

# CLARKE® STRONG-ARM



**WARNING: Read these instructions before using the press**

## 20 TONNE HYDRAULIC PRESS MODEL NO: CSA20EP

PART NO: 7614052

### OPERATION & MAINTENANCE INSTRUCTIONS

UK  
CA | CE

ORIGINAL INSTRUCTIONS

GC07/22

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## INTRODUCTION

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Thank you for purchasing this CLARKE 20 Tonne Hydraulic Press. Before attempting to operate the press it is essential that you read this manual thoroughly and carefully follow all instructions given. In doing so you will ensure the safety of yourself and that of others around you, and you can also look forward to the press giving you long and satisfactory service.

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## PRODUCT SPECIFICATIONS




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Rated Load	20 Tonnes
Throat Width	670 mm
Throat Height (Ram to pressing plate)	937 mm
Platform at position 1	457 mm
Platform at position 2	577 mm
Platform at position 3	697 mm
Platform at position 4	817 mm
Ram Travel	150 mm
Ram travel per stroke	0.8mm
Number of strokes to full extension	188
Length of handle	500 mm
Oil Capacity/grade	0.51 L (HLP ISO32)
Dimensions (D x W x H)	540 x 640 x 1500 mm
Weight	85 kg

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## SAFETY SYMBOLS

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	Read instruction manual before use		Wear safety glasses
	Wear Safety Shoes		

The above safety symbols appear on the product.

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## **SAFETY PRECAUTIONS**

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Due to the weight of the press, the help of an assistant will be beneficial during assembly and installation.

ALWAYS operate the press with adequate light.

Before starting work, check for signs of cracked welds, loose or missing bolts, or any other structural damage. Do not operate if any of these conditions exist. Have repairs made only by authorised service centre.

NEVER tamper with any components. The safety valve is calibrated and sealed at the factory; do not attempt to change the setting.

Use only the recommended hydraulic oil.

The components of this press are designed to withstand the rated capacity. DO NOT substitute any other components or exceed the rated capacity of the press.

Before applying pressure, ALWAYS ensure the workpiece is firmly secure and stable.

ALWAYS clean up spills of hydraulic oil immediately as this can be dangerous in a workshop environment.

DO NOT allow any person who is unfamiliar with hydraulic presses to use the press unless they are under direct supervision.

DO NOT stand directly in front of the press when it is in use.

ALWAYS apply the load under the centre of the ram. Offset loads can damage the ram and may cause the work piece to be ejected.

ALWAYS ensure the work piece is properly supported by the press bed.

When using accessories such as pressing plates, be certain they are centered below the ram and are in full contact with the bed.

Parts being pressed may shatter or be ejected from the press. In the case of varied applications, it is your responsibility to always use adequate guards, and wear eye protection and protective clothing when using this press.

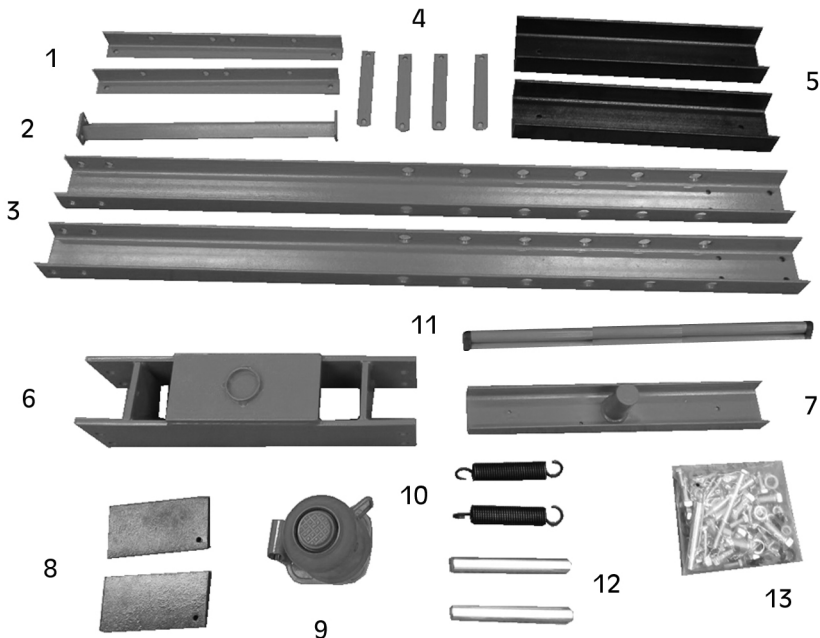
Keep hands and fingers away from parts that may pinch or shift.

