

# MILOP Design and Consulting Pty Ltd

Mechanical and steel structure engineering, design & consulting. Concrete pumping equipment, construction machinery, inspection and certification. Professional engineer  
ABN: 91 104 582 050

PO Box 3345 Wetherill Park, NSW 2164  
m: 0413 424 819, ph: (02) 9823 4818  
milop@tpg.com.au; www.milop.com.au

**STG Pumps Pty Ltd**  
**Po Box 134**  
**MOOREBANK, NSW, 1875**

**Attn: Joe Bassil**  
01<sup>st</sup> May 2023



**RE: Concrete Boom Pump, Flowcrete 47.5, STG 51, Periodic Inspection**  
**Report no 2766/23, 01<sup>st</sup> May 2023**

The concrete boom pump Flowcrete 47m was inspected on 01<sup>st</sup> May 2023 in Riverstone Rd, Moorebank. The inspection is a regular periodic boom pump inspection, as required by Australian Standard AS 2550.15 – Concrete placing equipment and it presents an assessment of the structural conditions of the plant for continued service. The boom was set up, outriggers were opened, and the boom arms have been articulated to provide an approach for all its components.

The concrete boom pumps technical specifications:

Boom and pump manufacturer:	Flowcrete, JunJin 47m
Model and size:	JXRZ47-5.16HP
Boom/pump serial	JB 00171
Year of manufacture:	2016
Working Hours	2839 hr
Max pressure in hydraulic system	350 bar
Max concrete pressure in the delivery pipeline	70 bar
Truck rego plate	XN 68MS

The concrete boom pump has received a periodic inspection in accordance with the criteria in AS 2550.15:2019, Clause 6.4.

Details of the periodic inspection are enclosed.

**In accordance with AS2550.15:2019, the next inspection is recommended after 500 operating hours or before 01<sup>st</sup> May 2024.**

Inspected by:  
Michael Podinic, BScME, MIEAust\*

\*) Michael Podinic, professional engineer, member of Engineers Australia, no 1047610, more than 25 years experience in development, design, analysis, certification, verification and inspection of construction machinery, concrete pumping equipment and other mechanical machinery, www.milop.com.au

## PERIODIC INSPECTION REPORT - Details

Pump details		
Manufacturer / Model Flowcrete JXRZ47-5.16HP	Serial number JB 00171	Year of pump manufacture: 2016
Max hydraulic system pressure: 350 bar	Max concrete delivery pressure: 85 bar	

Boom details		
Flowcrete JunJin JXRZ 47-5.16HP	Boom serial number: JB 00171	Year of boom manufacture 2016
Type of boom Truck-mounted, 47/43/5/125	Maximum vertical reach 43 m	Max rated working pressure of the pipe bar 85 bar
Max pipe diameter 125 mm (5")	Max pipe wall thickness 4.2 mm	Max hydraulic pressure 350 bar
Max drop hose diameter 125 mm	Max drop hose length 4m	Operating pump hours Total 2839 hr

Carrier information (Truck)		
Carrier manufacturer/model DAF CF75 85 8x4	VIN XLRAD85MCDG016106	Rego plate XN 68MS

Date: 01<sup>st</sup> May 2023  
 No. of defects and safe to use: **None**  
 Stop operation until defects are addressed: **No**  
 Reinspection required: **No**

Inspected:  
 Michael Podinic, BScME, MIEAust  
 m. 0413 424 819.  
[milop@tpg.com.au](mailto:milop@tpg.com.au)  
[www.milop.com.au](http://www.milop.com.au)




## PERIODIC INSPECTION REPORT – Details (In accordance to AS 2550.15:2019)

Owner/Controller details	
Owner/Controller of the concrete equipment:	STG Pumps Pty Ltd
Location of inspection	Riverstone Rd, Moorebank
Names of people involved in the inspection	Joe

