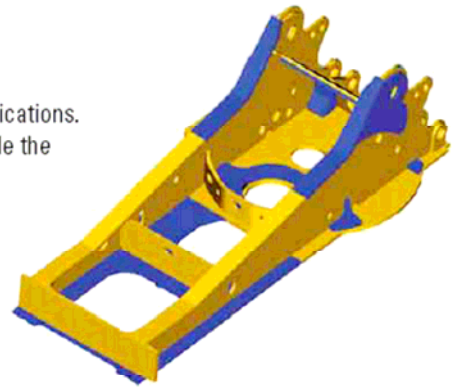
Reliability

Upper Frame and Counterweight

Purposely designed and built for extreme conditions.

Reinforced upper frame

The heavy-duty reinforced upper frames of the CAT UHD models are designed to withstand the extreme load conditions of demolition applications. Compared to a standard upper frame, several additional plates provide the durability and strength required in these environments.



Reinforced upper frame

Operator Comfort and Safety

Operator comfort and safety is critical in demolition applications.

Hydraulically tiltable cab

The hydraulically tiltable cab tilts back to further improve upward visibility and to allow the operator to adopt a more comfortable body position. The tiltable cab is integrated into the upper frame and therefore does not increase the machine's shipping height. Moreover, because of the integration into the upper frame, no tilt parts are exposed to the demolition environment. To reduce vibrations and sound, the cab shell is attached to the frame with viscous mounts.

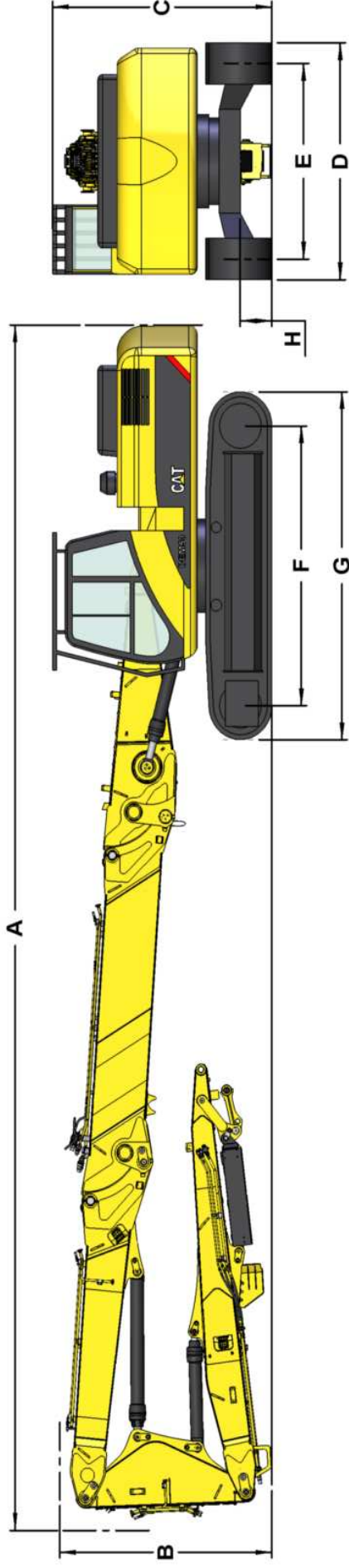


Automatic climate control

Fully automatic climate control adjusts temperature and flow and determines which air outlet is best in each situation.

Dimensions and Weights - UHD Configuration

DEM50 with ultra-high demolition front - All dimensions and weights are approximate.



Configuration	18 m (without extension)	21 m (with 3m extension)	23 m (with 5m extension)	
Undercarriage	L	HVG	L	HVG
A Shipping length	mm	12415	15410	17400
B Boom height	mm	3300	3300	3300
C Cab height *	mm	3360	3410	3360
D Overall width **				
with 600 mm shoes	mm	3190	2990	3190
with 750 mm shoes	mm	3340	3140	3340
E Track gauge				
Fully retracted	mm	2590	2390	2590
Fully extended	mm	2820	2820	2820
F Length to the center of roller	mm	4040	4040	4040
G Tracks length	mm	5020	5020	5020
H Ground clearance	mm	510	480	510
Weight ***	kg	40120	45310	42020
			47210	42620
				47810

* With Falling Object Guard (FOG) and tiltable cab

** With tracks fully retracted, if applicable.

*** With ultra-high demolition front parts, undercarriage, tiltable cab, FOG and full fuel tank

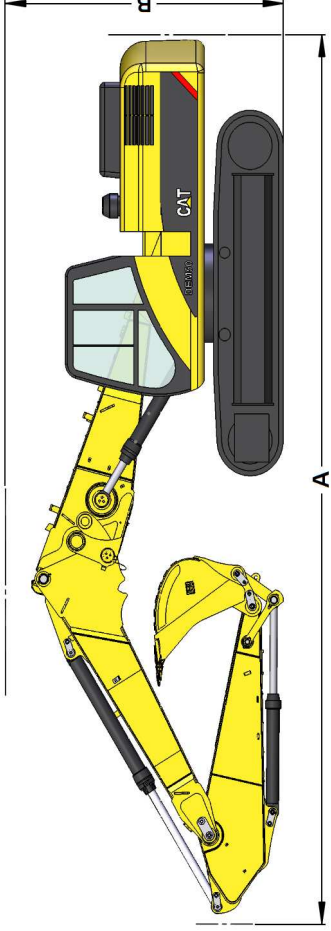
L DEM50 with Long undercarriage

HVG DEM50 with Hydraulic Variable Gauge

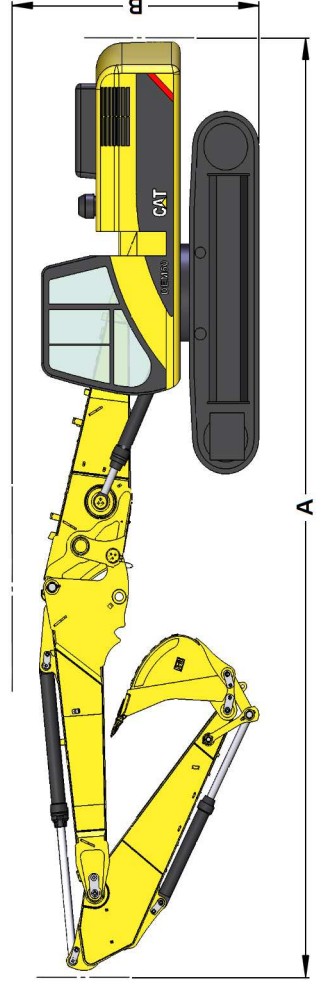
Dimensions and Weights - Retrofit Configurations