NEVER use extension tubes to increase the length of the pump handle. Excessive effort can cause damage and/or accidents.

Failure to heed these warnings may result in damage to the equipment, or serious personal injury.

# UNPACKING

Ensure the press components suffered no damage during transit and that all components are present. Should any loss or damage become apparent, please contact your CLARKE dealer immediately.



ID	DESCRIPTION	QTY
1	Foot	2
2	Bottom Cross Member	1
3	Side Support	2
4	Foot Brace	4
5	Pressing Bed	2
6	Cross Beam	1
7	Middle Bolster	1
8	Pressing Plate	2

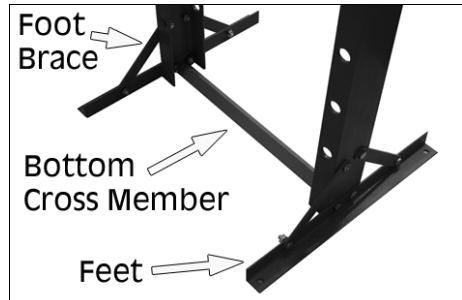
ID	DESCRIPTION	QTY
9	Bottle Jack	1
10	Spring	2
11	Bottle Jack Handle	1
12	Bed Supporting Pins	2
13	Fixings pack, containing bolts, nuts, washers and attachment hooks itemised on page 13.	

## ASSEMBLY

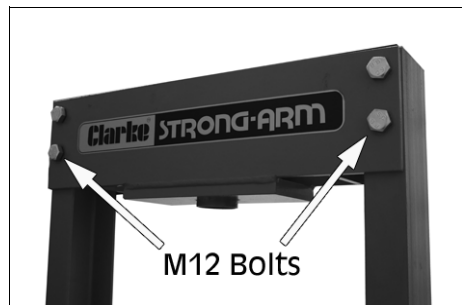
The press must be firmly secured to a solid level floor such as concrete, using expansion bolts (not supplied). Holes are provided in the foot sections for this purpose. Do not locate your press where it will be open to the elements, as harsh weather conditions will damage the hydraulic parts.

Due to the weight of the components, we recommend that the press is assembled by two people.

1. Attach the feet and the bottom cross member to the side supports, using the M12 nuts, bolts and washers.
2. Add the foot braces to each side using the remaining M10 nuts, bolts and washers.



3. Bolt the cross beam to the side supports, securing it with the M16 bolts, nuts and washers.
  - Assemble loosely before tightening all fastenings.

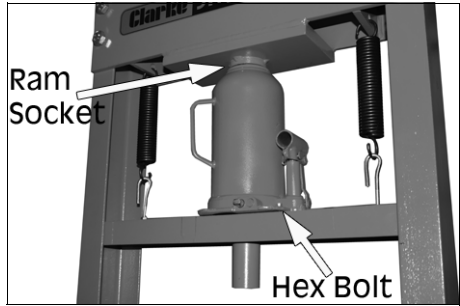


4. With the help of an assistant, manoeuvre the frame to its intended location in the workshop.
5. Fix the 2x hooks to the moving cross beam using the nuts supplied. Take the two springs and hook them to their positions on the moving beam. Support the moving beam and attach the other end of the springs to the cross beam.

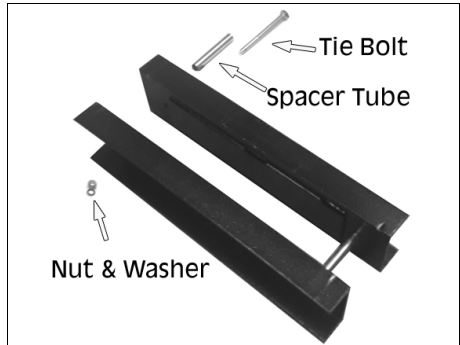


6. Take the bottle jack unit, and by pressing down on the moving cross beam against the resistance of the springs, manoeuvre the jack so that the jack ram sits in the socket below the cross beam.
7. Using the small hex bolt and nut, secure the jack to the beam.