### Fault code

00	No objections	08	Corrosion	16	Porous	24	Deformation
01	Cracks	09	Damaged paint	17	Burnt out	25	Bearing clearance
02	Broken	10	Worn through	18	Loose	26	Lubrication
03	Leaking	11	Scored	19	Jammed	27	Legibility
04	No function	12	Bent	20	Judders	28	Parts missing
05	Short life	13	Noise	21	Soiled	29	Hydraulic
06	Wear	14	Vibration	22	Loose contact	30	Electrical
07	Chips	15	Others	23	Temperature	31	Re-inspection required
A1	Not available	A2	Inadequate information				

Item	Description	Fault code	Method of inspection	Acceptance criterion	Observation	Status	Photos (Y/N) Remark
100	<b>Machine documents</b>						
	Instruction handbook		Visual	Exist		Ok	N
	Spare-parts list		Visual	Exist		Ok	N
200	<b>Support structure</b>		Visual	No faults	No objection	Ok	N
	Frame attachment		Visual	No faults	No objection	Ok	N
300	<b>Front outriggers R + L</b>						
	Transport lock		Visual	Automatic device lock	No objection	Ok	N
	Outriggers		Visual	No crack, no corrosion distortion	No objection	Ok	N
	Extension box 1		Visual	No crack, no corrosion	No objection	Ok	N
	Extension lock		Visual	Automatic	No objection	Ok	N
	Pivot bearing		Visual	Automatic	No objection	Ok	N
	Pivot safeguard		Visual	Automatic	No objection	Ok	N
	Outrigger safeguard		Visual	No faults	No objection	Ok	N
	Outrigger lock		Visual	Functional locking device	No objection	Ok	N
	Outrigger cylinder attachment		Visual	No faults	No Objection	Ok	N
	Outrigger cylinder		Visual	No faults	No objection	Ok	N
Pivot cylinder		Visual	No faults	No objection	Ok	N	

	Extension hydraulics		Visual	No leak	No objection	Ok	N
	Pressure setting		Visual	Factory setting	No objection	Ok	N
<b>400</b>	<b>Rear outriggers R+L</b>						
	Transport lock		Visual	Automatic device lock	No objection	Ok	N
	Outriggers		Visual	No crack, no corrosion distortion	No objection	Ok	N
	Extension box 1		Visual	No crack, no corrosion	No objection	Ok	N
	Extension lock		Visual	Automatic	No objection	Ok	N
	Pivot bearing		Visual	Automatic	No objection	Ok	N
	Pivot safeguard		Visual	Automatic	No objection	Ok	N
	Outrigger safeguard		Visual	No faults	No objection	Ok	N
	Outrigger lock		Visual	Functional locking device	No objection	Ok	N
	Outrigger cylinder		Visual	No faults	No Objection	Ok	N
	Outrigger cylinder		Visual	No faults	No objection	Ok	N
	Pivot cylinder		Visual	No faults	No objection	Ok	N
	Extension hydraulics		Visual	No leak	No objection	Ok	N
	Pressure setting		Visual	Factory setting	No objection	Ok	N
Remarks:							
<b>500</b>	<b>Concrete-placing boom pedestal (common)</b>						
	Concrete-placing boom pedestal attachment		Visual	No faults	No objection	Ok	N
	Superstructure frame		Visual	No faults	No objection	Ok	N
	Chassis frame		Visual	No faults	No objection	Ok	N
	Concrete-placing boom support structure		Visual	No faults	No objection	Ok	N
	Transport locks and seats		Visual	No faults	No objection	Ok	N
	Hydraulic line		Visual	No faults	No objection	Ok	N
<b>600</b>	<b>Slewing head with ball pivot connection</b>						
	Slewing head		Visual	No faults	No objection	Ok	N
	Ball-mounted slewing ring		Visual, measuring	Max play between inner and outer rings 2 mm	No objection	Ok	N
	Ball-mounted slewing ring		Visual and	All bolts tightened	No objection	Ok	N
	Drive pinion		Visual	No faults	No objection	Ok	N
	Slewing drive attachment		Visual	No faults	No objection	Ok	N
	Slewing limitation		Visual	Slewing limited by switches	No objection	Ok	N
	Slewing drive (gearing clearanc		Visual and measuring	1.5 mm	No objection, Clearance	Ok	N
	Slewing drive		Visual	No faults	No objection	Ok	N
	Brake function		Visual	No faults	No objection	Ok	N
	Speed		Measuring	1 rev/ 2.5 min	No objection	Ok	N
		Pressure setting		Visual	Factory Setting	No objection	Ok
	Hydraulic lines		Visual	No faults	No objection	Ok	Visual
Remarks							
	<b>Concrete-placing boom</b>						
<b>810</b>	Arm 1		Visual	No faults	No objection	Ok	N
	Guide and rest of arm		Visual	No faults	No objection	Ok	N

