

CHANGES	DETAILS	DATE	WRITTEN	APPROVED
CE120163	Cooling capacity improvement	2012.09.14	JS.CHO	HS.KIM
CE120764	High Lift Option	2012.12.14	JS.CHO	HS.KIM
CE130594	Fuel tank capacity	2013.09.06	JH. KANG	HS. KIM
-	Updated Brake accumulator, Transmission spec, & Travelling performance curve /Added Dimensions	2015.03.24	SH Han	HS KIM

# DL420A

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## 1. GENERAL SPECIFICATION

ITEMS		UNIT	STD	OPT
OPERATING WEIGHT		kg	21,955	22,060
ENGINE (SAE J1995 Gross) (SAE J1349 Net)	RATED POWER (Gross)	kW/rpm	210/2,100	
	RATED POWER (Net)	kW/rpm	210/2,100	
	MAX. TORQUE (Gross)	N.m/rpm	1,275/1,200	
SYSTEM PRESSURE (WORK/STEER)		bar	200/185	
TRAVEL SPEED	FORWARD (1/2/3/4)	km/h	7.7/12.7/27.0/39.0	
	REVERSE (1/2/3)	km/h	7.7/12.7/27.0	
FRONT SPEED (RAISE/DUMP/LOWER)		sec	6.0/1.3/4.2	
GRADEABILITY		%( °)	58(30)	
TIRE SIZE		-	26.5x25-20PR	
WORKING RANGE	BUCKET CAPACITY (SAE HEAPED)	m <sup>3</sup>	3.9 BOT	4.1 BOC
	DUMP HEIGHT AT 45°	mm	2,960	3,085
	DUMP REACH AT 45°	mm	1,425	1,285
	MAX. DUMP ANGLE (fully raised)	deg	45	←
	MAX. TILT ANGLE (on ground)	deg	43	←
	MAX. TILT ANGLE (fully raised)	deg	55	←
	MAX. TILT ANGLE (at carry)	deg	47	←
	BUCKET HINGE HEIGHT	mm	4,295	←
	DIGGING DEPTH (0° level)	mm	105	←
TRAVEL DIMENSION	OVERALL LENGTH	mm	8,890	8,700
	OVERALL WIDTH (bucket)	mm	3,200	←
	OVERALL HEIGHT	mm	3,535	←
	GROUND CLEARANCE	mm	510	←
	WHEEL BASE	mm	3,500	←
	TREAD	mm	2,300	←
BREAKOUT FORCE		kN	197	196
RATED OPERATING LOAD		kg	7,745	7,468
MAX. STEERING ANGLE		deg	40	
TURNING RADIUS (Tire edge/ Count weight edge)		mm	6,380/6,395	
SOUND LEVEL in CAB (ISO 6396)		dB(A)	74	
EXTERNAL SOUND LEVEL(ISO6395, 2000/14/EC)		dB(A)	112	
FUEL TANK CAPACITY		Liter	348	
<ul style="list-style-type: none"> <li>· Every dimensions, weights, and performance data based on SAE J732C and SAE742B.</li> <li>· ROPS/FOPS Cabin is Standard.</li> <li>· STD = 3.9 BOT, OPT = 4.1 BOC</li> </ul>				

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## 2. SPECIFICATION COMPARISON

ITEMS		UNIT	CAT	KOMATSU	VOLVO	HYUNDAI
			966H	WA470-6	L150F	HL770-7A
OPERATING WEIGHT		kg	24,294	22,880	23,330	23,100
BUCKET CAPACITY (BOT, SAE heaped)		m <sup>3</sup>	4.0	3.9	4.0	3.9
ENGINE	MODEL	-	C11ACERT	SAA6D	D12D LD	QSL9
	FUEL CONTROL	-	ELEC.	ELEC.	ELEC.	ELEC.
	RATED POWER (Gross)	kW/rpm	213/1,800	204/2,000	210	209/2,000
	RATED POWER (Net)	kW/rpm	195/1,800	203/2,000	209	198/2,000
	MAX. TORQUE	Nm/rpm	1215/1400	1360/1400	1432/1400	1451/1400
SYSTEM PRESSURE (MAIN/STEER)		bar	310/210	350/250	260/210	210/210
TRAVEL SPEED (2nd/4th)		km/h	13/37	12.2/33.7	12.5/36.1	12.8/39
BOOM UP SPEED		sec	5.9	5.4	5.9	5.5
TIRE SIZE		-	26.5R25 (L3)	26.5-25- 16PR (L3)	26.5R25 (L3)	26.5-25- 20PR (L3)
BREAKOUT FORCE		kN	187	207	185	204
WORKING RANGE	DUMP HEIGHT AT 45	mm	2,963	3,060	2,900	3,000
	DUMP REACH AT 45	mm	1,477	1,335	1,360	1,340
	MAX. DUMP ANGLE(full height)	deg	45	45	50	48
	MAX. TILT ANGLE (on ground)	deg	41.8	38	44	44
	MAX. TILT ANGLE (full height)	deg	61	-	58	-
	MAX. TILT ANGLE (at carry)	deg	47	-	48	49
	BUCKET HINGE HEIGHT	mm	4,225	4,360	4,340	4,310
	DIGGING DEPTH (0 level)	mm	99	100	82	98
DIMENSION	OVERALL LENGTH	mm	9,052	8,980	8,790	8,750
	OVERALL WIDTH (Bucket)	mm	3,142	3,190	3,230	3,150
	OVERALL HEIGHT	mm	3,580	3,500	3,580	3,550
	GROUND CLEARANCE	mm	476	525	480	480
	WHEEL BASE	mm	3,450	3,450	3,550	3,440
	TREAD	mm	2,230	2,300	2,280	2,300
MAX. STEERING ANGLE		deg	37	35	37	40
TURNING RADIUS (out -tire edge) (Bucket edge)		mm	-	6,630	6,780	6,000
		mm	7379	7,935	7,375	7,110
SOUND LEVEL in CAB (ISO 6396)		dB(A)	71	72	69	-
EXTERNAL SOUND POWER (ISO 6395)		dB(A)	107	112	107	-
FUEL TANK CAPACITY		Liter	380	413	335	430
Every dimension(not pointed out) is based on BOT.						

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### 3. ENGINE SYSTEM

#### 1) ENGINE

EMISSION	TIER-2
MAKER & MODEL	DOOSAN, DE12TIS
RATED POWER	210kw / 2,100 RPM
MAX. TORQUE	1,275 N.m / 1,200 RPM
FUEL CONSUMPTION	160 g/ps.hr @ RATED SPEED
TYPE	CHARGED AIR COOLED, TURBO INTERCOOLER, DIRECT INJECTION
DISPLACEMENT	11,051 cc
No. OF CYLINDER	6
BORE DIA. & STROKE	Φ123 x 155 mm
HIGH IDLE SPEED	2,300 ± 50 rpm
LOW IDLE SPEED	975 ± 25 rpm
STARTING MOTOR	24 V x 6.6 Kw

#### 2) ALTERNATOR

VOLTAGE	:	24 V
RATING AMPERES	:	60 A

#### 3) BATTERY

SYSTEM VOLTAGE	:	24 V
QUANTITY	:	12 V x 2
CAPACITY (AMP)	:	150 AH

#### 4) AIR CLEANER

TYPE	:	DRY, DOUBLE ELEMENT
FILTRATION AREA	:	14.7 m <sup>2</sup>
SIZE (DIA. X LENGTH)	:	Φ 183 mm x 530 mm

#### 5) PRE CLEANER

AIR RESTRICTION RATE	:	2.9 inch H <sub>2</sub> O at 758 C.F.M
AIR CONTAMINANTS	:	84% (A.C COARSE DUST)

