Instruction & Safety Pack

MkII Safety Gun

The Flowplant MkII safety Gun is suitable for most types of cleaning tasks and benefits from:

- A well balanced design
- Fail safe characteristics
- Low trigger loads
- Multi-gun operation capability
- Ease of maintenance
- Proven reliability
- Shoulder stock availability

MkII Safety Gun - Part No. 031040

Max. working pressure	420 bar (6000 psi)
Max. flow	60 lpm (13 UK gpm)
Weight (approx.)	3.9 Kg*
Max. water temp.	45°C**

** weight excluding shoulder stock, Part No. 7001931*
*** max. temp. can be increased to 70°C with a hot water conversion kit, part no. 023014. Always wear suitable protective clothing when handling hot surfaces.*

Safe Working Reference Chart

The chart on page 2 highlights the safe working pressures of typical jet sizes in relation to working pressure and flow.
For applications where the reaction force of the gun is greater than 150N, as indicated on the graph, a shoulder stock kit *(7001931, see page 6)* shall be used and can be supplied with the gun, or separately to be retrofitted.

For applications where the reaction force of the gun is greater than 250N, as indicated on the graph, the gun must not be used.

IMPORTANT! *This chart is to be used as a guide. If you have any queries or are unsure of the performance of your unit please contact Flowplant.*

IMPORTANT! Before using this equipment, please ensure that you have undertaken the proper training and are fully conversant in the use of high pressure water jetting equipment. You must follow the 'Safety Code of Practice' at all times. Failure to do so could result in injury or death to persons. You must also read and adhere to the safety awareness sheet, supplied with your unit. Copies of the Code of Practice and specialist training are available from Flowplant.

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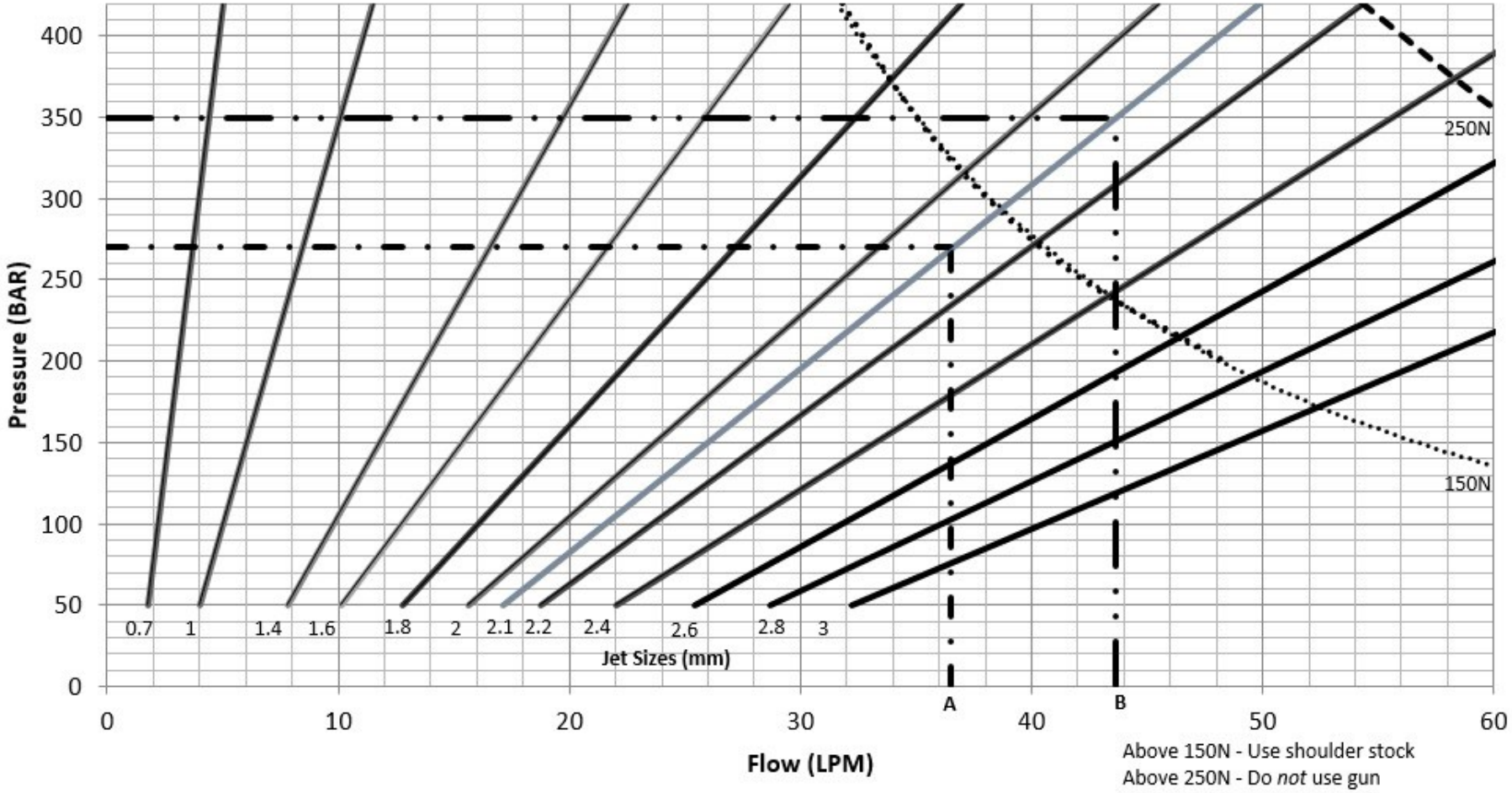
Safe Working Reference Chart

