MILOP Design and Consulting Pty Ltd
Mechanical and steel structure engineering, design & consulting. Concrete pumping equipment, tower cranes, inspection and certification. Professional engineer
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STG Pumps Pty Ltd
Po Box 134
MOOREBANK, NSW, 1875

Attn: Joe Bassil

RE: Concrete Boom Pump, Flowcrete– STG 26, HINO,
PERIODIC INSPECTION, Certificate no 2769/23, 01st May 2023

A visual inspection of the concrete boom pump Flowcrete was performed on 01st May 2023 in the yard of STG Pumps. The inspection was a regular periodic boom inspection, and it presents an assessment of continued service and structural conditions of the concrete boom pump at the time of the inspection. The concrete boom pump was inspected in assembly conditions. The boom arms and outriggers were opened. Each structural component has been visually inspected, checking general appearance, distortion, cracks, pin retainers, hydraulic pipes, hoses and connection, pins and bushings clearance.

Concrete boom pump's specifications:

Boom/ pump manufacturer:	Flowcrete
Boom and pump size:	21/18/4/100
Boom model:	FC748H
Boom pump serial number:	DY0410B012
Year of pump manufacture:	2005
Max hydraulic pressure	200 bar
Max concrete pressure	60 bar
Operating Hours	85 hr
Truck HINO GD1J, Rego Plate	X0 93FN

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.
Next inspection is recommended after 250 boom operating hours or before 01st May 2024.

01st May 2023
Inspected by:
Michael Podinic, BScME, MIEAust) *

*)Michael Podinic, professional engineer, member of Engineers Australia, no 1047610, more than 30 years experience in development, design, analysis, certification and verification of construction machinery, concrete pumping equipment, drilling rigs, jumping formwork and other mechanical machinery, www.milop.com.au

PERIODIC INSPECTION REPORT - Summary

Pump details		
Manufacturer / Model DY FC748H	Serial number: 1104414	Year of pump manufacture: 2005
Max hydraulic system pressure: 250 bar	Max concrete delivery pressure: Rod side 60 bar	

Boom details		
Flowcrete 21/18/4/100	Boom serial number: DY0410B012	Year of boom manufacture 2005
Type of boom Truck-mounted, four boom arms	Max vertical reach 21 m (from the centre of the slew ring)	Max rated working pressure of the pipe 85 bar (for 4.2mm thickness)
Max pipe diameter 100 mm (5”)	Max pipe wall thickness 4.2 mm	Max hydraulic pressure 200 bar
Max drop hose diameter 100 mm (4”)	Max drop hose length 4m	Operating boom hours 85 hr

Carrier information (Truck)		
Carrier manufacturer / model HINO GD1J	VIN JHDGD1JJPXXX10193	Rego plate XO 93FN

01st May 2023

No. of defects and safe to use **None**
Stop operation until defects are addressed **No**
Reinspection required **No**

Inspected:
Michael Podinic
m. 0413 424 819.
milop@tpg.com.au

PERIODIC INSPECTION REPORT – Details

Owner/Controller details	
Owner/Controller of the concrete equipment:	STG Pumps Pty Ltd
Location of inspection (street address):	9A Pat Devlin Close, Chipping Norton
Names of people involved in inspection:	Operator

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	Photo (Y/N) Remarks
100	**Machine documents**						
	Instruction handbook		Visual	Exist			N
	Spare-parts list		Visual	Exist			N
200	**Support structure**						
	Frame attachment		Visual	No faults	No objection	Ok	N
300	**Front outriggers R + L**						
	Outriggers		Visual	No crack, no corrosion distortion	No objection	Ok	N
	Extension box 1		Visual	No crack, no corrosion	No objection	Ok	N
	Outrigger safeguard		Visual	No faults	No objection	Ok	N
	Outrigger lock		Visual	locking device	Not designed		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
	Remark						
400	**Rear outriggers R+L**						
	Transport lock		Visual	Locking device	Not designed	Ok	N
	Outriggers		Visual	No faults	No objection	Ok	N
	Pivot cylinder		Visual	No faults	No objection	Ok	N
	Pivot pin		Visual	No crack, no corrosion	Check it		Y
	Extension hydraulics		Visual	No faults	No objection	ok	N
	Pressure setting		Visual	Factory setting	No Objection	Ok	N

