Cleaning asbestos containing materials



Caution: Using water blasters on asbestos containing materials, including asbestos cement roofs, is illegal.

Asbestos containing materials (such as fibrous cement or 'Super Six') must not be cleaned using a water blaster.

Cleaning asbestos containing materials, including a 'fibro' roof, with a high pressure water blaster is illegal as it can destroy the surface, cause cement debris and asbestos to spray into the air, and result in widespread contamination.

It is very difficult to contain asbestos fibres released during the process and very expensive to clean up. It puts you and your neighbours' health at risk.

Homeowners can be fined up to \$10 000 for water blasting asbestos containing materials, as well as any additional costs associated with clean-up. Businesses may face heavier fines.

Well maintained asbestos cement roofs are not a risk to human health unless they are physically disturbed or being worked on. They can be left alone until they are no longer water tight.

Commercial fungicides and sealants have been developed that can be applied to fibro roofs, avoiding the need to clean them.

Instead of cleaning an asbestos cement roof or other asbestos containing material, apply a fungicide or sealant or consider replacing it.

You can find out more about sealants and fungicides from your local roof restoration company, paint supplier or hardware store.

For more information about asbestos visit **www.worksafe.qld.gov.au** or call the Workplace Health and Safety Infoline on **1300 369 915**.

Queensland Health also provides further information on identifying asbestos, the health risks of asbestos, what it looks like and more information on handling asbestos safely. Call 1300 QH INFO (1300 744 636) or visit www.health.qld.gov.au/asbestos.





OPERATORS MANUAL

RENTAL SPECIFICATION BUILT DIESEL Driven, Cold Water High Pressure Cleaner 3625 PSI (250 BAR), 15 LPM

INDEX:

- 1. Spec Sheet
- 2. Installation & Set-Up
 - 2.1 Initial Set-Up
 - 2.2 Operating Instructions
 - 2.3 Regular Checks
- 3. Trouble Shooting Guide
- 4. Maintenance
 - 4.1 Maintenance Schedule
 - 4.2 How to cause expensive damage to your unit
 - 4.3 Remote Area Consumables Kit
- 5. Safety WARNINGS
 - 5.1 Water Blasters General
 - 5.2 For Electric Units in General
 - 5.3 Specific for this unit
 - 5.4 MEDIC ALERT CARD
- 6. Warranties
- 7. Terms & Conditions

Additional Info as manuals/drawings:

- Pump
- By-Pass Valve

HAWK NPM1525 Pressure Pump





D10M-36C'Trailer' PRESSURE CLEANER (Was B3223-T)

Diesel Driven - 10HP - MINE SPECIFICATION - 3625 PSI MPP - Cold Water



TRHC PTY LTD - Heavy Duty Water Blasters - Washmates - Transit Cleaners



D10M-36C 'Trailer'

A high performance water blaster built to the demanding 'Mine Spec' - with a large water tank so you can take the cleaner to the dirt - ready for any challenging task!

	5800 PSI 3625 PSI	Powered By:	10.3 HP Electric Sta Diesel Engine	rt Kohler
Standard **De-Rated Pump Pressure: (The real operating Pressure)	Your choice - runs at fairly hig	gh revs at 3600 PSI and not	Flow/minute:	15 LPM
Size: 3	3600 x 1850 x 1800	Weight:	~600 kg	

MAIN CHASSIS

PUMP / BY-PASS VALVE

- Heavy Duty Off-Road style Trailer:
- Fully hot dipped galvanized
- Heavy Duty 2.5 ton axle with integrated mechanical brakes in tow-bar hitch
- Heavy Duty Jockey Wheel
- Brand new 15" LandCruiser style tyres & mounted spare wheel
- Carries 1000 litre IBC water tank/pod bolted onto frame (easily removed or replaced)
- Optional round poly tank (~\$1,300 extra)
- Heavy Duty all steel hot dip galvanized mounted hose reel, **30mhose** (50m optional)
- Engine bay vibration mounted on sub-frame Engine/pump/batt)
- Engine oil/fuel drip tray
- Aluminium stone guard

- · Battery in battery box vibration mounted on sub-frame
- Double insulated leads
- Lockable double pole battery isolator switch

INCLUDED MINE SPEC FEATURES

- · Lockable battery isolator switch
- Emergency stop
- Exhaust spark arrestor
- · Engine oil/fuel drip tray
- Battery Box

OPTIONAL MINE SPEC FEATURES:

- Ignition Isolator Switch
- Jump-start receptacle
- · Wheel nut indicators
- · All round high visibility tape
- · Mounted fire extinguisher
- Wheel chocks (heavy duty rubber)
- · Load restrict painted draw-bar

• Reliable KOHLER 10.3 HP Diesel

ENGINE

- Air-cooled / single cylinder engine
- Control Box with fault indicator lights and push-button start
- Emergency Stop
- Exhaust Spark Arrestor
- Hour meter on engine included to record run-time & schedule service
- User-friendly controls

TANK & WATER SUPPLY

- 1,000 litre white IBC Not opaque to limit algae growth.
- Two in-line water filters with a double pump intake to prevent cavitation - filter with stainless steel mesh
- · Low water level float switch in water-pod - Auto Engine Shut-Down preventing pump cavitation and running dry. Stops expensive pump damage.

- New generation Hawk pump. World's best pump now with 20% more life than before! Model NPM1525 pump (3625 psi, 15 LPM max pump pressure) **de-rated to 3200PSI @ 15 LPM
- Ceramic sleeved 316 stainless steel piston plungers & brass pump head.

BY-PAS VALVE

- K7-2 max. 3600 PSI By-Pass valve - stores zero pressure between by-pass valve & gun when idle - so no accidental trigger injuries.
- Safest by-pass valve available!
- Fully reconditionable BPV
- Soft acting low to high PSI no kick-back.
- · Limits pressure spikes so seals last longer

HP DELIVERY

• 30 meters R2 thick wall high

- pressure hose on our very tough, galvanized hose reel:
- Hose rated to 4785PSI
- 4x operation burst pressure
- S/steel hose fittings
- · Top-Quality Italian-made dry gun
- 900mm s/steel insulated lance with moulded hand grip
- · S/steel HP 15 degree fan jet
- Extra Heavy Duty stainless steel pressure gauge (Liquid filled)

This trailer is also available in:

- Hot Water Trailer with Diesel Boiler

NOTE

. . . .

Twin-Axle trailer with 2000



**Derating (or de-rating or de-tuning) is the operation of a machine at less than its rated maximum power in order to prolong its life. The term is commonly applied to electrical and electronic devices and to internal combustion engines.

ANALYSIS - DESIGN - CONSTRUCTION - ACCESSORIES

DISCLAIMER: Although care has been taken to ensure the accuracy, completeness and reliability of the information provided, ThoroughClean assumes no responsibility therefore. The user of the information agrees that the information is subject to change without notice.



2. INSTALLATION & SET UP

2.1 INITIAL SET-UP

Inspect shipment for damages during transit. Report any damages to your transport company by writing details on delivery docket before signing.

Please read Safety Instructions and special Site Specific Instructions first.