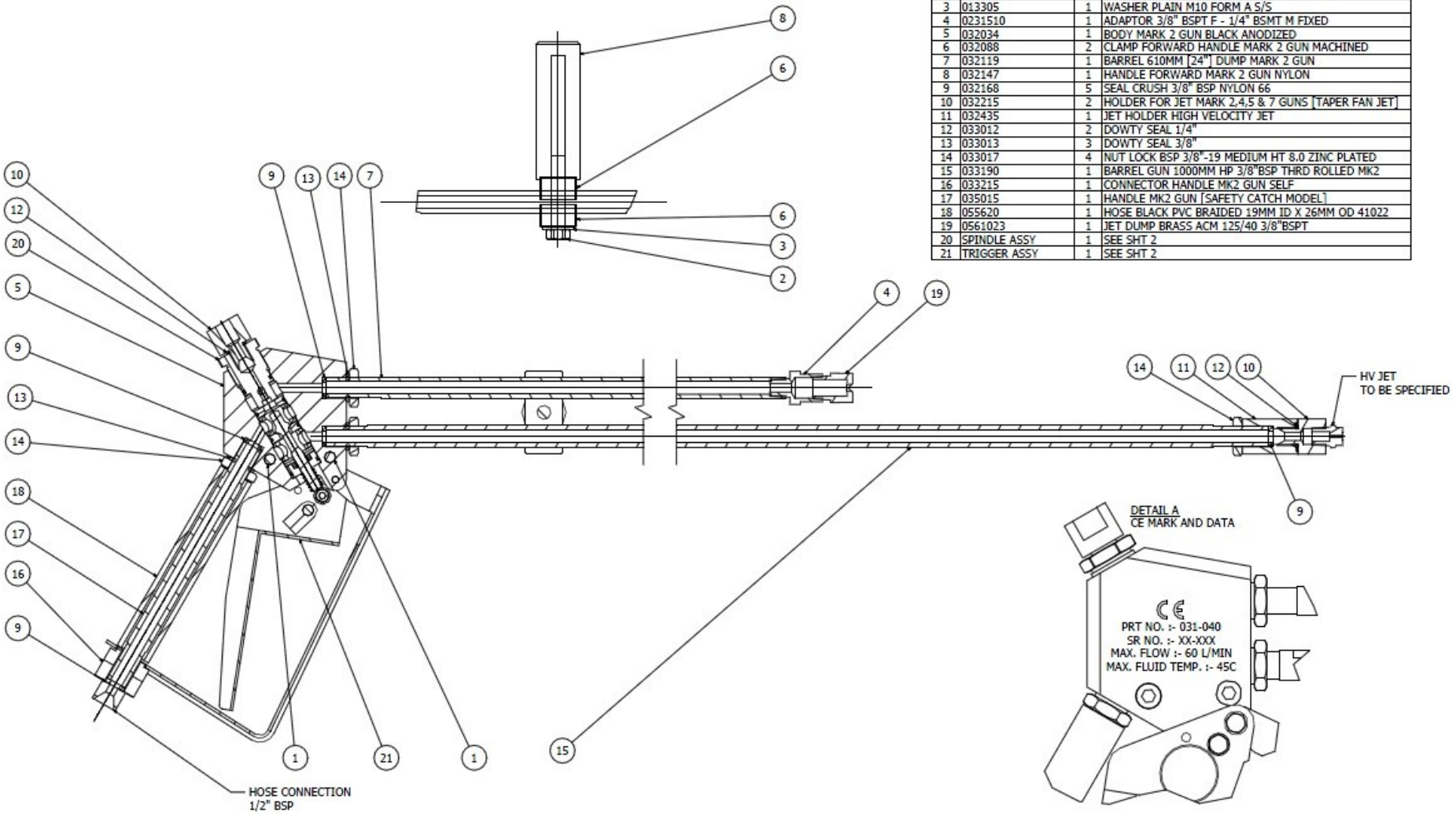


Examples

A – Running a 2.1mm jet @270 bar gives a reaction force less than 150N and uses 36 l/min