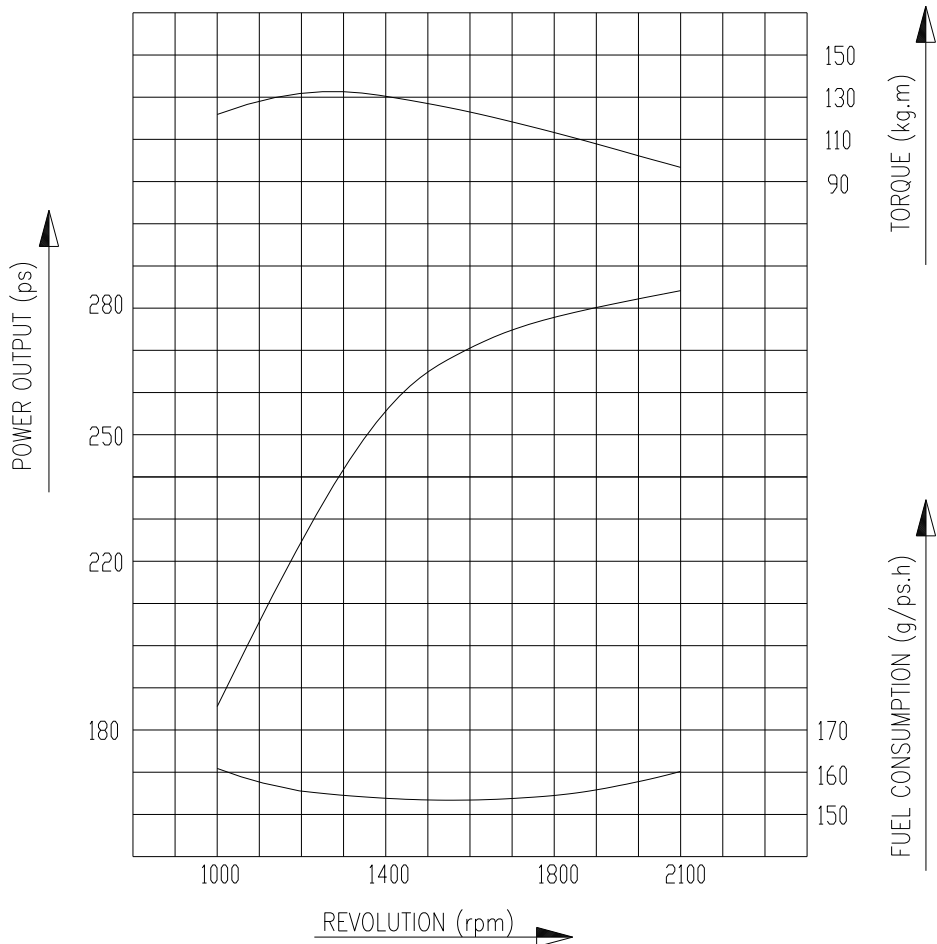
#### 6) FAN (Driven by hydraulic motor)

TYPE	:	SUCKER, 8 BLADE, PLASTIC
SIZE	:	Φ 914 mm (36 inch)
MAX RPM	:	1,600 RPM

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**- ENGINE PERFORMANCE CURVE**

CONDITION	SPECIFICATION
ATMOSPHERIC PRESSURE	760 mmHg (20 °C)
WARMING UP	SUFFICIENT
COOLING FAN	NOT INSTALLED
ALTERNATOR	NOT INSTALLED
AIR CLEANER	INSTALLED
MUFFLER	INSTALLED



PERFORMANCE CONDITION	KS-R1004
POWER (MAX, <u>RATED</u> )	210 kw / 2,100 rpm
MAX. TORQUE	1,275 N.m / 1,200 rpm
FUEL CONSUMPTION (MAX, <u>RATED</u> )	160 g/ps.h

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## 4. HYDRAULIC SYSTEM

### 1) MAIN PUMP

TYPE : FIXED VANE PUMP  
DISPLACEMENT : 111 (cc/rev)  
MAX. FLOW RATE : 240 l/min  
TANK PRESSURIZING DEVICE : SEMI PRESSURISED (AIR BREATHER)

### 2) MAIN CONTROL VALVE

TYPE : PILOT CONTROL w/ FLOAT  
SPOOL ARRANGEMENT : AUX. - LOADER ARM - BUCKET  
RELIEF VALVE PRESSURE : 200 bar  
OVERLOAD RELIEF PRESSURE : 250 bar

### 3) REMOTE CONTROL VALVE (STANDARD)

TYPE : PILOT OPERATED SINGLE JOYSTICK (Mono Lever)  
PRESSURE/ : 20.5 bar AT FULL CONTROLLED STROKE  
STROKE CHARACTER : 28 bar AT DETENT

### 4) REMOTE CONTROL VALVE (OPTION-1)

TYPE : PILOT OPERATED JOYSTICK  
WITH 3rd LEVER VALVE, FNR (Walvoil Lever)  
PRESSURE / : 21.0 bar AT 7.5 mm .  
STROKE CHARACTER : 28 bar AT DETENT

### 5) REMOTE CONTROL VALVE (OPTION-2)

TYPE : PILOT OPERATED FINGER TIP  
LEVER (2 or 3 LEVER) WITH FNR SWITCH  
PRESSURE / : 21.0 bar AT 7.5 mm .  
STROKE CHARACTER : 28 bar AT DETENT

### 6) BRAKE & PILOT & FAN MOTOR SUPPLY VALVE

BRAKE CHARGING : 120 bar  
PILOT REDUCING PRESSURE : 28 bar  
SOLENOID VALVE Q'TY : PILOT CUT-OFF-1, PARKING -1  
SOLENOID VOLTAGE : DC 24V

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**7) UNLOADING VALVE**

MAX. RATED PRESSURE : 210 bar  
UNLOADING PRESSUR : 160+5 bar at 25 l/min

**8) HYDRAULIC FAN MOTOR**

TYPE : GEAR MOTOR WITH RELIEF & MAKE UP CHECK VALVE  
DISPLACEMENT : 31 cc/rev  
RELIEF PRESSURE : 182 bar  
COOLING FAN RPM : 1,550 RPM

**9) AIR BREATHER**

RELIEF PRESSURE : 0.5 bar  
VACUUM RELIEF : 0.04 ~ 0.05 bar

**10) ACCUMULATOR ; BRAKE**

CHARGE PRESSURE, VOLUME : 30 bar, 0.75 L x 2ea  
TYPE : BLADDER (50cc OIL IS FILLED WITH NITROGEN GAS)

**11) ACCUMULATOR ; PILOT**

CHARGE PRESSURE, VOLUME : 15 bar, 0.32 L  
TYPE : BLADDER (50cc OIL IS FILLED WITH NITROGEN GAS)

**12) ACCUMULATOR ; STEERING**

CHARGE PRESSURE, VOLUME : 35 bar, 0.32 L  
TYPE : BLADDER (50cc OIL IS FILLED WITH NITROGEN GAS)

**13) ACCUMULATOR ; LIS (OPTION)**

CHARGE PRESSURE, VOLUME : 20 bar, 6 L  
TYPE : BLADDER, NITROGEN CHARGE PRESSURE

**14) FILTERS**

RETURN : GLASS FIBER, 10 μ  
PILOT & BRAKE : GLASS FIBER, 20 μ  
SUCTION : PAPER ELEMENT, 177 μ

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**15) DC MOTOR-PUMP ; EMERGENCY STEER (OPTION)**