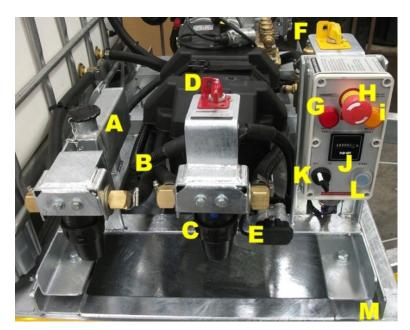
- Fill the water tank with water to above the float level as required.
- Last Checks:
 - Check oil levels in H.P. Pump & Slave Tank. Fill up with SAE 30 or SAE 15W40 if required.
 - Check Gearbox Oil top up with SAE80/90 Gearbox oil
 - o Check fuel level fill up if required using CLEAN & FRESH DIESEL FUEL
 - Check engine air cleaner is in place, tight and unblocked
 - Ensure the tank has enough water to keep going for a while and that there are no obvious water leaks
 - Visually check lance & gun assembly for damage
 - o Check that the water filters are in place and clean check regularly

2.2 OPERATOR INSTRUCTIONS - Starting your KOHLER diesel engine

- 1. Unroll high pressure hose on reel ensure there are no kinks in it.
- 2. Check that the battery isolator switch is in the closed position ('D' below in photo) and the emergency stop is not engaged ('H' below) and the Engine/Ignition Isoloator Switch (if fitted) (F) is in the closed position.
- 3. **Starting** Procedure: Turn the start switch 'K' clockwise to 'ON'. Press the Start button L. Engine should crank over and start. Do not crank excessively more than 10 seconds at a time.

Fault Indicator Lights:

- The red fault indicator light 'G' is an engine fault indicator light. Check fuel, engine isolator switch (if fitted).
- The orange fault light 'i' is a water fault indicator light.
 Check water level in tank or float switch.





The engine is now running, the pump is pumping and high pressure water is circulating in by-pass mode.

Pointing the lance in a safe direction, press trigger and start blasting away.

Note: The REVS (see yellow arrows below) will be set to optimal pressure and flow at comfortable revs for the engine - so don't change this as it will void your warranty.



When stopping the engine:

- 1. Turn the start switch anti-clockwise to OFF position.
- 2. Squeeze gun several times to release any stored pressure.
- 3. Lay out high pressure hose straight and reel back up onto reel avoiding kinks in line. Put the gun-Lance assembly into the gun holster.
- 4. Lock the reel into place with the spring-loaded barrel bolt.

NOTE: During the first 10 to 12 hours of operation, manufacturing debris like SWARF / LOCTITE may come through the machine and cause blockages of the H.P. Jet. **Remove the jet and unblock if this occurs.**

IMPORTANT WARNING INSTRUCTIONS:

- EXCESSIVE CRANKING OVER OF ENGINE MAY CAUSE SEVERE BATTERY / WIRING / START MOTOR / COMPONENT DAMAGES. WHEN CRANKING ENGINE, CRANK MAX 10 to 20 seconds, then WAIT for 2 minutes ALLOWING STARTER MOTOR TO COOL DOWN
- **NEVER** CRANK ENGINE IN AN ATTEMPT TO PULL THROUGH FUEL TO REPRIME INJECTOR PUMP.

OPERATING/CLEANING TIPS:

- 1. Using a 15 degree fan Jet, first blast off heavy soil or dirt build-up
- For greasy or oily surfaces, apply detergent to partially cleaned surface. (Apply detergent by spraying from bottom up to avoid streaking - using a dual-lance and detergent assembly or foaming lance or separate pressure sprayer.)
 - Allow to soak for a few minutes.
- 3. Blast off dirt using high pressure and a 'bottom up' approach.
- 4. Lastly, rinse off thoroughly with 'top down' approach.



2.3 REGULAR CHECKS:

- Water Supply Low water supply can cause cavitation and/or pump running dry casing expensive pump failure. Always check to ensure supply is:
 - Uninterrupted (This unit has an automatic low-level shut-down to prevent damage to the pump.)
 - There are no kinks in supply hose
 - Fittings are in good condition and not leaking
- Worn Jets System will function okay, but with oversized, warn jets, the
 pressure will be much lower and cleaning ability reduced. Always use #1506
 to check system
- Operating Pressure Check operating pressure to see if it within 10% of units de-rated operating pressure of 180 BAR (or pressure as specified). If the pressure dropped over time, it may indicate general wear and tear and a service is recommended.
- **By-Pass valve function test** Check that there is no water hammering/surging whilst in by-pass and that the pressure gauge registers zero pressure when in by-pass. Test several times.
- Air Leaks Especially in suction to pump hoses. Repair immediately if found. Check for cuts & abrasions
- Lance & Gun assemblies Check for damage and leaks
- Water Filters Check to ensure filters are clean, filter heads/tops are not cracked, seals are not worn and sealed air tight and mesh tube is unblocked.
 Note: Correct way to replace water filter mesh is to insert it into the fitted black top on the unit first, and then screw the grey filter cover back on. This will prevent accidental squashing of the filter and cracking.
- Air Filters Check that air filter is in place, tightly connected, unblocked and clean.
- Engine Speed Check unit if engine speed is too low
- **SAFETY** Ensure safety protective gear is used and in good state of repair. Ensure Safety Card is handy.
- Tyre Pressure Check and inflate if applicable
- Automatic dumping of hot water when water temp rises above 63 deg C while in by-pass.
- Worn By-Pass Valve By-Pass valves should NOT leave high pressure stored in hose down-stream between by-pass valve and pistol. Check PSI gauge. Should show zero PSI when gun trigger is released.
- Water Leaks Excessive hammering can cause damage. Fix leaks when they occur
- Water Condition Ensure water source is clean (potable water). Not recycled water or bore hole water which can damage pumps.



3. TROUBLE SHOOTING GUIDE

PROBLEM	POSSIBLE CAUSE	REMEDY	COMMENT
# MACHINE WILL NOT START	Check:		
	1. Water Supply	1. Fill IBC more	
	2. Pump Oil Level 3. Fuel level	2. Fill with SAE30 /SAE15W40 3. Top up fuel with clean diesel	
	Fuel level Control lever is set to STOP	4. Set to RUN	
	5. Battery not charged/weak	5. Charge battery /Replace	
	6. Battery Isol. Switch is OFF	6. Switch to ON	
	7. Emergency Stop (On/off?)	7. Turn clockwise to de-activate	
# MACHINE RUNNING OKAY,	#Sucking air	Check Suction for Air Leaks	
BUT NOT REACHING SPECIFIED PRESSURE			
	#Valves Sticking	Remove – Clean – Replace	Check Water Quality
	#Seat in Unloader Valve Worn/ By-Passing Water	Remove – Fit BPV Service Kit Or Exchange Valve	,
	#HP Jet Wrong Size – Worn Out	Check – Replace	- Pump Seal/Piston Valve - Service Required?
	#Worn Piston H.P. Seals	Check – Replace	Check Pistons for Cracks
	# Insufficient Water Supply	Check Available Water Supply & Filters in Suction Line	
# FLUCTUATING PRESSURE	#Valves Worn/Sticking	Remove – Clean – Replace	
	#Block ages/Debris in By-Pass Valve	Remove – Clean – Replace	Therefore Check Suction Filters
	#Pump Sucking Air	Seal Suction	
	#Worn Piston HP Seals	Remove – Clean – Replace	Service Required
# PSI LOW AFTER PERIOD OF USE	#Fair Wear / Tear?	Check – Replace HP Jet	Check Recent Activity/Usage
	#Suction/Delivery HP Outlet Valves Worn	Check – Replace	Therefore Check suction Filters
	#Unloader Valve Worn	Replace as required	
	#Piston Seals Worn	Replace as required	Check Big Ends for Piston Slap
	#Piston Cracked	Replace as required	Check Big Ends for Piston Slap
	#"O" Rings Failed/Leaking	Replace as required	
	#"Big End" Worn	Replace as required	
	#Drive Belts Loose	Check / Tighten	
# PUMP "NOISY"	#Air in Suction / Pump Cavitating	Identify Air Ingress/Seal	
	#Broken or Weak Suction Valve Spring	Check – Replace – As Set	
	#Valves Clogged/Sticking	Check – Replace – As Set	
	#Worn Main Crankshaft Bearings		#Probably Uneconomical to Repair
	#Inlet Water Temp over 75 deg Celsius	Reduce inlet Water Temp	Enclosed By-Pass for excessively long periods?



