

HYDRAULICS EXCAVATORS

POCLAIN

"788P & C"

powersensor



788 HYDRAULICS GENERAL

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788 C HYDRAULICS GENERAL

788C HYDRAULIC SYSTEM GENERAL INFORMATION

Power unit.**- Engine:****Idle speed**

LOW IDLE : 900 to 1000 rpm

MEDIUM IDLE : 1180 to 1220 rpm

No load speed

MAX mode: 2180 to 2220 rpm

ECO mode: 1880 to 1920 rpm

FINE mode: 1580 to 1620 rpm

Speeds under load

MAX mode: 1980 to 2020 rpm

ECO mode: 1680 to 1720 rpm

FINE mode: 1380 to 1420 rpm

- Constant torque variable displacement pump with load sensing, flow cancellation and pressure maintenance systems on the attachment,

travel and options functions

- Fixed displacement pump on the upperstructure swing function.

Servo.

- Low pressure pump

Hydraulic tank.

- Self-pressurized to reduce pollution coming from the outside.

Filtration.

- On general return circuit with by-pass and clogging indicators.

- On Load-Sensing information line.(LS1 and LS2)

- On functional leaks return (without clogging indicator)

Control valves: Attachment, travel, options

- "Closed centre and closed outlets" parallel type. Proportional effect and **load sensing**.

- Flow regulator (balance valve) on each receiving component.

Swing control valve.

- "Open centre and closed outlets" parallel type.

Linear receiving components.

- Double action, single rod cylinders with dashpot and flow limiter on certain chambers.

Rotary receiving components.

- Fixed displacement hydraulic motor on the swing function, fitted with automatic static brake

- Fixed displacement on variable displacement hydraulic motors on the travel function fitted with automatic static brakes.

Forced feed.

- All receiving components are force fed.

- Counter pressure valves on the return circuits for the following functions: attachments, travel, swing, options and servo

Oil cooling.

- On swing and servo pump flows.

- Air cooled by the engine fan.

Connective components.

- A very large number of hoses is used.

- Unions are SAE clamps with ISO seals on $\varnothing \geq 20$ mm tubes

- Unions with crimped rings with nuts on $\varnothing < 20$ mm tubes

788 C GENERAL HYDRAULICS

788 C TECHNICAL SPECIFICATIONS

- Installed hydraulic power			
MAX mode:	49	Kw	62 hp
ECO mode:	39	Kw	53 hp
FINE mode:	27	Kw	37 hp
- Hydraulic pumps			
(axial piston and gear type with external teeth)			
• Maximum displacement (variable displacement pump for attachments, travel and options)	107	cc/rev	
• Displacement of the variable displacement swing pump	21,4	cc/rev	
• Servo pump displacement	13,4	cc/rev	
• Maximum flow (variable displacement pump for attachments)	210	l/min	
• Maximum flow (variable flow swing pump)	42	l/min	
• Maximum flow servo pump	26	l/min	
• Pressure for attachment, travel and options	355 to 365	bar	
• Servo circuit pressure	> 34	bar	
LOAD SENSING valve setting (LS): Δp between M1 and M3			
- Static and dynamic	21 to 25	bar	
- Dynamic	21 to 23	bar	
• Torque regulation valve setting			
Bucket or dipper cylinder large chamber pressure	300	bar	
Engine speed	\geq to 1980	rpm	
Variable displacement pump flow	\geq to 92	l/mn	
- Hydraulic filters			
Bypass pressure setting	3,5	bar	
Clogging indicator pressure setting	3,1	bar	
Degree of filtration	10	μ	
- Attachments control valve (three spool stackable)			
• Bore	20		
• Low pressure piloted	8 to 22	bar	
• Pressure setting (*with spacer on control lever pushrods):			
- Relief valve	390 to 425	bar	
- boom cylinder small chamber safety valve	390 to 420	bar	
- boom cylinder large chamber safety valve	380 to 410	bar	
- bucket cylinder small chamber safety valve	380 to 410	bar	
- bucket cylinder large chamber safety valve	380 to 410	bar	
- dipper cylinder small chamber safety valve	380 to 410	bar	
- dipper cylinder large chamber safety valve	380 to 410	bar	
• Flow regulator setting (balance valve)			
- Boom cylinder large chambers	140 to 160	l/mn	
- Dipper cylinders large chambers	90 to 110	l/mn	
- Bucket cylinders large chamber	115 to 135	l/mn	
- Swing control valve.			
• Bore	12		
• Low pressure piloted	8 to 22	bar	
• Main relief valve pressure setting	370 to 400	bar	
• Swing motor secondary relief valve pressure setting	305 to 330	bar	

788 C HYDRAULICS GENERAL

788 C TECHNICAL SPECIFICATIONS (CONTINUED)

- **Travel control valve** (stackable, two spools).
 - Bore20
 - Low pressure piloted8 to 22 bar.
 - Pressure setting:
 - Right hand or left hand track secondary relief valve (forward or reverse direction)385 to 415 bar.
 - Flow regulator setting (balance valve).
 - Right or left hand motor, forward or reverse drive (single or two speed)100 to 120 l/mn.

- Linear receiving components.

- **Boom cylinder** (quantity 2)100 x 70 C850
 - fitted with dashpot on large chamber end and a flow limiter in the separator block (large chamber end).
- **Bucket cylinder**100 x70 C700.
 - fitted with dashpot on large chamber side.
- **Dipper cylinder**100 x 70 C 1030.
 - fitted with dashpot on the large and small chamber ends and a flow limiter on the feed block (small chamber end).
- **Offset backhoe cylinder**100 x 70 C480
 - fitted with dashpot on small chamber end
- **Articulated boom cylinder**110 x 70 C700
 - fitted with dashpot on large chamber end
- **Adjustable boom cylinder**100 x 55 C1050
 - fitted with dashpot on small chamber end

- Rotary receiving components.

- **Swing motor/Reduction gear.**
 - Fixed displacement hydraulic motor with axial pistons
 - Displacement40 cc
 - Theoretical speed1145 rpm.
 - Reduction gear fitted with oil-bath multidisc automatic type brake, mechanically braked, with hydraulic brake release.
 - Reduction ratio1/ 28
 - Theoretical speed at output shaft53,8 rpm.
 - Upperstructure braking torque2980 mdaN.
 - Pressure required for brakes to be completely released8,6 bar.
- Swing pinion.....13 teeth, module 9
- Turntable79 teeth, module 9