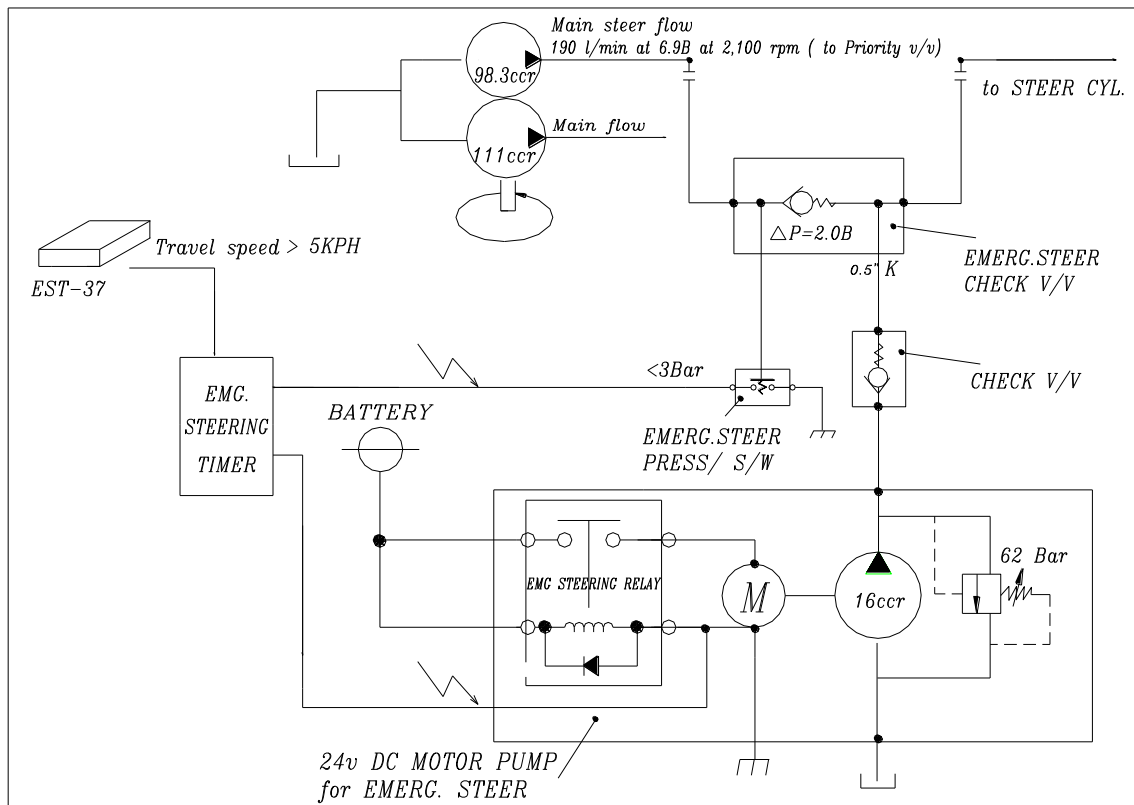
**15-1) PUMP**

TYPE : GEAR, BUILT IN CHECK AND RELIEF V/V  
 THEORETICAL DISPLACEMENT : 16 cc/rev  
 RELIEF PRESSURE : 62 bar  
 ALLOWABLE SPEED : 3,500 rev/min

**15-1) ELECTRIC MOTOR**

TYPE : 24V DC, DOUBLE TERMINAL, WATER SEALED,  
 MEDIUM DUTY w/ FOOT MOUNTING BRACKET  
 BUILT IN STARTER SWITCH

**- EMERGENCY STEER CIRCUIT**



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## 5. DRIVE MECHANISM

### 5.1 TRAVELLING SYSTEM

#### 1) TRANSMISSION

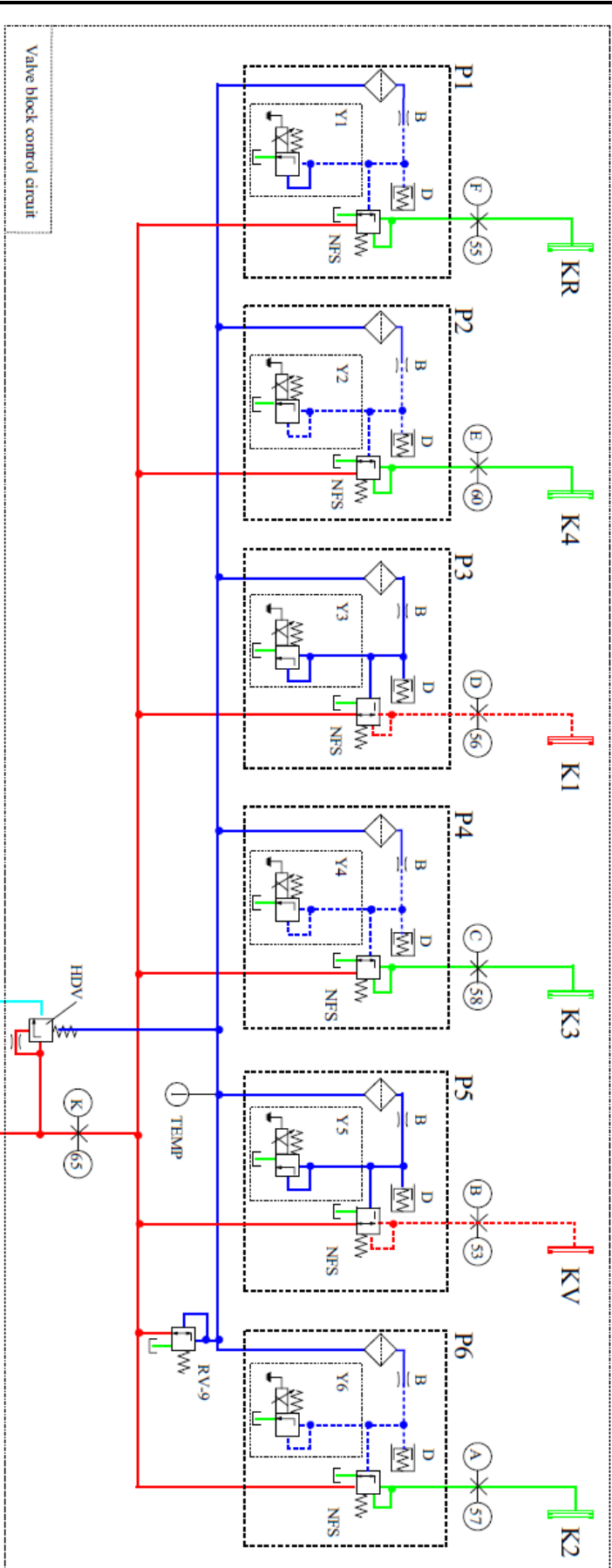
TYPE	:	4 SPEED, FULL AUTO POWER-SHIFT, COUNTERSHAFT, ENGINE MOUNTED w/ FLEXIBLE PLATE
TORQUE CONVERTER STALL RATIO	:	3.089
TORQUE CONVERTER SIZE	:	370 mm
CHARGING PUMP FLOW	:	115 l/min at 2000 rpm
HYDRAULIC PUMP P.T.O RATIO	:	1.0
POWER SHIFT CONTROL PRESSURE	:	16~18 bar
CONVERTER SAFETY RELIEF PRESSURE:	:	8.5 bar
CONVERTER OUTPUT LIMIT TORQUE	:	255 kg.m
MAX. ROTATING SPEED	:	2,500 rpm
SHIFT CONTROL	:	ELECTRIC SHIFT WITH PROPORTIONAL VALVE, SOLENOID VALVES (DC 24 V)
CONTROL UNIT	:	EST - 37
OUTPUT FLANGE	:	FRONT – 8.5C MECHANICS REAR - 7C MECHANICS

CONTROL CIRCUIT (NEXT PAGE)

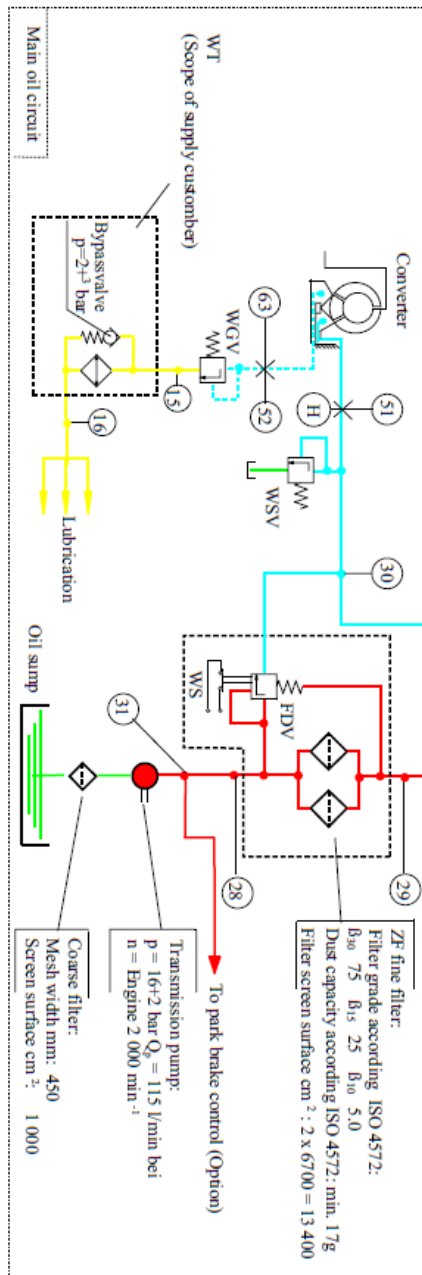
#### 2) PROPELLER SHAFT

	FRONT	ARTIC	REAR
MAX. ALLOWABLE TORQUE	1,105 Kg.m	1,105 Kg.m	884 Kg.m
MIN. JOINT ANGLE	23°/23°	23°/23°	23°/23°
MAX. PHASE MISALIGNMENT	±1°	±1°	±1°
MAX. SPEED	7,000 rpm	7,000 rpm	7,000 rpm
COUPLING DIMENSION	8.5C	8.5C	7C