...Continued

PROBLEM	POSSIBLE CAUSE	REMEDY	COMMENT
# OIL IN PUMP EMULSIFIED/ CONTAMINATED BY WATER	#Piston to Crankcase Oil Seals Worn	Check and Replace	Look for Oil under Pump – Low Pump Oil
	#High Ambient Humidity	Check – Change Oil Twice as Often	
	#Piston Seals Worn/Cracked Piston	Check – Replace	Therefore Check for "Big End" Wear
	#Water Blasted into Pump via Breather Cap during Cleaning	Exercise Care	
PROBLEM	POSSIBLE CAUSE	REMEDY	COMMENT
# WATER DRIPPING FROM UNDER PUMP	#H.P. Piston Seals Worn or	Check and Replace	
	#"O" Rings in Plunger Retaining Bolt Wom	Check and Replace	
# OIL DRIPPING FROM UNDER PUMP	#Piston to Crankcase Oil Seals Worn	Check and Replace	Check Pump for Low Oil therefore "Big End" Damage
# EXCESSIVE VIBRATION/ PULSATIONS IN HP DELIVERY LINE	#Accumulator Failed	Check – Replace	
	#In/Out Pump Valves Worn	Check – Replace	
	#Pistons Cracked	Check – Replace	
	#Low Water Supply	Increase supply	
	#Gudgeon Pin in Conrod Stretched	Check – Replace	
# WATER FILTER MESH IS CRUSHED WHEN REPLACED	# Incorrect replacement procedure	First insert mesh tube tightly into black head of filter assembly and then screw on grey cover tightly.	

REMEMBER TO CHEACK WATER FILTERS REGULARLY AND CLEAN UNDER RUNNING WATER







4. MAINTENANCE 4.1 MAINTENANCE SCHEDULE

		INTERVALS						
#	ACTION REQUIRED	DAILY	50 HOURS	250 HOURS	500 HOURS	ANNUAL		
1	Replace H.P. Jet Nozzle - as indicated or more frequently if pressure drops.		YES	YES	YES	YES		
2	Check Water Filters - Clean or replace	YES	YES	YES	YES	YES		
3	Check Air Filter - Replace if required			YES	YES	YES		
4	Inspect for wear and leaks and repair or replace all HP components like gun, hose, swivel, nozzle, by-pass valve, fittings, etc	YES	YES	YES	YES	YES		
5	Check High Pressure Switch / Flow Switch - Replace as required if faulty			YES	YES	YES		
6	Strip & Refurbish Hawk Pump: - Replace Plunger Rod Oil Seals (3/pump) - Replace Brass Valves (6/pump) - Replace various seals (3/pump) - Replace Ceramic Piston Plungers if cracked or worn (3/pump)					When Required		
7	Check Oil Level in Pump/Slave tank	YES	YES	YES	YES	YES		
8	Change Pump Oil - SAE 15/40 or SAE 30		YES	YES	YES	YES		
9	Check By-Pass valve function test - re-kit or replace if required			YES	YES	YES		
10	Function test low water level engine shut- down, E-stop, Battery Isolator switch.			YES	YES	YES		
11	Replace Fuel Filter			YES	YES	YES		
13	Service Transmission - Use 80W90 Gear Box Oil			YES	YES	YES		
14	Check Engine-pump sub-frame vibration mounts			YES	YES	YES		
15	Have an Authorised Electrician fully function test all Safety and Low-Level Shutdowns, Isolators, Switches - and if required repair or replace where neccesary.			YES	YES	YES		
16	Re-righten all nuts and bolts on spring suspension & tow-bar hitch. Check tension and fuction test tow-bar hitch.			YES		YES		

USE THE FOLLOWING GUIDE WHEN CONSIDERING MAINTENANCE:

- ♦ Always test units using a new H.P. jet correctly sized.
- Before you start pulling pumps apart, do obvious checks first:
 - Worn Jets
 - o Air Leaks
 - Engine Speed (Not too low)
 - o Power Supply (Not too low when using long leads on 240 Volt units)
 - Suction Filters (Blocked?)
 - Water supply volume (Not too low)

IMPORTANT MAINTENANCE TIPS: As a guide in normal use, consider the following:

- After replacing 10 H.P. Stainless Steel jets, it is time to replace the seals on the pump using a Seal Kit.
- At the same time, also replace the seals on the By-Pass Valve using a By-Pass kit
- Do a whole pump changeover at 1,000 hours. (Con Rods, Big Ends & Crankshaft)
- Pistols, swivels & H.P Hose damage is usually uneconomical to repair. Replace when necessary.
- By-Pass Valves will take 3-5 rebuilds before body wear becomes too much and replacement is needed.