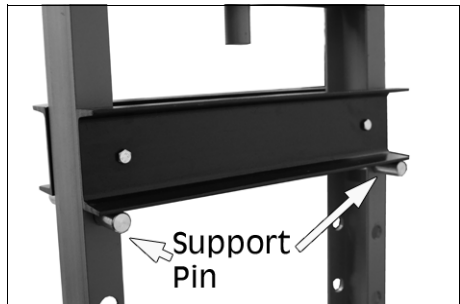
  - The jack will remain self-centred during use.



Bolt the two halves of the pressing bed together using the long bolts with nuts and spacer tubes supplied.



8. Insert the bed support pins into the holes in the side support at a height of your choosing. Then lower the pressing bed onto the pins.

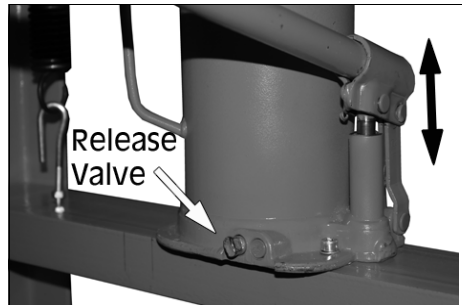


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## PREPARATION

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1. Before using the press, purge any air from the jack by using the crimped end of the handle to open the release valve (turning it anti-clockwise) and pumping the jack several full strokes to eliminate any air bubbles.
2. Check all parts are secure and correctly aligned before using the press.



## POSITIONING THE BED

Due to the weight of the bed, we recommend that you get assistance from another person when changing the bed height.

1. Raise one side of the bed and insert a supporting pin into the next locating hole.
2. Repeat at the other end to level the bed..



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**CAUTION: IT IS SAFER AND EASIER IF THE BED HEIGHT IS ONLY RAISED OR LOWERED ONE HOLE AT A TIME, WORKING ALTERNATELY FROM ONE SIDE AND THEN THE OTHER UNLESS AN ASSISTANT IS AVAILABLE TO SUPPORT THE WEIGHT OF THE BED WHILE THE PINS ARE INSERTED.**

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3. Position the bed at the desired height, so that it will be as close as possible to the ram when the workpiece is mounted on it.

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# OPERATION

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**WARNING: FAILURE TO HEED THE WARNINGS ON PAGE 3 MAY RESULT IN DAMAGE TO THE EQUIPMENT OR COMPONENT FAILURE RESULTING IN PROPERTY DAMAGE, PERSONAL, OR EVEN INJURY.  
NEVER USE EXTENSIONS TO THE RAM PUMPING HANDLE**

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1. The press is now ready for use. Place the workpiece on the bed. It must be completely stable and supported by packing or shims where required. A pair of pressing plates are supplied, which lay flat on the bed. Place the workpiece on these to give it stability.
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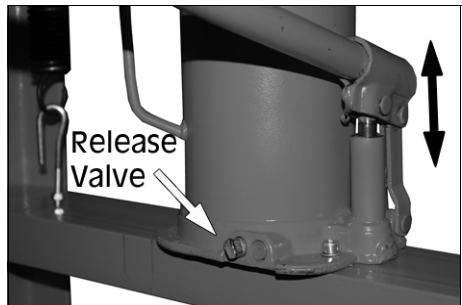


**CAUTION: DO NOT POINT LOAD THESE ACCESSORIES AS THEY ARE NOT DESIGNED TO TAKE THE FULL FORCE OF THE RAM IN ONE SPOT. ENSURE THEY ARE ADEQUATELY SUPPORTED.**

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**NOTE:** *Any packing pieces or shims used MUST be capable of withstanding the pressure that will be brought to bear, and MUST be of sufficient size with sufficient surface area, so as to avoid the possibility of slipping or springing out. Mating surfaces MUST be horizontal so that the force being exerted will NOT be at an angle.*

2. Using the crimped end of the handle, close the release valve by turning it clockwise until tightly closed.
3. Pump the handle to bring the ram very lightly into contact with the workpiece.
4. Position the workpiece so that the desired point of contact is directly beneath the centre of the ram.
5. When satisfied that the workpiece is correctly aligned and is completely stable in that position, slowly pump the handle so that the ram begins to exert pressure on the workpiece.
6. Continue to pump the handle and constantly monitor the process, ensuring the ram and work remain completely in line and there is no risk of slipping.
7. When the task is complete, turn the release valve anticlockwise in small increments to release ram pressure and allow removal of the workpiece.