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- Legend:**
- = Main pressure
  - = Regulated main pressure
  - = Pilot pressure
  - = Converter input pressure
  - = Converter output pressure
  - = Lubrication
  - = Return into the sump



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### 3) FRONT AXLE

TYPE	:	FULLY FLOATING PLANETARY-TYPE HUB DRIVE FIXED MOUNTING
OVERALL REDUCTION RATIO	:	23.334
AXLE LOAD (EMPTY)	:	10,000 kg
AXLE LOAD (BREAKOUT)	:	34,000 kg
WHEEL BOLT P.C.D	:	Φ425 mm
BRAKE TYPE	:	WET DISC
BRAKE TORQUE per WHEEL	:	3,998 kg.m at 80 bar
DRIVE FLANGE	:	8.5C MECHANICS

### 4) REAR AXLE

TYPE	:	FULLY FLOATING PLANETARY-TYPE HUB DRIVE TRUNNION MOUNTING
OVERALL REDUCTION RATIO	:	23.334
AXLE LOAD (EMPTY)	:	10,000 kg
AXLE LOAD (CROWD)	:	14,500 kg
WHEEL BOLT P.C.D	:	Φ425 mm
BRAKE TYPE	:	WET DISC
BRAKE TORQUE per WHEEL	:	3,330 kg.m at 80 bar
DRIVE FLANGE	:	7C MECHANICS

### 5) RIM

TYPE	:	INDIA, TUBLESS, SINGLE
RIM SPEC.	:	22.0 x 25
DISC OFFSET	:	7.0 mm

### 6) TRAVELLING PERFORMANCE (REFER TO NEXT PAGE)

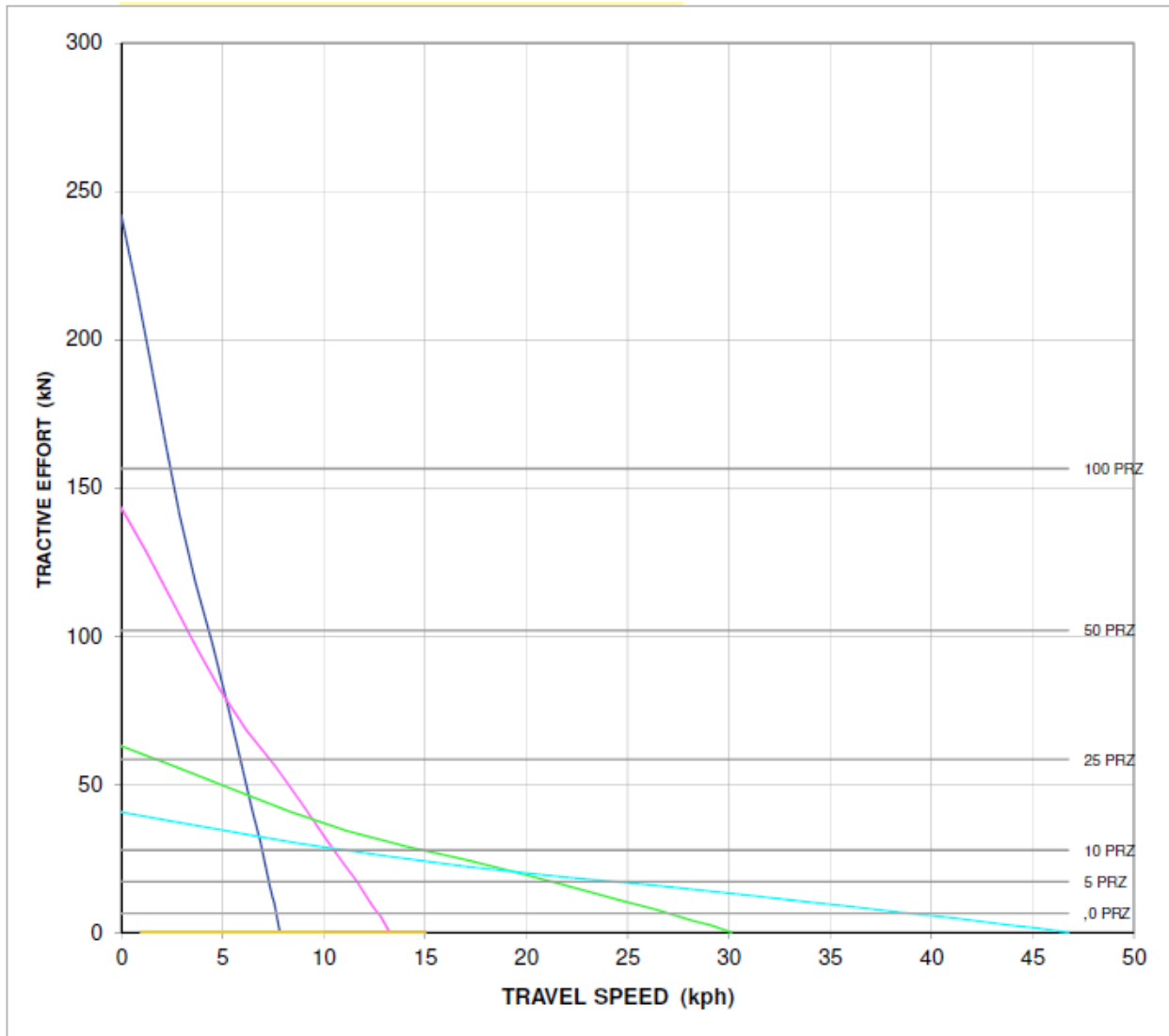
MAX. SPEED	:	39.0 KPH
MAX. TRACTIVE EFFORT	:	242 kN
GRADEABILITY	:	30° (58%)

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E/G	Max. Power	210Kw/2,100rpm
	Max. Torque	1,275Nm/1,200rpm
Gear Ratio	1st	87.04
	2nd	51.49
	3rd	22.63
	4th	14.58
Tire	Size	26.5x25-20PR L3
	Radius	0.82m
Coff. of Roll Resist.		0.03
EFFICIENCY		0.83
G.V.W		21955kg

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## 5.2 BRAKE SYSTEM

### 1) BRAKE & FAN PUMP

TYPE : FIXED VANE PUMP  
DISPLACEMENT : 31.8 cc/rev  
MAX. SUPPLY FLOW : 67 l/min

### 2) SERVICE BRAKE VALVE (DUAL)

BRAKE PRESSURE : 80 bar  
PEDAL FORCE : 21.0 kg at 80 bar, 175 mm RAD.