DEM50 with retrofit boom in straight and bent position - All dimensions and weights are approximate.

DEM50 with retrofit boom in bent position



DEM50 with retrofit boom in straight position



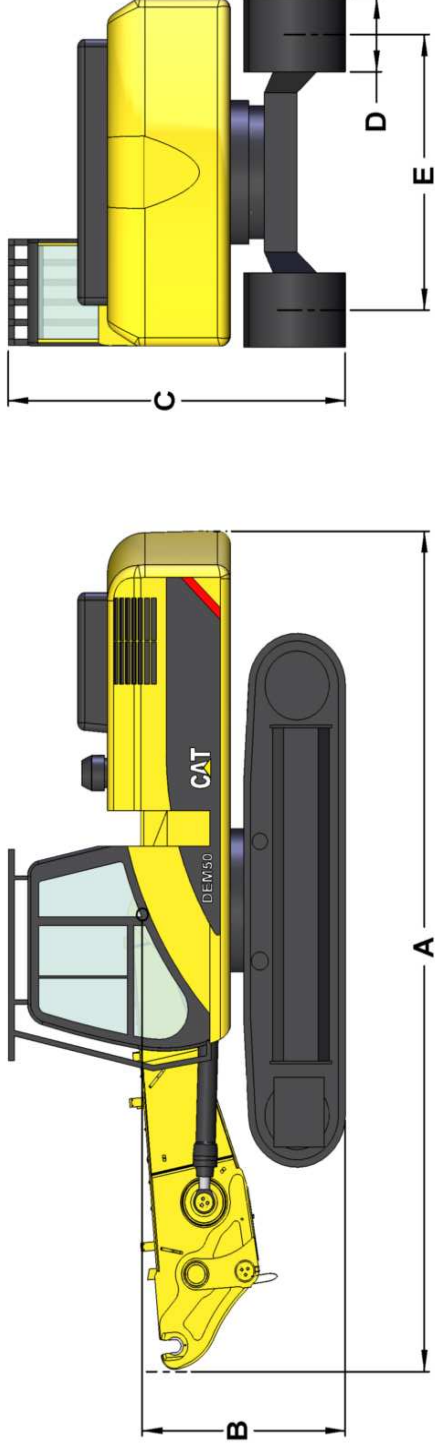
Stick length	mm	3200
Bucket capacity	m ³	1,84
B Shipping height (with L and HVG)		
Straight position	mm	3650
Bent position	mm	4100
A Shipping length*		
Straight position	mm	13000
Bent position	mm	12200
Operating weight with retrofit boom nose**		
L undercarriage	kg	40600
HVG undercarriage	kg	45790
Ground pressure		
L undercarriage (600 mm shoes)	bar	0,77
HVG undercarriage (600 mm shoes)	bar	0,87
L undercarriage (750 mm shoes)	bar	0,62
HVG undercarriage (750 mm shoes)	bar	0,70

* With stick cylinder extended. Retracting the stick cylinder might decrease the shipping height but will increase shipping length.

** With 1477 kg bucket (1,84 m³)

Dimensions and Weights - Base machine

DEM50 with boom cylinders and boom foot - All dimensions and weights are approximate.