4.2 How to cause expensive damage to your Water Blaster!

WHAT WAS DONE WRONG:	WHAT WAS THE RESULT OF THIS ACTION:
Over adjust by-pass valve to try and increase PSI	Dump pressure was too high. Hydraulic hammer to system every time trigger is closed. PSI was increased 5-fold normal working pressure.
IBC filled up with muddy water from a dam	Supply filter completely blocked. Motor was allowed to cavitate with damage to everything! - Pistol, HP hose, pump valves, pistons - Crankshaft bearing failure - Pressure gauge failure - By-pass valve excessive wear & tear - Brass heads deformed
In-Line filter was removed because "It kept blocking up!"	Excessive wear & tear on pistons / valves / seals / HP jets. Excessive blocking of filters caused by bore or recycled water with high salt / mineral content. Pump clogged up with debris. Remember: Spec requirement says: "Potable water"
Over-revved engine for more PSI	Engine & Pump premature wear & tear. (Most increased PSI pressure is lost through by-pass valve and only small increase in pressure is achieved doing this!) Lost of waster horse power!
COMMON MISTAKE : Put a smaller HP Jet onto lance for higher pressure.	When orifice is reduced, the PSI will rise and then by- pass valve will dump (thinking the pistol is shut). Most extra PSI will be dumped and only a slight increase in PSI will be achieved. Engine, By-pass valve & Pump premature wear & tear.
Using Contaminated Fuel ("Had to remove fuel filter to keep engine running!")	Excess Fuel-system clean-outs required. If excessive corrosion in carburetor or injectors is detected after the 2^{nd} or 3^{rd} in-line fuel filter replacement, then this should ring alarm bells.
Park machine where debris blows all over it. Reverse bulldozer over it.	Our machines are rugged and strong – but not battle tanks!
Hire units long-terms and fluid levels are not checked.	Con-rod through the crank case!
Modify 240 Volt electric unit to override thermal overload on motor.	Stop-Start capacitors melted.
Used 100m extension lead and a 5 Kva Gen-Set.	A 10% low current is equivalent to a 50% over-load. Our 3 hP 240 Volt motors require 8 Kva Gen-Set minimum!
Run trucks, fork-lifts, tracked excavation equipment over hoses and lance assemblies/pressure guns.	Needs replacing of damaged parts
Hire rental machines are pilfered of parts and returned claiming it didn't work and demands credit!	It happened!
Did not depress the pressure override lever on the engine when started.	Expensive Starter Damage



4.3 Remote area consumables kit.

This is a suggested list of parts & consumable items when unit is used where access to service and parts is limited - in order to limit down time and ensure unit is serviced regularly according to maintenance schedule. Service can be performed by a mechanic.

This is an extensive list which can be cut back on depending on circumstances.

This list must be revised to ensure no changes were made to the unit since publishing.

QTY	DESCRIPTION	PART NO.	TRHC Number	SUITS
2	HP JETS	1/4 MEG 1506	TRHC2359	OPERATOR ACCESSORIES
2	SS LANCE 900mm	MV0202002560	TRHC0374	OPERATOR ACCESSORIES
2	ON/OFF HP	MV920	TRHC2729	OPERATOR ACCESSORIES
	DD ACC CTDAIGHT CVA/IV/ELC		TRHC0382	LLOCE/CLINI
l	BRASS STRAIGHT SWIVELS		TRHC0382	HOSE/GUN
1	NY126 (FILTER MESH) WATER BLUE	CP15941-4-SSPP	TRHC2396	WATER FILTER
-				
1	FLOAT RECOND, KIT	PA29.0282.84	TRHC0457	SEAT
		PA29.0285.81	TRHC0458	SEAL
		PA29.0288.20	TRHC0459	PIN
1	FLOAT ASSEMBLY COMBUSTS 4 OF	D 4 2 0 0 2 0 0 0	TDUC0455	DDE AV TANIK
	FLOAT ASSEMBLY - COMPLETE 1.2"	PA29028000	TRHC0455	BREAK TANK
1	1/2" THERMOSHIELD	MV0215008220	TRCH2810	PUMP/BREAK TANK
		10000220	11110112010	CIVII / BIXE/ VIX 1/ VIVIX
1	FLOAT SENSOR	ECE FT FHC 35 GDD	TRHC1294	FUEL & OIL TANK
1	FLOAT SENSOR	ECE FT FHC 25 GDD	TRHC1292	WATER BOX
	MET OF AL (Or mal De altinu) KIT	0000.04	TD1100400	DUMD HOSSO HANAIK
2	WET SEAL (Seral Packing) KIT	2608.01	TRHC0429	PUMP HC556 HAWK
3	SEAL KIT COMPLETE	2608	TRHC0428	PUMP HC556 HAWK
	CETTE THE TEST	2000	111100120	T GIVII TIGGGGTIN WITK
6	VALVE KIT (BRASS)	2600.08	TRHC0424	PUMP HC556 HAWK
3	OIL SEAL KIT	0001.03	TRHC0004	PUMP HC556 HAWK
1	DDV/ COMPLETE	K7-2	TRHC1466	DUMD LICESC LLAVAIZ
	BPV COMPLETE	N1-Z	1 KHC 1400	PUMP HC556 HAWK
1	PSI SWITCH 40 BAR 3 WIRE	PA290000.00	TRHC2791	
1	PSI GAUGE	RBA1614580	TRHC0343	
1	90 deg CHROMED BRASS SWIVEL		TRHC0006	REEL
4	FUEL FUEED	CAV/200 F020D400	TDUCOCOO	Fuel Tank Engine
1	FUEL FILTER	CAV 296 5836B100	TRHC0608	Fuel Tank - Engine
1	DONALDSON AIR FILTER	P121240	TRHC1563	AIR FILTER
	DOING LEGOCITY WITH THE LEG	1 12 12 10	111101000	/ W. V. 121 L. V.



5. SAFETY PRECAUTIONS & WARNINGS 5.1 SAFETY PRECAUTIONS FOR WATER BLASTERS - GENERAL



PRESSURE CLEANERS IN GENERAL

- 1. Always turn off water at source / turn off machine and open lance to release any inline / stored pressure - before disconnecting hoses or working on machine.
- 2. Never aim high pressure water jet at anyone, at animals or at fragile items injury or damage could result.
- 3. Never allow untrained adults or minors use of the equipment.
- 4. Never use the machine if there are any leaks on the high pressure delivery side of the pump.
- 5. Read and observe the manufacturer's instructions if chemicals are being used.
- 6. The "recoil" on larger machines is positive lean forwards and brace yourself to take it up!!!



- 7. **NEVER HIGH PRESSURE BLAST:** any electrical components, motors / switchgear or electrical boxes as injury or death may result.
- 8. Never water blast any fuel caps or oil caps and water can get into breather holes and contaminate fuel or water. Never blast water directly into seals / bearings on shafts where water penetration would be detrimental.



- 9. **NEVER WATER BLAST:** fragile items / surfaces that may be damaged by high velocity water. Always carefully test on a small area.
- 10. ALWAYS WEAR PROTECTIVE GEAR* (PPE)
 - i.e. Hat / face eye protection, wet weather gear, boots and gloves

*particularly important if hot water / sandblaster or aggressive chemicals are being used.

- 11. Check pump / gearbox / engine oil levels before you start daily !!
- 12. Keep hands, feet and hair away from all moving parts.
- 13. Never leave machine running unattended.



- 14. **EXTREME DANGER** never adjust engine speed r.p.m. or safety by-pass valve in an attempt to increase pressure.
- 15. Barricade off immediate work area restrict access erect hazard warning signs.
- 16. Never use high pressure water cleaner without protective sheaths on operator end of h.p. Hose as a high pressure leak can injure operator.
- 17. In commercial / industrial sites class 'b' units (pressures over 7,000 PSI) should have additional operators allocated as safety observer / machine minder subject to work conditions / environment. This is a responsibility of the 'site occupier' to determine.
- 18. If two / three operators are working they should be physically separated by partitions / barriers.
- 19. Prior to high pressure water blasting, check location's level of emergency /first aid.



5.2 SPECIFIC SAFETY PRECAUTIONS FOR THIS UNIT



- 1. Take care around the muffler when running Muffer is VERY HOT.
- 2. Use only Clean / Fresh POTABLE Water NOT Mine recycled water.
- 3. Always be conscious of High Temp / High Velocity Water from this machine:



EXTREME DANGER TO OPERATORS AND BYSTANDERS!