Remarks							
500	**Concrete-placing boom pedestal (common)**						
	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
600	**Slewing head with a ball pivot connection**						
	Slewing head		Visual	No faults	Slewing head	Ok	N
	Ball-mounted slewing ring		Visual, measuring	Max play between rings 1.5 mm	Play 1.2mm	Ok	N
	Ball-mounted slewing ring attachment		Visual and hammer knocking	All bolts tightened	Ball-mounted slewing ring	Ok	N
	Drive pinion		Visual	No faults	Drive pinion	Ok	N
	Slewing drive attachment		Visual	No faults	No excessive playing	Ok	N
	Slewing limitation		Visual	limited by switches	Slewing limitation	Ok	N
	Slewing drive (gearing clearance)		Visual and measuring	1.5 mm	Slewing drive 0.5mm(backlash)	Ok	N
	Slewing drive		Visual	No faults	Slewing drive	Ok	N
	Brake function		Visual	No faults	Brake function	Ok	N
	Speed		Measuring	1 rev/ 2.5 min	Speed	Ok	N
	Pressure setting		Visual	Factory Setting	Pressure setting	Ok	N
	Hydraulic lines		Visual	No faults	Hydraulic lines	Ok	N
Remarks							
	Concrete-placing boom						
	Arm 1		Visual	No faults	No objection	Ok	N
810	Guide and rest of arm		Visual	No faults	No objection	Ok	N
	Delivery-line support		Visual	No faults	No objection	Ok	N
	Arm 2		Visual	No faults	No objection	Ok	N
820	Guide and rest of arm		Visual	No faults	No objection	Ok	N
	Delivery-line support		Visual	No faults	No objection	Ok	N
830	**Arm 3**		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
	Arm 4		Visual	No faults	Fix crack		Y
840	Guide and rest of arm		Visual	No faults	No objection	Ok	N
	Delivery-line support		Visual	No faults	No objection	Ok	N
Remarks							
900	**Joint 'A'—Arm 1 - Turret**						
	Joint Pin/Bushes/Linkage		Visual	No cracks, no corrosion, wear <0.8 mm	No objection wear 0.65 mm	Ok	N
	Cylinder 1- Turret – Arm1		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
	Remark						
1000	**Joint 'B'—Arm 1–2**						
	Joint Pin/Bushes/Linkage		Visual	Cracks, wear <0.8mm	No cracks, wear 0.62	Ok	N
	Cylinder B		Visual	No faults	No objection	Ok	N
	Speed		Visual	Depend on 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
Remarks:							
1100	**Joint 'C'—Arm 2 - 3**						
	Forcing lever		Visual	No faults	No objection	Ok	N
	Pressure rod		Visual	No faults	No objection	Ok	N
	Joint Pin/Bushes/Linkage		Visual	Wear <0.7mm	Linkage bush wear 0.52mm		Y
	Cylinder C		Visual	No faults	No objection	Ok	N
	Speed		Visual	Depend on 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
1200	**Joint 'D'—Arm 3 - 4**						
	Forcing lever		Visual	No faults	No objection	Ok	N
	Pressure rod		Visual	No faults	No objection	Ok	N
	Joint Pin/Bushes/Linkage		Visual	Cracks, wear <0.60mm	No cracks, wear 0.52mm		N
	Cylinder D		Visual	No leak, no cracks	No objection	Ok	N
	Speed		Visual	Depend on engine revs	Variable	Ok	N
	Pressure setting			Factory setting			N
	Hydraulic lines		Visual	No leak, no damage	No objection	Ok	N
	Safety valves: piston/rod side		Visual	No faults	No objection	Ok	N
Remarks							
1400	**Concrete-delivery line**						
	Fitted delivery line: DN 100 mm		Visual	Max concrete pressure 85bar	No faults	Ok	N
	End hose DN and length		Visual	4" (100mm), 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	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	Safely attached to end reducer	Safe attached	OK	N
Remarks							
1500	**Hydraulics, control and hydraulic valves**						
	Pressure relief valves		Visual	Factory setting		Ok	N
	Pressure setting		Visual	Factory setting		OK	N