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# MAINTENANCE

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## ROUTINELY

A visual inspection must be made before use of the press, checking for leaking hydraulic fluid and damaged, loose, or missing parts.

Owners and/or users should be aware that repair of this equipment requires specialised knowledge and facilities. It is recommended that a routine inspection of the press be made and any defective parts be replaced with genuine CLARKE parts.

If the press appears to be damaged in any way, is found to be badly worn or operates abnormally **SHOULD BE REMOVED FROM SERVICE** until the necessary repairs are made.

If the press is not to be used for any length of time, store it with the ram piston withdrawn to protect the moving parts.

## PERIODICALLY

Periodically check the press frame to make sure all bolts are tight and inspect for cracked welds, bent, loose or missing parts. If corrosion is found it should be removed completely and the paint restored.

Check the hydraulic jack for leaks. Replace or properly repair any damaged or leaking hydraulic components before using. In the event of leaking seals, oil can be topped up via the plug on the jack. Oil should be level with the bottom of the hole. If necessary top up with CLARKE hydraulic oil, Part No. 3050830. **This task is carried out with the ram fully retracted.**

In the event of leakage, oil can be topped up by removing the filler plug on the reservoir and topping up level with the plug.

## DISPOSAL OF UNWANTED MATERIALS

One of the most damaging sources of environmental pollution is oil products. Never throw away used oil with domestic refuse or flush it down a sink or drain. Collect any oil in a leak proof container and take it to your local waste disposal site.

Should hydraulic components become completely unserviceable and require disposal, draw off the oil into an approved container and dispose of the product and the oil according to local regulations.

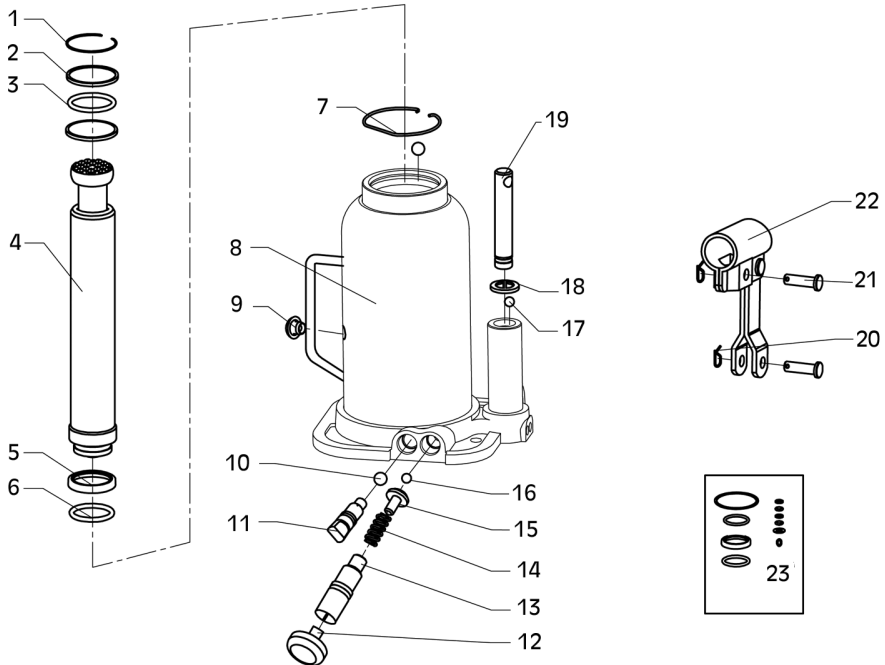
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## TROUBLESHOOTING