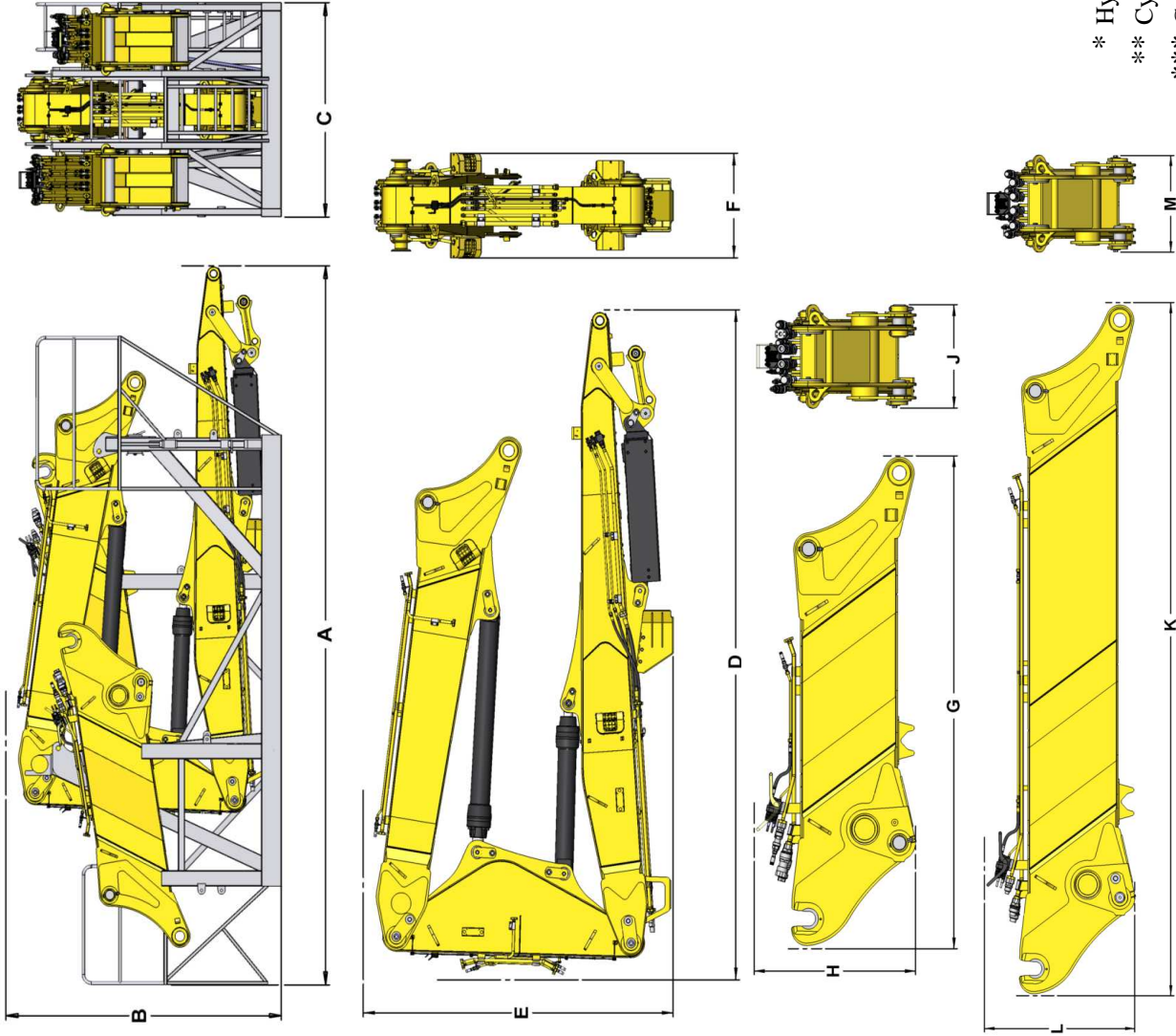
Undercarriage		L	HVG
A	Length	7900	7900
B	Boom Height	2093	2100
C	Height		
	Without overhead guard	3230	3280
	With overhead guard	3360	3410
D	Track shoe width	600 / 750	600 / 750
E	Narrow gauge	2590	2390
	Working gauge	mm	2820
	Weight*	kg	34160
			39350

* Hydraulic lines included and boom cylinders fully retracted

L	DEM50 with Long undercarriage
HVG	DEM50 with Hydraulic Variable Gauge

Dimensions and Weights - Front Parts

DEM50 Ultra-High Demolition front parts - All dimensions and weights are approximate.



UHD front parts and support

A	UHD support length	mm	8380
B	UHD support height *	mm	3450
C	UHD support width	mm	2500
	UHD front parts and support weight **	kg	12560

UHD front parts

D	UHD front parts length	mm	6600
E	UHD front parts height *	mm	3300
F	UHD front parts width	mm	1050
	UHD front parts weight **	kg	5960
	UHD boom nose weight ***	kg	1870
	UHD fore boom weight ***	kg	900
	UHD stick weight ***	kg	1810

UHD front parts and support

G	UHD 3m extension Length	mm	4000
H	UHD 3m extension Height	mm	1400
J	UHD 3m extension Width	mm	870
	UHD 3m extension weight ***	kg	1900

UHD front parts and support

K	UHD 5m extension Length	mm	6000
L	UHD 5m extension Height	mm	1400
M	UHD 5m extension Width	mm	870
	UHD 5m extension weight ***	kg	2500

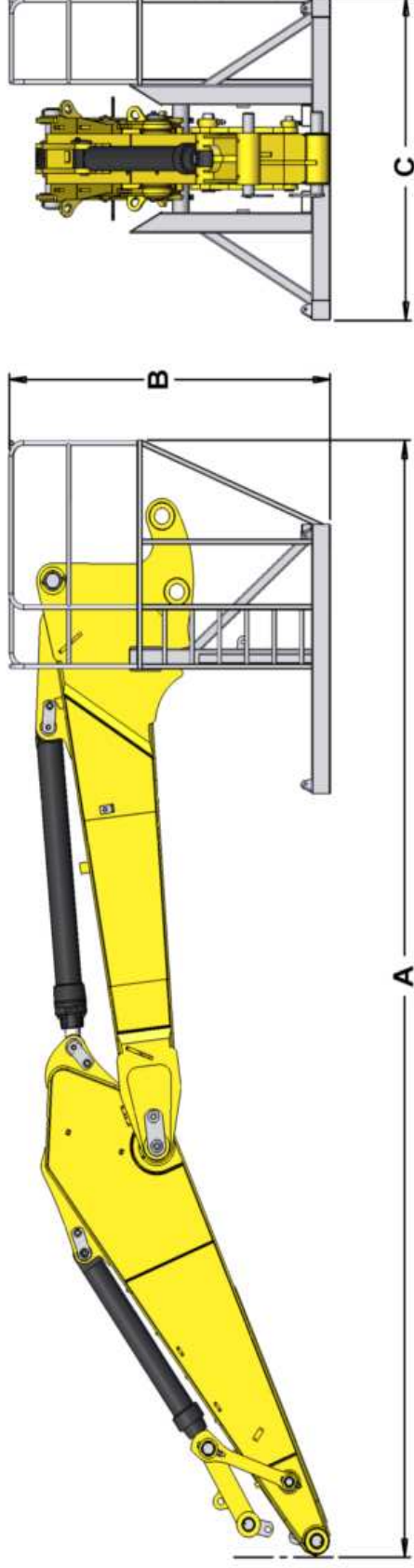
* Hydraulic lines included

** Cylinders and hydraulic lines included

*** Cylinders not included

Dimensions and Weights - Front Parts

DEM50 retrofit front parts - All dimensions and weights are approximate.