	Hydraulic lines		Visual	No faults	No Objection	Ok	N
	Manual operation (switching functio			operation from control valve	No Objection	Ok	N
	Concrete-placing boom control block		Visual	All levers returning in a neutral position, no leaks	No objection	OK	N
	Hydraulic pumps		Visual	No leaks	No objection	Ok	N
1600	**Electrical system**					OK	N
	Remote control (switching		Visual	to be functional	No objection	Ok	N
	Emergency-stops function		Visual, check	Cut off the boom and pump movement	No objection	Ok	N
	Electrical selector switch for concrete-placing boom function		Visual, check	Switch functional	In function	OK	N
	Electrical control switch for concre placing boom movements		Visual	Switch functional	In function	Ok	N
	Electrical cable harnesses		Visual	cable to be harnessed	No objection	OK	N
1700	**Warning and safety signs**						
	Warning signs		Visual	On place	installed	OK	N
	Information signs		Visual	On place	installed	OK	N
	Operational information signs		Visual	On place	installed	OK	N
	Operating instructions signs		Visual	On place	installed	OK	N
	Use as crane prohibited signs		Visual	On place	installed	OK	N
	High-voltage warning signs		Visual	On place	installed	OK	N
2000	**Machine documents**			On place		OK	N
	Instruction handbook		Visual	On place	OK	OK	N
	Spare-parts list		Visual	On place			N
2200	**Gear unit**		Visual	Hydraulic motor installed	No objection	OK	N
2300	**Hydraulic pumps**		Visual	No oil leak, firmly attached	No objection	OK	N
2400	**Oil tank**		Visual	No oil leak	No objection	Ok	N
2800	**Oil cooler**		Visual	No faults	No objection	OK	N
Remarks							
3100	**Hydraulic motor**		Visual	water pump	No objection	OK	N
3200	**Hydraulic line**		Visual	No leak, no damage	No objection	OK	N
3400	**Switch cabinet**		Visual	Protected, no oil leak	No objection	OK	N
3700	**S-transfer tube**		Visual	shaft lubricated no excessive gap on the wear plate	No objection	OK	N
3800	**Concrete hopper**						
	Concrete paddles		Visual	150mm from the hopper grate	Not designed		N
Remarks							
4200	**Water tank**		Visual	No leak, firmly attached, structurally safe	No objection	OK	N
4400	**Flushing water pump**		Visual	Firmly attached, no oil or water leaks	No objection	OK	N
4600	**Other protective devices**						
	Steps		Visual	No faults	No objection	OK	N
	Non-slip surface of steps		Visual	Non- slip surface		OK	N
	Safety rail		Visual	Safe walking on the deck	No objection	OK	N
	Hinged grill-type guard on hopper (incorporates a safety device)		Visual	safe fixed when is opened	To be fixed		N

	Distance between grill bars		Visual	Max 50 mm	Visual	OK	N
	Distance between grill and crushing point		Visual	Min 150 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	Remix not designed		
	Transfer tube stopped on opening of movable grill-type guard		Visual	Transfer tube stopped on opening of movable grill- type guard	Installed, to be fixed		N
	Safeguard to prevent movable grill-type guard from falling		Visual	Safeguard to prevent movable grill-type guard from falling	No hopper lid		
	Valve-switching cylinder covered		Visual	Change over cylinder covered	Incorporated in design	OK	N
	All parts with burning/ scalding hazard covered, e.g. exhaust		Visual	Protection from burning and hot surfaces	No objection	Ok	N
4700	**Electrical equipment**						
	Functioning of control elements		Visual	Control elements to be functional	All works	Ok	N
	Temperature sensor		Visual	Oil temperature sensor	Installed	Ok	N

Notes
No Notes