### 3) PARKING BRAKE

TYPE : SPRING-APPLIED SLIDING CALIPER  
DISC BRAKE  
RELEASE PRESSURE : 88.69 bar  
REQUIRED STAT. BRAKE : 497 kg.m at a slope of 50% TORQUE LADEN  
REQUIED DYN. BRAKE TORQUE : 145 kg.m at laden (avail. 444 kg.m)  
AT AN EMERGENCY STOP OF  
1.50 m/ cm<sup>2</sup>

### 4) SYSTEM & PRESSURE

SYSTEM : FULL HYDRAULIC, SEPARATE DUAL LINE  
SERVICE BRAKE PRESSURE : 80 bar  
PARKING BRKAE RELESE : 120 bar  
BRAKE CHARGE PRESSURE : 120 bar  
BRAKE DISTANCE : 13.8 m at 42 KPH

## 5.3 STEERING SYSTEM

### 1) STEERING PUMP

TYPE : FIXED VANE PUMP  
DISPLACEMENT : 98.3 cc/rev  
CONSTANT FLOW : 194 l/min  
RELIEF VALVE SET PRESSURE : 185 bar

### 2) STEERING UNIT

TYPE : LOAD SENSING, NON REACTION  
DISPLACEMENT : 200 cc/rev

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### 3) FLOW AMPLIFIER

TYPE	:	CONTAINS A DIRECTIONAL VALVE, AN AMPLIFICATION STAGE, A PRIORITY VALVE, A PILOT PRESSURE RELIEF VALVE AND SHOCK AND SUCTION VALVE
AMPLIFICATION FACTOR	:	8 (= 200 x 8 = 1600 cc/rev)
CONTROL PRESSURE	:	10.5 bar
LS RELIEF VALVE SETTING	:	185±5 bar
PRIORITY FLOW	:	125 l/min (at 80 Wheel RPM)

### 4) DUAL CROSS RELIEF VALVE

RELIEF VALVE PRESSURE	:	20 bar
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### 5) STEERING CYLINDER

BORE x DIA x STROKE	:	100 x 50 x 450 mm
CUSHION STROKE	:	38 mm

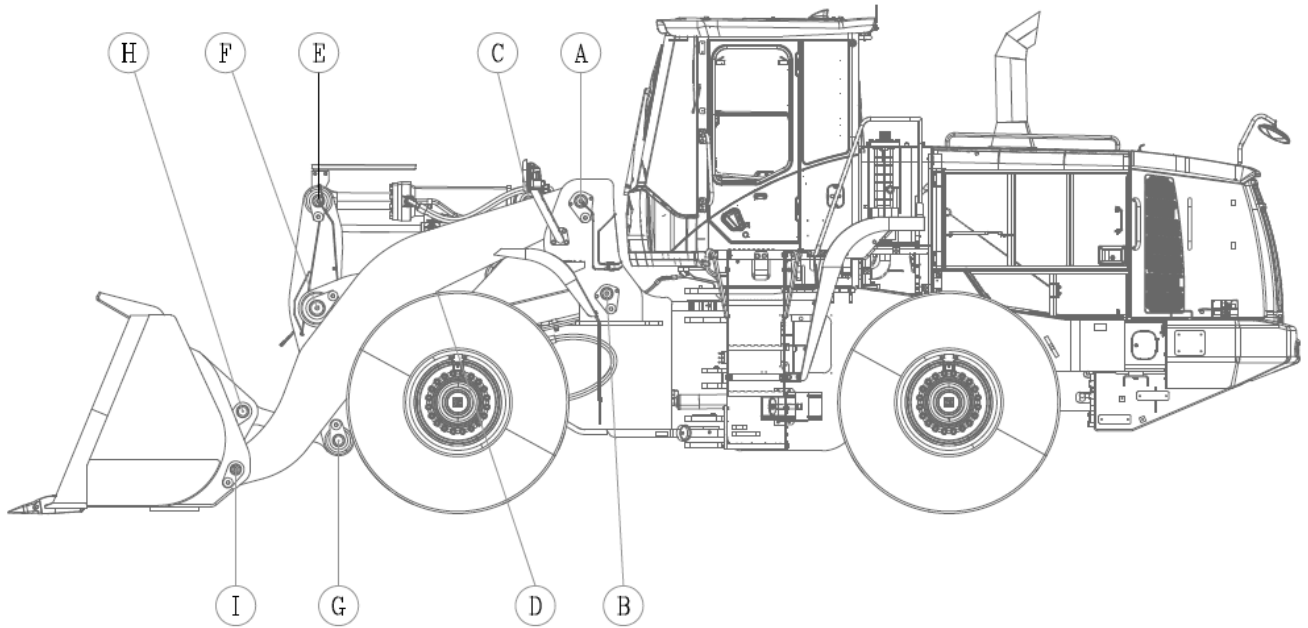
## 6. HYDRAULIC CYLINDERS

	LIFT	BUCKET	STEER
QUANTITY	2	1	2
BORE (mm)	180	200	100
ROD DIA. (mm)	95	105	50
STROKE (mm)	928	600	450
CLOSED LENGTH (mm)	1,461	1,120	860
RETRACTING CUSHION	X	X	O
EXTENDING CUSHION	X	X	X

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## 7. FRONT

### 1) FRONT LINKAGE PIN SIZES



POINT	DIA. (mm)	LENGTH (mm)
A	90	337
B	90	337
C	100	353
D	90	212
E	100	306
F	125	570
G	100	306
H	100	307
I	90	291

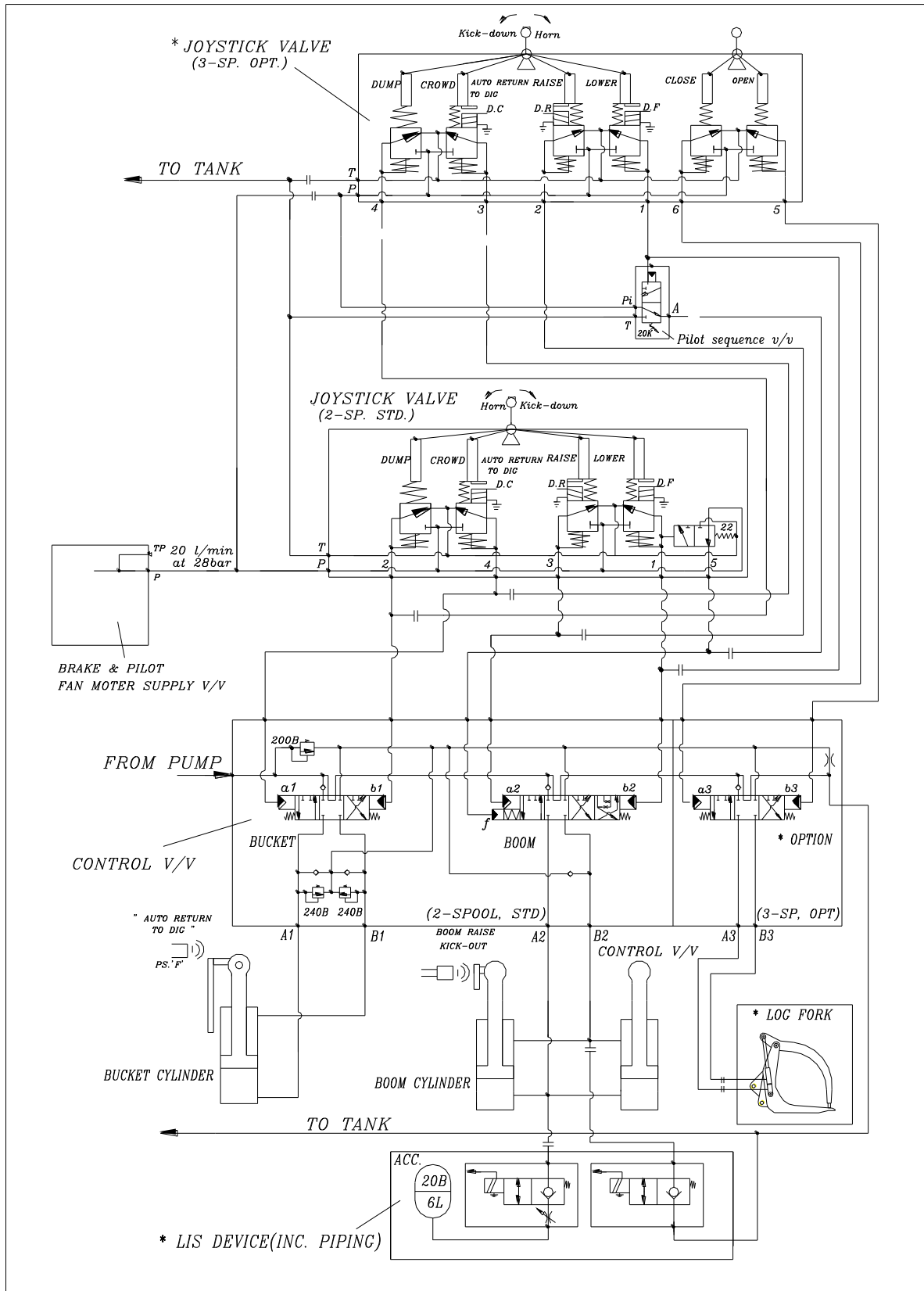
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## 2) OPTION PIPING