B – Running a 2.1 mm jet @ 350 bar gives a reaction force greater than 150N and uses 44 l/min

PARTS LIST			
IT	PART NUMBER	QT	DESCRIPTION
1	013079	2	SCREW SET CAP SOC HD M8-1.25 6G 30 LG HT 8.8 ZN
2	013186	1	SCREW SET HEX HD M10-1.5 6G 60 LG S/S A2
3	013305	1	WASHER PLAIN M10 FORM A S/S
4	0231510	1	ADAPTOR 3/8" BSPT F - 1/4" BSMT M FIXED
5	032034	1	BODY MARK 2 GUN BLACK ANODIZED
6	032088	2	CLAMP FORWARD HANDLE MARK 2 GUN MACHINED
7	032119	1	BARREL 610MM [24"] DUMP MARK 2 GUN
8	032147	1	HANDLE FORWARD MARK 2 GUN NYLON
9	032168	5	SEAL CRUSH 3/8" BSP NYLON 66
10	032215	2	HOLDER FOR JET MARK 2,4,5 & 7 GUNS [TAPER FAN JET]
11	032435	1	JET HOLDER HIGH VELOCITY JET
12	033012	2	DOWTY SEAL 1/4"
13	033013	3	DOWTY SEAL 3/8"
14	033017	4	NUT LOCK BSP 3/8"-19 MEDIUM HT 8.0 ZINC PLATED
15	033190	1	BARREL GUN 1000MM HP 3/8"BSP THRD ROLLED MK2
16	033215	1	CONNECTOR HANDLE MK2 GUN SELF
17	035015	1	HANDLE MK2 GUN [SAFETY CATCH MODEL]
18	055620	1	HOSE BLACK PVC BRAIDED 19MM ID X 26MM OD 41022
19	0561023	1	JET DUMP BRASS ACM 125/40 3/8"BSPT
20	SPINDLE ASSY	1	SEE SHT 2
21	TRIGGER ASSY	1	SEE SHT 2



Using the gun

- It is strongly recommended that a Flowplant hose safety shroud *(7001679)* is permanently connected to the gun inlet. See page 7 for details. The jetting unit can then be connected to the hose safety shroud via the 1/2" BSP male connector provided.
- If an alternative hose shroud is being used make sure that it covers the hose ferrule and doesn't interfere with the gun trigger.
- Select PPE as required by your risk assessment and WJA Code of Practice.
- Clean all connections and make sure that no grit or debris has entered the gun inlet tube/hose shroud inlet as this may cause the gun to malfunction and the trigger to jam. Check the gun trigger assembly operates freely and that the trigger guard has not been bent or damaged. Check that both barrels are straight and free from faults.
- Make sure that all connections are tightened sufficiently using the correct sized spanner. Never use serrated jaw wrenches as these can seriously damage the ferrule nut which can lead to premature failure.
- Check that the correct nozzles are connected to the gun high pressure and dump barrels and use the safe working reference chart to determine if a shoulder stock is required.
- Start the jetting machine and operate the gun at low pressure, checking that the gun trigger assembly is working correctly and the gun cycles correctly between dump and high pressure. If the gun jams it will be necessary for it to be serviced by a competent person before it can be used.
- Increase the operating pressure gradually, checking that no leaks occur at the connection points. If a leak appears, stop the jetting machine and switch it off. When all system pressure has been released, retighten the leaking connections and repeat the startup process.
- When working pressure has been reached, check that the gun operator is comfortable with the level of reaction force and that it can safely be controlled.

- **DO NOT EXCEED THE MAXIMUM WORKING PRESSURE**
- **UNDER NO CIRCUMSTANCES SHOULD THIS GUN BE MODIFIED. HIGH PRESSURE BARRELS MUST BE A MINIMUM OF 1.1m LONG AS DEFINED IN THE WJA CODE OF PRACTICE.**
- **WHERE FITTED AS PART OF THE ORIGINAL DESIGN HANDLES MUST BE USED AT ALL TIMES**
- **A SHOULDER STOCK IS TO BE USED WHERE APPLICABLE**