Retrofit front parts and support

A	Retrofit support length *	mm	8300
B	Retrofit support height	mm	2600
C	Retrofit support width	mm	2400
	Retrofit front parts and support weight **	kg	5460
	Retrofit boom nose weight ***	kg	2350
	Retrofit stick weight ***	kg	1550
	Retrofit support weight	kg	500

* Without bucket

** Cylinders and hydraulic lines included (without bucket)

*** Cylinders not included

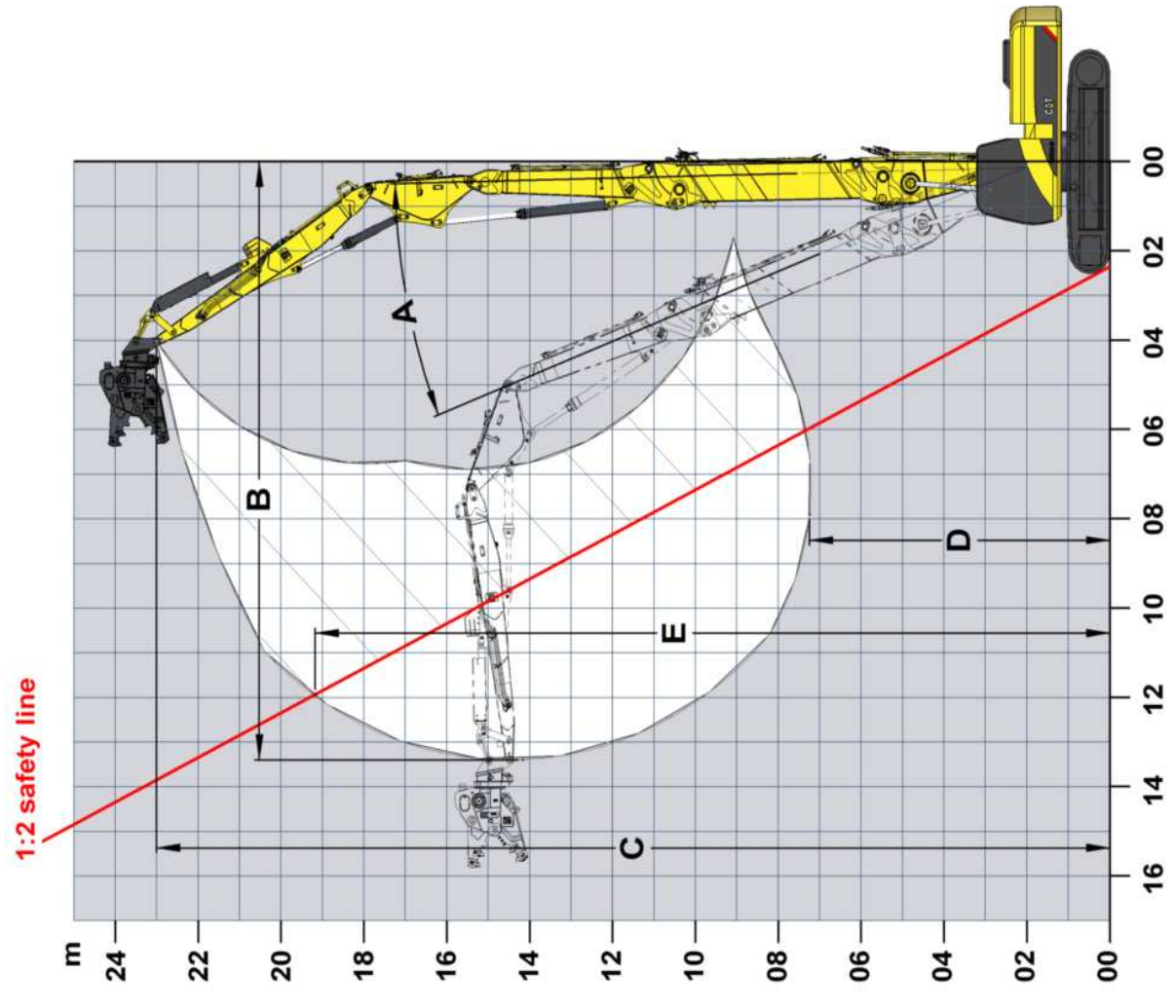
Working Ranges - UHD Configurations

DEM50 with Ultra-High Demolition front and 5m extension - 23 m

A		
Maximum allowable angle from vertical		
L undercarriage - Over front		22°
L undercarriage - Over side		not authorized
HVG undercarriage - Over front		24°
HVG undercarriage - Over side		20°
B		
Maximum allowable horizontal reach		
L undercarriage - Over front		13830 mm
L undercarriage - Over side		not authorized
HVG undercarriage - Over front		14260 mm
HVG undercarriage - Over side		13400 mm
C		
Maximum vertical pin height		
		23000 mm
D		
Minimum pin height		
L undercarriage - Over front		6970 mm
L undercarriage - Over side		not authorized
HVG undercarriage - Over front		6690 mm
HVG undercarriage - Over side		7250 mm
E		
Maximum vertical pin height with 1/2 safety line		
L undercarriage - Over front		19550 mm
L undercarriage - Over side		not authorized
HVG undercarriage - Over front		19650 mm
HVG undercarriage - Over side		19700 mm
Maximum tool weight *		
L undercarriage - Over front		3000 kg
L undercarriage - Over side		not authorized
HVG undercarriage - Over front		3000 kg
HVG undercarriage - Over side		2800 kg

* Weight includes mounting bracket and quick coupler (if any). Design of the mounting bracket and quick coupler is critical. Distance between stick nose and center of gravity cannot exceed 1500 mm.