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<b>Problem</b>	<b>Probable Cause</b>	<b>Remedy</b>
Pump unit will not work	Dirt on valve seat/worn seals	Bleed pump or have unit overhauled with new seals
Pump will not produce pressure Pump feels hesitant under load	Air-lock	Open the release valve and remove the oil filler plug. Pump the handle a couple of full strokes and close the release valve. Replace the filler plug.
Pump will not deliver pressure	Reservoir could be over-filled or have low oil level.	Check oil level by removing the filler plug & topping up if required.
Pump feels hesitant under load	Pump cup seal could be worn out.	Have the cup seal replaced.
Pump will not lower completely	Air-lock	Release air by removing the filler plug.

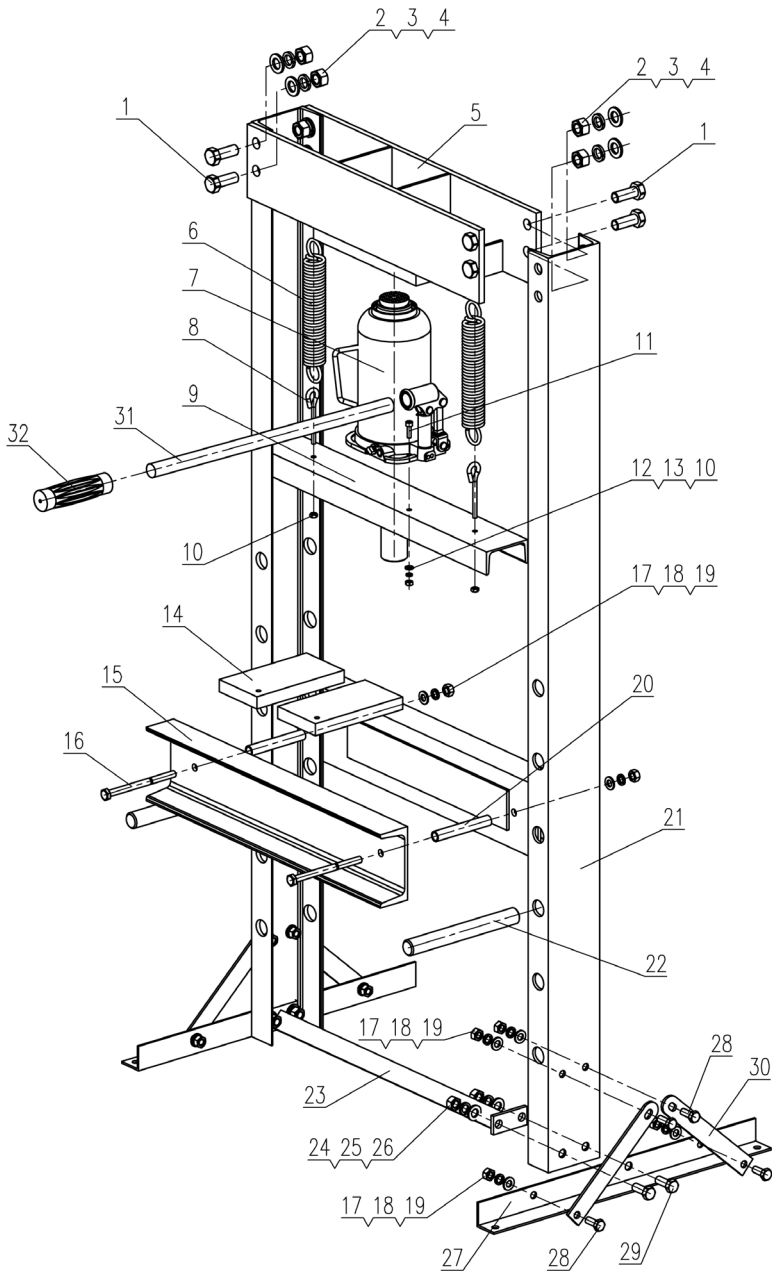
# COMPONENT PARTS - BOTTLE JACK



ID	DESCRIPTION
1	Circlip
2	Rectangular Ring
3	O-Ring
4	Piston Rod Assembly
5	Bowl Washer
6	O-Ring
7	Circlip
8	Main Base Unit
9	Oil Plug
10	Steel Ball Bearing, 6mm
11	Release Value Assembly
12	Plastic Plug