	Delivery-line support		Visual	No faults	No objection	Ok	N
	Hook catch		Visual	N faults	No objection	Ok	N
820	<b>Arm 2</b>		Visual	No faults	No objection	Ok	N
	Guide and rest of arm		Visual	No faults	No objection	Ok	N
	Delivery-line support		Visual	No faults	No objection	Ok	N
	Hook catch		Visual	No faults	No objection	Ok	N
830	<b>Arm 3</b>		Visual	No faults	No objection	Ok	N
	Guide and rest of arm		Visual	No faults	No objection	Ok	N
	Delivery-line support		Visual	No faults	No objection	Ok	N
840	<b>Arm 4</b>		Visual	No faults	No objection	Ok	N
	Guide and rest of arm		Visual	No faults	No objection	Ok	N
	Delivery-line support		Visual	No faults	No objection	Ok	N
850	<b>Arm 5</b>		Visual	No faults	No objection	Ok	N
	Guide and rest of arm		Visual	No faults	No objection	Ok	N
	Delivery-line support		Visual	No faults	No objection	Ok	N
<b>Remarks</b>							
900	<b>Joint 'A'—Arm 1 - Turret</b>						
	Joint Pin/Bushes/Linkage		Visual	No cracks, no corrosion, wear less than 0.8 mm	No objection wear 0.25 mm	Ok	N
	<b>Cylinder 1- Turret – Arm1</b>	28	Visual	No faults	No objection		N
	Pressure setting			Factory setting			
	Hydraulic lines		Visual	No faults	No objection	Ok	N
	Safety valves: piston/rod side		Visual	No faults	No objection	Ok	N
1000	<b>Joint 'B'—Arm 1–2</b>						
	Joint Pin/Bushes/Linkage		Visual	Cracks, wear less than 0.8mm	No cracks, wear 0.45 mm	Ok	N
	<b>Cylinder B</b>		Visual	No faults	No objection	Ok	N
	Speed		Visual	Depend of engine revs	Variable	Ok	N
	Pressure setting			Factory setting			
	Hydraulic lines		Visual	No faults	No objection	Ok	N
	Safety valves: piston/rod side		Visual	No faults	No objection	Ok	N
<b>Remarks:</b>							
1100	<b>Joint 'C'—Arm 2 - 3</b>						
	Forcing lever		Visual	No faults	No objection	Ok	N
	Pressure rod		Visual	No faults	No objection	Ok	N
	Joint Pin/Bushes/Linkage		Visual	Wear less than 0.7mm	wear 0.45mm	Ok	N
	<b>Cylinder C</b>		Visual	No faults	No objection	Ok	N
	Speed		Visual	Depend of engine revs	Variable	Ok	N
	Pressure setting			Factory setting			
	Safety valves: piston/rod side		Visual	No faults	No objection	Ok	N
1200	<b>Joint 'D'—Arm 3 - 4</b>						
	Forcing lever		Visual	No faults	No objection	Ok	N
	Pressure rod		Visual	No faults	No objection	Ok	N