L DEM50 with Long undercarriage
HVG DEM50 with Hydraulic Variable Gauge



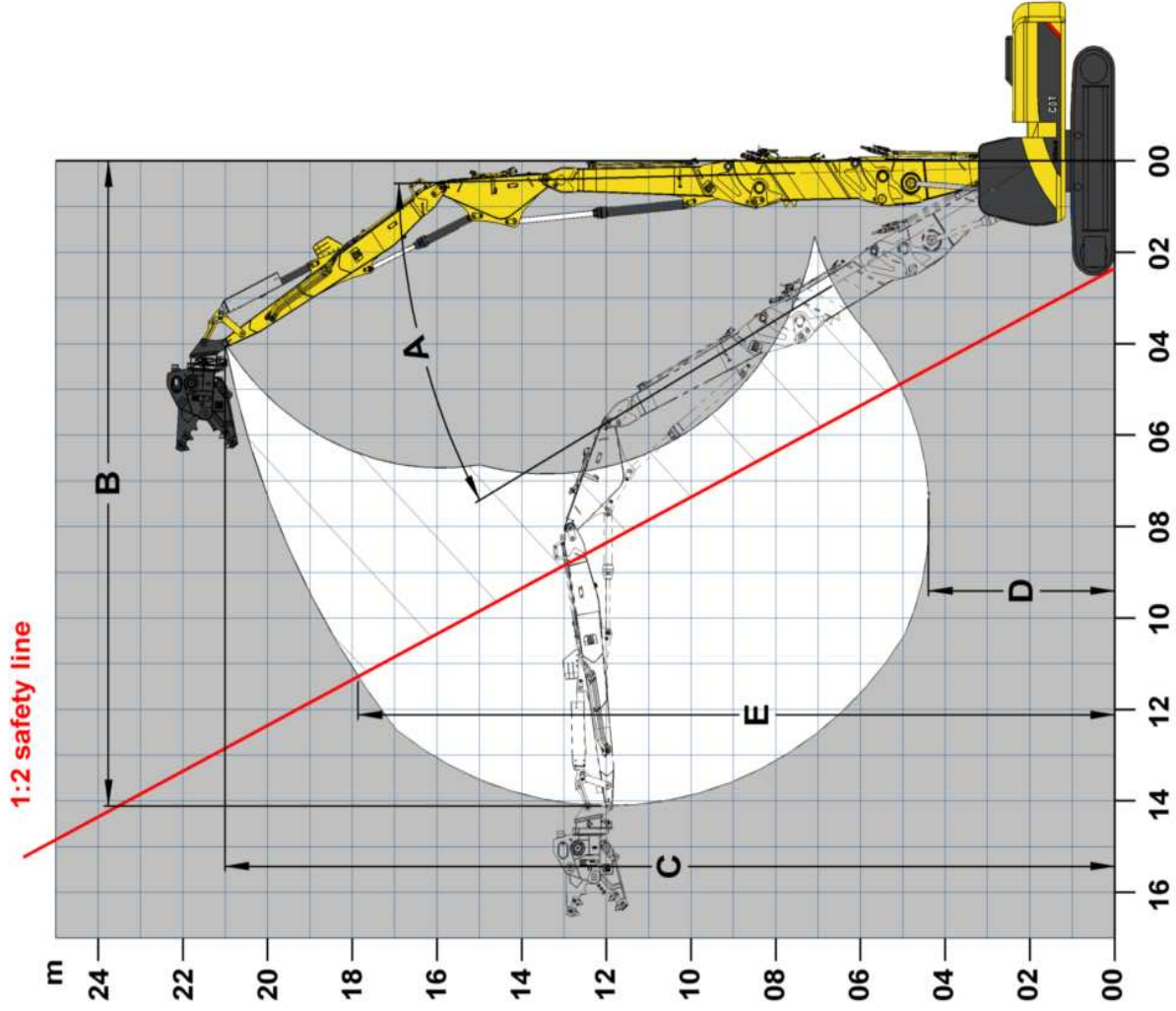
Working Ranges - UHD Configurations

DEM50 with Ultra-High Demolition front and 3m extension - 21 m

A	
Maximum allowable angle from vertical	
L undercarriage - Over front	25°
L undercarriage - Over side	18°
HVG undercarriage - Over front	28°
HVG undercarriage - Over side	24°
B	
Maximum allowable horizontal reach	
L undercarriage - Over front	13580 mm
L undercarriage - Over side	12270 mm
HVG undercarriage - Over front	14110 mm
HVG undercarriage - Over side	13400 mm
C	
Maximum vertical pin height	21000 mm
D	
Minimum pin height	
L undercarriage - Over front	4760 mm
L undercarriage - Over side	5570 mm
HVG undercarriage - Over front	4390 mm
HVG undercarriage - Over side	4830 mm
E	
Maximum vertical pin height with 1/2 safety line	
L undercarriage - Over front	17860 mm
L undercarriage - Over side	17820 mm
HVG undercarriage - Over front	17860 mm
HVG undercarriage - Over side	18160 mm
Maximum tool weight *	
L undercarriage - Over front	3000 kg
L undercarriage - Over side	3000 kg
HVG undercarriage - Over front	3000 kg
HVG undercarriage - Over side	3000 kg

* Weight includes mounting bracket and quick coupler (if any). Design of the mounting bracket and quick coupler is critical. Distance between stick nose and center of gravity cannot exceed 1500 mm.