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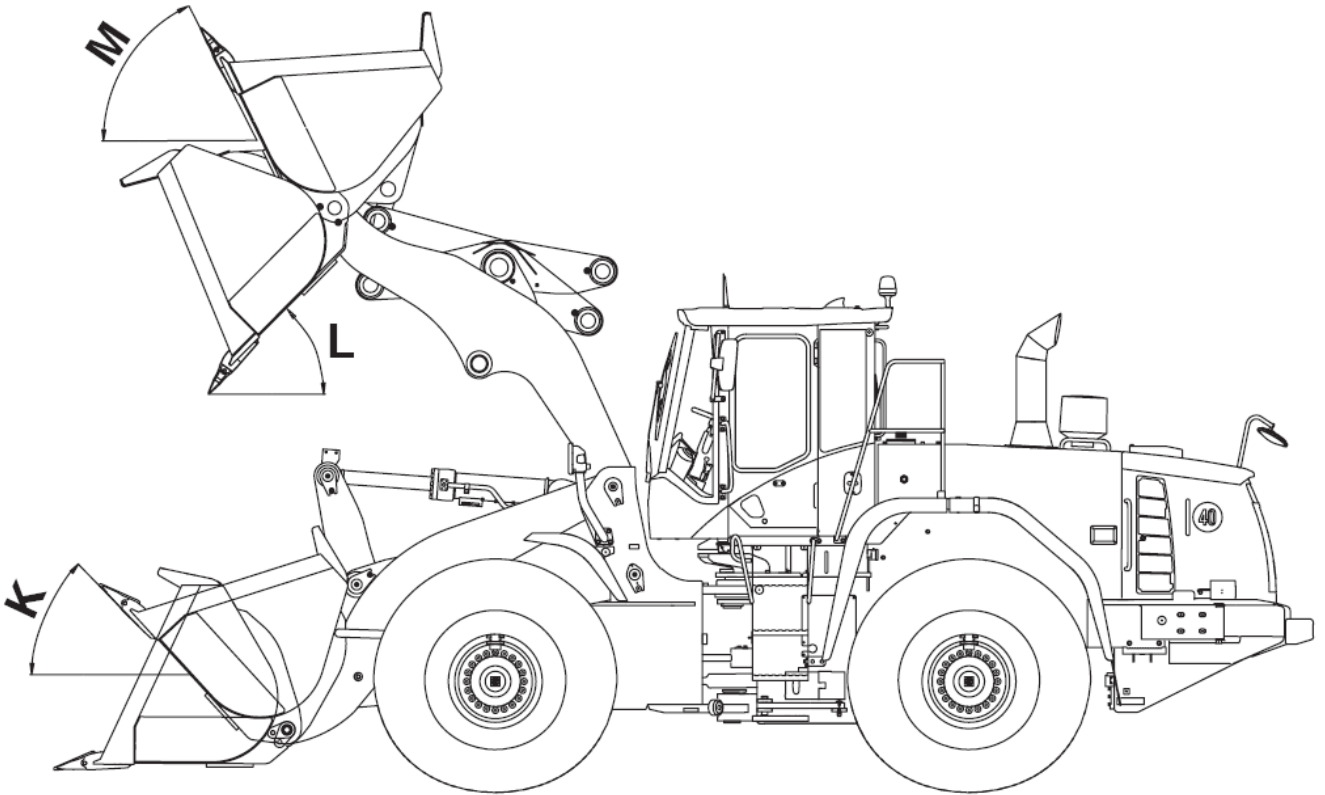
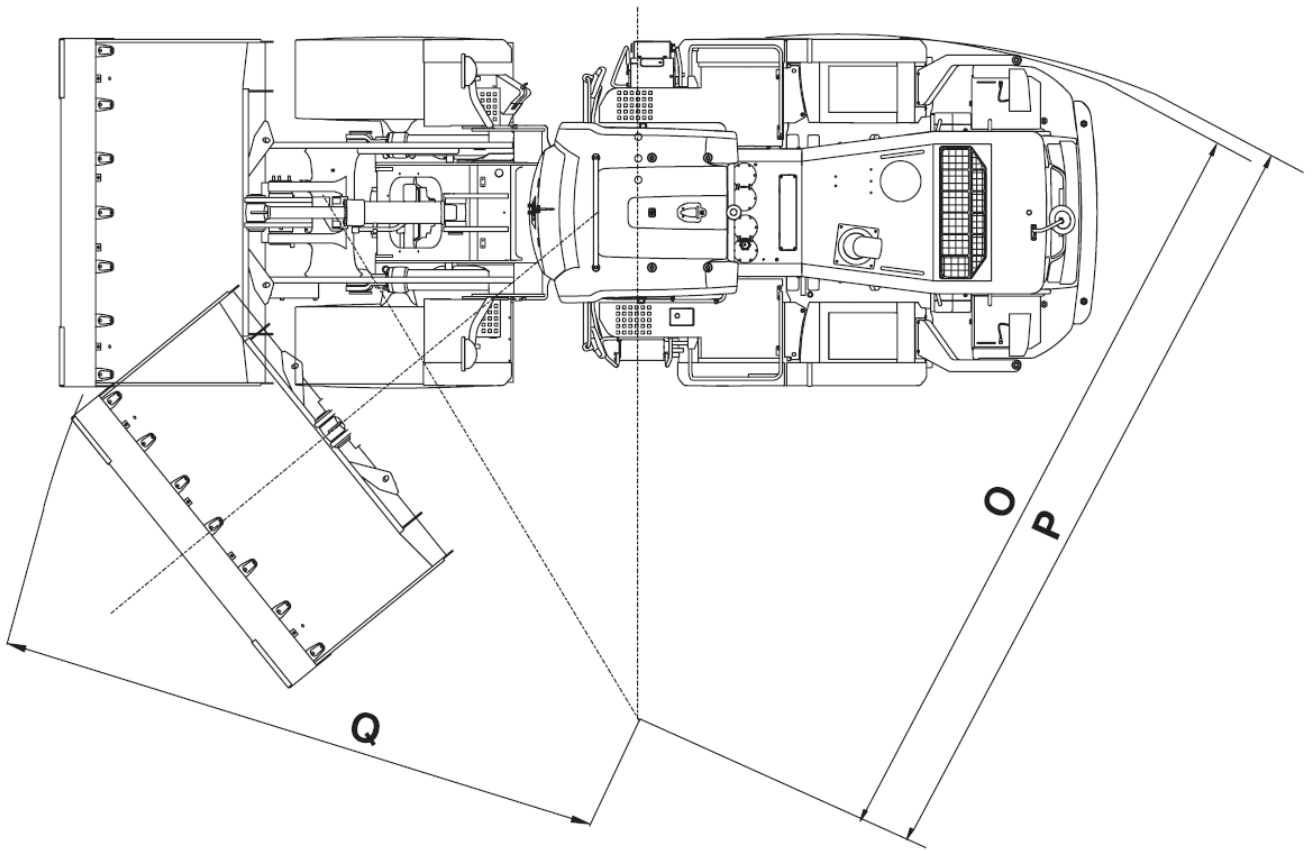
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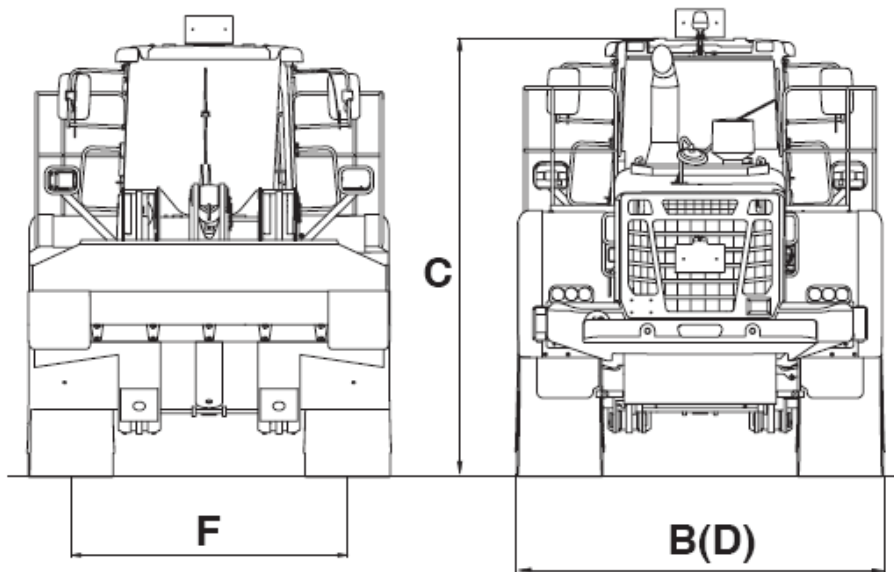
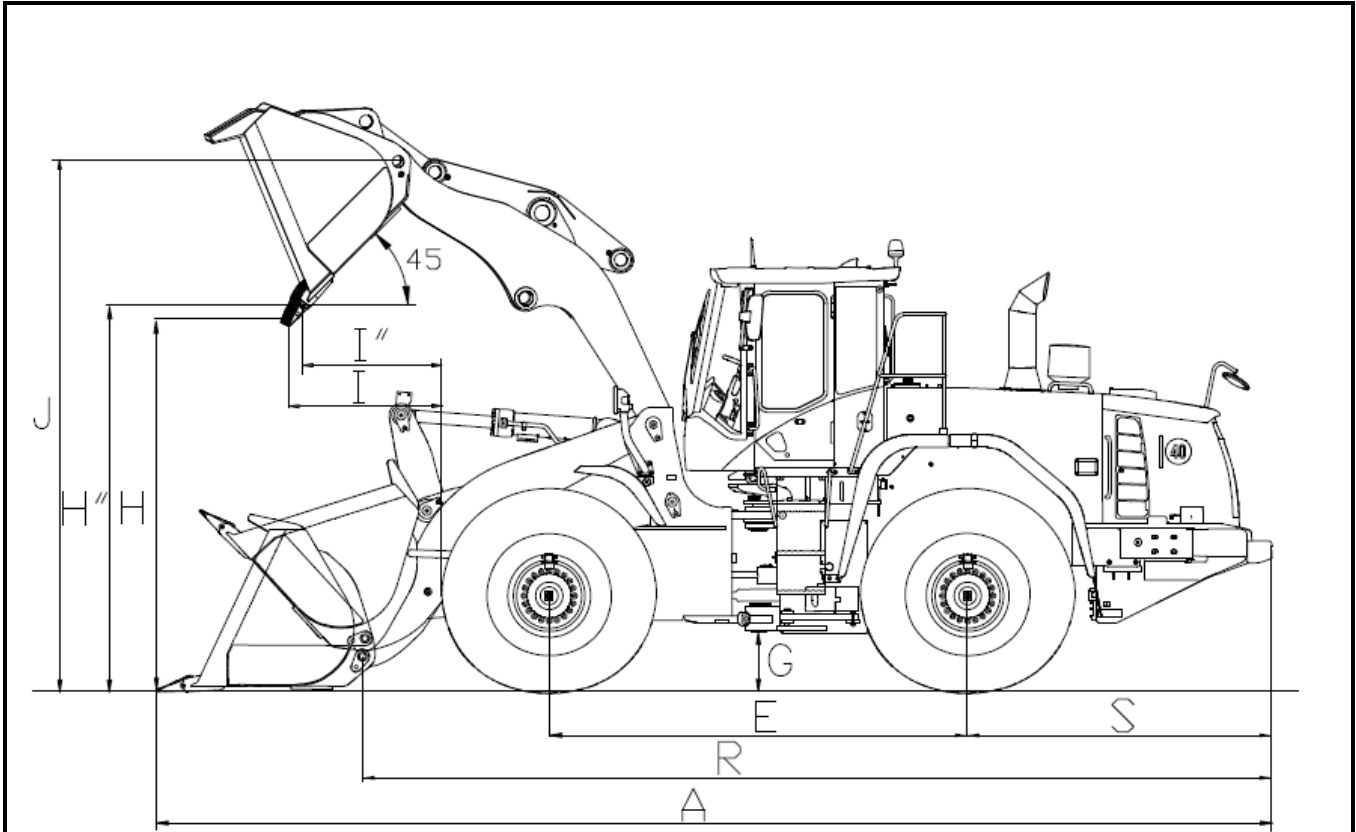
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# 8. DIMENSIONS AND WORKING RANGE