- 4. Run up and test all safety shutdowns regularly i.e. Monthly.
- 5. Never refuel when engine is hot. Allow to cool down first.
- 6. NEVER attempt to modify levels of performance by :
 - ☐ Adjusting By-Pass Valve to increase P.S.I.
 - ☐ Use Under-sized H.P. Nozzles.
- 7. **EXTREME DANGER!** Use Specified and approved Personal Protection Equipment (PPE) for High Pressure Cleaners. This is a High Performance High Pressure Cleaner.

At a Minimum wear:

- Overalls /boots /thick heavy gloves /full face protection.
- Additional equipment as instructed by site personnel or AS

ALWAYS CARRY MEDICAL ALERT / WARNING CARDS PROVIDED.





5.3 SAFETY PRECAUTIONS FOR DIESEL WATER BLASTERS (Using

Diesel for driving the engine or for heating the boiler in hot water units)





- 1. FUEL IS EXPLOSIVE never refuel a hot engine. Allow to cool down.
- 2. Store fuel in approved containers in a well ventilated place away from your work area.
- 3. Never run or operate in a confined space exhaust fumes are toxic. Make sure there is plenty of free air flow around the engine to cool it and void exhaust gases adequately.
- 4. Engines (particularly mufflers) get hot!! Be careful what you touch!!

CHECK ENGINE / GEARBOX / PUMP OIL LEVELS DAILY - BEFORE YOU START !!



5.4 IMPORTANT MEDICAL INFORMATION - MEDIC ALERT WARNING CARD

IMPORTANT MEDICAL INFORMATION

READ THIS INFORMATION AND KEEP IT IN A SAFE PLACE.

IN THE EVENT OF A WATERJET INJURY SHOW THIS TO YOUR DOCTOR.

This patient may be suffering from a water-jet injury. Evaluation and management should parallel that of a gunshot injury. The external manifestations of the injury cannot be used to predict the extent of internal damage. Initial management should include stabilization and a thorough neurovascular examination. X-rays can be used to assess subcutaneous air and foreign bodies distant from the site of injury. Injuries to the extremities can involve extensive nerve, muscle, vessel damage, as well as cause a distal compartment syndrome. Injuries to the torso can involve internal organ damage. Surgical consultation should be obtained.

Aggressive irrigation and debridement is recommended. Surgical decompression and exploration may also be necessary. Angiographic studies are recommended preoperatively if arterial injury is suspected. Bandages with a hygroscopic solution (MgSO4) and hyperbaric oxygen treatment have been used as adjunctive therapy to decrease pain, edema and subcutaneous emphysema. Unusual infections with uncommon organisms in immunocompromised patients have been seen; the source of the water is important in deciding on initial, empiric antibiotic treatment and broadspectrum intravenous antibiotics should be administered. Cultures should be obtained.







WARNING!!!

An injury caused by high pressure waterjets can be serious.

In the event of any waterjet injury:

- Seek medical attention immediately. Do not delay!
- Inform the doctor of the cause of the injury.
- Show the doctor this INFORMATION.
- Tell the physician what type of waterjet project was being performed at the time of the accident and the source of the water.



6. WARRANTIES

THOROUGHCLEAN LIMITED WARRANTY

In order to take advantage of the ThoroughClean limited warranty, you must have maintenance performed according to the schedule (contained in the relevant owners manual supplied with this product), by an authorised ThoroughClean dealer or ThoroughClean service technician.

You are free to have your ThoroughClean product serviced by any suitably qualified mechanic or electrical (depending on the requirement mechanical or electrical) and this will not affect your statutory warranties, however, failure by the owner to have the recommended servicing carried out by an authorised ThoroughClean dealer means that you cannot take advantage of the ThoroughClean limited warranty.

In order to ensure your safety, we strongly recommend that you only use an authorised ThoroughClean dealer for servicing. Only authorised ThoroughClean Dealers have access to all of the special tools, technical information, parts and training required to maintain your ThoroughClean product in peak operating condition.

ThoroughClean warrants each new ThoroughClean Pressure Cleaner to be free from defects in material and workmanship under normal domestic and Industrial use and service for the period specified below, conditional to the limitations and exclusions printed on this page. This warranty applies only to new ThoroughClean pressure cleaners distributed in Australia by us and authorised ThoroughClean dealers.

LIMITED WARRANTY

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if goods fail to be of acceptable quality and the failure does not amount to a major failure.

The benefits to the consumer under this warranty are in addition to other rights and remedies of the consumer under a law in relation to the goods sold under warranty.

Warranty Period/s:

- ✓ 1 year ThoroughClean Manufacturer's Warranty on Build (Defects in material and workmanship)
- ✓ 5 year ThoroughClean Manufacturer's Warranty on Galvanized Frames (Defects against rust & welding cracks)
- ✓ 12 months ThoroughClean Warranty on Pressure Pump (Note: Maintenance is not warranty. Excludes service and consumables required at scheduled maintenance intervals)
- ✓ 2-year Manufacturer's Warranty on Electric Motors
- ✓ 3-year Manufacturer's Warranty on HONDA engines
- √ 3-year or 2000 hours Manufacturer's Warranty on KOHLER engines (whichever comes first)

Responsibility of the Consumer under this Limited Warranty:

- Only clean, potable water should be used through our pressure cleaners with a flow rate at least 15% more than the pump requirements (e.g. an 18 LPM pump requires at minimum a water supply of 21 LPM to prevent pump cavitation)
- Strict adherence to the maintenance daily checks and schedule with proof of scheduled maintenance service required by an authorised agent or qualified mechanic and/or electrician.
- Maintenance Service is not covered under warranty. (Warranty excludes normal maintenance and consumables like oil, nozzles, swivels, filter mesh, HP hose, guns, by-pass valves)
- It is the consumer's responsibility to deliver the machine in question to our service premises or to the premises of our appointed agent at the consumer's expense for replacement or repair as applicable.

Claim Procedure:

- Contact ThoroughClean by phone or e-mail informing us of your pressure cleaner's problem or defect
- Once the extent of the claim has been assessed, we retain the right to compensate the consumer for such defect, or repair (pars & labour), or replace the machine under warranty.
- All warranties will be carried out by ThoroughClean authorised staff or appointed agents at a



- premises to be determined by the Manufacturer.
- It is the responsibility (and cost) of ThoroughClean or our appointed agent to return the machine to be repaired or replaced under warranty to the consumer.
- Where the specific warranty component (e.g. engine) is a Manufacturer's warranty other than ThoroughClean (e.g. HONDA), the consumer can either contact ThoroughClean or the applicable Manufacturer for repairs where such warranty was registered with that Manufacturer at purchase.
- Warranty calls will only be carried out during normal working hours and only by our representatives and not via client's choice of repairer. We will not accept back charges for any work not carried out by our representatives, or accept any charges due to equipment being unoperational for any reason even during its warranty period.