L DEM50 with Long undercarriage
HVG DEM50 with Hydraulic Variable Gauge



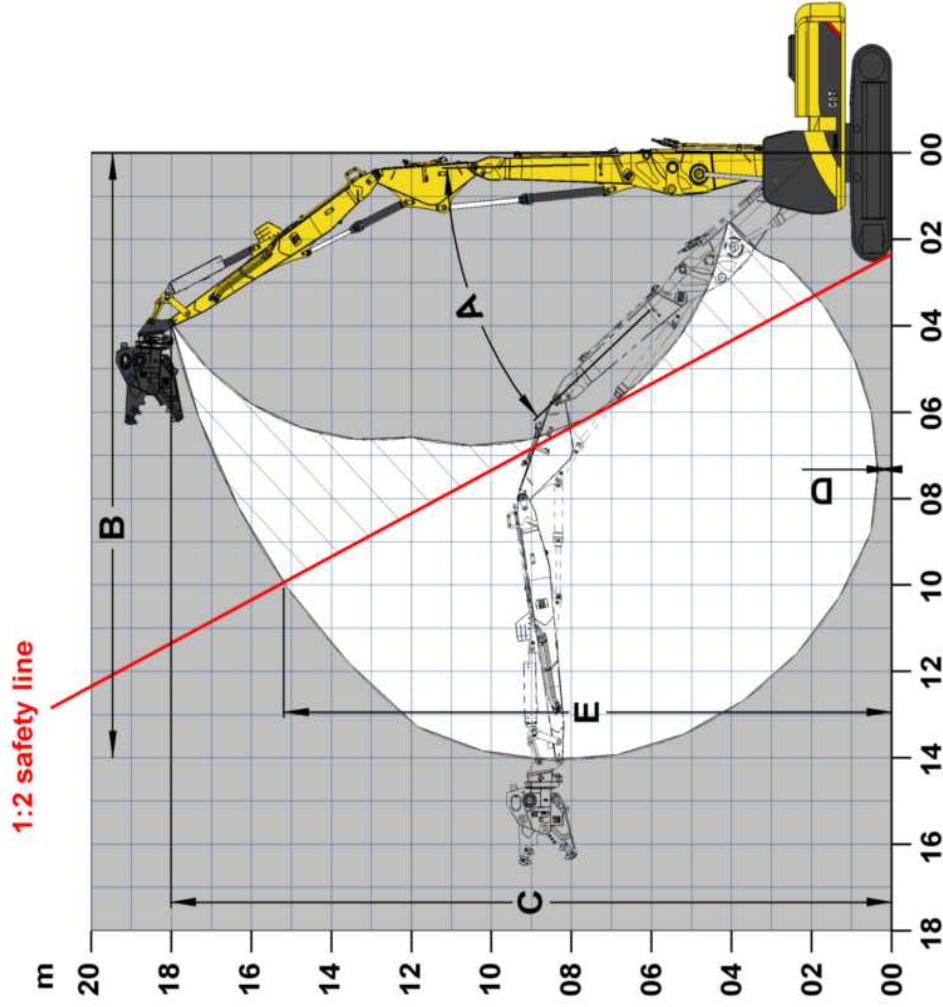
Working Ranges - UHD Configurations

DEM50 with Ultra-High Demolition front without extension - 18 m

A	
Maximum allowable angle from vertical	
L undercarriage - Over front	40°
L undercarriage - Over side	23°
HVG undercarriage - Over front	50°
HVG undercarriage - Over side	30°
B	
Maximum allowable horizontal reach	
L undercarriage - Over front	14000 mm
L undercarriage - Over side	11980 mm
HVG undercarriage - Over front	15060 mm
HVG undercarriage - Over side	12880 mm
C	
Maximum vertical pin height	18000 mm
D	
Minimum pin height	
L undercarriage - Over front	350 mm
L undercarriage - Over side	2300 mm
HVG undercarriage - Over front	0 mm
HVG undercarriage - Over side	1520 mm
E	
Maximum vertical pin height with 1/2 safety line	
L undercarriage - Over front	15190 mm
L undercarriage - Over side	15530 mm
HVG undercarriage - Over front	15190 mm
HVG undercarriage - Over side	15510 mm
Maximum tool weight *	
L undercarriage - Over front	3000 kg
L undercarriage - Over side	3000 kg
HVG undercarriage - Over front	3000 kg
HVG undercarriage - Over side	3000 kg