	Joint bolt		Visual	Cracks, wear less than 0.60mm	No cracks, wear 0.35mm	Ok	N
	<b>Cylinder D</b>		Visual	No leak, no cracks	No objection	Ok	
	Speed		Visual	Depend of engine revs	Variable	Ok	
	Pressure setting			Factory setting			
	Hydraulic lines		Visual	No leak , no damage	No objection	Ok	
	Safety valves: piston/rod side		Visual	No faults	No objection	Ok	N
<b>1300</b>	<b>Joint ‘E’—Arm 4 - 5</b>						
	Forcing lever		Visual	No faults	No objection	Ok	N
	Pressure rod		Visual	No faults	No objection	Ok	N
	Joint, Pins/Bushes/Linkages		Visual	Cracks, wear less than 0.60mm	No cracks, wear 0.50mm	Ok	N
	<b>Cylinder E</b>		Visual	No leak, no cracks	No objection	Ok	
	Speed		Visual	Depend of engine revs	Variable	Ok	
	Pressure setting			Factory setting			
	Hydraulic lines		Visual	No leak , no damage	No objection	Ok	
	Safety valves: piston/rod side		Visual	No faults	No objection	Ok	N
<b>1400</b>	<b>Concrete-delivery line</b>						
	Fitted delivery line: DN 125 mm, suitable for concrete pump operating pressure		Visual	Max concrete pressure 85bar	No faults	Ok	N
	End hose DN and length		Visual	5” (125mm) , length 4 m	No faults	Ok	N
	Remaining line wall thickness adequate		Visual	Min thickness 2 mm	No objection	OK	N
	Alignment of delivery line and pivot points		Visual	need to be aligned to pivot pins	No Objection	Ok	N
	Coupling safety pins		Visual	to be installed	All installed	Ok	N
	End hose safety sling/chain		Visual	Chain or sling tightened to end hose and reducer	All installed	OK	N
	End hose connector		Visual	Safe attached to end	Safe attached	OK	N
	Original Equipment Manufacturer (OEM) line fitter		Visual	Pipeline was installed with guaranteed material strength		OK	N
<b>Remarks</b>							
<b>1500</b>	<b>Hydraulics, control and hydraulic valves</b>						
	Pressure relief valves		Visual	Factory setting	No leaks	Ok	N
	Pressure setting		Visual	Factory setting	No leaks	OK	N
	Hydraulic lines		Visual	No faults	No Objection	Ok	N
	Manual operation (switching function)			Manual operation from control valve	No Objection	Ok	N
	Concrete-placing boom control block		Visual	All levers returning in neutral position, no leaks	No objection	OK	N
	Hydraulic pumps		Visual	No leaks	No objection	Ok	N
<b>1600</b>	<b>Electrical system</b>					OK	N
	Remote control (switching function)		Visual	to be functional	No objection	Ok	N

	Emergency-stops function		Visual, check	Cut off boom and pump movement	All works	Ok	N
	Electrical selector switch for concrete-placing boom		Visual, check	Switch functional	In function	OK	N
	Electrical control switch for concrete-placing boom movements		Visual, check	Switch functional	In function	Ok	N
	Electrical cable harnesses		Visual	cable to be harnessed	No objection	OK	N
	Central lubrication system			N/A			N
<b>1700</b>	<b>Warning and Safety signs</b>						
	Warning signs		Visual	to be affixed and legible	Installed	OK	N
	Information signs		Visual	to be affixed and legible	Installed	OK	N
	Operational information signs		Visual	to be affixed and legible	Installed	OK	N
	Operating instructions signs		Visual	to be affixed and legible	Installed	OK	N
	Use as crane prohibited signs		Visual	to be affixed and legible	Installed	OK	N
	Rating signs		Visual	to be affixed and legible	Installed	OK	N
	High-voltage warning signs		Visual	to be affixed and legible	Installed	OK	N
<b>2000</b>	<b>Machine documents</b>						
	Instruction handbook		Visual	to be in truck	In truck	OK	N
	Spare-parts list		Visual	to be in office	In office	OK	N
<b>2001</b>	<b>Drive unit</b>						
	Coupling and flange		Visual	Firm flange connection	No objection	OK	N
<b>2200</b>	<b>Gear unit</b>						
			Visual	Hydraulic motor installed	No objection	OK	N
<b>2300</b>	<b>Hydraulic pumps</b>						
			Visual	No oil leak, firmly attached	No objection	OK	N
<b>2400</b>	<b>Oil tank</b>						
			Visual	No oil leak	No objection	Ok	N
<b>2500</b>	<b>Fuel system</b>						
				No leaks, damage	No objection	Ok	
<b>2600</b>	<b>Drive shaft</b>						
				No faults	No damage	Ok	
<b>2700</b>	<b>Hydraulic control</b>						
	Pressure relief valve		Visual	Factory setting			
	Pressure setting		Visual	No faults	No objection	OK	N
	Hydraulic lines		Visual	No faults	Ok	OK	N
	Manual operation		Visual	Operation from control valve	No objection	OK	N
<b>2800</b>	<b>Oil cooler</b>						
			Visual	No faults	No objection	OK	N
<b>2900</b>	<b>Accumulator</b>						
	Proof of prescribed tests according to pressure vessel			Installed Factory tested	No objection	OK	N
	Pressure gauge		Visual	Pressure gauge for accumulator	No objection	OK	N
<b>Remarks</b>							
<b>3000</b>	<b>Central lubrication system</b>			N/A	Not installed		
<b>3100</b>	<b>Hydraulic motor</b>			Visual	oil cooler, remix hopper shaft, water pump	No objection	OK N
<b>3200</b>	<b>Hydraulic line</b>			Visual	No leak, no damage	No objection	OK N
<b>3400</b>	<b>Switch cabinet</b>			Visual	Protected, no oil leak	No objection	OK N
<b>3700</b>	<b>S-transfer tube</b>			Visual	shaft lubricated, gap of wear plates and cutting ring allowable	No objection	OK N