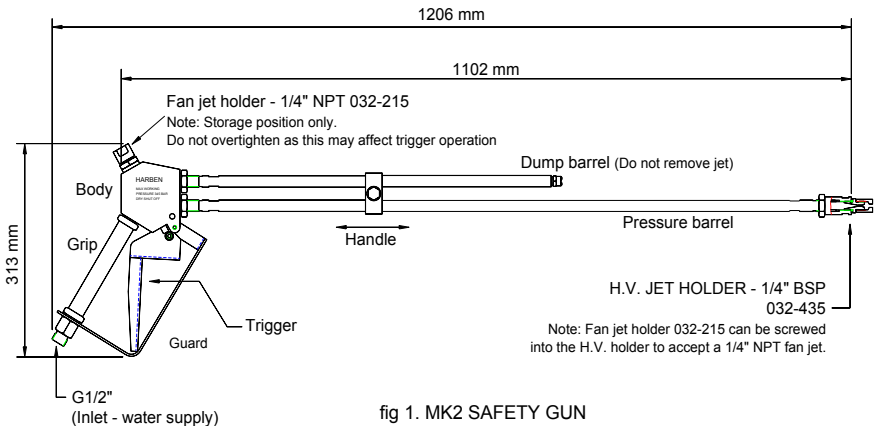


fig 1. MK2 SAFETY GUN

WARNING!

- Always use appropriate PPE e.g. waterproof clothing, safety boots, gloves and helmet with face visor and chin guard
- Never use a jetting gun when standing on a ladder
- Never work from an unsecure platform – consider gun reaction forces
- Never point a jetting gun at anyone
- Never lock, wedge or block the gun trigger mechanism in the ON position
- Never remove, block or tamper with the dump barrel jet
- Never remove or adjust either the high pressure or dump barrel
- Never operate the gun at reaction forces greater than 250N
- Always use the gun shoulder stock when working with reaction forces greater than 150N
- Always check the gun trigger mechanism is clean, clear and unobstructed before commencing work
- Where appropriate set up a safe working zone around the work area to prevent injury to others from ejected materials

Gun Shoulder Stock, Part No. 7001931

The Flowplant gun shoulder stock connects to the Flowplant MkII safety gun and offers a system which allows the operator to work for longer by spreading the reaction force of the gun to the shoulders as well as the arms.

It provides a cost effective solution in a neatly engineered package.

According to BS EN 1829-1:2010 section 5.3.2.2:

> *'a shoulder stock shall be used with a high pressure water jetting gun where the reaction force is greater than 150N.'*

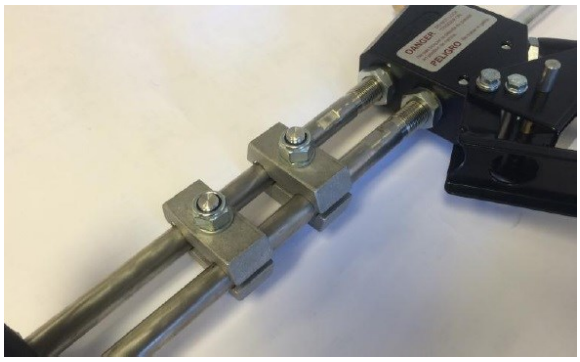
Use the chart on page 2 as a reference to determine whether or not a shoulder stock should be used.

Function and Fitting

The gun safety shroud is manufactured from aluminium tubing, giving it strength whilst adding minimum weight.

The stock is fabricated with two M10 studs, and secured to the barrels of the gun using twin aluminium clamps. The position of the stock can be adjusted to give the operator a comfortable fit.

To adjust, loosen the M10 nyloc nuts, slide the stock to the correct position and tighten the nuts.



Gun Safety Shroud, Part No. 7001931

The Flowplant gun safety shroud smply connects to Flowplant MkII safety guns and offers enhanced protection from pinhole occurrences near the operator. It provides a cost effective safety solution.

- Highly burst resistant
- Highly abrasion resistant
- Highly chemical resistant
- Enhanced safety

Mk2 Safety Gun - Part No. 031040

Max. working pressure	420 bar (6000 psi)
Max. flow	60 lpm (13 UK gpm)
Weight (approx.)	2.8 Kg
Length	3m
Inlet connection	1/2” BSPM
Gun connection	3/8” BSPF crush seal

Function and Fitting

The gun safety shroud can be strapped over the handle of all Flowplant MkII guns *(part no. 031-040)*. The sleeve material has been tested and approved to international standards and has been found to be very effective in reducing the concentrated stream of pinhole leaks.

EC Declaration of Conformity

In accordance with BS EN ISO/IEC 17050-1:2010

Flowplant Group Ltd
Gemini House
Brunel Road
Churchfields Industrial Estate
Salisbury
Wiltshire, UK
SP2 7PU

Herewith declares that the machinery:

Gun MkII Safety

Serial No._____

Has been manufactured using the following transposed harmonised European Standards and technical specifications:

BS EN 1829-1:2010: High Pressure Water Jet Machines - Safety Requirements

And within the limits specified for the machinery is in conformity with:

The Machinery Directive 2006/42/EC

Has been designed and manufactured to the following standards:

BS EN ISO 9001:2008

For and on behalf of the company

Mr S. Smith
Director of Engineering