ID	DESCRIPTION
13	Adjusting Screw Assembly
14	Spring
15	Spring Holder
16	Steel Ball Bearing, 3mm
17	Steel Ball Bearing, 5mm
18	Bowl Washer
19	Pump Plunger Assembly
20	Cotter Pin
21	Pin
22	Handle Socket Assembly
23	Seal Kit

# COMPONENT PARTS - FRAME



## COMPONENT PARTS - FRAME

ID	DESCRIPTION	QTY	ID	DESCRIPTION	QTY
1	Bolt, M16 x 40	8	17	Washer, 10	2
2	Washer, 16	8	18	Spring Washer, 10	2
3	Nut, M16	8	19	Nut, M10	2
4	Spring Washer, 16	8	20	Spacer Tube	2
5	Top Cross Beam	1	21	Side Column	2
6	Spring	2	22	Bed Support Pins	2
7	Bottle Jack	1	23	Bottom Cross Member	1
8	Hook	2	24	Nut, M12	4
9	Moving Cross Beam	1	25	Spring Washer, 12	4
10	Nut, M6	1	26	Washer, 12	4
11	Socket Screw, M6 x 20	1	27	Foot Rail	2
12	Washer, 6	1	28	Bolt, M10 x 25	8
13	Spring Washer, 6	1	29	Bolt, M12 x 30	4
14	Pressing Plates	2	30	Foot Brace	4
15	Pressing Bed	2	31	Handle	1
16	Bolt, M10 x 130	2	32	Handle Sleeve	1

## GUARANTEE

This CLARKE product is guaranteed against faulty manufacture for a period of 12 months from the date of purchase. Please keep your receipt as proof of purchase.

This guarantee is invalid if the product is found to have been abused or tampered with in any way, or not used for the purpose for which it was intended.

Faulty goods should be returned to their place of purchase, no product can be returned to us without prior permission.

This guarantee does not effect your statutory rights.

# DECLARATION OF CONFORMITY-UK



**Clarke**<sup>®</sup>  
**INTERNATIONAL**

Hemnal Street, Epping, Essex CM16 4LG

## DECLARATION OF CONFORMITY

**This is an important document and should be retained.**

**We hereby declare that this product(s) complies with the following statutory requirement(s):**

*Supply of Machinery (Safety) Regulations 2008*

**The following standards have been applied to the product(s):**

*EN 1494:2000+A1:2008, EN ISO 12100:2010*

The technical documentation required to demonstrate that the product(s) meet(s) the requirement(s) of the aforementioned legislation has been compiled and is available for inspection by the relevant enforcement authorities.

**The UKCA mark was first applied in: 2022**

**Product Description:** 20 Tonne Economy Shop Press  
**Model number(s):** CSA20EP  
**Serial / batch Number:** N/A  
**Date of Issue:** 19/07/2022

**Signed:**

**J.A. Clarke**  
**Director**

# DECLARATION OF CONFORMITY-EU



**Clarke**<sup>®</sup>  
**INTERNATIONAL**

Fitzwilliam Hall, Fitzwilliam Place, Dublin 2

## DECLARATION OF CONFORMITY

**This is an important document and should be retained.**

**We hereby declare that this product(s) complies with the following directive(s):**

*2006/42/EC Machinery Directive*

**The following standards have been applied to the product(s):**

*EN 1494:2000+A1:2008, EN ISO 12100:2010*

The technical documentation required to demonstrate that the product(s) meet(s) the requirement(s) of the aforementioned directive(s) has been compiled and is available for inspection by the relevant enforcement authorities.

**The CE mark was first applied in: 2022**

**Product Description:** 20 Tonne Economy Shop Press  
**Model number(s):** CSA20EP  
**Serial / batch Number:** N/A  
**Date of Issue:** 19/07/2022

**Signed:**

**J.A. Clarke**  
**Director**

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## PARTS & SERVICE: 0208 988 7400

### Parts Enquiries

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### Servicing & Technical Enquiries

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