<b>3800</b>	<b>Concrete hopper</b>						
	Concrete paddles		Visual	100mm from hopper grate	No objection	OK	N
Remarks							
<b>4000</b>	<b>Vacuum pump unit</b>		N/A				
<b>4100</b>	<b>Frame</b>		Visual	No cracks, corrosion distortion	No objection	OK	N
<b>4200</b>	<b>Water tank</b>		Visual	No leak, in legs	No objection	OK	N
<b>4300</b>	<b>Chassis</b>		Visual	No cracks, corrosion	No objection	OK	N
<b>4400</b>	<b>Flushing water pump</b>		Visual	Firmly attached, no oil or water leaks	No objection	OK	N
<b>4500</b>	<b>Vibrator</b>		Visual	attached to the grate	No objection	OK	N
<b>4600</b>	<b>Other protective devices</b>						
	Steps		Visual	No faults	No objection	OK	N
	Non-slip surface of steps		Visual	Non- slip surface	No objection	OK	N
	Safety rail		Visual	Safe walking on the deck	No objection	OK	N
	Hinged grill-type guard on hopper		Visual	safe fixed when is opened	No objection	OK	N
	Distance between grill		Visual	Max 50 mm	Visual	OK	N
	Distance between grill and crushing point		Visual	Min 100 mm	Visual	OK	N
	Hinged grill-type guard		Visual	No faults	Visual	OK	N
	Concrete paddles stopped on opening of movable grill-type guard		Visual	Switch off valve installed to stop remixing shaft	Installed	OK	N
	Transfer tube stopped on opening of movable grill-type guard		Visual	Transfer tube stopped on opening of movable grill- type guard	It stops	OK	N
	Safeguard to prevent movable grill-type guard from falling		Visual		Installed	OK	N
	Cleaning-access closure of hopper		Visual	Access to hopper cleaning	No Objection	OK	N
	Valve-switching cylinder covered		Visual	Change over cylinder covered	Incorporated in	OK	N
	All parts with burning/ scalding hazard covered, e.g. exhaust		Visual	Protection from burning and hot surfaces	No objection	Ok	N
<b>4700</b>	<b>Electrical equipment</b>						
	Functioning of control elements		Visual	Control elements to be functional	All works	Ok	N
	Emergency-stop device		Visual	Should cut of all movement	All works	OK	N
	Earthed connection		Visual	Earth connection to be installed on demand	No Objection	OK	N
	Temperature sensor		Visual	Oil temperature sensor	Installed	Ok	N

## Notes and remarks

No notes