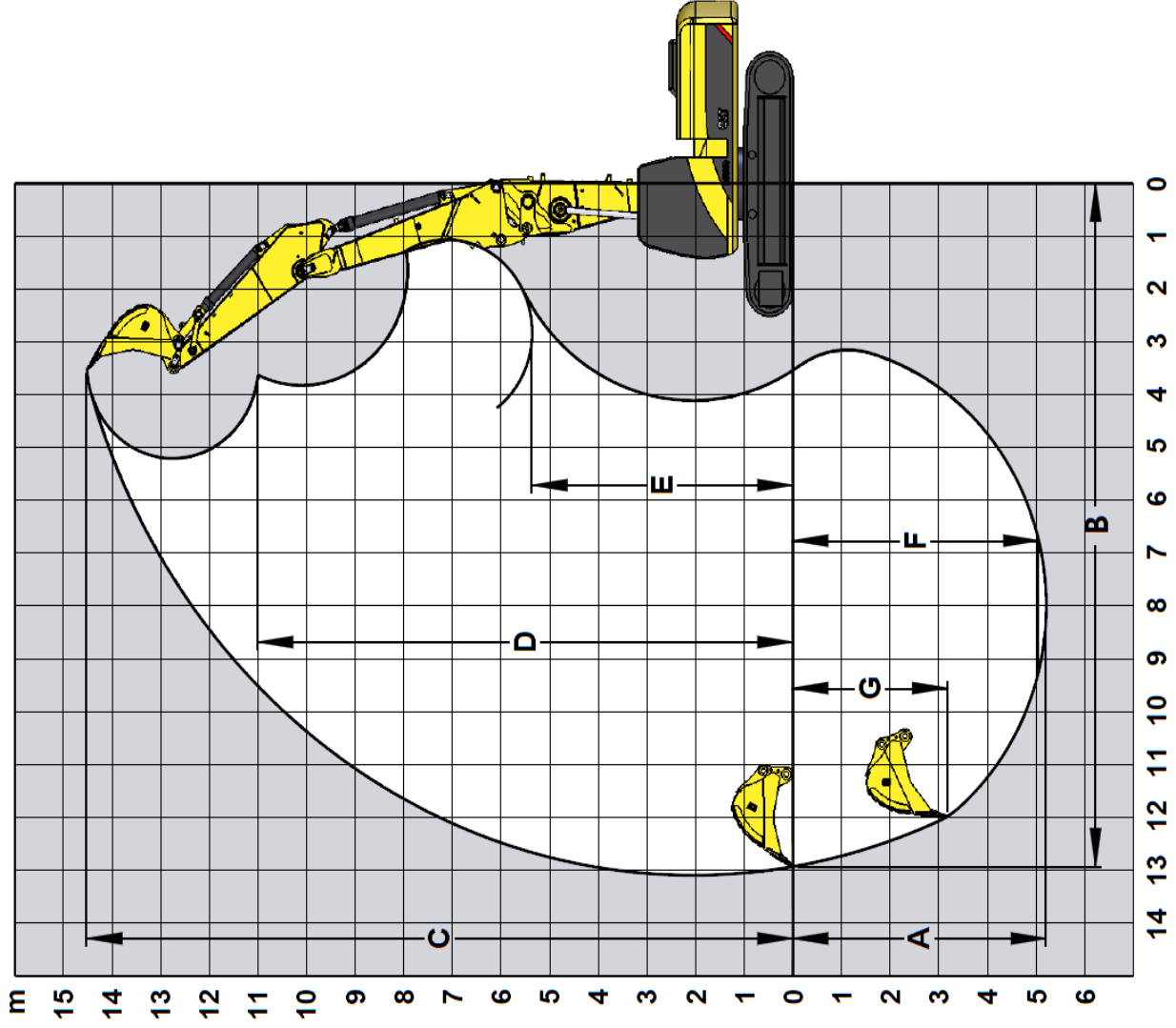
* Weight includes mounting bracket and quick coupler (if any). Design of the mounting bracket and quick coupler is critical. Distance between stick nose and center of gravity cannot exceed 1500 mm.

L DEM50 with Long undercarriage
HVG DEM50 with Hydraulic Variable Gauge



Working Ranges - Retrofit Configurations

DEM50 with retrofit boom in straight position

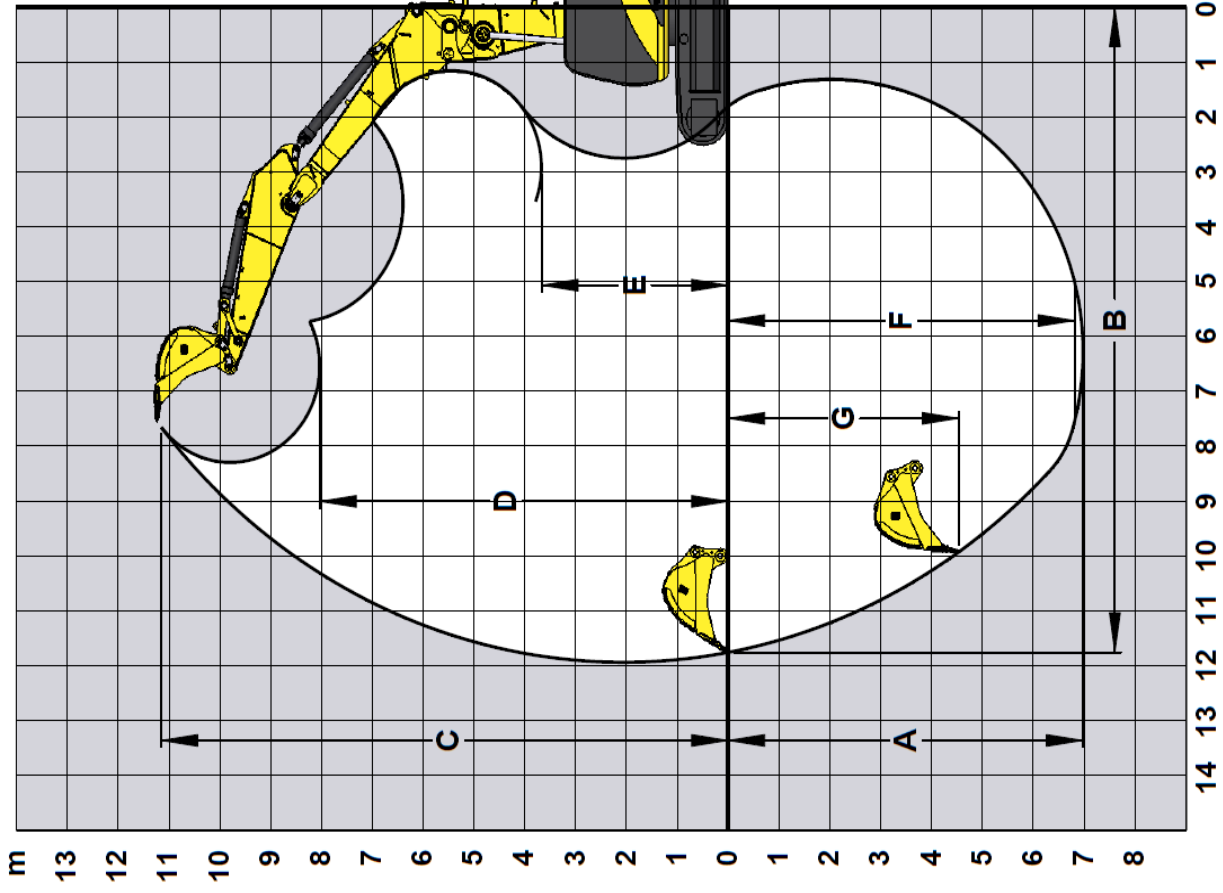


Straight Position

Stick Length	mm	3200
A Maximum Digging Depth	mm	-5211
B Maximum Reach at Ground Level	mm	12932
C Maximum Cutting Height	mm	14515
D Maximum Loading Height	mm	11003
E Minimum Loading Height	mm	5361
F Maximum Digging Depth	mm	-5055
G Maximum Vertical Wall Digging Depth	mm	-4264
Bucket Digging Force (ISO 6015)	kN	186,4
Stick Digging Force (ISO 6015)	kN	161,2
Bucket Size	m ³	1,84
Tip Radius	mm	1761