THIS WARRANTY WILL NOT APPLY TO:

- Any part/component that has been subject to misuse, negligence, accidental damage, improper or inadequate maintenance or improper storage.
- Any part that has been subject to misuse, negligence, accidental damage, improper or inadequate maintenance, or improper storage.
- Repair rendered necessary or arising from the use of parts or components other than approved by the manufacturer in writing.
- Normal maintenance, replacements of service and consumable items including but no limited to nozzles, seals, oil, guns, swivels, filters, by-pass valves and HP hose.
- Deterioration of any item due to normal use, fair wear and exposure unless due to a defect in material or workmanship.
- Any work or adjustment performed by persons other than authorized ThoroughClean service staff or authorized dealers or damage resulting there from.
- Any damage that results from operating methods other than those indicated in the owner's manual, or use beyond the limitations or specifications as published in the Specification Sheets of the particular model.

WARRANTY CONTACT INFORMATION:

Tel +61 (0) 7 5467 2025 Fax +61 (07) 5467 2026 sales@thoroughclean.com.au 12 Ashburn Road, Bundamba, Queensland 4304, Australia

Please check Honda Warranty details on www.hondapowerequipment.com.au

SERVICE & PART ORDERING

For service and ordering parts, please call 1300 378 872 or 07 5467 2025

We have very knowledgeable, experienced staff to assist you with help and advice.

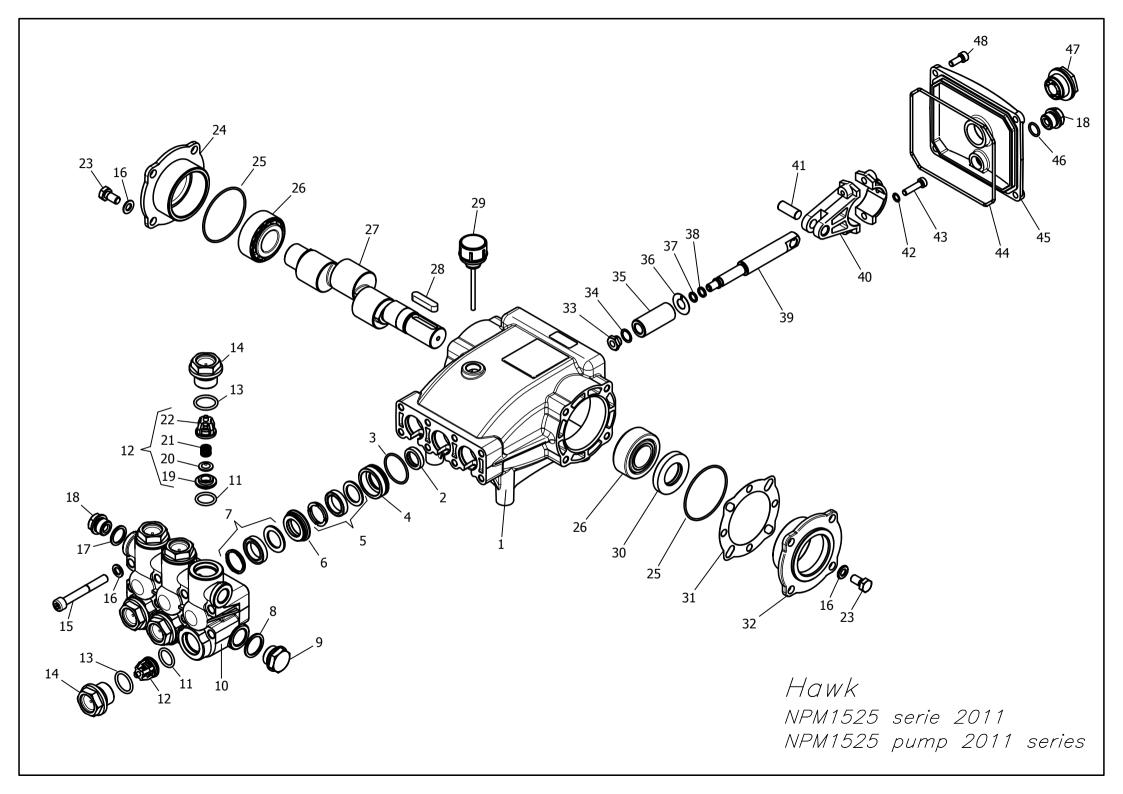


7. TERMS & CONDITIONS OF SALE

- 1. Work for special build machines will not commence unless a 30% deposit has been made and/or official purchase order has been received.
- 2. The final configuration and optional extras are to be agreed to before manufacturing commences. An extra cost for changing a model will apply after manufacturing has started (if this change leads to extra manufacturing cost or more expensive/extra components) and be charged as a variation cost.
- 3. Ownership/title of all equipment remains the property of ThoroughClean until paid for in full. Warranty will only be available after this time.
- 4. Warranty is not service. Any calls placed to service equipment will be chargeable to the client. Earlier replacement of consumable parts than what is required by the maintenance schedule will be at the cost of the client (excluding of course any repairs/replacement of parts required under warranty).
 Please see the LIMITED WARRANTY information elsewhere in this document.
- 5. All Rental Spec and Mine Spec model frames will have a hot dip galvanized finish unless elsewhere agreed to in a proposal offered to the client. Industrial Spec frames will have a painted finish.
- 6. Any additional spares, service kits, nozzle kits, etc are excluded, unless otherwise mentioned in the proposal to the client.
- 7. Any extra installation and fitting expenses and all electrical or plumbing work required during installation will be at the cost of the client. It is the responsibility of the client to provide adequate pressured water supply of potable quality 15% more than the required flow of the pressure pump specification, and suitable power supply outlet for electrical units where applicable.
- 8. No responsibility will be taken for late delivery day due to unforseen circumstances. Please regard building times for special builds and machines out of stock as estimates only.
- 9. Sale of this unit/s is on an FOB Bundamba, QLD basis unless otherwise agreed to in writing in this proposal and it is the responsibility of the client to insure goods in transit.
- 10. Our price quoted is valid for 30 days only unless stated otherwise elsewhere in the quote.
- 11. Where deposits have been paid on special builds, such deposits will in part or in full become non-refundable once building has started. Should a customer decide to cancel an order all labour and a re-stocking and administration fee for components will be charged to the customer and the balance (if any) repaid to the customer. Any special non-restockable components will be invoiced to the customer.
- 12. All prices quoted are excluding GST unless otherwise stated.
- 13. All prices quoted does not include installation (where applicable) or training unless otherwise stated.
- 14. Installation and training service of \$90/h available in Brisbane Metro only. Other sites subject to additional travel cost.
- 15. IN NO EVENT SHALL THOROUGHCLEAN BE LIABLE FOR ANY INJURY, EXPENSES, PROFITS, LOSS OR DAMAGE, DIRECT, INCIDENTAL, OR CONSEQUENTIAL, OR ANY OTHER PECUNIARY LOSS ARISING OUT OF THE USE OR INABILITY TO USE ANY PRODUCT DESCRIBED IN THIS DOCUMENT.



DISCLAIMER: Although care has been taken to ensure the accuracy, completeness and reliability of the information provided, technical features may vary due to ongoing improvements and development. The user of the information agrees that the information is subject to change without notice.