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Loader type		General purpose					
Bucket mount		PIN ON	PIN ON	PIN ON	PIN ON	PIN ON	PIN ON
Configuration	Unit	Teeth	Teeth	Teeth	Bolt-on edge	Bolt-on edge	Bolt-on edge
Capacity heaped ISO/SAE	m <sup>3</sup>	3.7	3.9	4.0	3.9	4.1	4.2
Tooth type	-	Adapter tooth	Adapter tooth	Adapter tooth	-	-	-
Bucket width <b>B</b>	mm	3,040	3,200	3,270	3,040	3,200	3,270
Breakout force	kN	198	197	197	197	196	196
Static tipping load (straight)	kg	18,030	17,840	17,820	17,830	17,670	17,635
Static tipping load (at full turn)	kg	15,250	15,490	15,070	15,075	14,935	14,905
Dump height (at 45°) (at fully raised) <sup>1)</sup>	<b>H</b> mm	2,960	2,960	2,960	3,085	3,085	3,085
Dump reach (at 45°) (at fully raised) <sup>1)</sup>	<b>I</b> mm	1,425	1,425	1,425	1,285	1,285	1,285
Dump height (at max. dump) (at max. reach) <sup>1)</sup>	mm	680	680	680	856	856	856
Dump reach (at max. dump) (at max. reach) <sup>1)</sup>	mm	1,460	1,460	1,460	1,395	1,395	1,395
Digging depth	mm	105	105	105	105	105	105
Height at bucket pivot point <b>J</b>	mm	4,295	4,295	4,295	4,295	4,295	4,295
Max. tilt angle at carry position	deg	47	47	47	47	47	47
Max. tilt angle at fully raised <b>M</b>	deg	55	55	55	55	55	55
Max. tilt angle on ground <b>K</b>	deg	43	43	43	43	43	43
Max. tilt angle at max. reach	deg	54	54	54	54	54	54
Max. dump angle at max. reach	deg	73	73	73	73	73	73
Max. dump angle on ground	deg	68	68	68	68	68	68
Max. dump angle at fully raised <b>L</b>	deg	45	45	45	45	45	45
External radius at tire side <b>O</b>	mm	6,380	6,380	6,380	6,380	6,380	6,380
External radius at bucket edge <b>Q</b>	mm	6,970	6,860	6,970	6,955	6,845	6,955
Wheel base <b>E</b>	mm	3,500	3,500	3,500	3,500	3,500	3,500
Rear axle to counter weight <b>S</b>	mm ft in	2,420 7'11"	2,420 7'11"	2,420 7'11"	2,420 7'11"	2,420 7'11"	2,420 7'11"
Overall length without bucket <b>R</b>	mm ft in	7,290 23'11"	7,290 23'11"	7,290 23'11"	7,290 23'11"	7,290 23'11"	7,290 23'11"
Width at tyres	mm	2,975	2,975	2,975	2,975	2,975	2,975
Tread <b>F</b>	mm	2,300	2,300	2,300	2,300	2,300	2,300
Ground clearance <b>G</b>	mm	510	510	510	510	510	510
Overall length <b>A</b>	mm	8,890	8,890	8,890	8,700	8,700	8,700
Operating weight	kg	21,785	21,955	21,980	21,900	22,060	22,095

<sup>1)</sup> Measured to the tip of the bucket teeth or bolt-on edge, with tires 26.5x25-20PR.