Working Ranges - Retrofit Configurations

DEM50 with retrofit boom in bent position















Bent Position

Stick Length	mm	3200
A Maximum Digging Depth	mm	-6980
B Maximum Reach at Ground Level	mm	11761
C Maximum Cutting Height	mm	11152
D Maximum Loading Height	mm	8034
E Minimum Loading Height	mm	3674
F Maximum Digging Depth 2,5 m Level Bottom	mm	-6816
G Maximum Vertical Wall Digging Depth	mm	-5547
Bucket Digging Force (ISO 6015)	kN	186,4
Stick Digging Force (ISO 6015)	kN	161,2
Bucket Size	m ³	1,84
Tip Radius	mm	1761













Lift Capacities - DEM50 L

DEM50 with long (L) undercarriage and retrofit boom - All weights are in kg. Heavy lift on.

Straight Position Stick 3200 mm Shoes 600 mm Without bucket

	2 m		4 m		6 m		8 m		10m		max	
												
12 m			*10835	*10835	*9034	*9034					*7529	*7529
10 m					*9690	*9690	*8636	*8636			*6007	*6007
8 m					*9547	*9547	*9604	*9604	7671	4916	*5752	4331
6 m			*14909	*14909	*12764	10804	*9829	6990	7522	4772	6299	3931
4 m					*13736	9372	10066	6260	7174	4457	5586	3418
2 m					*14514	8777	9793	5995	6957	4261	5280	3180
Ground					*13213	8070	9275	5518	6734	4048	5287	3162
-2 m					*11229	8213	*9093	5292	6594	3932	*5807	3520
-4 m							*6842	5530			*5412	4187

Bent Position Stick 3200 mm Shoes 600 mm Without bucket

	2 m		4 m		6 m		8 m		10m		max	
												
10 m											*6172	*6172
8 m							*7859	*7859			*5651	*5651
6 m					*9719	*9719	*8312	7659	*6176	5192	*6176	5192
4 m			*16132	*16132	*11905	11361	*9262	7337	*7873	4988	*5775	4311
2 m			*8070	*8070	*13905	9797	*10201	6635	7646	4752	*6226	3975
Ground			*8032	*8032	*14739	8877	10089	6082	7204	4382	6430	3902
-2 m			*13817	*13817	*14731	8659	9855	5857	7062	4249	7062	4249
-4 m			*18006	15884	*13133	8648	9622	5722			8320	4993
-6 m					*10302	9072	*7853	6470			*7853	6470



Load Point Height



Load Radius Over Front



Load Radius Over Side













* Limited by hydraulic rather than tipping load.

The above loads are in compliance with hydraulic excavator lift capacity ratings standard ISO 10567, they do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity. Weight of all lifting accessories must be deducted from the above lifting capacities.













Lift Capacities - DEM50 HVG

DEM50 with Hydraulic Variable Gauge (HVG) undercarriage and retrofit boom - All weights are in kg. Heavy lift on.

Straight Position Stick 3200 mm Shoes 600 mm Without bucket

	2 m		4 m		6 m		8 m		10m		max	
												
12 m			*10835	*10835	*9034	*9034					*9034	*9034
10 m					*9690	*9690	*8636	*8636			*6418	*6418
8 m					*9547	*9547	*9604	*9604	*7575	*7575	*7575	*7575
6 m			*14909	*14909	*12764	*12764	*9829	*9829	*8195	*8195	*7550	*7550
4 m					*13736	*13736	*10303	*10303	8255	8255	*5593	*5593
2 m					*14514	*14514	*10599	*10599	7967	7967	6110	6110
Ground					*13213	*13213	*10331	*10331	7830	7830	*5821	*5821
-2 m					*11229	*11229	*9093	*9093	*6822	*6822	*5528	*5528
-4 m							*6842	*6842			*5412	*5412

Bent Position Stick 3200 mm Shoes 600 mm Without bucket

	2 m		4 m		6 m		8 m		10m		max	
												
10 m											*6172	*6172
8 m							*7859	*7859			*5651	*5651
6 m					*9719	*9719	*8312	*8312	*6176	*6176	*6176	*6176
4 m			*16132	*16132	*11905	*11905	*9262	*9262	*7873	*7873	*5775	*5775
2 m			*8070	*8070	*13905	*13905	*10201	*10201	*8322	*8322	*6226	*6226
Ground			*8032	*8032	*14739	*14739	*10857	*10857	8283	8283	*6565	*6565
-2 m			*13817	*13817	*14731	*14731	*10903	*10903	8142	8142	8142	8142
-4 m			*18006	*18006	*13133	*13133	*9693	*9693			*8475	*8475
-6 m					*10302	*10302	*7853	*7853			*7853	*7853



Load Point Height



Load Radius Over Front



Load Radius Over Side

* Limited by hydraulic rather than tipping load.

The above loads are in compliance with hydraulic excavator lift capacity ratings standard ISO 10567, they do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity. Weight of all lifting accessories must be deducted from the above lifting capacities.



Technical Supplement

The DEM50 is not available in all regions. We reserve the right to alter specifications and design, without prior notification. In some instances, illustrations within this document may not accurately depict the standard configuration of the product.

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