Caratteristiche Tecniche

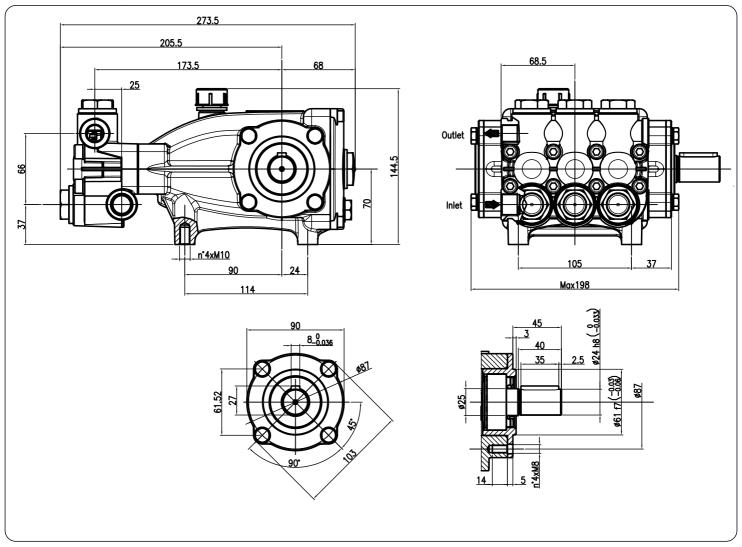
NPM1525 Serie 2011 Series

Technical Characteristics

Pump Pompe Pumpen Pompa	Pressi Pressi Druck Pressi	on	Volume Débit Leistung Portata		RPM tours/min u.p.m. giri/min	Required HP Puissance HP Leistung HP Potenza HP	Inlet port Entrée Eingang Aspirazione	Outlet Sortie Ausgang Mandata	Weight Kg Poids Kg Gewicht Kg Peso Kg
	bar	PSI	I/min	GPM					
NPM1525	250	3625	15		1450	9.6	G 1/2	G 3/8	9.5
NPM 1323	250 3625	0020	4.7	4.7	1740	11.5	0 1/2		. 9.5

Dimensioni d'ingombro

Overall dimensions



Lubrificazione: Olio SAE 20/40W

Capacità 0.7 litri

Lubrication: SAE 20/40W Oil Capacity 0.7 liters

				Т
			Q.ty	NPM1525R/I
Item	Part Number	Description	by	152
			Pump	P
1	0202.95	Crankcase	1	Z
*2	0001.03	Plunger oil seal	3	1
*3	0601.07	"O" Ring Ø1.78x31.47	3	1
*4	1201.38	Pressure ring 18mm	3	
*5	0002.51	Low pressure "U" seal, dia.18mm	3	
*6	0300.16	Intermed. ring 18mm	3	1
*7	0002.64	High pressure "U" seal, dia.18mm	3	
*8	0603.07	Copper washer G1/2	1	
*9	1601.20	Brass plug G1/2	1	1
*10		Manifold housing	1	1
*11	0601.19	"O" Ring Ø2.62x17.13	6	
*12	3604.70	Valve assembly	6	
*13	0601.65	"O" Ring Ø2.62x20.29	6]
*14	1601.30	Valve plug	6]
15	1801.03	Manifold stud bolt M8x65 Dacromet	8]
16	1400.01	Washer Ø8,5	16	1
*17	0603.06	Copper washer G3/8	1	
*18	1601.17	Brass plug G3/8	2	4
19	1503.18	Valve seat	6	4
20	1202.00	Valve plate	6	
21	0900.30	Valve spring	6	
22	0604.05	Valve cage	6	
23	1802.03	Hexagonal screw M8x18	8	
24	0500.61	Closed bearing housing	1	
25	0601.63	"O" Ring Ø1.78x60.05	2	•
26	0200.06	Roller bearing 33205	2	
27	0006.15	Single - ended shaft	1	
28	0206.04	Crankshaft key	1	
29	1600.06	Oil dip stick	1	
30	0001.02	Crankshaft seal	1	
31	0301.02	Shim	1	
32	0500.60	Bearing housing	1	
*33		Plunger nut	3	1
*34	1400.12	Copper spacer Ø 11.2/15x0.5	3	1
*35	1200.09	Plunger 18mm	3	1
*36	1400.15	Copper spacer Ø 11.3/24x0.5	3	1
*37	0601.03	"O" Ring Ø1.78x7.66	3	1
*38	0009.04	Teflon ring	3	1
*39	0003.28	Plunger rod	3	1
*40	0100.01	Connecting rod	3	1
*41	1502.06	Connecting rod pin	3	1
*42	1401.02	Spring washer Ø6	6	1
*43	1801.05	Connecting rod screw M6x25	6	1
44	0601.88	"O" Ring Ø 2.62x126.67	1	1
45	0203.59	Crankcase cover	1	1
46	0203.59	"O" Ring Ø1.78x14	1	1
46		Sight glass, G3/4	-	-
	0700.05	<u> </u>	1	-
48	1801.12	Screw M6x16	4	

		Part available
<u></u>		in kit only
*	1	Part available
		in kit also

SPARE PARTS KIT

Included Position	Part Number and Description		Q.ty by pump	NPM1525R/L
3- 5- 7	2600.79	2600.79 Plunger Seals 18 mm		
3- 4- 5- 6- 7	2600.80	Complete Seals Packing 18 mm	3	
33- 34- 35- 36- 37 38	2600.81	Plunger 18 mm	3	
11- 12- 13	2600.08	600.08 Complete Valve		•
2	2608.03	Plunger oil Seals	1	
3- 4- 5- 6- 7- 8- 9 10- 11- 12- 13- 14 17- 18	2600.75	Complete Manifold	1	
39- 40- 41- 42- 43	3100.13	Connecting Rod-Plunger Rod Assy	3	

		T The state of the		Т
			Q.tà per Pompa	5R/I
Pos.	Codice	Descrizione	per	152
			Pompa	ΜŠ
1	0202.95	Carter	1	Z
*2	0001.03	Anello radiale	3	-
*3	0601.07	"O" Ring Ø1.78x31.47	3	-
*4	1201.38	Pressore "U" Ø18	3	1
*5	0002.51	Anello tenuta "U" Ø18	3	1
*6	0300.16	Diffusore Interm. Ø18	3	1
*7	0002.64	Anello tenuta "U" Ø18	3	1
*8	0603.07	Guarnizione rame	1	1
*9	1601.20	Tappo G1/2	1	1
*10	1602.34	Testata	1	1
*11	0601.19	"O" Ring Ø2.62x17.13	6	1
*12	3604.70	Valvola premontata	6	
*13	0601.65	"O" Ring Ø2.62x20.29	6	1
*14	1601.30	Tappo valvola	6	1
15	1801.03	Vite M8x65 Dacromet	8]
16	1400.01	Rosetta Ø8.5	16]
*17	0603.06	Guarnizione rame	1	
*18	1601.17	Tappo G3/8	2	1
19	1503.18	Sede valvola	6	
20	1202.00	Piattello valvola	6	
21	0900.30	Molla valvola	6	
22	0604.05	Gabbia valvola	6	
23	1802.03	Vite M8x18	8	
24	0500.61	Flangia chiusa	1	
25	0601.63	"O" Ring Ø1.78x60.05	2	•
26	0200.06	Cuscinetto a rulli 33205	2	
27	0006.15	Albero semplice P.d.F.	1	
28	0206.04	Chiavetta	1	1
29	1600.06	Tappo livello olio	1	1
30	0001.02	Anello radiale	1	1
31	0301.02	Distanziale	1	1
32	0500.60	Flangia	1	1
*33	0302.19	Dado pistone	3	1
*34	1400.12	Rosetta rame Ø 11.2/15x0.5	3	1
*35	1200.09	Pistone Ø18	3	1
*36	1400.15	Rosetta rame Ø 11.3/24x0.5	3	1
*37	0601.03	"O" Ring Ø1.78x7.66	3	1
*38	0009.04	Anello antiestrusione	3	1
*39	0003.28	Asta pistone	3	1
*40	0100.01	Biella	3	1
*41	1502.06	Spinotto	3	1
*42	1401.02	Rosetta elastica Ø6	6	1
*43	1801.05	Vite M6x25	6	1
44	0601.88	"O" Ring Ø 2.62x126.67	1	1
45	0203.59	Coperchio posteriore	1	1
46	0601.14	"O" Ring Ø1.78x14	1	1
47	0700.05	Spia livello olio G3/4	1	1
7/	0700.00	Vite M6x16	<u> </u>	-