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Loader type		General purpose		Rock	Light material			HIGH LIFT
Bucket mount		PIN ON	PIN ON	PIN ON	PIN ON	PIN ON	PIN ON	PIN ON
Configuration	Unit	Teeth	Teeth & segments	Teeth	Teeth	Bolt-on edge	Teeth	Teeth
Capacity heaped ISO/SAE	m <sup>3</sup>	3.9	4.1	3.5	4.3	4.5	4.5	3.9
Tooth type	-	Mono tooth	Adapter tooth	Adapter tooth	Adapter tooth	-	Mono tooth	Mono tooth
Bucket width	mm	3,200	3,200	3,230	3,200	3,200	3,354	3,200
Breakout force	kN	197	195	196	183	181	170	189
Static tipping load (straight)	kg	17,900	17,635	17,600	17,620	17,420	17,125	15,000
Static tipping load (at full turn)	kg	15,135	14,905	14,875	14,895	14,720	14,460	13,245
Dump height (at 45°) (at fully raised) <sup>①</sup>	mm	2,985	2,960	2,985	2,985	3,025	2,855	3,500
Dump reach (at 45°) (at fully raised) <sup>①</sup>	mm	1,395	1,425	1,395	1,480	1,350	1,535	1,505
Dump height (at max. dump) (at max. reach) <sup>①</sup>	mm	717	680	717	596	770	545	795
Dump reach (at max. dump) (at max. reach) <sup>①</sup>	mm	1,465	1,460	1,465	1,480	1,425	1,520	2,170
Digging depth	mm	105	105	105	105	105	105	85
Height at bucket pivot point	mm	4,295	4,295	4,295	4,295	4,295	4,295	4,810
Max. tilt angle at carry position	deg	47	47	47	47	47	47	50
Max. tilt angle at fully raised	deg	55	55	55	55	55	55	60
Max. tilt angle on ground	deg	43	43	43	43	43	43	44
Max. tilt angle at max. reach	deg	54	54	54	54	54	54	57
Max. dump angle at max. reach	deg	73	73	73	73	73	73	60
Max. dump angle on ground	deg	68	68	68	68	68	68	64
Max. dump angle at fully raised	deg	45	45	45	45	45	45	47
External radius at tire side	mm	6,380	6,380	6,380	6,380	6,380	6,380	6,380
External radius at bucket edge	mm	6,875	6,930	6,875	7,055	7,035	7,035	7,195
Wheel base	mm	3,500	3,500	3,500	3,500	3,500	3,500	3,500
Rear axle to counter weight	mm ft in	2,420 7'11"	2,420 7'11"	2,420 7'11"	2,420 7'11"	2,420 7'11"	2,420 7'11"	2,420 7'11"
Overall length without bucket	mm ft in	7,290 23'11"	7,290 23'11"	7,290 23'11"	7,290 23'11"	7,290 23'11"	7,290 23'11"	7,290 23'11"
Tread	mm	2,300	2,300	2,300	2,300	2,300	2,300	2,300
Ground clearance	mm	510	510	510	510	510	510	510
Overall length	mm	8,850	8,890	8,850	8,975	8,790	9,030	9,464
Operating weight	kg	21,915	22,140	22,210	22,040	22,150	22,170	22,300

<sup>①</sup> Measured to the tip of the bucket teeth or bolt-on edge, with tires 26.5x25-20PR.

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## 9. PERFORMANCE DATA

### 1) PRESSURE SETS

WORKING	200 ± 10 bar
STEERING RELIEF (LS PORT SIDE)	185 ± 5 bar
(STEER PUMP SIDE)	210 ± 5 bar
PILOT CONTROL	28 + 2 bar
BRAKE ACCUMULATOR CHARGING	120 bar
SERVICE BRAKE	80 ± 3 bar
FAN MOTOR MAX.	182 bar
PARKING BRAKE RELEASE	120 ± 5 bar
T/M SELECTION PRESSURE	16~18 ± 1 bar

### 2) SPEED & FORCE

OPERATION		UNIT	SPEED-FORCE	REMARKS
ARM	UP	sec	6.0 ± 0.5	
	DOWN	sec	4.2 ± 0.4	
BUCKET	CROWD	sec	1.8 ± 0.3	Max. Height
	DUMP	sec	1.3 ± 0.3	
STEERING	LOCK TO LOCK	TURN	3.6	
E/G RPM	HIGH	RPM	2,300 ± 50	(On machine)
	LOW	RPM	975 ± 25	(On machine)
E/G RPM	HYDRAULIC STALL	RPM	2,250	
	CONVERTER STALL	RPM	2,100	
	T/C + HYD. STALL	RPM	1,850	
COOLING FAN	E/G HIGH	RPM	1,600	
TRAVEL SPEED (1/2/3/4)		km/h	8.3/13.6/29/40	
BRAKING DISTANCE		m	13.8 m at 40 KPH	
MAX. TRACTIVE EFFORT		ton	21.5	
BREAKOUT FORCE ( BOT 3.9)		kN	197	
PAYLOAD		ton	7.02	
STATIC TIPPING LOAD (straight)		kg	17,840	BOT 3.9
STATIC TIPPING LOAD (full turn)		kg	15,490	BOT 3.9
RATED OPERATION LOAD		kg	7,745	BOT 3.9

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## 10. NOISE LEVEL

SURFACE SOUND POWER LEVEL (L <sub>WA</sub> )	112 dB(A) (ISO 6395)
OPERATOR'S CABIN NOISE LEVEL (L <sub>PA</sub> )	74 dB(A) (ISO 6396)

## 11. USER SERVICE DATA

COMPARTMENT/ GREASE JOINT		No, OF C/G	REFILL CAPACITY	FLUID OR LUBRICANT	SERVICE INTERVAL (hr)	
					LUBE	FILTER
COOLING SYSTEM		1	50 ℓ	WATER	1,000	-
FUEL TANK		1	348 ℓ	DIESEL	-	500
HYD. SYSTEM		1	265 ℓ	ISO #46	2,000	500
ENGINE CRANKCASE		2	25 ℓ	E/G OIL	250	250
AXLE	FRONT	1	45 ℓ	GEAR OIL	1,500	-
	REAR	1	42 ℓ	GEAR OIL	1,500	-
T/C AND T/M		1	54 ℓ	SAE 15W40	1,000	1000
FRONT PROPELLER SHAFT		1	-	GREASE	250	-
FRONT PIN		13	-	GREASE	50	-
ARTICULATION JOINT		2	-	GREASE	50	-
REAR AXLE PIVOT		2	-	GREASE	50	-
STEER CYLINDER		4	-	GREASE	50	-

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## 12. SUB GROUP WEIGHTS

ITEM	UNIT	WEIGHT	REMARKS
COUNTERWEIGHT	kg	1,273	
FRONT FRAME	kg	2,204	
REAR FRAME	kg	2,014	
OIL TANK	kg	171	w/o Oil
FUEL TANK	kg	300	w/o Oil
ENGINE	kg	984	w/Cac pipe& Oil
TRANSMISSION	kg	815	w/o Oil, w/o Lock-up
AXLE_FRONT	kg	1,136	w/ Oil
AXLE_REAR	kg	1094	w/ Oil
TIRE(26.5x25-20PR) at Each Tire	kg	379	Domestic tire
RIM at Each Rim	kg	240	
PROPELLER SHAFTS (F/C/R)	kg	52 + 74 + 18	
RADIATOR	kg	248	w/o Water
MAIN PUMP	kg	27.2	
AXLE PIVOT SUPPORT_FRONT	kg	122	
AXLE PIVOT SUPPORT_REAR	kg	241	
CABIN ASS'Y (ROPS)	kg	896	
LOADER ARM ASS'Y	kg	1,419	
TILT LEVER ASS'Y	kg	425	
3.9 m3 BUCKET ASS'Y (w/ Tooth)	kg	2,046	
LINK	kg	62	
CYLINDER_ARM at Each CYLINDER	kg	219	
CYLINDER_BUCKET	kg	234	

## 13. LIFTING CAPACITY

BUCKET	UNIT	3.9 BOT	4.1 BOC
Lifting Capacity to Max.Height	kgf	11,308 kgf	11,224 kgf

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