	Particolare disponibile solo in kit
*	Particolare disponibile
	anche in kit

KIT RICAMBI

Posizioni incluse		Codice e descrizione	Q.tà per pompa	NPM1525R/L
3- 5- 7	2600.79	Guarnizioni pistone Ø18	1	
3- 4- 5- 6- 7	2600.80	Pacco completo Guarnizioni pistone Ø18	3	
33- 34- 35- 36- 37 38	2600.81	Pistone Ø18	3	
11- 12- 13	2600.08	Valvola completa	6	•
2	2608.03	Anelli tenuta olio Asta	1	
3- 4- 5- 6- 7- 8- 9 10- 11- 12- 13- 14 17- 18	2600.75	Testata Completa	1	
39- 40- 41- 42- 43	3100.13	Premontato Biella-Asta pistone	3]

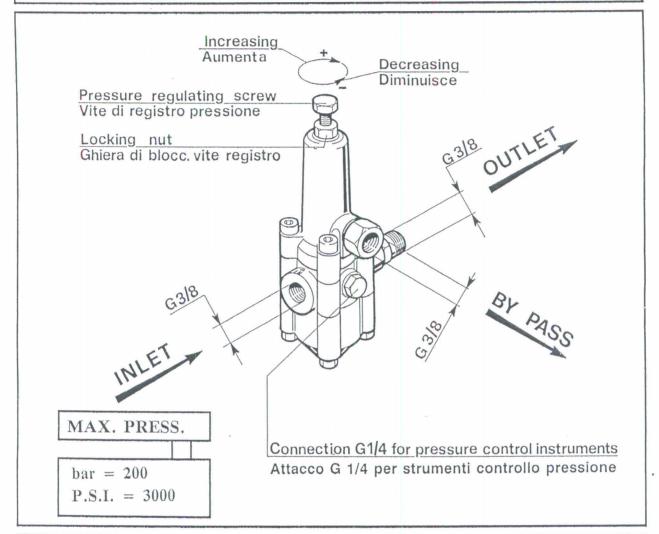


K 7

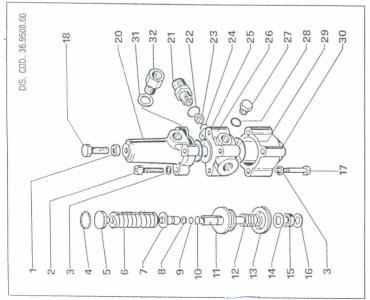




AUTOMATIC PRESS. REGULATOR • REG. AUTOM. DI PRESSIONE



TYPE	VOL	UME
III	l/min	G.P.M. (U.S.A.)
K 7.0	8 ÷ 11	2.11 ÷ 2.9
K 7.1	11 ÷ 16	$2.9 \div 4.22$
K 7.2	16 ÷ 25	4.22 ÷ 6.6
K 7.3	25 ÷ 41	6.6 ÷ 10.83



B)
V
VI I
VIII
8
-
*
*
*

	N. PCS.	*- *- *-			- +- +-
	DESCRIPTION DESCRIZIONE	Nipplo G 3/8 con foro \varnothing 3 Ugello \varnothing 2,2 Nipplo G 3/8	Nipplo G 3/8 con foro \varnothing 3 Ugello \varnothing 2,5 Nipplo G 3/8	Nipplo G 3/8 con foro \varnothing 3,25 Ugello \varnothing 2,75 Nipplo G 3/8	Nipplo G 3/8 con foro Ø 3,5 Ugello Ø 3 Nipplo G 3/8
	CODE	10.0078.70 10.0076.66 36.3117.70	10.0078.70 10.0077.66 36.3116.70	10.0160.70 10.0162.66 36.3118.70	10.0161.70 10.0163.66 36.3119.70
	POS.	21 23 32	23 32	23 32	21 23 32
.au ***	MODEL	K 7.0 8÷11 l/min.	K 7.1 11÷16 I/min.	K 7.2 16÷25 l/min.	K 7.3 25÷41 l/min.

PCS.	-48-				T- T-	~ -		-4-	T	Acres	-		2 2	-		
	מל דוע		the second second		KIT 70 KIT 70			KIT 70		KIT 70	KIT 70	KIT 70	KIT 70			
DESCRIPTION DESCRIZIONE	Dado M 10 Vite M 8×30 UNI 5931 Rosetta Ø 8,4×13×0,8 OD Ø 20,62×2,62	on \(\sum_{\curr} \curr_{\curr} \curr_{\cur	e v	OR Ø 9,13×2,62 - Spec. OR Ø 9,25×1,78	Assieme pistoncino e sfera Molla Ø 17×17	Anello tenuta Ø 40	Anello tenuta \varnothing 10	Anello per OR Vite M 8×45 UNI 5737 Vite M 10×25 UNI 5740	Corpo valvola superiore Ved Tahella A - See Tahle A	Table	3 9,92×2,62	OR Ø 28,25×2,62 Corpo valvola centrale	Tappo G 1/4×9 OB <pre>O 10.82×1.78</pre>	Ø	Corpo valvola inferiore Rosetta 🚿 17 5×23×1 5	Ved. Tabella A - See Table A
CODICE	92.2368.00 99.3084.00 96.7014.00	36.3095.70 94.7466.00	36.3094.66 90.5052.00	90.3820.00	36.3097.02	90.2766.00	90.2565.00	90.5063.00 99.3127.00 99.3663.00	36.3090.41	90.3833.00	90.3823.00	90.3863.00 36.3091.41	98.2041.00	90.3871.00	36.3092.41 96.7380.00	* * *
POS.	- 200	0 22	7	10	17 22	5 7	5	14	20	322	24	52	27	29	31	32

7
N. DES.

Cod. 36.3100.03 - 02/03 - 5.000 De Pietri

